ARCADIS

Project: PG&E Topock - PMP

ASSET Laboratories Work Order: N018280

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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January 20, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018280

RE: PG&E Topock - PMP

Attention: Dan Bush

Enclosed are the results for sample(s) received on January 06, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N018280-002B-MS2, N018280-002B-MSD2, N018277-002B-MS1 and N018277-002B-MSD1 since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Chromium and Manganese on QC sample N018279-011B-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
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3151 W. Post Rd., Las Vegas, NV 89118
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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *20-Jan-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP
Lab Order: N018280
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018280-001A	PE-01-0116	Water	1/6/2016 7:41:00 AM	1/6/2016	1/20/2016
N018280-001B	PE-01-0116	Water	1/6/2016 7:41:00 AM	1/6/2016	1/20/2016
N018280-001C	PE-01-0116	Water	1/6/2016 7:41:00 AM	1/6/2016	1/20/2016
N018280-001D	PE-01-0116	Water	1/6/2016 7:41:00 AM	1/6/2016	1/20/2016
N018280-001E	PE-01-0116	Water	1/6/2016 7:41:00 AM	1/6/2016	1/20/2016
N018280-002A	TW-3D-0116	Water	1/6/2016 7:47:00 AM	1/6/2016	1/20/2016
N018280-002B	TW-3D-0116	Water	1/6/2016 7:47:00 AM	1/6/2016	1/20/2016
N018280-002C	TW-3D-0116	Water	1/6/2016 7:47:00 AM	1/6/2016	1/20/2016
N018280-002D	TW-3D-0116	Water	1/6/2016 7:47:00 AM	1/6/2016	1/20/2016
N018280-002E	TW-3D-0116	Water	1/6/2016 7:47:00 AM	1/6/2016	1/20/2016

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160107F**	QC Batch: **R105119**			PrepDate			Analyst: **LR**
Specific Conductance	4300	0.10	0.10		umhos/cm	1	1/7/2016 06:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160107F**	QC Batch: **R105119**			PrepDate			Analyst: **LR**
Specific Conductance	8300	0.10	0.10		umhos/cm	1	1/7/2016 06:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018280-002ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **105119**
Client ID: **ZZZZZZ** Batch ID: **R105119** TestNo: **EPA 120.1** Analysis Date: **1/7/2016** SeqNo: **2192903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	8310.000	0.10						8270	0.483	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160107C**	QC Batch: **R105111**			PrepDate			Analyst: **LR**
pH	7.6	0.10	0.10	H	pH Units	1	1/7/2016 05:00 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	1/7/2016 05:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160107C**	QC Batch: **R105111**			PrepDate			Analyst: **LR**
pH	7.4	0.10	0.10	H	pH Units	1	1/7/2016 05:00 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	1/7/2016 05:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Date: *20-Jan-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018280-001ADUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **105111**
Client ID: **ZZZZZZ** Batch ID: **R105111** TestNo: **SM4500-H+B** Analysis Date: **1/7/2016** SeqNo: **2192621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.580	0.10						7.640	0.788	10	H
Temp. at time of pH Analysis	19.600	0.10						19.70	0.509	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160111E**	QC Batch: **55748**				PrepDate	**1/11/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	2400	33	33		mg/L	1	1/11/2016 03:17 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160111E**	QC Batch: **55748**				PrepDate	**1/11/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4600	50	50		mg/L	1	1/11/2016 03:17 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID **MB-55748** SampType: **MBLK** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **1/11/2016** RunNo: **105214**
Client ID: **PBW** Batch ID: **55748** TestNo: **SM2540C** Analysis Date: **1/11/2016** SeqNo: **2198301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID **LCS-55748** SampType: **LCS** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **1/11/2016** RunNo: **105214**
Client ID: **LCSW** Batch ID: **55748** TestNo: **SM2540C** Analysis Date: **1/11/2016** SeqNo: **2198302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	950.000	10	1000	0	95.0	80	120				

Sample ID **N018280-002A-DUP** SampType: **DUP** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **1/11/2016** RunNo: **105214**
Client ID: **ZZZZZZ** Batch ID: **55748** TestNo: **SM2540C** Analysis Date: **1/11/2016** SeqNo: **2198313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4440.000	50						4600	3.54	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160108A** QC Batch: **R105122** PrepDate							Analyst: **RB**
Hexavalent Chromium	3.8	0.015	0.20		µg/L	1	1/8/2016 11:25 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **ICP7_160113A** QC Batch: **55731** PrepDate **1/11/2016**							Analyst: **CEI**
Chromium	3.6	0.086	1.0		µg/L	1	1/13/2016 12:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM							
			SM 3500-CR B				
RunID: **WETCHEM_160119A** QC Batch: **R105312**				PrepDate			Analyst: **QBM**
Chromium, Hexavalent	740	2.8	20		µg/L	2	1/19/2016
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **ICP7_160114B** QC Batch: **55731**				PrepDate		**1/11/2016**	Analyst: **CEI**
Chromium	740	0.43	5.0		µg/L	5	1/14/2016 07:56 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R105122** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **PBW** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R105122** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **LCSW** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.760	0.20	5.000	0	95.2	90	110				

Sample ID **N018280-001C-DUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194958**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.814	0.20						3.843	0.763	20	

Sample ID **N018280-001C-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.750	0.20	5.000	3.843	98.2	90	110				

Sample ID **N018280-001C-MSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.761	0.20	5.000	3.843	98.4	90	110	8.750	0.120	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018299-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.628	0.20	1.000	0.6315	99.6	90	110				

Sample ID **N018299-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194968**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.793	0.20	1.000	0.8345	95.8	90	110				

Sample ID **N018299-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.336	0.20	1.000	0.3495	98.6	90	110				

Sample ID **N018299-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.487	0.20	1.000	1.571	91.6	90	110				

Sample ID **N018299-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194974**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.222	0.20	1.000	1.272	95.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018299-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	ZZZZZZ	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.046	0.20	1.000	1.122	92.4	90	110				

Sample ID	N018299-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	ZZZZZZ	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194980

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.269	0.20	1.000	1.266	100	90	110				

Sample ID	N018299-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	ZZZZZZ	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194982

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.979	0.20	1.000	1.988	99.0	90	110				

Sample ID	N018299-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	ZZZZZZ	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0.1233	93.2	90	110				

Sample ID	N018299-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	ZZZZZZ	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018299-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.910	0.20	1.000	1.913	99.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID **LCS-R105312** SampType: **LCS** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **LCSW** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	97.360	10	100.0	0	97.4	85	115				

Sample ID **MB-R105312** SampType: **MBLK** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **PBW** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	10									

Sample ID **N018231-002DDUP** SampType: **DUP** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **ZZZZZZ** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	740.858	20						741.4	0.0769	20	

Sample ID **N018280-002CMS** SampType: **MS** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **ZZZZZZ** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203406**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1241.290	20	500.0	736.4	101	85	115				

Sample ID **N018280-002CMSD** SampType: **MSD** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **ZZZZZZ** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1242.014	20	500.0	736.4	101	85	115	1241	0.0583	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-55731	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	1/11/2016	RunNo:	105199
Client ID:	PBW	Batch ID:	55731	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	1/13/2016	SeqNo:	2197342

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-55731	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	1/11/2016	RunNo:	105199
Client ID:	LCSW	Batch ID:	55731	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	1/13/2016	SeqNo:	2197343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.475	1.0	10.00	0	105	85	115				

Sample ID	N018279-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	1/11/2016	RunNo:	105199
Client ID:	ZZZZZZ	Batch ID:	55731	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	1/13/2016	SeqNo:	2197347

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.364	1.0	10.00	4.780	85.8	75	125				

Sample ID	N018279-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	1/11/2016	RunNo:	105199
Client ID:	ZZZZZZ	Batch ID:	55731	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	1/13/2016	SeqNo:	2197350

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.469	1.0	10.00	4.780	86.9	75	125	13.36	0.781	20	

Sample ID	N018279-011B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	1/11/2016	RunNo:	105199
Client ID:	ZZZZZZ	Batch ID:	55731	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	1/13/2016	SeqNo:	2197363

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.028	1.0	10.00	14.17	38.6	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160112I**	QC Batch: **R105301**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	210	1.2	5.0		mg/L	1	1/12/2016 07:45 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	1/12/2016 07:45 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	1/12/2016 07:45 PM
Alkalinity, Total (As CaCO3)	210	1.2	5.0		mg/L	1	1/12/2016 07:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160112I**	QC Batch: **R105301**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	140	1.2	5.0		mg/L	1	1/12/2016 07:45 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	1/12/2016 07:45 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	1/12/2016 07:45 PM
Alkalinity, Total (As CaCO3)	140	1.2	5.0		mg/L	1	1/12/2016 07:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R105301** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105301**
Client ID: **LCSW** Batch ID: **R105301** TestNo: **SM 2320 B** Analysis Date: **1/12/2016** SeqNo: **2202879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	98.060	5.0	100.0	0	98.1	85	115				
Alkalinity, Total (As CaCO3)	100.216	5.0	100.0	0	100	85	115				

Sample ID **MB-R105301** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105301**
Client ID: **PBW** Batch ID: **R105301** TestNo: **SM 2320 B** Analysis Date: **1/12/2016** SeqNo: **2202880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N018280-001ADUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105301**
Client ID: **ZZZZZZ** Batch ID: **R105301** TestNo: **SM 2320 B** Analysis Date: **1/12/2016** SeqNo: **2202882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	213.362	5.0						209.1	2.04	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	213.362	5.0						209.1	2.04	30	

Sample ID **N018280-002AMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105301**
Client ID: **ZZZZZZ** Batch ID: **R105301** TestNo: **SM 2320 B** Analysis Date: **1/12/2016** SeqNo: **2202884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	230.603	5.0	100.0	135.8	94.8	75	125				
Alkalinity, Total (As CaCO3)	230.603	5.0	100.0	135.8	94.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **N018280-002AMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105301**
Client ID: **ZZZZZZ** Batch ID: **R105301** TestNo: **SM 2320 B** Analysis Date: **1/12/2016** SeqNo: **2202885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	234.914	5.0	100.0	135.8	99.1	75	125	230.6	1.85	20	
Alkalinity, Total (As CaCO3)	234.914	5.0	100.0	135.8	99.1	75	125	230.6	1.85	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160107A**	QC Batch: **R105142**			PrepDate			Analyst: **QBM**
Chloride	1000	6.3	100		mg/L	200	1/7/2016 02:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160107A**	QC Batch: **R105142**			PrepDate			Analyst: **QBM**
Sulfate	370	1.6	25		mg/L	50	1/7/2016 01:08 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160107A**	QC Batch: **R105142**			PrepDate			Analyst: **QBM**
Chloride	2300	16	250		mg/L	500	1/7/2016 03:08 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160107A**	QC Batch: **R105142**			PrepDate			Analyst: **QBM**
Sulfate	500	3.3	50		mg/L	100	1/7/2016 01:39 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **MB-R105142_CL** SampType: **MBLK** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **PBW** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.123	0.50									

Sample ID **LCS-R105142_CL** SampType: **LCS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **LCSW** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194190**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.557	0.50	2.500	0	102	90	110				

Sample ID **N018280-001ADUP** SampType: **DUP** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ZZZZZZ** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1021.400	100						1004	1.76	20	

Sample ID **N018280-002AMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ZZZZZZ** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3590.500	250	1250	2269	106	80	120				

Sample ID **N018280-002AMSD** SampType: **MSD** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ZZZZZZ** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194199**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3653.000	250	1250	2269	111	80	120	3590	1.73	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **MB-R105142_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **PBW** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **LCS-R105142_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **LCSW** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194205**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.942	0.50	5.000	0	98.8	90	110				

Sample ID **N018280-001ADUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ZZZZZZ** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194209**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	370.500	25						368.6	0.528	20	

Sample ID **N018280-002AMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ZZZZZZ** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1031.000	50	500.0	498.0	107	80	120				

Sample ID **N018280-002AMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ZZZZZZ** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1005.700	50	500.0	498.0	102	80	120	1031	2.48	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160117A**	QC Batch: **R105297**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	1/17/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160117A**	QC Batch: **R105297**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	3.3	0.11	0.25		mg/L	5	1/17/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R105297** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **PBW** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R105297** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **LCSW** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.457	0.050	0.5000	0	91.3	85	115				

Sample ID **N018280-001D-DUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **ZZZZZZ** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050						0	0	20	

Sample ID **N018280-001D-MS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **ZZZZZZ** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.536	0.050	0.5000	0	107	75	125				

Sample ID **N018280-001D-MSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **ZZZZZZ** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.561	0.050	0.5000	0	112	75	125	0.5357	4.60	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160117A**	QC Batch: **55832**			PrepDate	**1/15/2016**		Analyst: **CEI**
Calcium	84000	31	500		ug/L	1	1/17/2016 07:55 PM
Iron	65	17	20		ug/L	1	1/17/2016 07:55 PM
Magnesium	13000	86	100		ug/L	1	1/17/2016 07:55 PM
Sodium	810000	1200	50000		ug/L	100	1/16/2016 11:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160117A**	QC Batch: **55832**				PrepDate	**1/15/2016**	Analyst: **CEI**
Calcium	180000	31	500		ug/L	1	1/17/2016 07:59 PM
Iron	ND	17	20		ug/L	1	1/17/2016 07:59 PM
Magnesium	27000	86	100		ug/L	1	1/17/2016 07:59 PM
Sodium	1500000	1200	50000		ug/L	100	1/16/2016 11:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-55832** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105258**
Client ID: **PBW** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/16/2016** SeqNo: **2200865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	18.217	500									

Sample ID **LCS2-55832** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105258**
Client ID: **LCSW** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/16/2016** SeqNo: **2200866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	20599.446	500	20000	0	103	85	115				

Sample ID **N018280-002B-MS2** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105258**
Client ID: **ZZZZZZ** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/16/2016** SeqNo: **2200873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1561263.579	50000	20000	1531000	153	75	125				S

Sample ID **N018280-002B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105258**
Client ID: **ZZZZZZ** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/16/2016** SeqNo: **2200874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1572440.885	50000	20000	1531000	208	75	125	1561000	0.713	20	S

Sample ID **MB-55832** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105278**
Client ID: **PBW** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/17/2016** SeqNo: **2202038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	500									
Iron	ND	20									
Magnesium	ND	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **LCS1-55832** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105278**
Client ID: **LCSW** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/17/2016** SeqNo: **2202039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9781.739	500	10000	0	97.8	85	115				
Iron	111.694	20	100.0	0	112	85	115				
Magnesium	9580.322	100	10000	0	95.8	85	115				

Sample ID **N018277-002B-MS1** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105278**
Client ID: **ZZZZZZ** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/17/2016** SeqNo: **2202045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	101570.736	500	10000	97740	38.3	75	125				S
Iron	136.291	20	100.0	51.58	84.7	75	125				
Magnesium	24248.505	100	10000	14970	92.8	75	125				

Sample ID **N018277-002B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/15/2016** RunNo: **105278**
Client ID: **ZZZZZZ** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/17/2016** SeqNo: **2202046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	101567.102	500	10000	97740	38.3	75	125	101600	0.00358	20	S
Iron	136.979	20	100.0	51.58	85.4	75	125	136.3	0.504	20	
Magnesium	24131.641	100	10000	14970	91.6	75	125	24250	0.483	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:41:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_160113A**	QC Batch: **55731**			PrepDate	**1/11/2016**		Analyst: **CEI**
Manganese	75	0.023	0.50		µg/L	1	1/13/2016 12:11 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-Jan-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018280	**Collection Date:**	1/6/2016 7:47:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018280-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160113A**	QC Batch: **55731**			PrepDate	**1/11/2016**		Analyst: **CEI**
Manganese	13	0.023	0.50		µg/L	1	1/13/2016 12:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-55731** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/11/2016** RunNo: **105199**
Client ID: **PBW** Batch ID: **55731** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **LCS-55731** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/11/2016** RunNo: **105199**
Client ID: **LCSW** Batch ID: **55731** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197432**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	102.557	0.50	100.0	0	103	85	115				

Sample ID **N018279-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/11/2016** RunNo: **105199**
Client ID: **ZZZZZZ** Batch ID: **55731** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	94.117	0.50	100.0	3.743	90.4	75	125				

Sample ID **N018279-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/11/2016** RunNo: **105199**
Client ID: **ZZZZZZ** Batch ID: **55731** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.271	0.50	100.0	3.743	89.5	75	125	94.12	0.903	20	

Sample ID **N018279-011B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/11/2016** RunNo: **105199**
Client ID: **ZZZZZZ** Batch ID: **55731** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197452**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	74.277	0.50	100.0	0.07133	74.2	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
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P: 562.219.7435 F: 562.219.7436
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Client: Arcadis	Report to: Dan Bush	Bill to: Lisa Kellog
Address: 1410 Rocky Ridge Dr. #330	Company: Arcadis	Address: 2999 Oak Road, Suite 300
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Walnut Creek, CA 94597
Phone: 916.786.3302 Fax:	Address: 1410 Rocky Ridge Dr. #330	Email to: lisa.kellog@arcadis.com PO#
Submitted By:	Roseville, CA 95661	Phone: 951.677.0577 Fax:
Title:	Phone: 916.786.3302 Fax:	
Signature: Date:	Sampled By:	
I hereby authorize ASSET Labs to perform the tests indicated below:	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.	
Project Name: PG&E Topock - PMP	Signature:	Date
Project Number:		

EDD Requirement		QA/QC		Sampe Receipt Condition	Y	N
Excel EDD	☐	RTNE	☐			
Geotracker	☐	RWQCB	☐	1. Chilled	☑	☐
Labspec	☐	CalTrans	☐	2. Headspace	☐	☐
Others	☐	Level III	☐	3. Container Intact	☑	☐
Specify:		LEVEL IV	☐	4. Seal Present	☐	☐
		Regulatory	☐	5. IR number	#2	
Global ID:		Specify State:		6. Method of Cooling	ICE	
				Sample Temp:	4.1°C	

Matrix			
Ground	☐	Sediment	☐
Potable	☐	Soil	☐
NPDES	☐	Other Solid	☐
Surface	☐		

Courier:

Tracking No.

Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Water	Solid	Others	pH SM4500H+B	Specific Cond EPA 120.1	TDS SM 2540C	Anions Cl, SO4	Alkalinity Speciated (HCO3, CO3, OH	Diss Metals ICP (Ca, Fe, Mg, Na)	Diss Metals ICP-MS Metals (Mn, Cr)		Cr+6 by EPA 218.6 250mL Poly with Ammonium Buffer Soln	Cr+6 by SM 3500B 250mL Poly with Ammonium Buffer Soln	NO2/NO3 SM4500NO3E				Turn Around Time	No. of container	Container Type	PRESERVATION	Remarks
								1 L Poly Non-Preserve					500 mL Poly w/ HNO3													
1	N018280-1	PE-01-0116	1-6-16	0741	X			X	X	X	X	X	X	X		X		X				E	4	P		
2	1 -2	TW-3D-0117	1-6-16	0747	X			X	X	X	X	X	X	X			X	X				E	4	P		
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Relinquished by (Signature and Printed Name):	Date / Time	Received by (Signature and Printed Name):	Date / Time
Jed Dilumilo Jed Dilumilo	1/6/16 1657	[signature]	1/6/16 1658
[signature]	1/6/16 1955	[signature]	1/6/16 1955

Turn Around Time (TAT)

- ☐ A < 24 Hrs or Same Day TAT
- ☐ B = Next Workday
- ☐ C = 2 Workdays
- ☐ D = 3 Workdays
- ☑ E = Routine 5-7 Workdays

TAT Starts at 8 AM the followiing day if samples received after 3:00 PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20%
3. Custom EDD formats will be an additional 3% of the total project price
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 Days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H = HCl	N = HNO_3	S = H_2SO_4	C = 4°C	T = Tube	V = VOA	P = Pint
Z = $Zn(AC)_2$	O = NaOH	T = $Na_2S_2O_3$		J = Jar	B = Tedlar	G = Glass
Others/Specify:				M = Metal	P = Plastic	C = Can

White = Laboratory Copy Yellow = Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	1/6/2016	Workorder:	N018280
Rep sample Temp (Deg C):	4.1	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☐	No ☑	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for metals are lab filtered and preserved.

Checklist Completed By: MBC MBC 1/7/2016

Reviewed By: gog 01/11/16

ASSET Laboratories

WORK ORDER Summary

12-Jan-16

WorkOrder: N018280

Client ID: ARCUS02

Project: PG&E Topock - PMP

QC Level: Level IV

Date Received: 1/6/2016

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018280-001A	PE-01-0116	1/6/2016 7:41:00 AM	1/20/2016	Water	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			1/20/2016		SM4500-H+B	pH	☐	☐	☐	WW
			1/20/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			1/20/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			1/20/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			1/20/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/20/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/20/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N018280-001B			1/20/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/20/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/20/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/20/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			1/20/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018280-001C			1/20/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018280-001D			1/20/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018280-001E							☐	☐	☐	WW
N018280-002A	TW-3D-0116	1/6/2016 7:47:00 AM	1/20/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			1/20/2016		SM4500-H+B	pH	☐	☐	☐	WW
			1/20/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			1/20/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			1/20/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			1/20/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

12-Jan-16

WorkOrder: N018280

Client ID: ARCUS02

Project: PG&E Topock - PMP

QC Level: Level IV

Date Received: 1/6/2016

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018280-002A	TW-3D-0116	1/6/2016 7:47:00 AM	1/20/2016	Water	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/20/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N018280-002B			1/20/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/20/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/20/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/20/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			1/20/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018280-002C			1/20/2016		SM 3500-Cr B	HEXAVALENT CHROMIUM	☐	☐	☐	WW
N018280-002D			1/20/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018280-002E							☐	☐	☐	WW
N018280-003A	FOLDER		1/20/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018280**

NAME	TEST METHOD
Quennie Manimtim	EPA 300.0, SM 3500-Cr B
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540C, SM 2320B

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105119 **Analyst:** LSR

ASSET #: N018280 **Date Analyzed:** 1/7/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 1/15/2016

2nd Level Reviewer Nancy 1/19/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 1/6/16 @ 1010
Analyst: LSR

Standard	Std ID	Reading	Comments
9.78 µS/cm	CINV - 150619A	9.72 µS/cm @ 20.1°C	% Rec: (90-110%)
1414	- 150601B	1437 @ 20.0°C	
10009	- 150619B	10260 @ 20.0°C	
99797	- 151012B	103100 @ 19.9°C	

	Sample ID	Matrix	Reading	Comments
1	N018230 - 001B	Water	7380 µS/cm @ 19.6°C	
2	- 002B		7530 @ 19.4°C	
3	N018231 - 001A		4330 @ 19.6°C	
4	- 002A		8140 @ 19.8°C	
5	N018230 - 001B DUP		7360 @ 19.5°C	
6				
7				
8	1413 µS/cm	CINV - 150527A	1444 µS/cm @ 20.0°C	
9	10000	- 150909A	10160 @ 20.1°C	
10	99996	- 150430A	98400 @ 20.1°C	
Dup				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Julia Ramit 1/15/2016

Date: 1/7/16 1820
Analyst: LSR

Standard	Std ID	Reading	Comments
9.78 µS/cm	CINV - 150619A	9.86 µS/cm @ 20.4°C	% Rec: (90-110%)
1414	- 150601B	1430 @ 20.7°C	
10009	- 150619B	10370 @ 20.8°C	
99797	- 151012B	98600 @ 20.8°C	

	Sample ID	Matrix	Reading	Comments
1	N018261 - 001A	Water	17180 @ 19.5°C	
2	- 001A DUP		17220 @ 19.3°C	
3	N018280 - 001A		4300 @ 20.5°C	
4	- 002A		8270 @ 20.7°C	
5	- 002A DUP		8310 @ 20.6°C	
6				
7				
8				
9	1413 µS/cm	CINV - 150527A	1421 µS/cm @ 20.8°C	
10	10000	- 150909A	10270 @ 20.7°C	
Dup	99996	- 150430A	93000 @ 20.7°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

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SM 4500-H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105111 **Instrument ID:** pH meter

ASSET #: N018280 **Analyst:** LSR

Date Analyzed: 1/7/2016

Method: EPA 150.1

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Lilia Ramit Date: 1/18/2016

2nd Level Reviewer 1/19/2016 Date:

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

pH Logbook

Date: 1/7/16 1700
Analyst: LR CONTD

Standard	Std ID	pH	Comments
Buffer 7	CNW - 150828A	7.03 @ 19.7°C	SLOPE: 97.7%
Buffer 4	- 150828B	4.01 @ 19.7°C	
Buffer 10	- 150708A	10.05 @ 19.9°C	

	Sample ID	Matrix	pH	Comments
1	N018269 - 001A	Water	6.49 @ 18.2°C	
2	N018270 - 001A		8.30 @ 18.4°C	
3	N018271 - 001A		8.74 @ 18.7°C	
4	N018272 - 001A		6.70 @ 18.1°C	
5	- 002A		6.71 @ 18.4°C	
6	N018273 - 001A		7.39 @ 18.6°C	
7	N018274 - 001A		6.72 @ 18.4°C	
8	N018275 - 001A		6.70 @ 18.3°C	
9	- 002A		6.60 @ 18.5°C	
10	N018273 / 001A DUP		7.40 @ 18.3°C	
Dup				Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CNW - 150624A	7.05 @ 20.5°C	Accept: +/-0.1 pH units from expected value

Date: 1/7/16 1700
Analyst: LSR

Standard	Std ID	pH	Comments
Buffer 7			
Buffer 4	CONTD		
Buffer 10			

	Sample ID	Matrix	pH	Comments
1	N018276 - 001A	Water	7.41 @ 18.6°C	
2	- 002A		8.92 @ 18.5°C	
3	- 003A		7.37 @ 18.7°C	
4	N018280 - 001A		7.64 @ 19.7°C	
5	- 002A		7.42 @ 19.9°C	
6	N018280 - 001A DUP		7.58 @ 19.6°C	
7				
8			Sukha	Ramit 1/18/2016
9				
10				
Dup				Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CNW - 150624A	7.04 @ 20.9°C	Accept: +/-0.1 pH units from expected value

Logbook #8

SM 2540C

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 55748 **Analyst:** LSR

ASSET #: N018280 **Date Analyzed:** 1/11/2016

Method: EPA 160.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 1/19/2016

2nd Level Reviewer 1/19/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: Water

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018280-001A,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(61.4024–61.3293)*1000000}{30}$$
$$= 2436.6667 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 2400 mg/L

Julia Ramit 1/19/2016

SAMPLE PREPARATION LOG

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ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/11/2016 3:17:09 P**
Prep End Date: **1/12/2016 11:30:00**

Initials/ Date: Lilia Ramit 1/19/2016

Prep Batch **55748** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **180**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-55748	Water		100	☐	0	0	100	1.000		
MB-55748	Water		100	☐	0	0	100	1.000		
N018277-001E	Groundwater		50	☐	0	0	100	2.000		
N018277-002E	Groundwater		100	☐	0	0	100	1.000		
N018277-003E	Groundwater		100	☐	0	0	100	1.000		
N018277-004E	Groundwater		100	☐	0	0	100	1.000		
N018277-005E	Groundwater		75	☐	0	0	100	1.333		
N018277-008E	Groundwater		100	☐	0	0	100	1.000		
N018277-009A	Groundwater		100	☐	0	0	100	1.000		
N018277-010A	Groundwater		100	☐	0	0	100	1.000		
N018280-001A	Water		30	☐	0	0	100	3.333		
N018280-002A	Water		20	☐	0	0	100	5.000		
N018280-002A-DU	Water		20	☐	0	0	100	5.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST151210A	1000 ppm NaCl	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/11/2016 3:17:09 P**
Prep End Date:

Initials/ Date: Lilia Ramit 1/19/2016

Prep Factor Units
mL / mL

Prep Batch **55748** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

	Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
B	LCS-55748	Water	IW5715120A	100	☐	0	0	100	1.000	75.8480 75.8478	75.9623 75.9628
C	MB-55748	Water		100	☐	0	0	100	1.000	55.6933 55.6932	55.6952 55.6955
7	N018277-001E	Groundwater	2900	100 /50	☐	0	0	100	1.000	60.4457 60.4449	60.5443 60.5447
L5	N018277-002E	Groundwater	1065	100	☐	0	0	100	1.000	74.7033 74.7035	74.7726 74.7730
L7	N018277-003E	Groundwater	700	100	☐	0	0	100	1.000	77.1320 77.1319	77.1769 77.1773
L11	N018277-004E	Groundwater	702	100	☐	0	0	100	1.000	76.7187 76.7184	76.7632 76.7636
AC	N018277-005E	Groundwater	1643	100 /75	☐	0	0	100	1.000	64.0922 64.0922	64.1701 64.1702
21	N018277-008E	Groundwater	574	100	☐	0	0	100	1.000	55.0850 55.0851	55.0866 55.0863
8	N018277-009A	Groundwater	424	100	☐	0	0	100	1.000	54.8494 54.8494	54.8932 54.8929
12	N018277-010A	Groundwater	422	100	☐	0	0	100	1.000	54.2311 54.2310	54.2588 54.2585
AB	N018280-001A	Water	4220	100 /30	☐	0	0	100	1.000	61.3292 61.3293	61.4026 61.2024
16	N018280-002A	Water	3100	100 /20	☐	0	0	100	1.000	61.1303 61.1304	61.2220 61.2224
9	N018280-002A-DU	Water	1	100 /20	☐	0	0	100	1.000	60.9062 60.9062	60.9946 60.9950

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

TSS / TS / TDS Preparation and Runlog

Name of Test: TDS

QC Batch No.: 55748

Date Prepared: 1/11/16
Time Prepared: 1517 (Start Time)
Prepared By: [illegible]

Date of Weighing: 1/12/16
Time of Reading: 930 (Start time)
Weighings performed by: [illegible]

Oven Temperature: 180°C
Filter Paper Lot #: 158410

	Sample ID	Sample Vol. (ml)	Crucible+Filter 1st Final Tare Wt.(g)	Crucible+Filter 2nd Final Tare Wt.(g)	Crucible+Filter+Sample 1st Final Wt(g)	Crucible+Filter+Sample 2nd Final Wt(g)	TSS/TS/TDS (mg/L)	Comments
	Blank MB- 55748	100	55.6950	55.6952	55.6952	55.6952	0	TDS/COND RATIO
1	LCS- 55748	100	75.8680	75.8678	75.9623	75.9628	950	
2	N08277- 001E	50	60.4451	60.4449	60.5443	60.5447	1996	1996 / 2900 = 0.688
3	-002E	100	74.7053	74.7055	74.7726	74.7730	675	675 / 1068 = 0.634
4	-003E	100	77.1321	77.1319	77.1769	77.1773	454	454 / 700 = 0.649
5	-004E	100	76.7184	76.7184	76.7632	76.7636	452	452 / 702 = 0.644
6	-005E	75	64.0922	64.0922	64.1704	64.1702	1040	1040 / 1643 = 0.633
7	-008E	100	55.0500	55.0501	55.0866	55.0863	362	362 / 574 = 0.631
8	-009A	100	54.8694	54.8694	54.8972	54.8969	275	275 / 424 = 0.649
9	-010A	100	54.2311	54.2310	54.2588	54.2585	275	275 / 422 = 0.652
10	N08280-001A	30	61.2242	61.2243	61.4026	61.4024	2436.6667	2436.6667 / 4220 = 0.577
11	-002A	20	61.1363	61.1364	61.2220	61.2224	4600	4600 / 8100 = 0.568
12	-002A DUP	20	60.9062	60.9062	60.9946	60.9950	4440	4440 / 8100 = 0.548
13								
14								
15								
16								
17								
18								
19								
20								
Dup								

Logbook #14

Julia Ramit 1/19/2016

TOTAL DISSOLVED SOLIDS, TDS

TDS, mg/L = (A-B) X 10000*PF

where:
A = weight in grams of dish + residue after drying
B = weight of dish in grams
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight of dish in grams (B)	weight in grams of dish + residue after drying (A)	(A-B)*10000	prep fact (PF)	TDS, mg/L	CONDUCTIVITY	RATIO
Date Finished:1/12/16								
MB-55748	100	55.6952	55.6952	0	1	0		
LCS-55748	100	75.8678	75.9628	950	1	950		
N018277-001E	50	60.4449	60.5447	998	2	1996	2900	0.688
N018277-002E	100	74.7055	74.773	675	1	675	1065	0.634
N018277-003E	100	77.1319	77.1773	454	1	454	700	0.649
N018277-004E	100	76.7184	76.7636	452	1	452	702	0.644
N018277-005E	75	64.0922	64.1702	780	1.33333333	1040	1643	0.633
N018277-008E	100	55.0501	55.0863	362	1	362	574	0.631
N018277-009A	100	54.8694	54.8969	275	1	275	424	0.649
N018277-010A	100	54.231	54.2585	275	1	275	422	0.652
N018280-001A	30	61.3293	61.4024	731	3.33333333	2436.66667	4220	0.577
N018280-002A	20	61.1304	61.2224	920	5	4600	8100	0.568
N018280-002ADUP	20	60.9062	60.995	888	5	4440	8100	0.548

Julia Ramit 1/19/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 1.0
101515

QC Batch Number: R105122
ASSET #: N018280

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 1/8/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM, GMP, ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer REB 1/15/2016 Date: _____

2nd Level Reviewer Nancy 1/19/2016 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018280-001C** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 3.8427 * 1

= 3.8427

Reporting result in two significant figures,

Cr^{+6}, µg/L = 3.8

ANALYSIS RUN LOG

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	01/05/16 12:47 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/05/16 12:56 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	01/05/16 1:06 PM	Reported
13	MB-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:15 PM	Reported
14	LCS-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:24 PM	Reported
15	N018212-001A	SAMP	1	Hexavalent Chromium	01/05/16 1:35 PM	Reported
16	N018212-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 1:46 PM	Reported
17	N018212-001AMS	MS	1	Hexavalent Chromium	01/05/16 1:59 PM	Reported
18	N018212-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 2:10 PM	Reported
19	N018212-002A	SAMP	1	Hexavalent Chromium	01/05/16 2:30 PM	Reported
20	N018212-002AMS	MS	1	Hexavalent Chromium	01/05/16 2:41 PM	Reported
21	N018212-003A	SAMP	1	Hexavalent Chromium	01/05/16 2:50 PM	Reported
22	N018212-003AMS	MS	1	Hexavalent Chromium	01/05/16 3:00 PM	Reported
23	CCV-1	CCV	1	Hexavalent Chromium	01/05/16 3:09 PM	Reported
24	CCB-1	CCB	1	Hexavalent Chromium	01/05/16 3:19 PM	Reported
25	N018212-004A	SAMP	1	Hexavalent Chromium	01/05/16 3:28 PM	Reported
26	N018212-004AMS	MS	1	Hexavalent Chromium	01/05/16 3:38 PM	Reported
27	N018212-005A	SAMP	1	Hexavalent Chromium	01/05/16 3:47 PM	Reported
28	N018212-005AMS	MS	1	Hexavalent Chromium	01/05/16 3:57 PM	Reported
29	N018212-006A	SAMP	1	Hexavalent Chromium	01/05/16 4:06 PM	Reported
30	N018212-006AMS	MS	1	Hexavalent Chromium	01/05/16 4:16 PM	Reported
31	N018212-007A	SAMP	1	Hexavalent Chromium	01/05/16 4:25 PM	Reported
32	N018212-007AMS	MS	1	Hexavalent Chromium	01/05/16 4:35 PM	Reported
33	N018213-001A	SAMP	1	Hexavalent Chromium	01/05/16 4:44 PM	Reported
34	N018213-002A	SAMP	1	Hexavalent Chromium	01/05/16 4:54 PM	Reported
35	CCV-2	CCV	1	Hexavalent Chromium	01/05/16 5:03 PM	Reported
36	CCB-2	CCB	1	Hexavalent Chromium	01/05/16 5:12 PM	Reported
37	N018213-003A	SAMP	1	Hexavalent Chromium	01/05/16 5:22 PM	Reported
38	N018213-004A	SAMP	1	Hexavalent Chromium	01/05/16 5:31 PM	Reported
39	N018213-005A	SAMP	1	Hexavalent Chromium	01/05/16 5:41 PM	Reported
40	N018213-006A	SAMP	1	Hexavalent Chromium	01/05/16 5:50 PM	Reported
41	N018213-007A	SAMP	1	Hexavalent Chromium	01/05/16 6:00 PM	Reported
42	N018213-008A	SAMP	1	Hexavalent Chromium	01/05/16 6:11 PM	Reported

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018213-009A	SAMP	1	Hexavalent Chromium	01/05/16 6:21 PM	Reported
44	N018213-010A	SAMP	1	Hexavalent Chromium	01/05/16 6:30 PM	Reported
45	N018213-011A	SAMP	1	Hexavalent Chromium	01/05/16 6:39 PM	Reported
46	N018213-012A	SAMP	1	Hexavalent Chromium	01/05/16 6:49 PM	Reported
47	CCV-3	CCV	1	Hexavalent Chromium	01/05/16 6:58 PM	Reported
48	CCB-3	CCB	1	Hexavalent Chromium	01/05/16 7:08 PM	Reported
49	MB-R105090	MBLK	1	Hexavalent Chromium	01/05/16 7:17 PM	Reported
50	LCS-R105090	LCS	1	Hexavalent Chromium	01/05/16 7:27 PM	Reported
51	N018214-001A	SAMP	1	Hexavalent Chromium	01/05/16 7:36 PM	Reported
52	N018214-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 7:46 PM	Reported
53	N018214-001AMS	MS	1	Hexavalent Chromium	01/05/16 7:55 PM	Reported
54	N018214-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 8:05 PM	Reported
55	N018214-002A	SAMP	1	Hexavalent Chromium	01/05/16 8:14 PM	Reported
56	N018214-003A	SAMP	1	Hexavalent Chromium	01/05/16 8:24 PM	Reported
57	N018214-004A	SAMP	1	Hexavalent Chromium	01/05/16 8:33 PM	Reported
58	N018214-005A	SAMP	1	Hexavalent Chromium	01/05/16 8:43 PM	Reported
59	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 8:52 PM	Not Reported
60	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 10:51 PM	Reported
61	CCB-4	CCB	1	Hexavalent Chromium	01/05/16 11:02 PM	Reported
62	N018214-006A	SAMP	1	Hexavalent Chromium	01/05/16 11:12 PM	Reported
63	N018214-007A	SAMP	1	Hexavalent Chromium	01/05/16 11:21 PM	Reported
64	N018214-008A	SAMP	1	Hexavalent Chromium	01/05/16 11:30 PM	Reported
65	N018214-009A	SAMP	1	Hexavalent Chromium	01/05/16 11:40 PM	Reported
66	N018214-010A	SAMP	1	Hexavalent Chromium	01/05/16 11:49 PM	Reported
67	N018214-011A	SAMP	1	Hexavalent Chromium	01/05/16 11:59 PM	Reported
68	N018214-012A	SAMP	1	Hexavalent Chromium	01/06/16 12:08 AM	Reported
69	N018214-013A	SAMP	1	Hexavalent Chromium	01/06/16 12:18 AM	Reported
70	N018214-014A	SAMP	1	Hexavalent Chromium	01/06/16 12:27 AM	Reported
71	N018214-015A	SAMP	1	Hexavalent Chromium	01/06/16 12:37 AM	Reported
72	CCV-5	CCV	1	Hexavalent Chromium	01/06/16 12:46 AM	Reported
73	CCB-5	CCB	1	Hexavalent Chromium	01/06/16 12:56 AM	Reported
74	N018223-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:05 AM	Reported
75	N018224-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:15 AM	Reported
76	CCV-6	CCV	1	Hexavalent Chromium	01/06/16 1:24 AM	Reported
77	CCB-6	CCB	1	Hexavalent Chromium	01/06/16 1:33 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160105A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Jan/16 10:48:03**
No. of Injections:	**80**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	ICV,ICV,1,	10	1000	Unknown		01/05/2016 12:47	Finished	ICV @ 5ppb, IWST 160105B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		01/05/2016 12:56	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		01/05/2016 13:06	Finished	ICB R151228A
13	MB-H2O,MBLK,1	13	1000	Unknown		01/05/2016 13:15	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		01/05/2016 13:24	Finished	LCS @ 5ppb, IWST-160105D
15	N018212-001A,SAMF	15	1000	Unknown		01/05/2016 13:35	Finished	SAMP, 10mL
16	N018212-001ADUP,D	16	1000	Unknown		01/05/2016 13:46	Finished	DUP, 10mL
17	N018212-001AMS,MS	17	1000	Unknown		01/05/2016 13:59	Finished	MS(1ppb), IWST-160105D, 10r
18	N018212-001AMSD,M	18	1000	Unknown		01/05/2016 14:10	Finished	MSD(1ppb), IWST-160105D, 1
19	N018212-002A,SAMF	19	1000	Unknown		01/05/2016 14:30	Finished	SAMP, 10mL
20	N018212-002AMS,MS	20	1000	Unknown		01/05/2016 14:41	Finished	MS(1ppb), IWST-160105D, 10r
21	N018212-003A,SAMF	21	1000	Unknown		01/05/2016 14:50	Finished	SAMP, 10mL
22	N018212-003AMS,MS	22	1000	Unknown		01/05/2016 15:00	Finished	MS(1ppb), IWST-160105D, 10r
23	CCV-1,CCV,1	23	1000	Unknown		01/05/2016 15:09	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-1,CCB,1	24	1000	Unknown		01/05/2016 15:19	Finished	CCB
25	N018212-004A,SAMF	25	1000	Unknown		01/05/2016 15:28	Finished	SAMP, 10mL
26	N018212-004AMS,MS	26	1000	Unknown		01/05/2016 15:38	Finished	MS(1ppb), IWST-160105D, 10r
27	N018212-005A,SAMF	27	1000	Unknown		01/05/2016 15:47	Finished	SAMP, 10mL
28	N018212-005AMS,MS	28	1000	Unknown		01/05/2016 15:57	Finished	MS(1ppb), IWST-160105D, 10r
29	N018212-006A,SAMF	29	1000	Unknown		01/05/2016 16:06	Finished	SAMP, 10mL
30	N018212-006AMS,MS	30	1000	Unknown		01/05/2016 16:16	Finished	MS(1ppb), IWST-160105D, 10r
31	N018212-007A,SAMF	31	1000	Unknown		01/05/2016 16:25	Finished	SAMP, 10mL
32	N018212-007AMS,MS	32	1000	Unknown		01/05/2016 16:35	Finished	MS(1ppb), IWST-160105D, 10r
33	N018213-001A,SAMF	33	1000	Unknown		01/05/2016 16:44	Finished	SAMP, 10mL
34	N018213-002A,SAMF	34	1000	Unknown		01/05/2016 16:54	Finished	SAMP, 10mL
35	CCV-2,CCV,1	35	1000	Unknown		01/05/2016 17:03	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-2,CCB,1	36	1000	Unknown		01/05/2016 17:12	Finished	CCB
37	N018213-003A,SAMF	37	1000	Unknown		01/05/2016 17:22	Finished	SAMP, 10mL
38	N018213-004A,SAMF	38	1000	Unknown		01/05/2016 17:31	Finished	SAMP, 10mL
39	N018213-005A,SAMF	39	1000	Unknown		01/05/2016 17:41	Finished	SAMP, 10mL
40	N018213-006A,SAMF	40	1000	Unknown		01/05/2016 17:50	Finished	SAMP, 10mL
41	N018213-007A,SAMF	1	1000	Unknown		01/05/2016 18:00	Finished	SAMP, 10mL
42	N018213-008A,SAMF	2	1000	Unknown		01/05/2016 18:11	Finished	SAMP, 10mL
43	N018213-009A,SAMF	3	1000	Unknown		01/05/2016 18:21	Finished	SAMP, 10mL
44	N018213-010A,SAMF	4	1000	Unknown		01/05/2016 18:30	Finished	SAMP, 10mL
45	N018213-011A,SAMF	5	1000	Unknown		01/05/2016 18:39	Finished	SAMP, 10mL
46	N018213-012A,SAMF	6	1000	Unknown		01/05/2016 18:49	Finished	SAMP, 10mL
47	CCV-3,CCV,1	7	1000	Unknown		01/05/2016 18:58	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-3,CCB,1	8	1000	Unknown		01/05/2016 19:08	Finished	CCB
49	MB-H2O-2,MBLK,1	9	1000	Unknown		01/05/2016 19:17	Finished	MB
50	LCS-H2O-2,LCS,1	10	1000	Unknown		01/05/2016 19:27	Finished	LCS @ 5ppb, IWST-151103D
51	N018214-001A,SAMF	11	1000	Unknown		01/05/2016 19:36	Finished	SAMP, 10mL
52	N018214-001ADUP,D	12	1000	Unknown		01/05/2016 19:46	Finished	DUP, 10mL
53	N018214-001AMS,MS	13	1000	Unknown		01/05/2016 19:55	Finished	MS(5ppb), IWST-160105D, 10r
54	N018214-001AMSD,M	14	1000	Unknown		01/05/2016 20:05	Finished	MSD(5ppb), IWST-160105D, 1
55	N018214-002A,SAMF	15	1000	Unknown		01/05/2016 20:14	Finished	SAMP, 10mL
56	N018214-003A,SAMF	16	1000	Unknown		01/05/2016 20:24	Finished	SAMP, 10mL
57	N018214-004A,SAMF	17	1000	Unknown		01/05/2016 20:33	Finished	SAMP, 10mL
58	N018214-005A,SAMF	18	1000	Unknown		01/05/2016 20:43	Finished	SAMP, 10mL
59	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 20:52	Interrupted	CCV @ 5ppb, IWST-160105C
60	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 22:51	Finished	CCV @ 5ppb, IWST-160105C

61	CCB-4,CCB,1	20	1000	Unknown		01/05/2016 23:02	Finished	CCB
62	N018214-006A,SAMF	21	1000	Unknown		01/05/2016 23:12	Finished	SAMP, 10mL
63	N018214-007A,SAMF	22	1000	Unknown		01/05/2016 23:21	Finished	SAMP, 10mL
64	N018214-008A,SAMF	23	1000	Unknown		01/05/2016 23:30	Finished	SAMP, 10mL
65	N018214-009A,SAMF	24	1000	Unknown		01/05/2016 23:40	Finished	SAMP, 10mL
66	N018214-010A,SAMF	25	1000	Unknown		01/05/2016 23:49	Finished	SAMP, 10mL
67	N018214-011A,SAMF	26	1000	Unknown		01/05/2016 23:59	Finished	SAMP, 10mL
68	N018214-012A,SAMF	27	1000	Unknown		01/06/2016 00:08	Finished	SAMP, 10mL
69	N018214-013A,SAMF	28	1000	Unknown		01/06/2016 00:18	Finished	SAMP, 10mL
70	N018214-014A,SAMF	29	1000	Unknown		01/06/2016 00:27	Finished	SAMP, 10mL
71	N018214-015A,SAMF	30	1000	Unknown		01/06/2016 00:37	Finished	SAMP, 10mL
72	CCV-5,CCV,1	31	1000	Unknown		01/06/2016 00:46	Finished	CCV @ 10ppb, IWST-160105C
73	CCB-5,CCB,1	32	1000	Unknown		01/06/2016 00:56	Finished	CCB
74	N018223-001A,SAMF	33	1000	Unknown		01/06/2016 01:05	Finished	SAMP, 10mL
75	N018224-001A,SAMF	34	1000	Unknown		01/06/2016 01:15	Finished	SAMP, 10mL
76	CCV-6,CCV,1	35	1000	Unknown		01/06/2016 01:24	Finished	CCV @ 5ppb, IWST-160105C
77	CCB-6,CCB,1	36	1000	Unknown		01/06/2016 01:33	Finished	CCB
78	SHUTDOWN	37	1000	Unknown		01/06/2016 01:43	Finished	BLANK
79	Eluent: R160105A	38	1000	Unknown		n.a.	Finished	Eluent
80	PCR: R160105B	39	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160108A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	01/08/16 10:26 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	01/08/16 10:37 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/08/16 10:47 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	01/08/16 10:56 AM	Reported
14	MB-R105122	ICAL	1	Hexavalent Chromium	01/08/16 11:06 AM	Reported
15	LCS-R105122	ICAL	1	Hexavalent Chromium	01/08/16 11:15 AM	Reported
16	N018280-001C	SAMP	1	Hexavalent Chromium	01/08/16 11:25 AM	Reported
17	N018280-001C-DUP	DUP	1	Hexavalent Chromium	01/08/16 11:34 AM	Reported
18	N018280-001C-MS	MS	1	Hexavalent Chromium	01/08/16 11:43 AM	Reported
19	N018280-001C-MSD	MSD	1	Hexavalent Chromium	01/08/16 11:53 AM	Reported
20	N018297-002A	SAMP	1	Hexavalent Chromium	01/08/16 12:02 PM	Reported
21	N018299-001A	SAMP	1	Hexavalent Chromium	01/08/16 12:14 PM	Reported
22	N018299-001AMS	MS	1	Hexavalent Chromium	01/08/16 12:25 PM	Not Reported
23	CCV-2	CCV	1	Hexavalent Chromium	01/08/16 12:34 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	01/08/16 12:44 PM	Reported
25	N018299-002A	SAMP	1	Hexavalent Chromium	01/08/16 12:53 PM	Reported
26	N018299-002AMS	MS	1	Hexavalent Chromium	01/08/16 1:03 PM	Reported
27	N018299-003A	SAMP	1	Hexavalent Chromium	01/08/16 1:12 PM	Reported
28	N018299-003AMS	MS	1	Hexavalent Chromium	01/08/16 1:22 PM	Reported
29	N018299-004A	SAMP	1	Hexavalent Chromium	01/08/16 1:31 PM	Reported
30	N018299-004AMS	MS	1	Hexavalent Chromium	01/08/16 1:41 PM	Reported
31	N018299-005A	SAMP	1	Hexavalent Chromium	01/08/16 1:50 PM	Reported
32	N018299-005AMS	MS	1	Hexavalent Chromium	01/08/16 2:00 PM	Reported
33	N018299-006A	SAMP	1	Hexavalent Chromium	01/08/16 2:09 PM	Reported
34	N018299-006AMS	MS	1	Hexavalent Chromium	01/08/16 2:18 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	01/08/16 2:28 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	01/08/16 2:37 PM	Reported
37	N018299-007A	SAMP	1	Hexavalent Chromium	01/08/16 2:47 PM	Reported
38	N018299-007AMS	MS	1	Hexavalent Chromium	01/08/16 2:56 PM	Reported
39	N018299-008A	SAMP	1	Hexavalent Chromium	01/08/16 3:06 PM	Reported
40	N018299-008AMS	MS	1	Hexavalent Chromium	01/08/16 3:15 PM	Reported
41	N018299-009A	SAMP	1	Hexavalent Chromium	01/08/16 3:25 PM	Reported
42	N018299-009AMS	MS	1	Hexavalent Chromium	01/08/16 3:34 PM	Reported

INJECTION LOG: 160108A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018299-010A	SAMP	1	Hexavalent Chromium	01/08/16 3:44 PM	Reported
44	N018299-010AMS	MS	1	Hexavalent Chromium	01/08/16 3:53 PM	Reported
45	N018299-011A	SAMP	1	Hexavalent Chromium	01/08/16 4:03 PM	Reported
46	N018299-011AMS	MS	1	Hexavalent Chromium	01/08/16 4:12 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	01/08/16 4:22 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	01/08/16 4:31 PM	Reported
49	N018299-001AMS	MS	1	Hexavalent Chromium	01/08/16 4:48 PM	Not Reported
50	N018302-001A	SAMP	1	Hexavalent Chromium	01/08/16 4:58 PM	Not Reported
51	N018302-002A	SAMP	1	Hexavalent Chromium	01/08/16 5:08 PM	Not Reported
52	N018302-003A	SAMP	20	Hexavalent Chromium	01/08/16 5:17 PM	Reported
53	N018302-004A	SAMP	50	Hexavalent Chromium	01/08/16 5:27 PM	Reported
54	N018302-005A	SAMP	50	Hexavalent Chromium	01/08/16 5:36 PM	Reported
55	N018299-001AMS	MS	1	Hexavalent Chromium	01/08/16 5:46 PM	Reported
56	N018302-006A	SAMP	50	Hexavalent Chromium	01/08/16 5:55 PM	Reported
57	N018302-007A	SAMP	1	Hexavalent Chromium	01/08/16 6:05 PM	Not Reported
58	N018302-001A	SAMP	5	Hexavalent Chromium	01/08/16 6:14 PM	Not Reported
59	CCV-5	CCV	1	Hexavalent Chromium	01/08/16 6:23 PM	Not Reported
60	CCB-5	CCB	1	Hexavalent Chromium	01/08/16 6:33 PM	Not Reported
61	CCV-5	CCV	1	Hexavalent Chromium	01/08/16 7:03 PM	Not Reported
62	CCV-5	CCV	1	Hexavalent Chromium	01/08/16 7:14 PM	Reported
63	CCB-5	CCB	1	Hexavalent Chromium	01/08/16 7:24 PM	Reported
64	N018302-001A	SAMP	5	Hexavalent Chromium	01/08/16 7:33 PM	Reported
65	MB-R105151	ICAL	1	Hexavalent Chromium	01/08/16 7:43 PM	Reported
66	LCS-R105151	ICAL	1	Hexavalent Chromium	01/08/16 7:52 PM	Reported
67	N018302-007A	SAMP	50	Hexavalent Chromium	01/08/16 8:02 PM	Reported
68	N018302-007A-DUP	DUP	50	Hexavalent Chromium	01/08/16 8:11 PM	Reported
69	N018302-007A-MS	MS	50	Hexavalent Chromium	01/08/16 8:21 PM	Reported
70	N018302-007A-MSD	MSD	50	Hexavalent Chromium	01/08/16 8:30 PM	Reported
71	N018302-008A	SAMP	50	Hexavalent Chromium	01/08/16 8:40 PM	Reported
72	N018302-009A	SAMP	5	Hexavalent Chromium	01/08/16 8:49 PM	Reported
73	N018302-010A	SAMP	5	Hexavalent Chromium	01/08/16 8:58 PM	Reported
74	CCV-6	CCV	1	Hexavalent Chromium	01/08/16 9:08 PM	Reported
75	CCB-6	CCB	1	Hexavalent Chromium	01/08/16 9:17 PM	Reported
76	N018302-011A	SAMP	5	Hexavalent Chromium	01/08/16 9:27 PM	Reported
77	N018302-012A	SAMP	1	Hexavalent Chromium	01/08/16 9:36 PM	Reported
78	N018304-001A	SAMP	1	Hexavalent Chromium	01/08/16 9:46 PM	Reported
79	N018304-002A	SAMP	1	Hexavalent Chromium	01/08/16 9:55 PM	Reported
80	N018304-003A	SAMP	1	Hexavalent Chromium	01/08/16 10:05 PM	Reported
81	N018304-004A	SAMP	1	Hexavalent Chromium	01/08/16 10:14 PM	Reported
82	N018304-005A	SAMP	1	Hexavalent Chromium	01/08/16 10:24 PM	Reported
83	N018304-006A	SAMP	1	Hexavalent Chromium	01/08/16 10:33 PM	Reported
84	N018304-007A	SAMP	1	Hexavalent Chromium	01/08/16 10:43 PM	Reported

INJECTION LOG: 160108A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
85	N018304-008A	SAMP	1	Hexavalent Chromium	01/08/16 10:52 PM	Reported
86	CCV-7	CCV	1	Hexavalent Chromium	01/08/16 11:02 PM	Reported
87	CCB-7	CCB	1	Hexavalent Chromium	01/08/16 11:11 PM	Reported
88	N018304-009A	SAMP	1	Hexavalent Chromium	01/08/16 11:20 PM	Reported
89	N018304-010A	SAMP	1	Hexavalent Chromium	01/08/16 11:30 PM	Reported
90	N018304-011A	SAMP	1	Hexavalent Chromium	01/08/16 11:39 PM	Reported
91	N018304-012A	SAMP	1	Hexavalent Chromium	01/08/16 11:49 PM	Reported
92	N018304-013A	SAMP	5	Hexavalent Chromium	01/08/16 11:58 PM	Reported
93	N018304-014A	SAMP	20	Hexavalent Chromium	01/09/16 12:08 AM	Reported
94	CCV-8	CCV	1	Hexavalent Chromium	01/09/16 12:17 AM	Reported
95	CCB-8	CCB	1	Hexavalent Chromium	01/09/16 12:27 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160108A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**10/Jan/16 13:04:40**
No. of Injections:	**98**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	BLANK	1	1000	Unknown		01/08/2016 10:26	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		01/08/2016 10:37	Finished	CCV @ 5ppb, IWST 160105C
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		01/08/2016 10:47	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1,	4	1000	Unknown		01/08/2016 10:56	Finished	CCB R151228A
14	MB-H2O,MBLK,1	5	1000	Unknown		01/08/2016 11:06	Finished	MB
15	LCS-H2O,LCS,1	6	1000	Unknown		01/08/2016 11:15	Finished	LCS @ 5ppb, IWST-160107A
16	N018280-001C,SAMF	7	1000	Unknown		01/08/2016 11:25	Finished	SAMP, 10mL
17	N018280-001C-DUP,	8	1000	Unknown		01/08/2016 11:34	Finished	DUP, 10mL
18	N018280-001C-MS,M	9	1000	Unknown		01/08/2016 11:43	Finished	MS(1ppb), IWST-160107A, 10r
19	N018280-001C-MSD,	10	1000	Unknown		01/08/2016 11:53	Finished	MSD(1ppb), IWST-160107A, 1
20	N018297-002A,SAMF	11	1000	Unknown		01/08/2016 12:02	Finished	SAMP, 10mL
21	N018299-001A,SAMF	12	1000	Unknown		01/08/2016 12:14	Finished	SAMP, 10mL
22	N018299-001AMS,MS	13	1000	Unknown		01/08/2016 12:25	Finished	MS(1ppb), IWST-160107A, 10r
23	CCV-2,CCV,1	14	1000	Unknown		01/08/2016 12:34	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-2,CCB,1	15	1000	Unknown		01/08/2016 12:44	Finished	CCB
25	N018299-002A,SAMF	16	1000	Unknown		01/08/2016 12:53	Finished	SAMP, 10mL
26	N018299-002AMS,MS	17	1000	Unknown		01/08/2016 13:03	Finished	MS(1ppb), IWST-160107A, 10r
27	N018299-003A,SAMF	18	1000	Unknown		01/08/2016 13:12	Finished	SAMP, 10mL
28	N018299-003AMS,MS	19	1000	Unknown		01/08/2016 13:22	Finished	MS(1ppb), IWST-160107A, 10r
29	N018299-004A,SAMF	20	1000	Unknown		01/08/2016 13:31	Finished	SAMP, 10mL
30	N018299-004AMS,MS	21	1000	Unknown		01/08/2016 13:41	Finished	MS(1ppb), IWST-160107A, 10r
31	N018299-005A,SAMF	22	1000	Unknown		01/08/2016 13:50	Finished	SAMP, 10mL
32	N018299-005AMS,MS	23	1000	Unknown		01/08/2016 14:00	Finished	MS(1ppb), IWST-160107A, 10r
33	N018299-006A,SAMF	24	1000	Unknown		01/08/2016 14:09	Finished	SAMP, 10mL
34	N018299-006AMS,MS	25	1000	Unknown		01/08/2016 14:18	Finished	MS(1ppb), IWST-160107A, 10r
35	CCV-3,CCV,1	26	1000	Unknown		01/08/2016 14:28	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-3,CCB,1	27	1000	Unknown		01/08/2016 14:37	Finished	CCB
37	N018299-007A,SAMF	28	1000	Unknown		01/08/2016 14:47	Finished	SAMP, 10mL
38	N018299-007AMS,MS	29	1000	Unknown		01/08/2016 14:56	Finished	MS(1ppb), IWST-160107A, 10r
39	N018299-008A,SAMF	30	1000	Unknown		01/08/2016 15:06	Finished	SAMP, 10mL
40	N018299-008AMS,MS	31	1000	Unknown		01/08/2016 15:15	Finished	MS(1ppb), IWST-160107A, 10r
41	N018299-009A,SAMF	32	1000	Unknown		01/08/2016 15:25	Finished	SAMP, 10mL
42	N018299-009AMS,MS	33	1000	Unknown		01/08/2016 15:34	Finished	MS(1ppb), IWST-160107A, 10r
43	N018299-010A,SAMF	34	1000	Unknown		01/08/2016 15:44	Finished	SAMP, 10mL
44	N018299-010AMS,MS	35	1000	Unknown		01/08/2016 15:53	Finished	MS(1ppb), IWST-160107A, 10r
45	N018299-011A,SAMF	36	1000	Unknown		01/08/2016 16:03	Finished	SAMP, 10mL
46	N018299-011AMS,MS	37	1000	Unknown		01/08/2016 16:12	Finished	MS(1ppb), IWST-160107A, 10r
47	CCV-4,CCV,1	38	1000	Unknown		01/08/2016 16:22	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-4,CCB,1	39	1000	Unknown		01/08/2016 16:31	Finished	CCB
49	N018299-001AMS,MS	1	1000	Unknown		01/08/2016 16:48	Finished	MS(1ppb), IWST-160107A, 10r
50	N018302-001A,SAMF	2	1000	Unknown		01/08/2016 16:58	Finished	SAMP, 10mL
51	N018302-002A,SAMF	3	1000	Unknown		01/08/2016 17:08	Finished	SAMP, 10mL
52	N018302-003A,SAMF	4	1000	Unknown		01/08/2016 17:17	Finished	SAMP, 0.5 to 10mL
53	N018302-004A,SAMF	5	1000	Unknown		01/08/2016 17:27	Finished	SAMP, 0.2 to 10mL
54	N018302-005A,SAMF	6	1000	Unknown		01/08/2016 17:36	Finished	SAMP, 0.2 to 10mL
55	N018299-001AMS,MS	7	1000	Unknown		01/08/2016 17:46	Finished	MS(1ppb), IWST-160107A, 10r
56	N018302-006A,SAMF	8	1000	Unknown		01/08/2016 17:55	Finished	SAMP, 0.2 to 10mL
57	N018302-007A,SAMF	9	1000	Unknown		01/08/2016 18:05	Finished	SAMP, 10mL
58	N018302-001A,SAMF	10	1000	Unknown		01/08/2016 18:14	Finished	SAMP, 2 to 10mL
59	CCV-5,CCV,1	11	1000	Unknown		01/08/2016 18:23	Finished	CCV @ 5ppb, IWST-160105C
60	CCB-5,CCB,1	12	1000	Unknown		01/08/2016 18:33	Finished	CCB

61	CCV-5,CCV,1	1	1000	Unknown		01/08/2016 19:03	Finished	CCV @ 5ppb, IWST-160105C
62	CCV-5,CCV,1	2	1000	Unknown		01/08/2016 19:14	Finished	CCV @ 5ppb, IWST-160105C
63	CCB-5,CCB,1	3	1000	Unknown		01/08/2016 19:24	Finished	CCB
64	N018302-001A,SAMF	4	1000	Unknown		01/08/2016 19:33	Finished	SAMP, 2 to 10mL
65	MB-H2O,MBLK,1	5	1000	Unknown		01/08/2016 19:43	Finished	MB
66	LCS-H2O,LCS,1	6	1000	Unknown		01/08/2016 19:52	Finished	LCS @ 5ppb, IWST-160107A
67	N018302-007A,SAMF	7	1000	Unknown		01/08/2016 20:02	Finished	SAMP, 0.2 to 10mL
68	N018302-007A-DUP,I	8	1000	Unknown		01/08/2016 20:11	Finished	DUP, 0.2 to 10mL
69	N018302-007A-MS,M	9	1000	Unknown		01/08/2016 20:21	Finished	MS(5ppb), IWST-160107A, 10r
70	N018302-007A-MSD,	10	1000	Unknown		01/08/2016 20:30	Finished	MSD(5ppb), IWST-160107A, 1(
71	N018302-008A,SAMF	11	1000	Unknown		01/08/2016 20:40	Finished	SAMP, 0.2 to 10mL
72	N018302-009A,SAMF	12	1000	Unknown		01/08/2016 20:49	Finished	SAMP, 2 to 10mL
73	N018302-010A,SAMF	13	1000	Unknown		01/08/2016 20:58	Finished	SAMP, 2 to 10mL
74	CCV-6,CCV,1	14	1000	Unknown		01/08/2016 21:08	Finished	CCV @ 10ppb, IWST-160105C
75	CCB-6,CCB,1	15	1000	Unknown		01/08/2016 21:17	Finished	CCB
76	N018302-011A,SAMF	16	1000	Unknown		01/08/2016 21:27	Finished	SAMP, 2 to 10mL
77	N018302-012A,SAMF	17	1000	Unknown		01/08/2016 21:36	Finished	SAMP, 10mL
78	N018304-001A,SAMF	18	1000	Unknown		01/08/2016 21:46	Finished	SAMP, 10mL
79	N018304-002A,SAMF	19	1000	Unknown		01/08/2016 21:55	Finished	SAMP, 10mL
80	N018304-003A,SAMF	20	1000	Unknown		01/08/2016 22:05	Finished	SAMP, 10mL
81	N018304-004A,SAMF	21	1000	Unknown		01/08/2016 22:14	Finished	SAMP, 10mL
82	N018304-005A,SAMF	22	1000	Unknown		01/08/2016 22:24	Finished	SAMP, 10mL
83	N018304-006A,SAMF	23	1000	Unknown		01/08/2016 22:33	Finished	SAMP, 10mL
84	N018304-007A,SAMF	24	1000	Unknown		01/08/2016 22:43	Finished	SAMP, 10mL
85	N018304-008A,SAMF	25	1000	Unknown		01/08/2016 22:52	Finished	SAMP, 10mL
86	CCV-7,CCV,1	26	1000	Unknown		01/08/2016 23:02	Finished	CCV @ 10ppb, IWST-160105C
87	CCB-7,CCB,1	27	1000	Unknown		01/08/2016 23:11	Finished	CCB
88	N018304-009A,SAMF	28	1000	Unknown		01/08/2016 23:20	Finished	SAMP, 10mL
89	N018304-010A,SAMF	29	1000	Unknown		01/08/2016 23:30	Finished	SAMP, 10mL
90	N018304-011A,SAMF	30	1000	Unknown		01/08/2016 23:39	Finished	SAMP, 10mL
91	N018304-012A,SAMF	31	1000	Unknown		01/08/2016 23:49	Finished	SAMP, 10mL
92	N018304-013A,SAMF	32	1000	Unknown		01/08/2016 23:58	Finished	SAMP, 2 to 10mL
93	N018304-014A,SAMF	33	1000	Unknown		01/09/2016 00:08	Finished	SAMP, 0.5 to 10mL
94	CCV-8,CCV,1	34	1000	Unknown		01/09/2016 00:17	Finished	CCV @ 10ppb, IWST-160105C
95	CCB-8,CCB,1	35	1000	Unknown		01/09/2016 00:27	Finished	CCB
96	SHUTDOWN	36	1000	Unknown		01/09/2016 00:36	Finished	BLANK
97	Eluent: R160108A	37	1000	Unknown		n.a.	Finished	Eluent
98	PCR: R160108B	38	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 01/07/16
Time Prepared: 11:00Am
Prepared By: MEB

Reagent ID:
Sulfuric Acid: CIW-151130D
Diphenylcarbazide: CIW-151130F
NH4OH + NH4SO4 eluent: R160106A
NH4OH + NH4SO4 buffer: R151228A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018279-017A	9.46	–	–	–	–	R151228A
2)	18A	9.48	–	–	–	–	1
3)							
4)							
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							

MEB 01/07/16

Sample Preparation

Date Prepared: 01/08/16
Time Prepared: 10:00Am
Prepared By: MEB

Shape - 97.8%
pH 4 - 4.03
7 - 7.07
10 - 10.03
CCS - 6.99

Reagent ID:
Sulfuric Acid: CIW-151130D
Diphenylcarbazide: CIW-151130F
NH4OH + NH4SO4 eluent: R160108A, R160107C
NH4OH + NH4SO4 buffer: R151228A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018297-002A	9.35	–	50mL	~51mL	+1mL buffer	R151228A Lab filtered & preserved.
2)	N018280-001C	9.31	–	–	–	–	R151228A
3)	N018299-001A	9.45	–	–	–	–	
4)	2A	9.50	–	–	–	–	
5)	3A	9.51	–	–	–	–	
6)	4A	9.53	–	–	–	–	
7)	5A	9.45	–	–	–	–	
8)	6A	9.39	–	–	–	–	
9)	7A	9.49	–	–	–	–	
10)	8A	9.40	–	–	–	–	
11)	9A	9.52	–	–	–	–	
12)	10A	9.39	–	–	–	–	
13)	11A	9.51	–	–	–	–	
14)	N018300-001A	8.76	9.43	~250mL	~250mL	+7drops 6N NaOH	
15)	2A	8.96	9.38			+6drops	
	3A	8.89	9.33			+6drops	

Logbook No. 9

REB 1/15/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 1/5/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0526	0.2524	1.2092	2.3780	3.6489	4.8150	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160105C

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ICV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2194949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.046	0.20	5.000	0	101	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2194950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.227	0.20	0.2000	0	114	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.910	0.20	5.000	0	98.2	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ZZZZZZ** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.206	0.20	0.2000	0	103	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.875	0.20	10.00	0	98.8	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	0.20	5.000	0	98.1	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.665	0.20	10.00	0	96.6	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	0.20	5.000	0	100	95	105				

Sample ID **CCV-6** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCV** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.843	0.20	10.00	0	98.4	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **ICB** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2194951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.013	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCB** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCB** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCB** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105122**
Client ID: **CCB** Batch ID: **R105122** TestNo: **EPA 218.6** Analysis Date: **1/8/2016** SeqNo: **2194988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCB-5	SampType:	CCB	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	CCB	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194995

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	CCB-6	SampType:	CCB	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105122
Client ID:	CCB	Batch ID:	R105122	TestNo:	EPA 218.6			Analysis Date:	1/8/2016	SeqNo:	2194998

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 1/8/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.032	
CCV-3	5.032	
CCV-4	5.032	
CCV-5	5.040	
CCV-6	5.040	
CCV-7	5.040	
CCV-8	5.040	

Average	5.037
Actual RT Window	4.957 - 5.117
Applied RT Window	4.837 - 5.237

MB-R105122	N.A.	N.A.
LCS-R105122	5.032	PASS
N018280-001C	4.982	PASS
N018280-001C-DUP	4.982	PASS
N018280-001C-MS	4.982	PASS
N018280-001C-MSD	4.982	PASS
N018297-002A	5.007	PASS
N018299-001A	5.023	PASS
N018299-001AMS	N.A.	N.A.
N018299-002A	5.032	PASS
N018299-002AMS	5.032	PASS
N018299-003A	5.032	PASS
N018299-003AMS	5.032	PASS
N018299-004A	5.032	PASS
N018299-004AMS	5.023	PASS
N018299-005A	5.023	PASS
N018299-005AMS	5.023	PASS
N018299-006A	5.023	PASS
N018299-006AMS	5.023	PASS
N018299-007A	5.015	PASS
N018299-007AMS	5.015	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 1/8/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.032	
CCV-3	5.032	
CCV-4	5.032	
CCV-5	5.040	
CCV-6	5.040	
CCV-7	5.040	
CCV-8	5.040	

Average	5.037
Actual RT Window	4.957 - 5.117
Applied RT Window	4.837 - 5.237

N018299-008A	5.015	PASS
N018299-008AMS	5.015	PASS
N018299-009A	5.015	PASS
N018299-009AMS	5.015	PASS
N018299-010A	5.015	PASS
N018299-010AMS	5.015	PASS
N018299-011A	N.A.	N.A.
N018299-011AMS	5.032	PASS
N018299-001AMS	5.023	PASS
N018302-001A	5.023	PASS
N018302-002A	5.015	PASS
N018302-003A	5.032	PASS
N018302-004A	5.032	PASS
N018302-005A	5.032	PASS
N018299-001AMS	5.023	PASS
N018302-006A	5.032	PASS
N018302-007A	5.015	PASS
N018302-001A	5.032	PASS
N018302-001A	5.032	PASS
MB-R105151	N.A.	N.A.
LCS-R105151	5.040	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 1/8/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.032	
CCV-3	5.032	
CCV-4	5.032	
CCV-5	5.040	
CCV-6	5.040	
CCV-7	5.040	
CCV-8	5.040	

Average	5.037
Actual RT Window	4.957 - 5.117
Applied RT Window	4.837 - 5.237

N018302-007A	5.040	PASS
N018302-007A-DUP	5.040	PASS
N018302-007A-MS	5.040	PASS
N018302-007A-MSD	5.032	PASS
N018302-008A	5.040	PASS
N018302-009A	5.040	PASS
N018302-010A	5.040	PASS
N018302-011A	5.040	PASS
N018302-012A	4.982	PASS
N018304-001A	4.948	PASS
N018304-002A	4.990	PASS
N018304-003A	5.023	PASS
N018304-004A	5.023	PASS
N018304-005A	4.948	PASS
N018304-006A	4.973	PASS
N018304-007A	5.032	PASS
N018304-008A	5.023	PASS
N018304-009A	5.015	PASS
N018304-010A	4.940	PASS
N018304-011A	5.023	PASS
N018304-012A	N.A.	N.A.

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 1/8/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.032	
CCV-3	5.032	
CCV-4	5.032	
CCV-5	5.040	
CCV-6	5.040	
CCV-7	5.040	
CCV-8	5.040	
Average	5.037	
Actual RT Window	4.957 - 5.117	
Applied RT Window	4.837 - 5.237	
N018304-013A	5.032	PASS
N018304-014A	5.040	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	01/05/16 12:47 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/05/16 12:56 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	01/05/16 1:06 PM	Reported
13	MB-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:15 PM	Reported
14	LCS-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:24 PM	Reported
15	N018212-001A	SAMP	1	Hexavalent Chromium	01/05/16 1:35 PM	Reported
16	N018212-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 1:46 PM	Reported
17	N018212-001AMS	MS	1	Hexavalent Chromium	01/05/16 1:59 PM	Reported
18	N018212-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 2:10 PM	Reported
19	N018212-002A	SAMP	1	Hexavalent Chromium	01/05/16 2:30 PM	Reported
20	N018212-002AMS	MS	1	Hexavalent Chromium	01/05/16 2:41 PM	Reported
21	N018212-003A	SAMP	1	Hexavalent Chromium	01/05/16 2:50 PM	Reported
22	N018212-003AMS	MS	1	Hexavalent Chromium	01/05/16 3:00 PM	Reported
23	CCV-1	CCV	1	Hexavalent Chromium	01/05/16 3:09 PM	Reported
24	CCB-1	CCB	1	Hexavalent Chromium	01/05/16 3:19 PM	Reported
25	N018212-004A	SAMP	1	Hexavalent Chromium	01/05/16 3:28 PM	Reported
26	N018212-004AMS	MS	1	Hexavalent Chromium	01/05/16 3:38 PM	Reported
27	N018212-005A	SAMP	1	Hexavalent Chromium	01/05/16 3:47 PM	Reported
28	N018212-005AMS	MS	1	Hexavalent Chromium	01/05/16 3:57 PM	Reported
29	N018212-006A	SAMP	1	Hexavalent Chromium	01/05/16 4:06 PM	Reported
30	N018212-006AMS	MS	1	Hexavalent Chromium	01/05/16 4:16 PM	Reported
31	N018212-007A	SAMP	1	Hexavalent Chromium	01/05/16 4:25 PM	Reported
32	N018212-007AMS	MS	1	Hexavalent Chromium	01/05/16 4:35 PM	Reported
33	N018213-001A	SAMP	1	Hexavalent Chromium	01/05/16 4:44 PM	Reported
34	N018213-002A	SAMP	1	Hexavalent Chromium	01/05/16 4:54 PM	Reported
35	CCV-2	CCV	1	Hexavalent Chromium	01/05/16 5:03 PM	Reported
36	CCB-2	CCB	1	Hexavalent Chromium	01/05/16 5:12 PM	Reported
37	N018213-003A	SAMP	1	Hexavalent Chromium	01/05/16 5:22 PM	Reported
38	N018213-004A	SAMP	1	Hexavalent Chromium	01/05/16 5:31 PM	Reported
39	N018213-005A	SAMP	1	Hexavalent Chromium	01/05/16 5:41 PM	Reported
40	N018213-006A	SAMP	1	Hexavalent Chromium	01/05/16 5:50 PM	Reported
41	N018213-007A	SAMP	1	Hexavalent Chromium	01/05/16 6:00 PM	Reported
42	N018213-008A	SAMP	1	Hexavalent Chromium	01/05/16 6:11 PM	Reported

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018213-009A	SAMP	1	Hexavalent Chromium	01/05/16 6:21 PM	Reported
44	N018213-010A	SAMP	1	Hexavalent Chromium	01/05/16 6:30 PM	Reported
45	N018213-011A	SAMP	1	Hexavalent Chromium	01/05/16 6:39 PM	Reported
46	N018213-012A	SAMP	1	Hexavalent Chromium	01/05/16 6:49 PM	Reported
47	CCV-3	CCV	1	Hexavalent Chromium	01/05/16 6:58 PM	Reported
48	CCB-3	CCB	1	Hexavalent Chromium	01/05/16 7:08 PM	Reported
49	MB-R105090	MBLK	1	Hexavalent Chromium	01/05/16 7:17 PM	Reported
50	LCS-R105090	LCS	1	Hexavalent Chromium	01/05/16 7:27 PM	Reported
51	N018214-001A	SAMP	1	Hexavalent Chromium	01/05/16 7:36 PM	Reported
52	N018214-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 7:46 PM	Reported
53	N018214-001AMS	MS	1	Hexavalent Chromium	01/05/16 7:55 PM	Reported
54	N018214-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 8:05 PM	Reported
55	N018214-002A	SAMP	1	Hexavalent Chromium	01/05/16 8:14 PM	Reported
56	N018214-003A	SAMP	1	Hexavalent Chromium	01/05/16 8:24 PM	Reported
57	N018214-004A	SAMP	1	Hexavalent Chromium	01/05/16 8:33 PM	Reported
58	N018214-005A	SAMP	1	Hexavalent Chromium	01/05/16 8:43 PM	Reported
59	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 8:52 PM	Not Reported
60	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 10:51 PM	Reported
61	CCB-4	CCB	1	Hexavalent Chromium	01/05/16 11:02 PM	Reported
62	N018214-006A	SAMP	1	Hexavalent Chromium	01/05/16 11:12 PM	Reported
63	N018214-007A	SAMP	1	Hexavalent Chromium	01/05/16 11:21 PM	Reported
64	N018214-008A	SAMP	1	Hexavalent Chromium	01/05/16 11:30 PM	Reported
65	N018214-009A	SAMP	1	Hexavalent Chromium	01/05/16 11:40 PM	Reported
66	N018214-010A	SAMP	1	Hexavalent Chromium	01/05/16 11:49 PM	Reported
67	N018214-011A	SAMP	1	Hexavalent Chromium	01/05/16 11:59 PM	Reported
68	N018214-012A	SAMP	1	Hexavalent Chromium	01/06/16 12:08 AM	Reported
69	N018214-013A	SAMP	1	Hexavalent Chromium	01/06/16 12:18 AM	Reported
70	N018214-014A	SAMP	1	Hexavalent Chromium	01/06/16 12:27 AM	Reported
71	N018214-015A	SAMP	1	Hexavalent Chromium	01/06/16 12:37 AM	Reported
72	CCV-5	CCV	1	Hexavalent Chromium	01/06/16 12:46 AM	Reported
73	CCB-5	CCB	1	Hexavalent Chromium	01/06/16 12:56 AM	Reported
74	N018223-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:05 AM	Reported
75	N018224-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:15 AM	Reported
76	CCV-6	CCV	1	Hexavalent Chromium	01/06/16 1:24 AM	Reported
77	CCB-6	CCB	1	Hexavalent Chromium	01/06/16 1:33 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160105A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Jan/16 10:48:03**
No. of Injections:	**80**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	ICV,ICV,1,	10	1000	Unknown		01/05/2016 12:47	Finished	ICV @ 5ppb, IWST 160105B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		01/05/2016 12:56	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		01/05/2016 13:06	Finished	ICB R151228A
13	MB-H2O,MBLK,1	13	1000	Unknown		01/05/2016 13:15	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		01/05/2016 13:24	Finished	LCS @ 5ppb, IWST-160105D
15	N018212-001A,SAMF	15	1000	Unknown		01/05/2016 13:35	Finished	SAMP, 10mL
16	N018212-001ADUP,D	16	1000	Unknown		01/05/2016 13:46	Finished	DUP, 10mL
17	N018212-001AMS,MS	17	1000	Unknown		01/05/2016 13:59	Finished	MS(1ppb), IWST-160105D, 10r
18	N018212-001AMSD,M	18	1000	Unknown		01/05/2016 14:10	Finished	MSD(1ppb), IWST-160105D, 1
19	N018212-002A,SAMF	19	1000	Unknown		01/05/2016 14:30	Finished	SAMP, 10mL
20	N018212-002AMS,MS	20	1000	Unknown		01/05/2016 14:41	Finished	MS(1ppb), IWST-160105D, 10r
21	N018212-003A,SAMF	21	1000	Unknown		01/05/2016 14:50	Finished	SAMP, 10mL
22	N018212-003AMS,MS	22	1000	Unknown		01/05/2016 15:00	Finished	MS(1ppb), IWST-160105D, 10r
23	CCV-1,CCV,1	23	1000	Unknown		01/05/2016 15:09	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-1,CCB,1	24	1000	Unknown		01/05/2016 15:19	Finished	CCB
25	N018212-004A,SAMF	25	1000	Unknown		01/05/2016 15:28	Finished	SAMP, 10mL
26	N018212-004AMS,MS	26	1000	Unknown		01/05/2016 15:38	Finished	MS(1ppb), IWST-160105D, 10r
27	N018212-005A,SAMF	27	1000	Unknown		01/05/2016 15:47	Finished	SAMP, 10mL
28	N018212-005AMS,MS	28	1000	Unknown		01/05/2016 15:57	Finished	MS(1ppb), IWST-160105D, 10r
29	N018212-006A,SAMF	29	1000	Unknown		01/05/2016 16:06	Finished	SAMP, 10mL
30	N018212-006AMS,MS	30	1000	Unknown		01/05/2016 16:16	Finished	MS(1ppb), IWST-160105D, 10r
31	N018212-007A,SAMF	31	1000	Unknown		01/05/2016 16:25	Finished	SAMP, 10mL
32	N018212-007AMS,MS	32	1000	Unknown		01/05/2016 16:35	Finished	MS(1ppb), IWST-160105D, 10r
33	N018213-001A,SAMF	33	1000	Unknown		01/05/2016 16:44	Finished	SAMP, 10mL
34	N018213-002A,SAMF	34	1000	Unknown		01/05/2016 16:54	Finished	SAMP, 10mL
35	CCV-2,CCV,1	35	1000	Unknown		01/05/2016 17:03	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-2,CCB,1	36	1000	Unknown		01/05/2016 17:12	Finished	CCB
37	N018213-003A,SAMF	37	1000	Unknown		01/05/2016 17:22	Finished	SAMP, 10mL
38	N018213-004A,SAMF	38	1000	Unknown		01/05/2016 17:31	Finished	SAMP, 10mL
39	N018213-005A,SAMF	39	1000	Unknown		01/05/2016 17:41	Finished	SAMP, 10mL
40	N018213-006A,SAMF	40	1000	Unknown		01/05/2016 17:50	Finished	SAMP, 10mL
41	N018213-007A,SAMF	1	1000	Unknown		01/05/2016 18:00	Finished	SAMP, 10mL
42	N018213-008A,SAMF	2	1000	Unknown		01/05/2016 18:11	Finished	SAMP, 10mL
43	N018213-009A,SAMF	3	1000	Unknown		01/05/2016 18:21	Finished	SAMP, 10mL
44	N018213-010A,SAMF	4	1000	Unknown		01/05/2016 18:30	Finished	SAMP, 10mL
45	N018213-011A,SAMF	5	1000	Unknown		01/05/2016 18:39	Finished	SAMP, 10mL
46	N018213-012A,SAMF	6	1000	Unknown		01/05/2016 18:49	Finished	SAMP, 10mL
47	CCV-3,CCV,1	7	1000	Unknown		01/05/2016 18:58	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-3,CCB,1	8	1000	Unknown		01/05/2016 19:08	Finished	CCB
49	MB-H2O-2,MBLK,1	9	1000	Unknown		01/05/2016 19:17	Finished	MB
50	LCS-H2O-2,LCS,1	10	1000	Unknown		01/05/2016 19:27	Finished	LCS @ 5ppb, IWST-151103D
51	N018214-001A,SAMF	11	1000	Unknown		01/05/2016 19:36	Finished	SAMP, 10mL
52	N018214-001ADUP,D	12	1000	Unknown		01/05/2016 19:46	Finished	DUP, 10mL
53	N018214-001AMS,MS	13	1000	Unknown		01/05/2016 19:55	Finished	MS(5ppb), IWST-160105D, 10r
54	N018214-001AMSD,M	14	1000	Unknown		01/05/2016 20:05	Finished	MSD(5ppb), IWST-160105D, 1
55	N018214-002A,SAMF	15	1000	Unknown		01/05/2016 20:14	Finished	SAMP, 10mL
56	N018214-003A,SAMF	16	1000	Unknown		01/05/2016 20:24	Finished	SAMP, 10mL
57	N018214-004A,SAMF	17	1000	Unknown		01/05/2016 20:33	Finished	SAMP, 10mL
58	N018214-005A,SAMF	18	1000	Unknown		01/05/2016 20:43	Finished	SAMP, 10mL
59	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 20:52	Interrupted	CCV @ 5ppb, IWST-160105C
60	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 22:51	Finished	CCV @ 5ppb, IWST-160105C

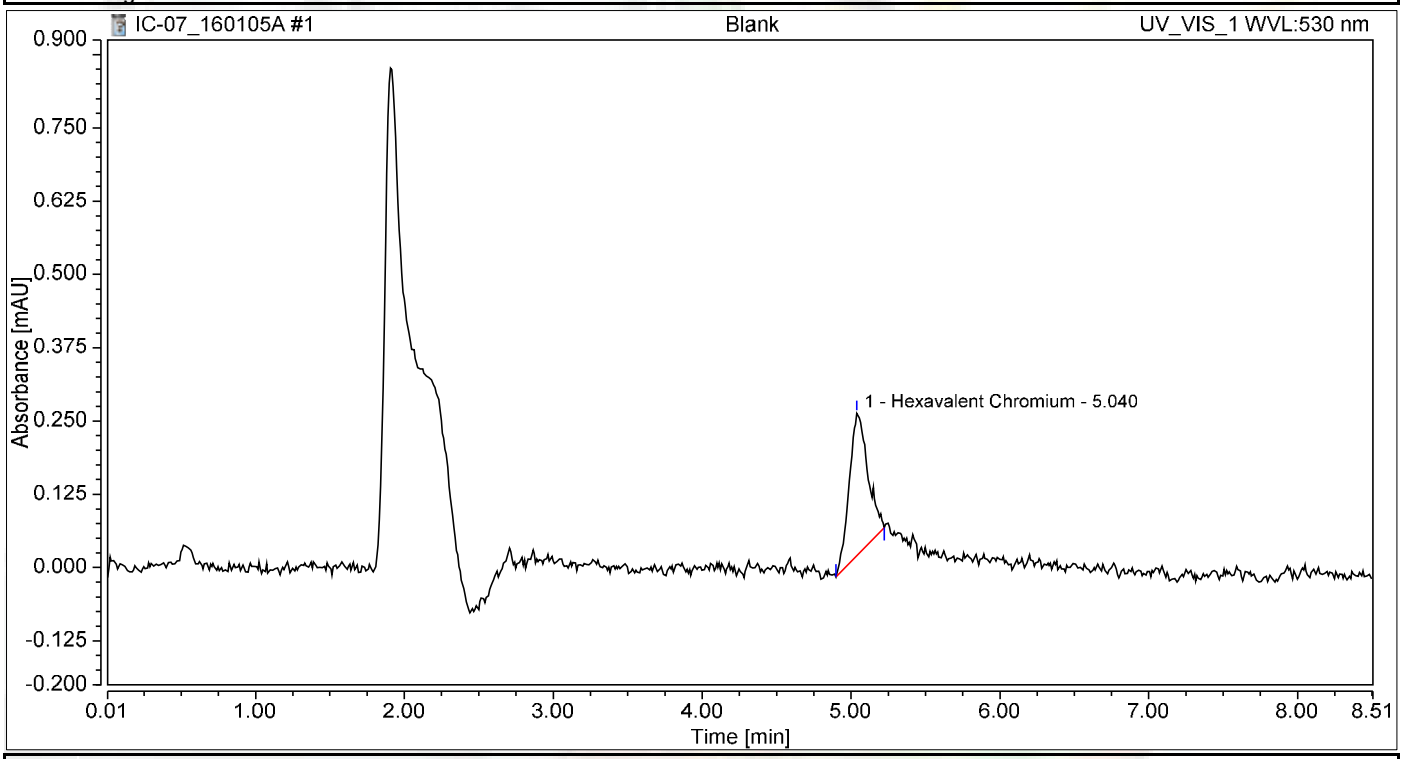
61	CCB-4,CCB,1	20	1000	Unknown		01/05/2016 23:02	Finished	CCB
62	N018214-006A,SAMP	21	1000	Unknown		01/05/2016 23:12	Finished	SAMP, 10mL
63	N018214-007A,SAMP	22	1000	Unknown		01/05/2016 23:21	Finished	SAMP, 10mL
64	N018214-008A,SAMP	23	1000	Unknown		01/05/2016 23:30	Finished	SAMP, 10mL
65	N018214-009A,SAMP	24	1000	Unknown		01/05/2016 23:40	Finished	SAMP, 10mL
66	N018214-010A,SAMP	25	1000	Unknown		01/05/2016 23:49	Finished	SAMP, 10mL
67	N018214-011A,SAMP	26	1000	Unknown		01/05/2016 23:59	Finished	SAMP, 10mL
68	N018214-012A,SAMP	27	1000	Unknown		01/06/2016 00:08	Finished	SAMP, 10mL
69	N018214-013A,SAMP	28	1000	Unknown		01/06/2016 00:18	Finished	SAMP, 10mL
70	N018214-014A,SAMP	29	1000	Unknown		01/06/2016 00:27	Finished	SAMP, 10mL
71	N018214-015A,SAMP	30	1000	Unknown		01/06/2016 00:37	Finished	SAMP, 10mL
72	CCV-5,CCV,1	31	1000	Unknown		01/06/2016 00:46	Finished	CCV @ 10ppb, IWST-160105C
73	CCB-5,CCB,1	32	1000	Unknown		01/06/2016 00:56	Finished	CCB
74	N018223-001A,SAMP	33	1000	Unknown		01/06/2016 01:05	Finished	SAMP, 10mL
75	N018224-001A,SAMP	34	1000	Unknown		01/06/2016 01:15	Finished	SAMP, 10mL
76	CCV-6,CCV,1	35	1000	Unknown		01/06/2016 01:24	Finished	CCV @ 5ppb, IWST-160105C
77	CCB-6,CCB,1	36	1000	Unknown		01/06/2016 01:33	Finished	CCB
78	SHUTDOWN	37	1000	Unknown		01/06/2016 01:43	Finished	BLANK
79	Eluent: R160105A	38	1000	Unknown		n.a.	Finished	Eluent
80	PCR: R160105B	39	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.035	0.243	100.00	100.00	0.1432
Total:			**0.035**	**0.243**	**100.00**	**100.00**	

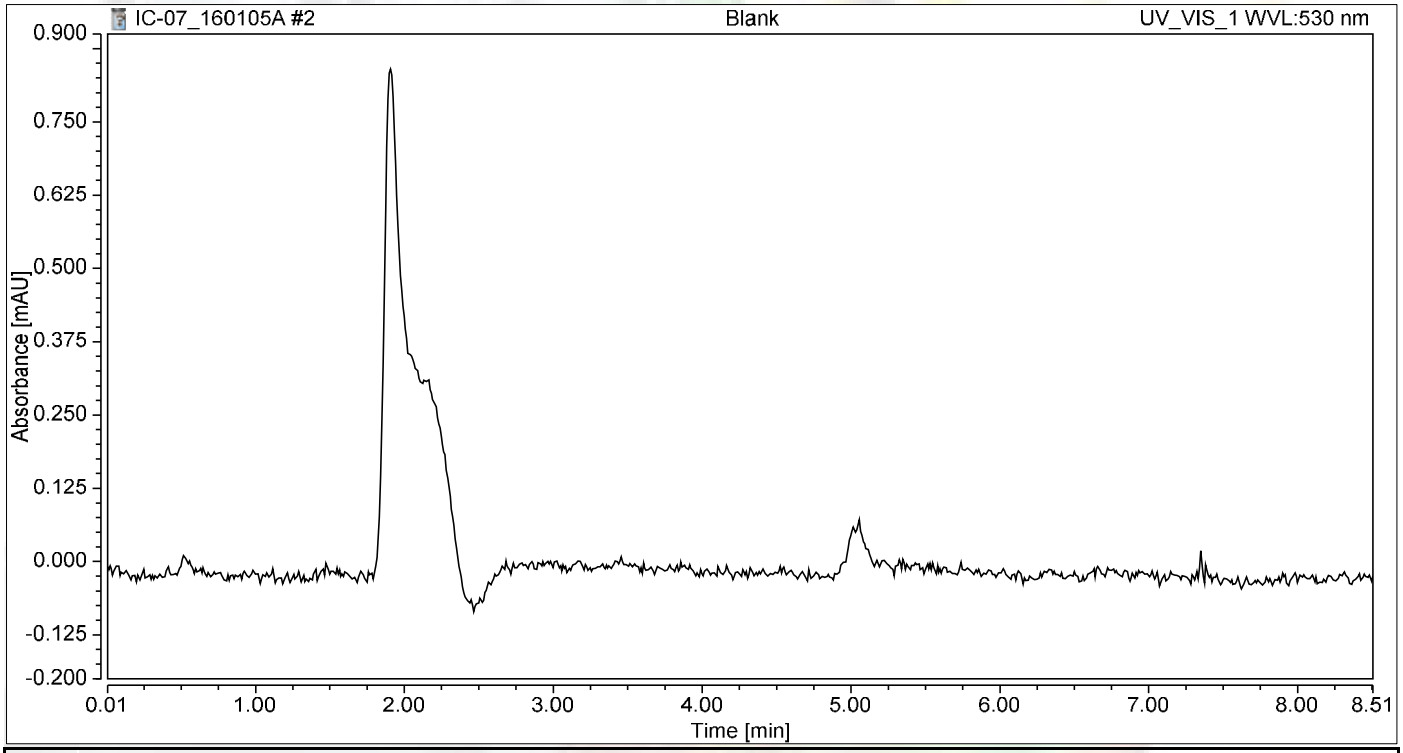
not reported

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

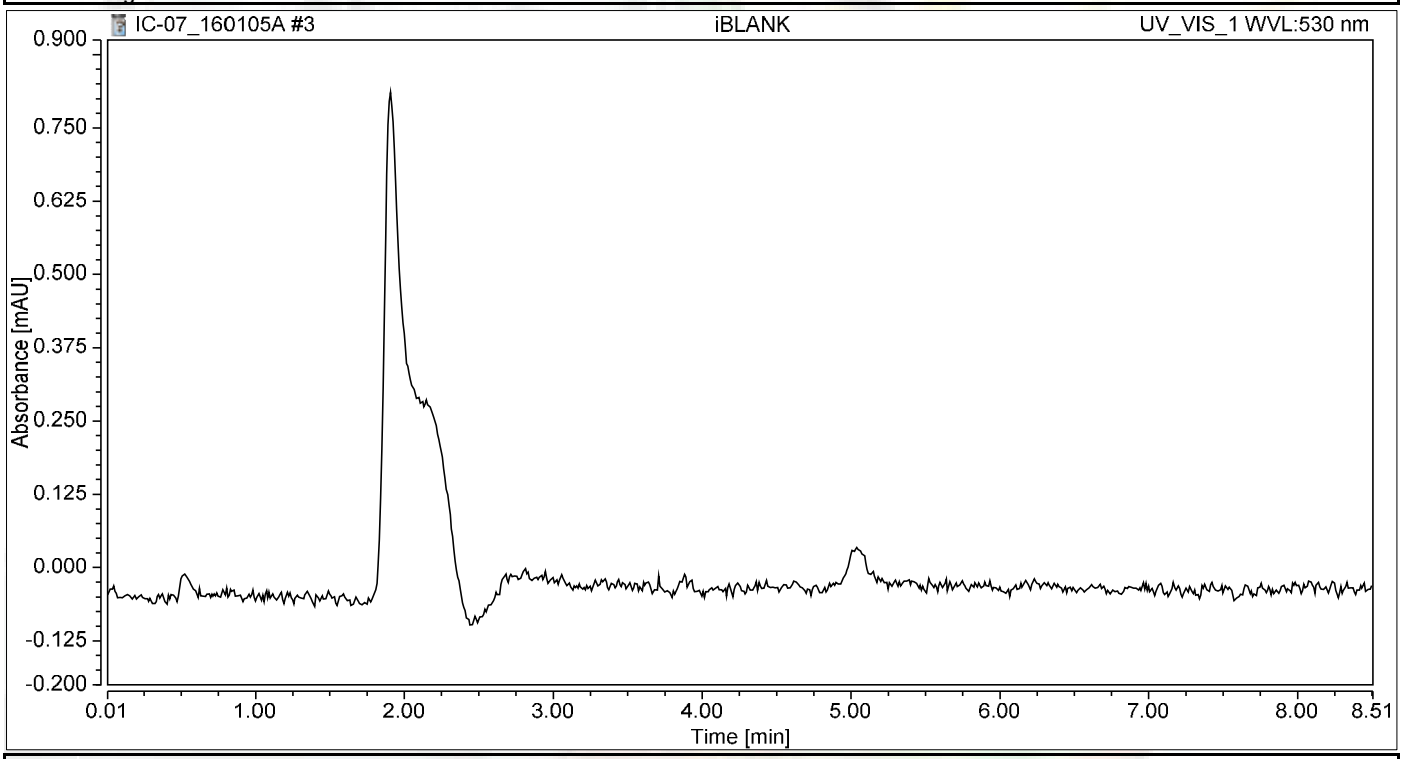
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

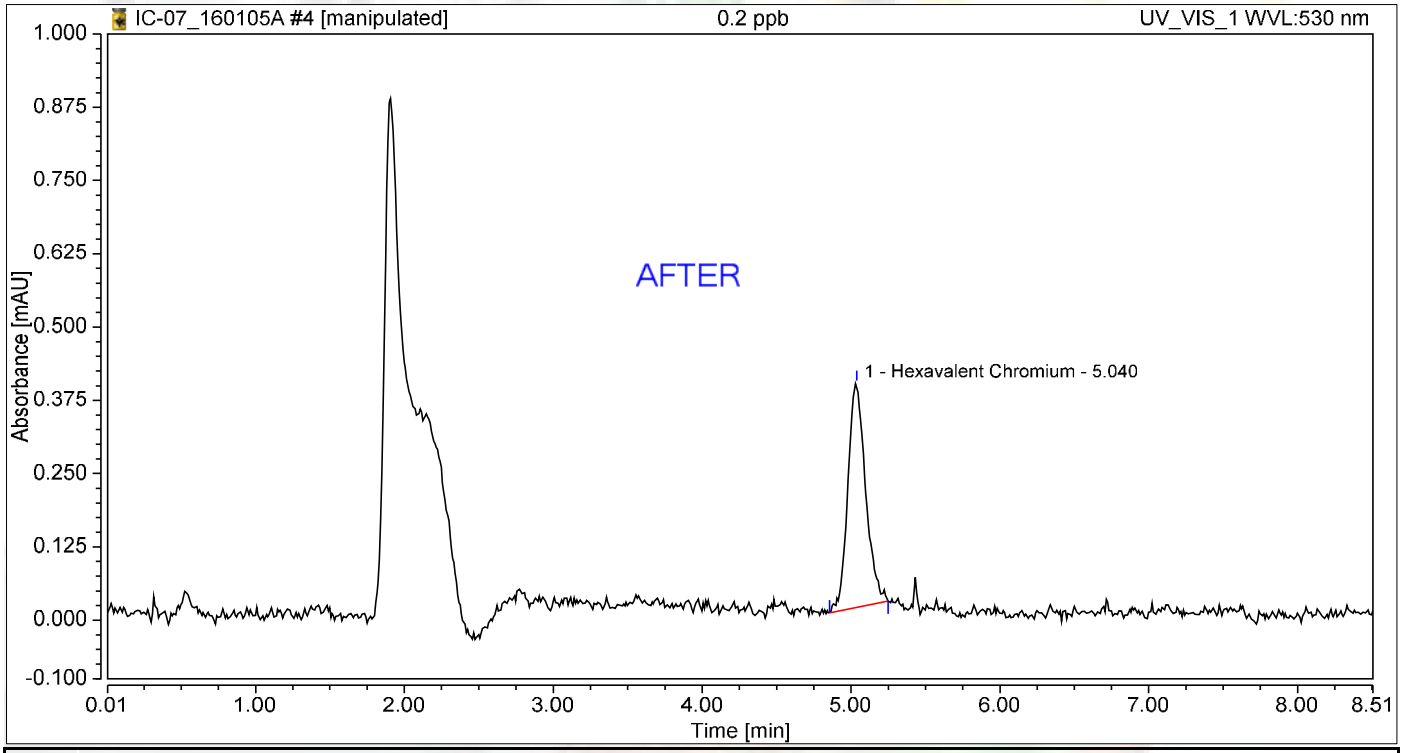
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.053	0.382	100.00	100.00	0.2182
Total:			**0.053**	**0.382**	**100.00**	**100.00**	

REB 1/11/2016

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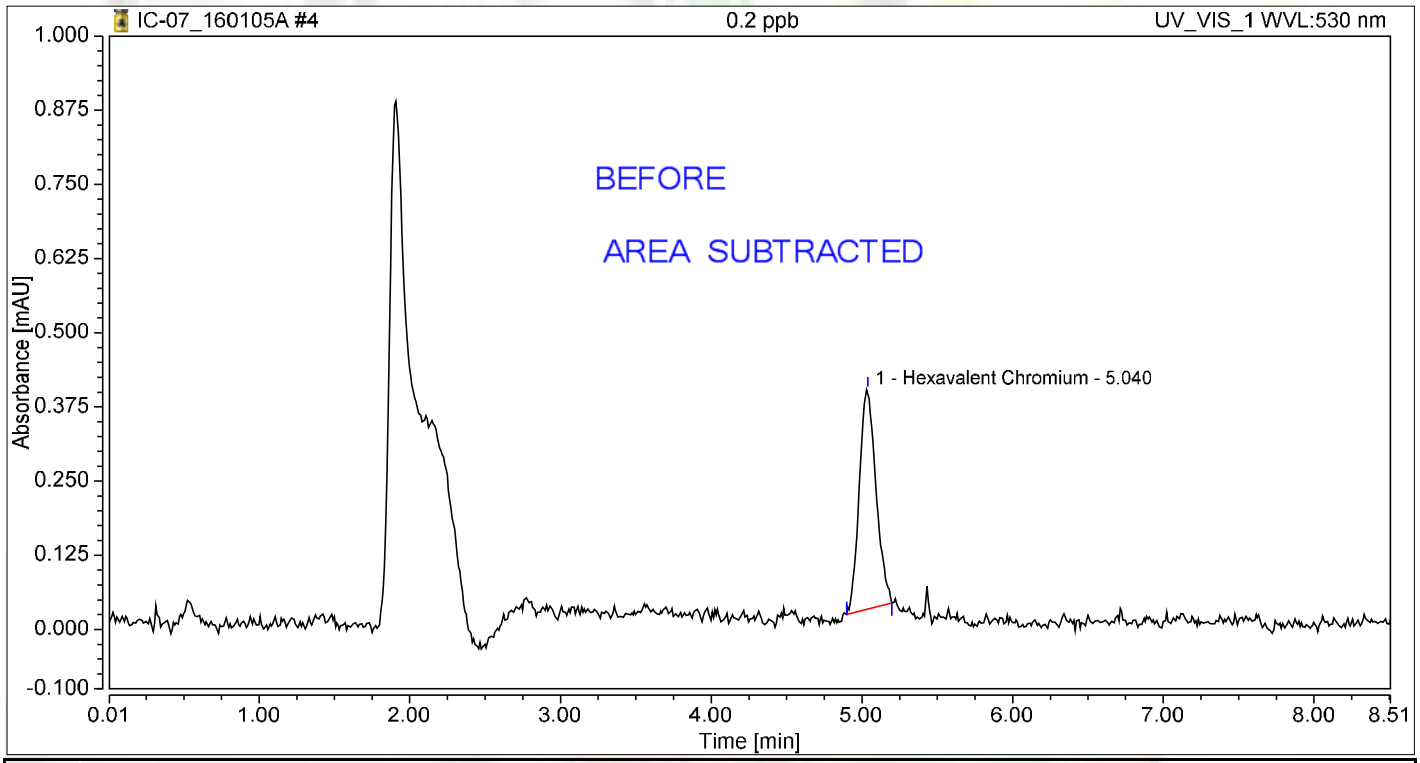
Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.048	0.369	100.00	100.00	0.1983
Total:			**0.048**	**0.369**	**100.00**	**100.00**	

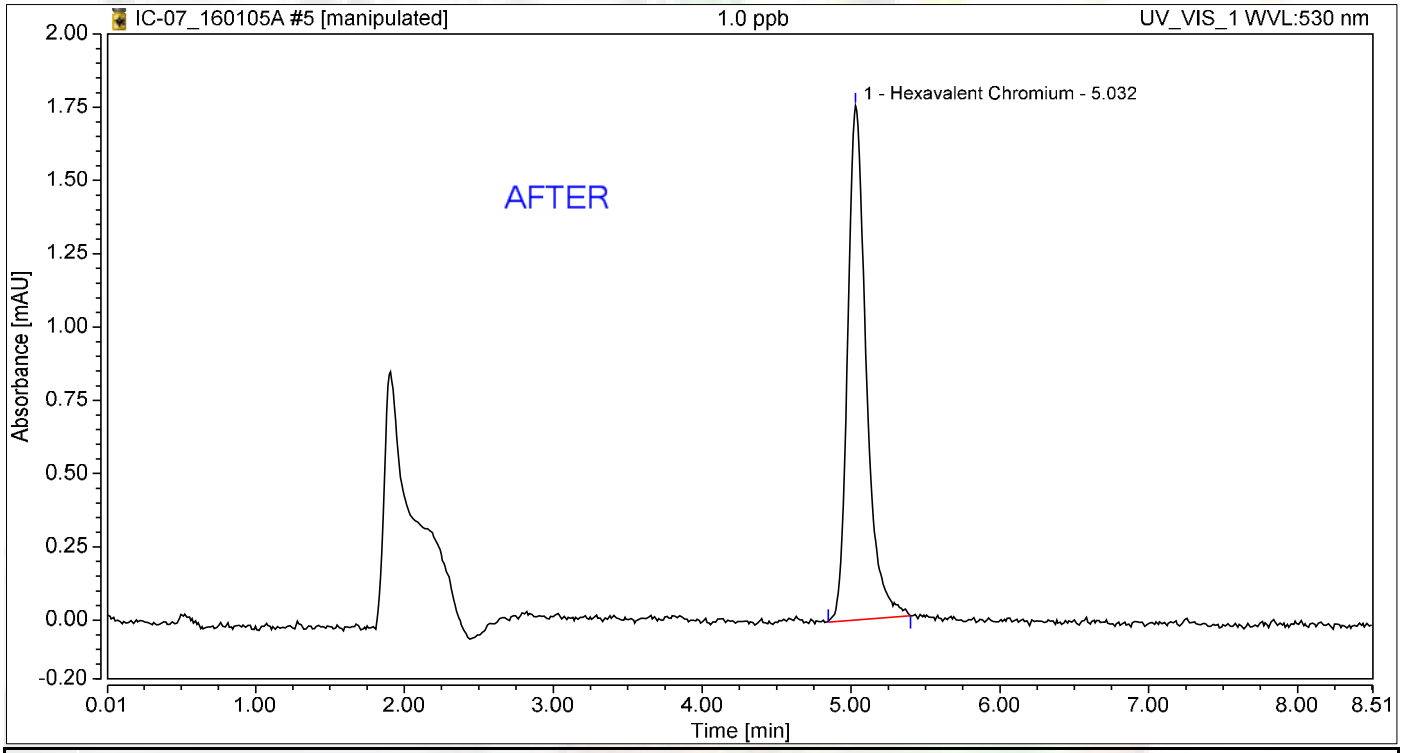
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.252	1.755	100.00	100.00	1.0465
Total:			**0.252**	**1.755**	**100.00**	**100.00**	

REB 1/11/2016

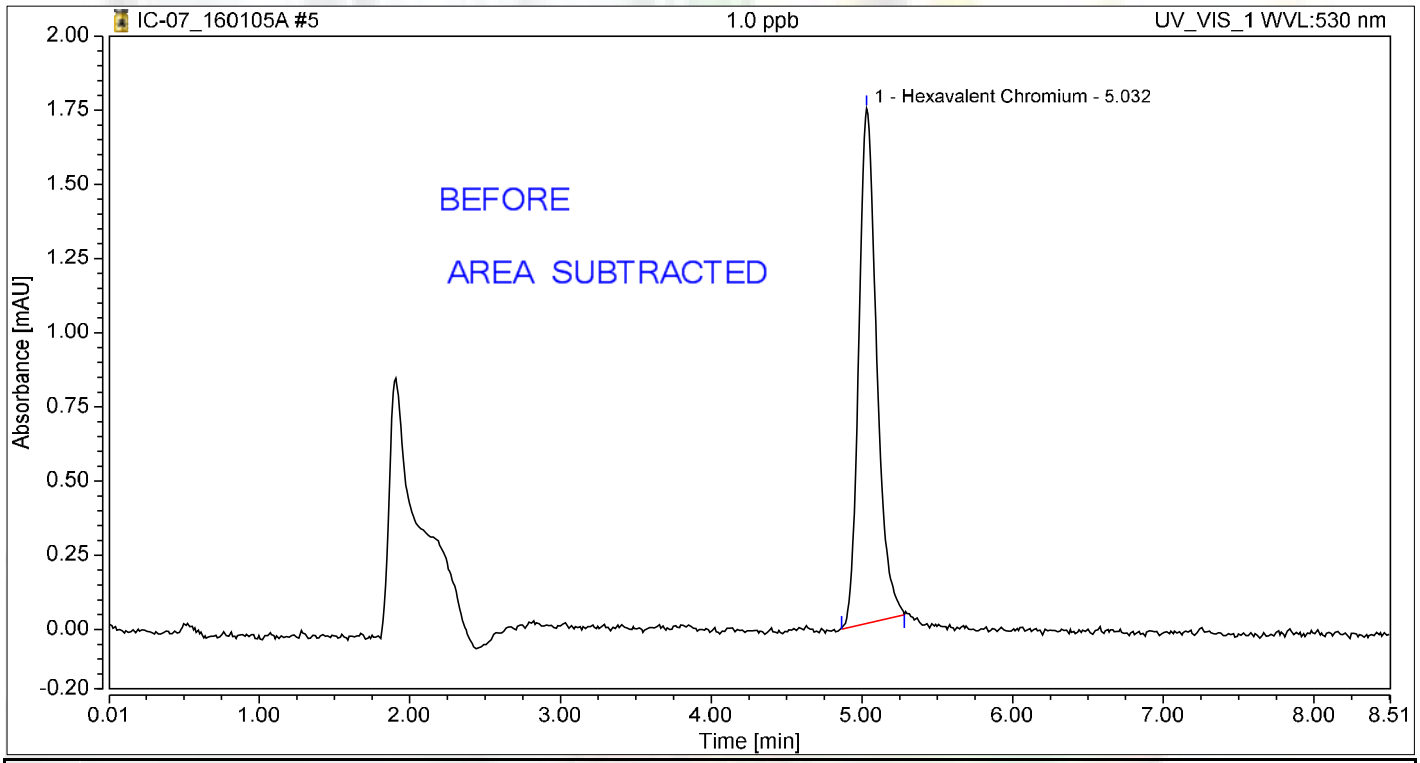
1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.240	1.735	100.00	100.00	0.9940
Total:			**0.240**	**1.735**	**100.00**	**100.00**	

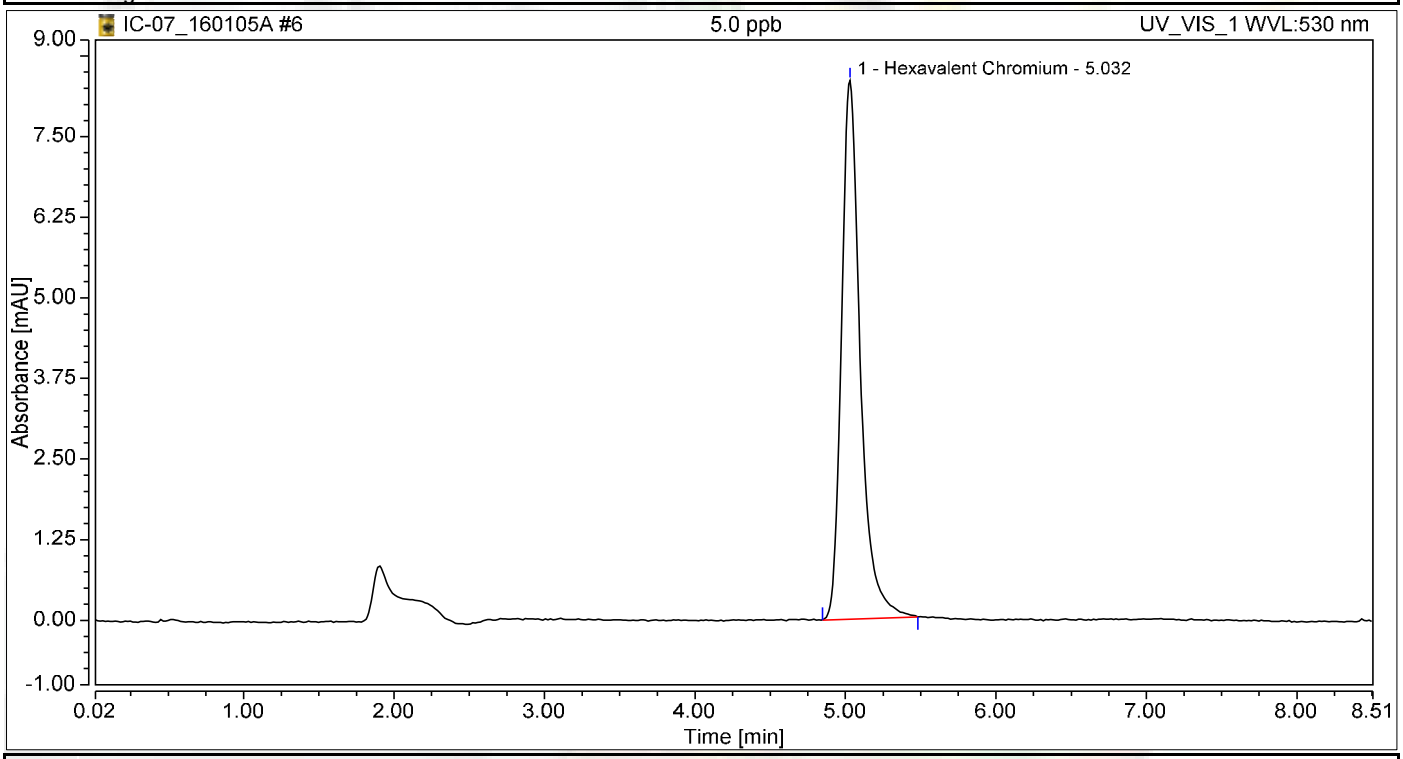
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

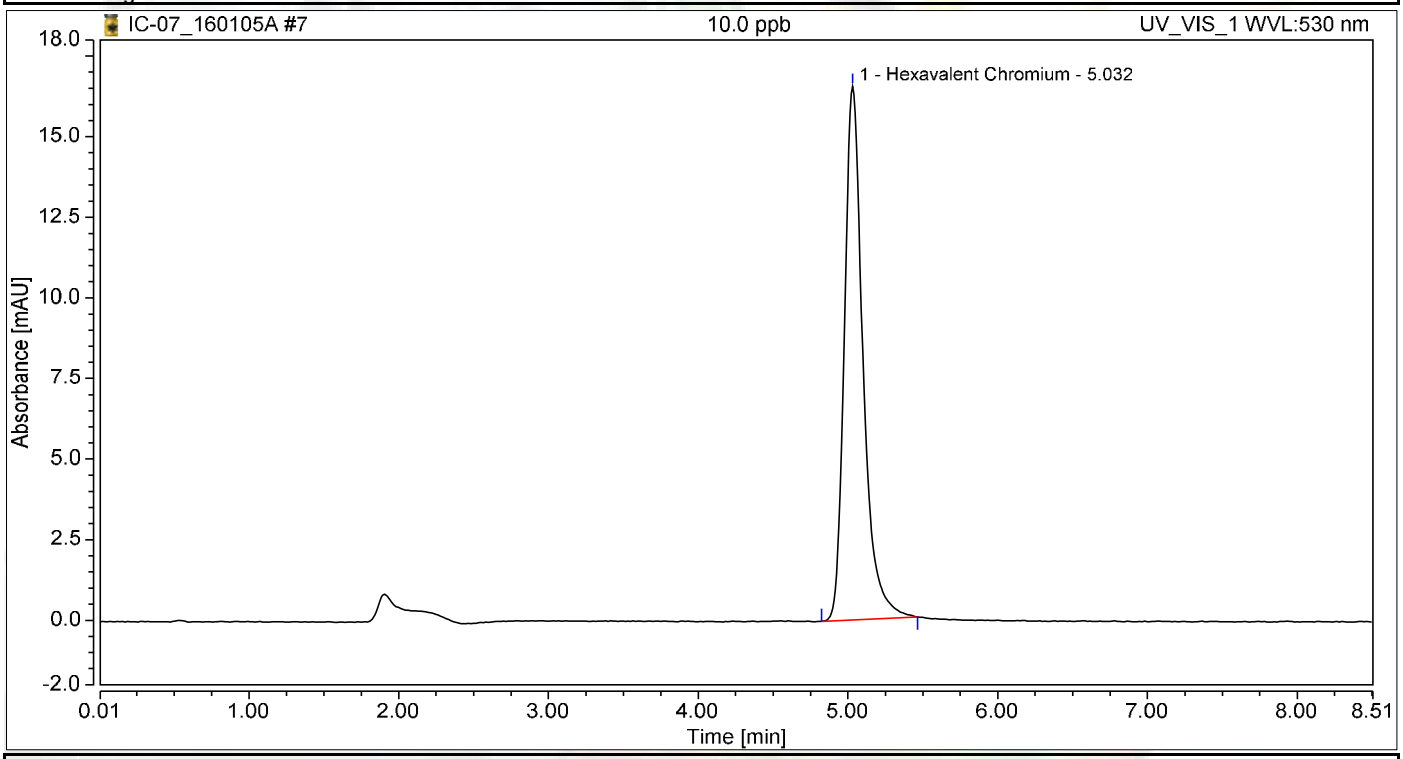
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.209	8.350	100.00	100.00	5.0139
Total:			**1.209**	**8.350**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

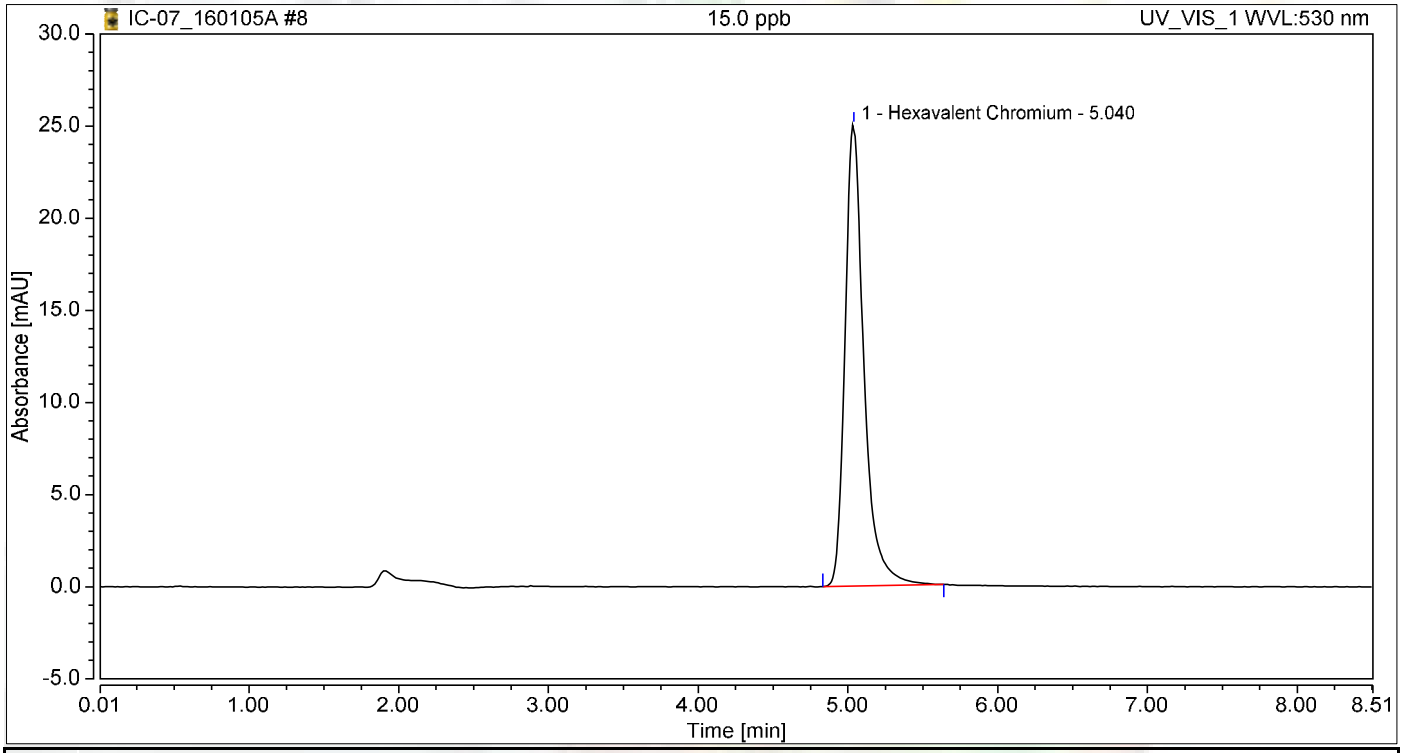
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	2.378	16.545	100.00	100.00	9.8607
Total:			**2.378**	**16.545**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

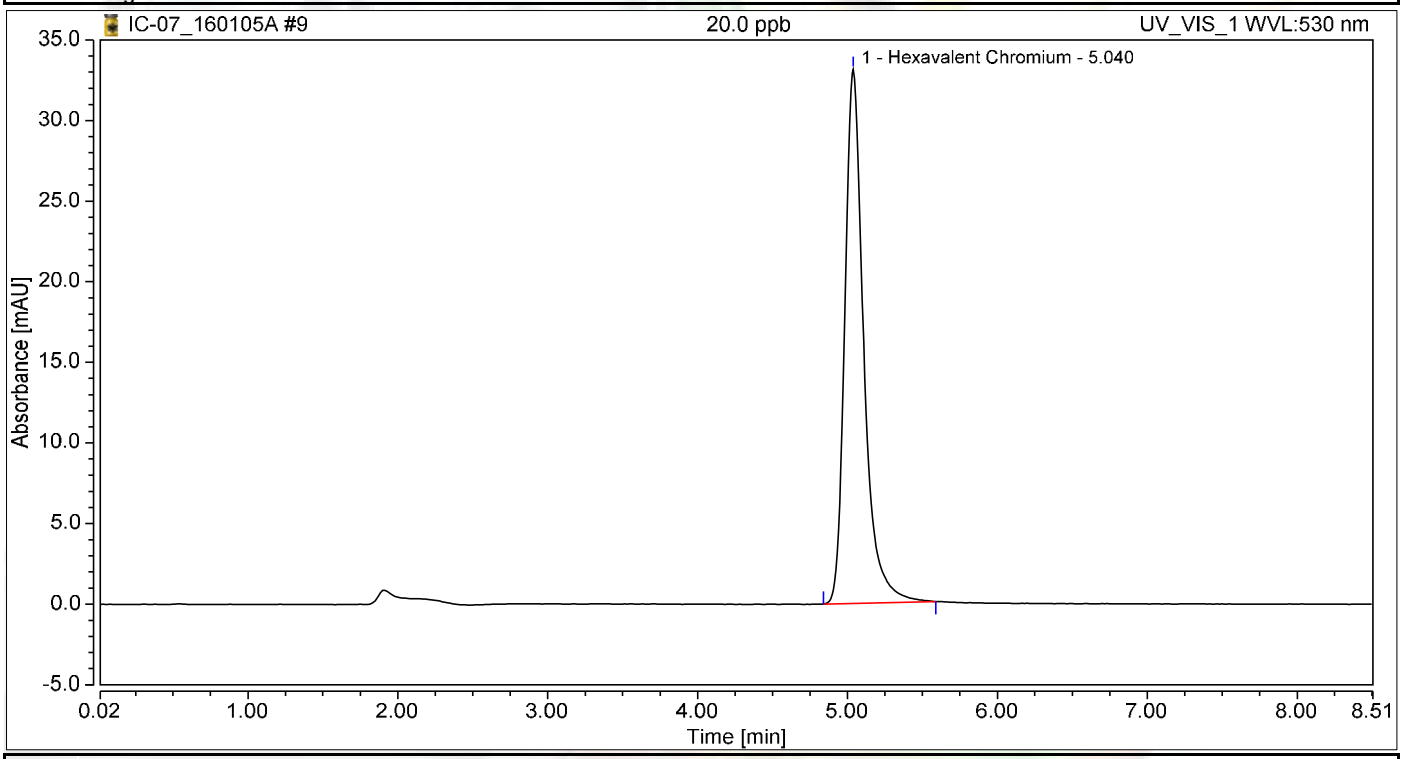
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.649	25.036	100.00	100.00	15.1303
Total:			**3.649**	**25.036**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:37**	*Sample Weight:*	**1.0000**

Chromatogram



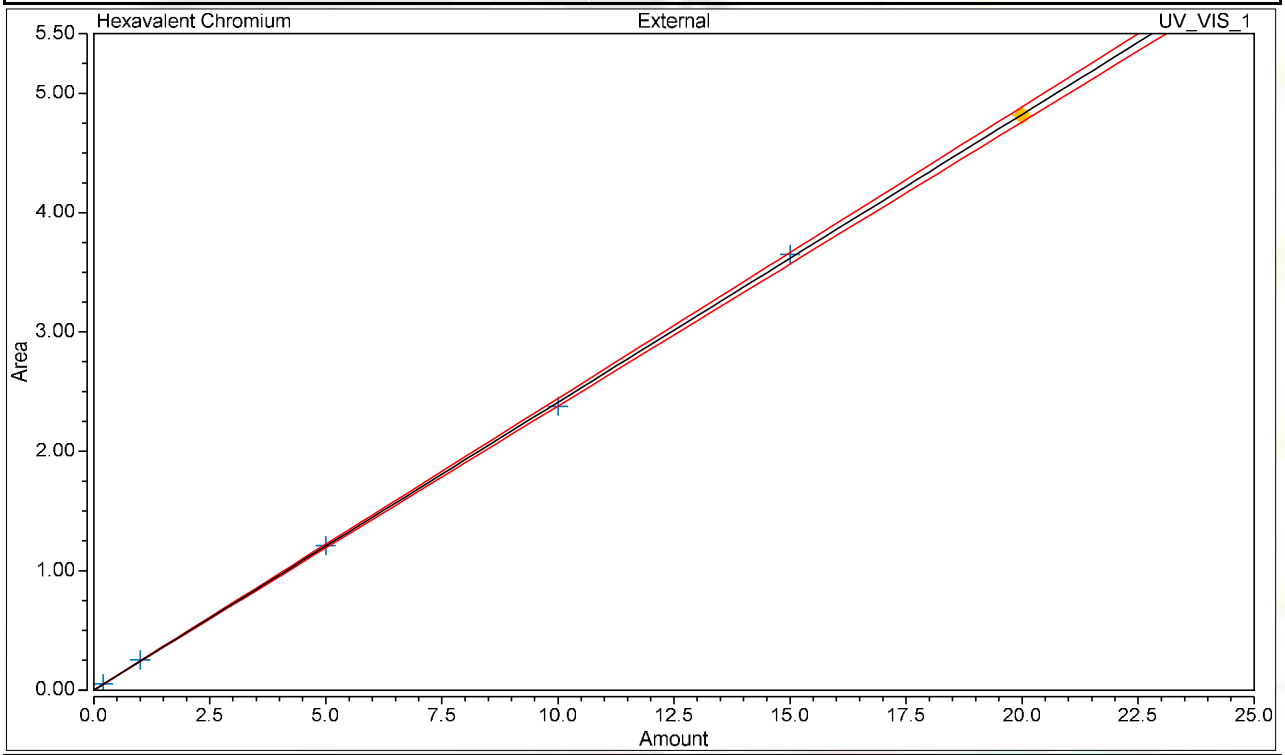
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.815	33.121	100.00	100.00	19.9659
Total:			**4.815**	**33.121**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99987

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

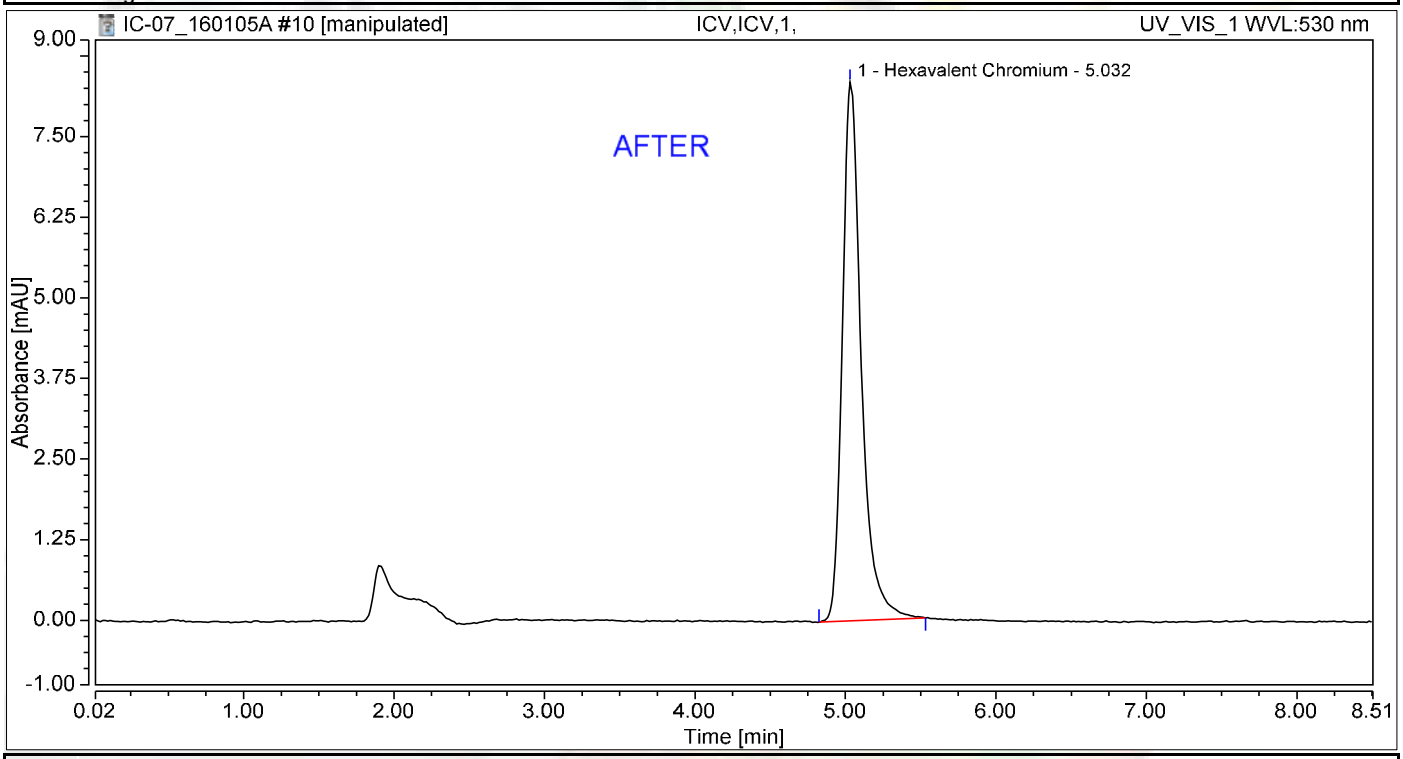
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0526	0.053	0.382
5	1.0 ppb	02	1.0000	0.2524	0.252	1.755
6	5.0 ppb	03	5.0000	1.2092	1.209	8.350
7	10.0 ppb	04	10.0000	2.3780	2.378	16.545
8	15.0 ppb	05	15.0000	3.6489	3.649	25.036
9	20.0 ppb	06	20.0000	4.8150	4.815	33.121

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.217	8.351	100.00	100.00	5.0460
Total:			**1.217**	**8.351**	**100.00**	**100.00**	

REB 1/11/2016

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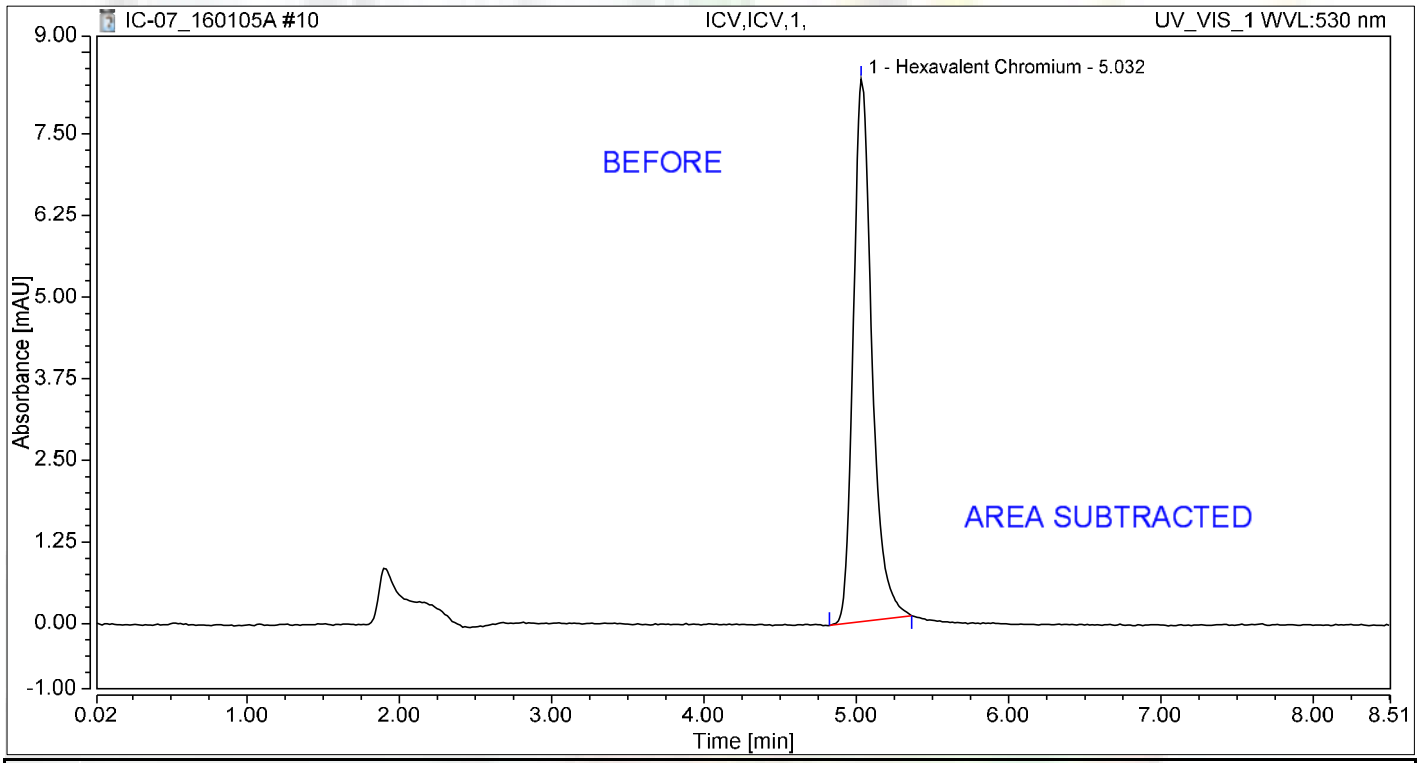
Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.184	8.314	100.00	100.00	4.9110
Total:			**1.184**	**8.314**	**100.00**	**100.00**	

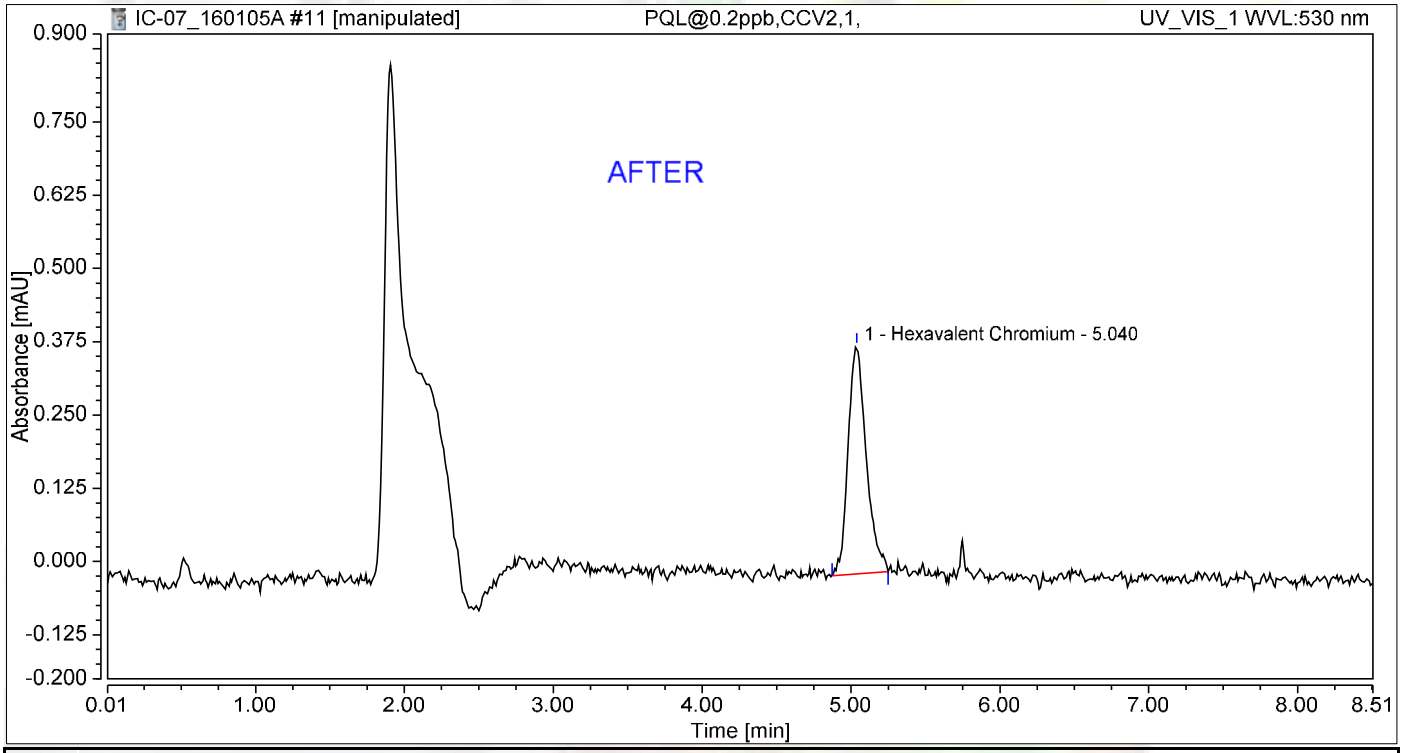
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.055	0.389	100.00	100.00	0.2270
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

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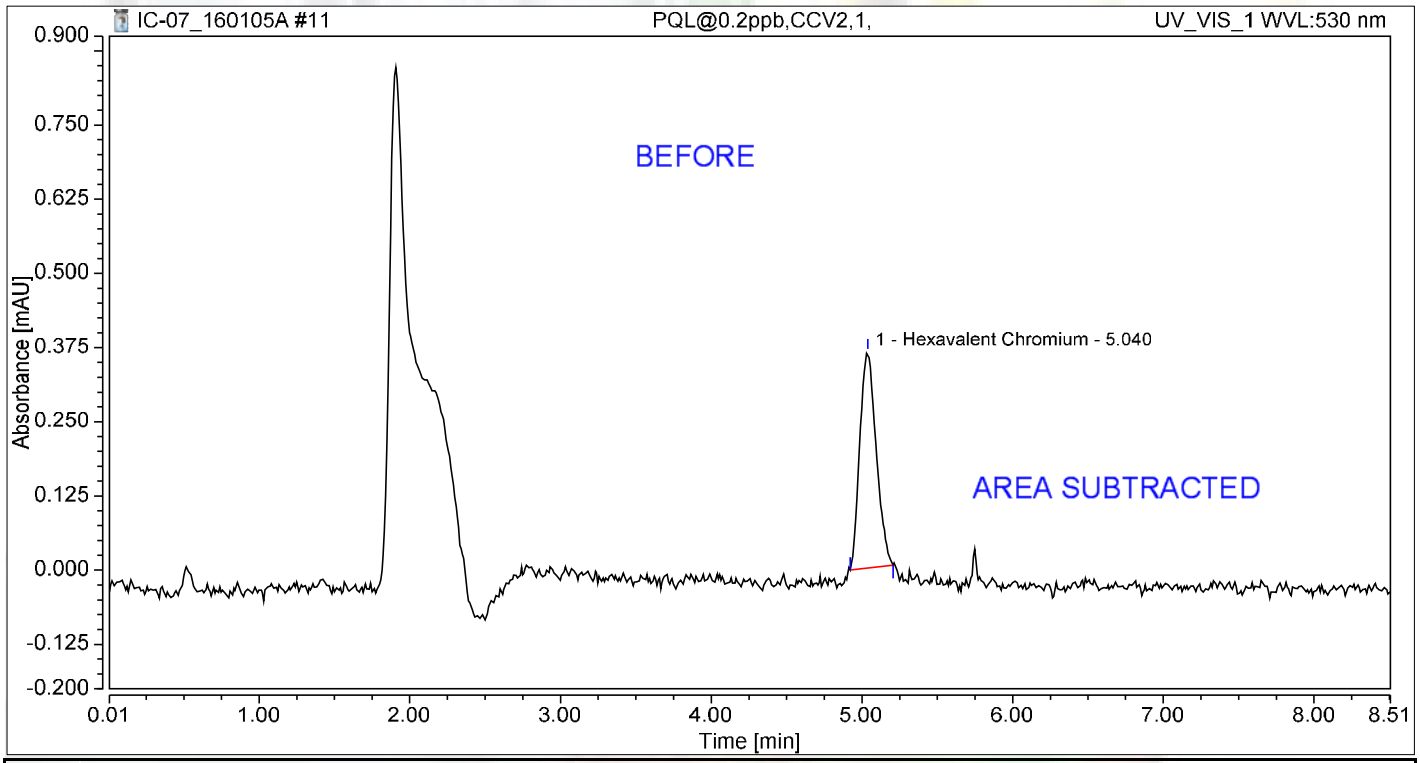
Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.046	0.364	100.00	100.00	0.1910
Total:			**0.046**	**0.364**	**100.00**	**100.00**	

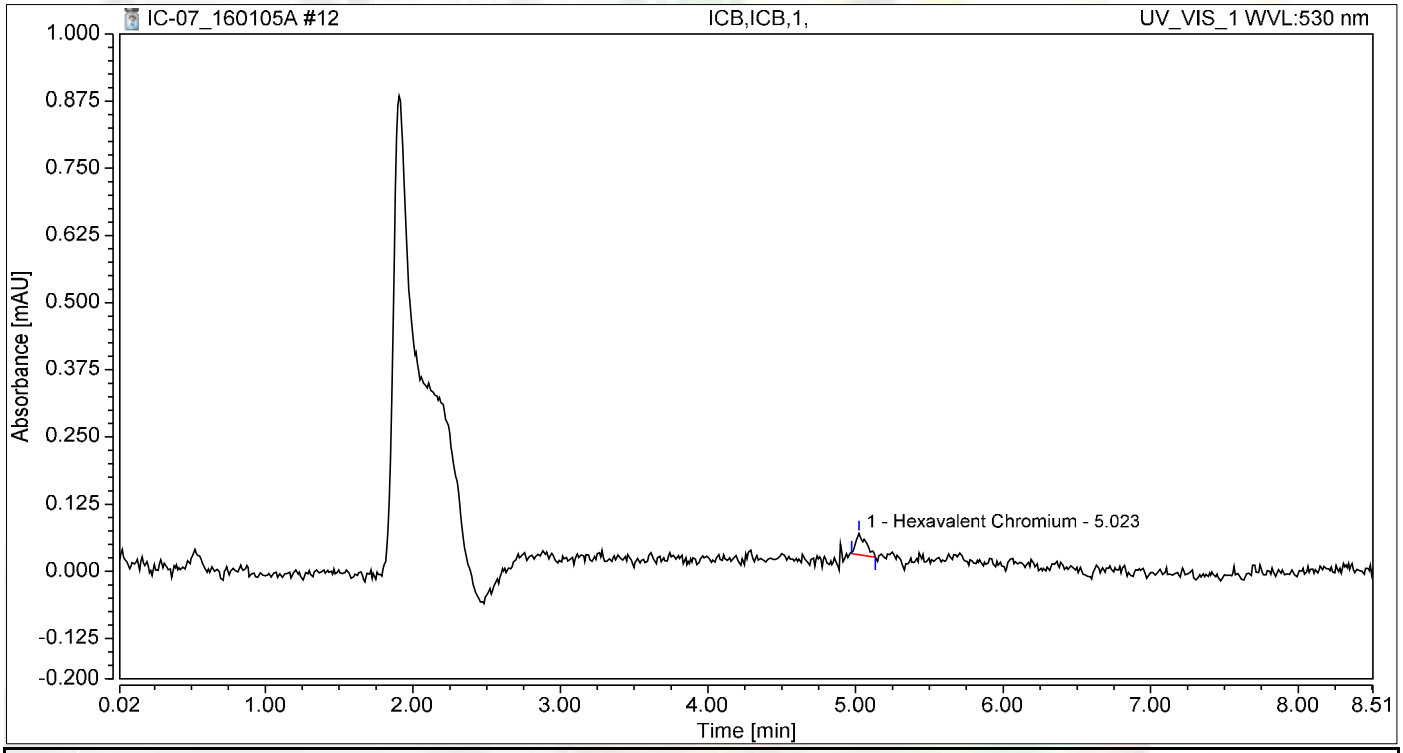
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 13:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.003	0.040	100.00	100.00	0.0126
Total:			**0.003**	**0.040**	**100.00**	**100.00**	

RAW DATA

REB 1/13/2016

INJECTION LOG: 160108A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	01/08/16 10:26 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	01/08/16 10:37 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/08/16 10:47 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	01/08/16 10:56 AM	Reported
14	MB-R105122	ICAL	1	Hexavalent Chromium	01/08/16 11:06 AM	Reported
15	LCS-R105122	ICAL	1	Hexavalent Chromium	01/08/16 11:15 AM	Reported
16	N018280-001C	SAMP	1	Hexavalent Chromium	01/08/16 11:25 AM	Reported
17	N018280-001C-DUP	DUP	1	Hexavalent Chromium	01/08/16 11:34 AM	Reported
18	N018280-001C-MS	MS	1	Hexavalent Chromium	01/08/16 11:43 AM	Reported
19	N018280-001C-MSD	MSD	1	Hexavalent Chromium	01/08/16 11:53 AM	Reported
20	N018297-002A	SAMP	1	Hexavalent Chromium	01/08/16 12:02 PM	Reported
21	N018299-001A	SAMP	1	Hexavalent Chromium	01/08/16 12:14 PM	Reported
22	N018299-001AMS	MS	1	Hexavalent Chromium	01/08/16 12:25 PM	Not Reported
23	CCV-2	CCV	1	Hexavalent Chromium	01/08/16 12:34 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	01/08/16 12:44 PM	Reported
25	N018299-002A	SAMP	1	Hexavalent Chromium	01/08/16 12:53 PM	Reported
26	N018299-002AMS	MS	1	Hexavalent Chromium	01/08/16 1:03 PM	Reported
27	N018299-003A	SAMP	1	Hexavalent Chromium	01/08/16 1:12 PM	Reported
28	N018299-003AMS	MS	1	Hexavalent Chromium	01/08/16 1:22 PM	Reported
29	N018299-004A	SAMP	1	Hexavalent Chromium	01/08/16 1:31 PM	Reported
30	N018299-004AMS	MS	1	Hexavalent Chromium	01/08/16 1:41 PM	Reported
31	N018299-005A	SAMP	1	Hexavalent Chromium	01/08/16 1:50 PM	Reported
32	N018299-005AMS	MS	1	Hexavalent Chromium	01/08/16 2:00 PM	Reported
33	N018299-006A	SAMP	1	Hexavalent Chromium	01/08/16 2:09 PM	Reported
34	N018299-006AMS	MS	1	Hexavalent Chromium	01/08/16 2:18 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	01/08/16 2:28 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	01/08/16 2:37 PM	Reported
37	N018299-007A	SAMP	1	Hexavalent Chromium	01/08/16 2:47 PM	Reported
38	N018299-007AMS	MS	1	Hexavalent Chromium	01/08/16 2:56 PM	Reported
39	N018299-008A	SAMP	1	Hexavalent Chromium	01/08/16 3:06 PM	Reported
40	N018299-008AMS	MS	1	Hexavalent Chromium	01/08/16 3:15 PM	Reported
41	N018299-009A	SAMP	1	Hexavalent Chromium	01/08/16 3:25 PM	Reported
42	N018299-009AMS	MS	1	Hexavalent Chromium	01/08/16 3:34 PM	Reported

INJECTION LOG: 160108A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018299-010A	SAMP	1	Hexavalent Chromium	01/08/16 3:44 PM	Reported
44	N018299-010AMS	MS	1	Hexavalent Chromium	01/08/16 3:53 PM	Reported
45	N018299-011A	SAMP	1	Hexavalent Chromium	01/08/16 4:03 PM	Reported
46	N018299-011AMS	MS	1	Hexavalent Chromium	01/08/16 4:12 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	01/08/16 4:22 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	01/08/16 4:31 PM	Reported
49	N018299-001AMS	MS	1	Hexavalent Chromium	01/08/16 4:48 PM	Not Reported
50	N018302-001A	SAMP	1	Hexavalent Chromium	01/08/16 4:58 PM	Not Reported
51	N018302-002A	SAMP	1	Hexavalent Chromium	01/08/16 5:08 PM	Not Reported
52	N018302-003A	SAMP	20	Hexavalent Chromium	01/08/16 5:17 PM	Reported
53	N018302-004A	SAMP	50	Hexavalent Chromium	01/08/16 5:27 PM	Reported
54	N018302-005A	SAMP	50	Hexavalent Chromium	01/08/16 5:36 PM	Reported
55	N018299-001AMS	MS	1	Hexavalent Chromium	01/08/16 5:46 PM	Reported
56	N018302-006A	SAMP	50	Hexavalent Chromium	01/08/16 5:55 PM	Reported
57	N018302-007A	SAMP	1	Hexavalent Chromium	01/08/16 6:05 PM	Not Reported
58	N018302-001A	SAMP	5	Hexavalent Chromium	01/08/16 6:14 PM	Not Reported
59	CCV-5	CCV	1	Hexavalent Chromium	01/08/16 6:23 PM	Not Reported
60	CCB-5	CCB	1	Hexavalent Chromium	01/08/16 6:33 PM	Not Reported
61	CCV-5	CCV	1	Hexavalent Chromium	01/08/16 7:03 PM	Not Reported
62	CCV-5	CCV	1	Hexavalent Chromium	01/08/16 7:14 PM	Reported
63	CCB-5	CCB	1	Hexavalent Chromium	01/08/16 7:24 PM	Reported
64	N018302-001A	SAMP	5	Hexavalent Chromium	01/08/16 7:33 PM	Reported
65	MB-R105151	ICAL	1	Hexavalent Chromium	01/08/16 7:43 PM	Reported
66	LCS-R105151	ICAL	1	Hexavalent Chromium	01/08/16 7:52 PM	Reported
67	N018302-007A	SAMP	50	Hexavalent Chromium	01/08/16 8:02 PM	Reported
68	N018302-007A-DUP	DUP	50	Hexavalent Chromium	01/08/16 8:11 PM	Reported
69	N018302-007A-MS	MS	50	Hexavalent Chromium	01/08/16 8:21 PM	Reported
70	N018302-007A-MSD	MSD	50	Hexavalent Chromium	01/08/16 8:30 PM	Reported
71	N018302-008A	SAMP	50	Hexavalent Chromium	01/08/16 8:40 PM	Reported
72	N018302-009A	SAMP	5	Hexavalent Chromium	01/08/16 8:49 PM	Reported
73	N018302-010A	SAMP	5	Hexavalent Chromium	01/08/16 8:58 PM	Reported
74	CCV-6	CCV	1	Hexavalent Chromium	01/08/16 9:08 PM	Reported
75	CCB-6	CCB	1	Hexavalent Chromium	01/08/16 9:17 PM	Reported
76	N018302-011A	SAMP	5	Hexavalent Chromium	01/08/16 9:27 PM	Reported
77	N018302-012A	SAMP	1	Hexavalent Chromium	01/08/16 9:36 PM	Reported
78	N018304-001A	SAMP	1	Hexavalent Chromium	01/08/16 9:46 PM	Reported
79	N018304-002A	SAMP	1	Hexavalent Chromium	01/08/16 9:55 PM	Reported
80	N018304-003A	SAMP	1	Hexavalent Chromium	01/08/16 10:05 PM	Reported
81	N018304-004A	SAMP	1	Hexavalent Chromium	01/08/16 10:14 PM	Reported
82	N018304-005A	SAMP	1	Hexavalent Chromium	01/08/16 10:24 PM	Reported
83	N018304-006A	SAMP	1	Hexavalent Chromium	01/08/16 10:33 PM	Reported
84	N018304-007A	SAMP	1	Hexavalent Chromium	01/08/16 10:43 PM	Reported

INJECTION LOG: 160108A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
85	N018304-008A	SAMP	1	Hexavalent Chromium	01/08/16 10:52 PM	Reported
86	CCV-7	CCV	1	Hexavalent Chromium	01/08/16 11:02 PM	Reported
87	CCB-7	CCB	1	Hexavalent Chromium	01/08/16 11:11 PM	Reported
88	N018304-009A	SAMP	1	Hexavalent Chromium	01/08/16 11:20 PM	Reported
89	N018304-010A	SAMP	1	Hexavalent Chromium	01/08/16 11:30 PM	Reported
90	N018304-011A	SAMP	1	Hexavalent Chromium	01/08/16 11:39 PM	Reported
91	N018304-012A	SAMP	1	Hexavalent Chromium	01/08/16 11:49 PM	Reported
92	N018304-013A	SAMP	5	Hexavalent Chromium	01/08/16 11:58 PM	Reported
93	N018304-014A	SAMP	20	Hexavalent Chromium	01/09/16 12:08 AM	Reported
94	CCV-8	CCV	1	Hexavalent Chromium	01/09/16 12:17 AM	Reported
95	CCB-8	CCB	1	Hexavalent Chromium	01/09/16 12:27 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160108A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**10/Jan/16 13:04:40**
No. of Injections:	**98**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	BLANK	1	1000	Unknown		01/08/2016 10:26	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		01/08/2016 10:37	Finished	CCV @ 5ppb, IWST 160105C
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		01/08/2016 10:47	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1,	4	1000	Unknown		01/08/2016 10:56	Finished	CCB R151228A
14	MB-H2O,MBLK,1	5	1000	Unknown		01/08/2016 11:06	Finished	MB
15	LCS-H2O,LCS,1	6	1000	Unknown		01/08/2016 11:15	Finished	LCS @ 5ppb, IWST-160107A
16	N018280-001C,SAMF	7	1000	Unknown		01/08/2016 11:25	Finished	SAMP, 10mL
17	N018280-001C-DUP,I	8	1000	Unknown		01/08/2016 11:34	Finished	DUP, 10mL
18	N018280-001C-MS,M	9	1000	Unknown		01/08/2016 11:43	Finished	MS(1ppb), IWST-160107A, 10r
19	N018280-001C-MSD,	10	1000	Unknown		01/08/2016 11:53	Finished	MSD(1ppb), IWST-160107A, 1
20	N018297-002A,SAMF	11	1000	Unknown		01/08/2016 12:02	Finished	SAMP, 10mL
21	N018299-001A,SAMF	12	1000	Unknown		01/08/2016 12:14	Finished	SAMP, 10mL
22	N018299-001AMS,MS	13	1000	Unknown		01/08/2016 12:25	Finished	MS(1ppb), IWST-160107A, 10r
23	CCV-2,CCV,1	14	1000	Unknown		01/08/2016 12:34	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-2,CCB,1	15	1000	Unknown		01/08/2016 12:44	Finished	CCB
25	N018299-002A,SAMF	16	1000	Unknown		01/08/2016 12:53	Finished	SAMP, 10mL
26	N018299-002AMS,MS	17	1000	Unknown		01/08/2016 13:03	Finished	MS(1ppb), IWST-160107A, 10r
27	N018299-003A,SAMF	18	1000	Unknown		01/08/2016 13:12	Finished	SAMP, 10mL
28	N018299-003AMS,MS	19	1000	Unknown		01/08/2016 13:22	Finished	MS(1ppb), IWST-160107A, 10r
29	N018299-004A,SAMF	20	1000	Unknown		01/08/2016 13:31	Finished	SAMP, 10mL
30	N018299-004AMS,MS	21	1000	Unknown		01/08/2016 13:41	Finished	MS(1ppb), IWST-160107A, 10r
31	N018299-005A,SAMF	22	1000	Unknown		01/08/2016 13:50	Finished	SAMP, 10mL
32	N018299-005AMS,MS	23	1000	Unknown		01/08/2016 14:00	Finished	MS(1ppb), IWST-160107A, 10r
33	N018299-006A,SAMF	24	1000	Unknown		01/08/2016 14:09	Finished	SAMP, 10mL
34	N018299-006AMS,MS	25	1000	Unknown		01/08/2016 14:18	Finished	MS(1ppb), IWST-160107A, 10r
35	CCV-3,CCV,1	26	1000	Unknown		01/08/2016 14:28	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-3,CCB,1	27	1000	Unknown		01/08/2016 14:37	Finished	CCB
37	N018299-007A,SAMF	28	1000	Unknown		01/08/2016 14:47	Finished	SAMP, 10mL
38	N018299-007AMS,MS	29	1000	Unknown		01/08/2016 14:56	Finished	MS(1ppb), IWST-160107A, 10r
39	N018299-008A,SAMF	30	1000	Unknown		01/08/2016 15:06	Finished	SAMP, 10mL
40	N018299-008AMS,MS	31	1000	Unknown		01/08/2016 15:15	Finished	MS(1ppb), IWST-160107A, 10r
41	N018299-009A,SAMF	32	1000	Unknown		01/08/2016 15:25	Finished	SAMP, 10mL
42	N018299-009AMS,MS	33	1000	Unknown		01/08/2016 15:34	Finished	MS(1ppb), IWST-160107A, 10r
43	N018299-010A,SAMF	34	1000	Unknown		01/08/2016 15:44	Finished	SAMP, 10mL
44	N018299-010AMS,MS	35	1000	Unknown		01/08/2016 15:53	Finished	MS(1ppb), IWST-160107A, 10r
45	N018299-011A,SAMF	36	1000	Unknown		01/08/2016 16:03	Finished	SAMP, 10mL
46	N018299-011AMS,MS	37	1000	Unknown		01/08/2016 16:12	Finished	MS(1ppb), IWST-160107A, 10r
47	CCV-4,CCV,1	38	1000	Unknown		01/08/2016 16:22	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-4,CCB,1	39	1000	Unknown		01/08/2016 16:31	Finished	CCB
49	N018299-001AMS,MS	1	1000	Unknown		01/08/2016 16:48	Finished	MS(1ppb), IWST-160107A, 10r
50	N018302-001A,SAMF	2	1000	Unknown		01/08/2016 16:58	Finished	SAMP, 10mL
51	N018302-002A,SAMF	3	1000	Unknown		01/08/2016 17:08	Finished	SAMP, 10mL
52	N018302-003A,SAMF	4	1000	Unknown		01/08/2016 17:17	Finished	SAMP, 0.5 to 10mL
53	N018302-004A,SAMF	5	1000	Unknown		01/08/2016 17:27	Finished	SAMP, 0.2 to 10mL
54	N018302-005A,SAMF	6	1000	Unknown		01/08/2016 17:36	Finished	SAMP, 0.2 to 10mL
55	N018299-001AMS,MS	7	1000	Unknown		01/08/2016 17:46	Finished	MS(1ppb), IWST-160107A, 10r
56	N018302-006A,SAMF	8	1000	Unknown		01/08/2016 17:55	Finished	SAMP, 0.2 to 10mL
57	N018302-007A,SAMF	9	1000	Unknown		01/08/2016 18:05	Finished	SAMP, 10mL
58	N018302-001A,SAMF	10	1000	Unknown		01/08/2016 18:14	Finished	SAMP, 2 to 10mL
59	CCV-5,CCV,1	11	1000	Unknown		01/08/2016 18:23	Finished	CCV @ 5ppb, IWST-160105C
60	CCB-5,CCB,1	12	1000	Unknown		01/08/2016 18:33	Finished	CCB

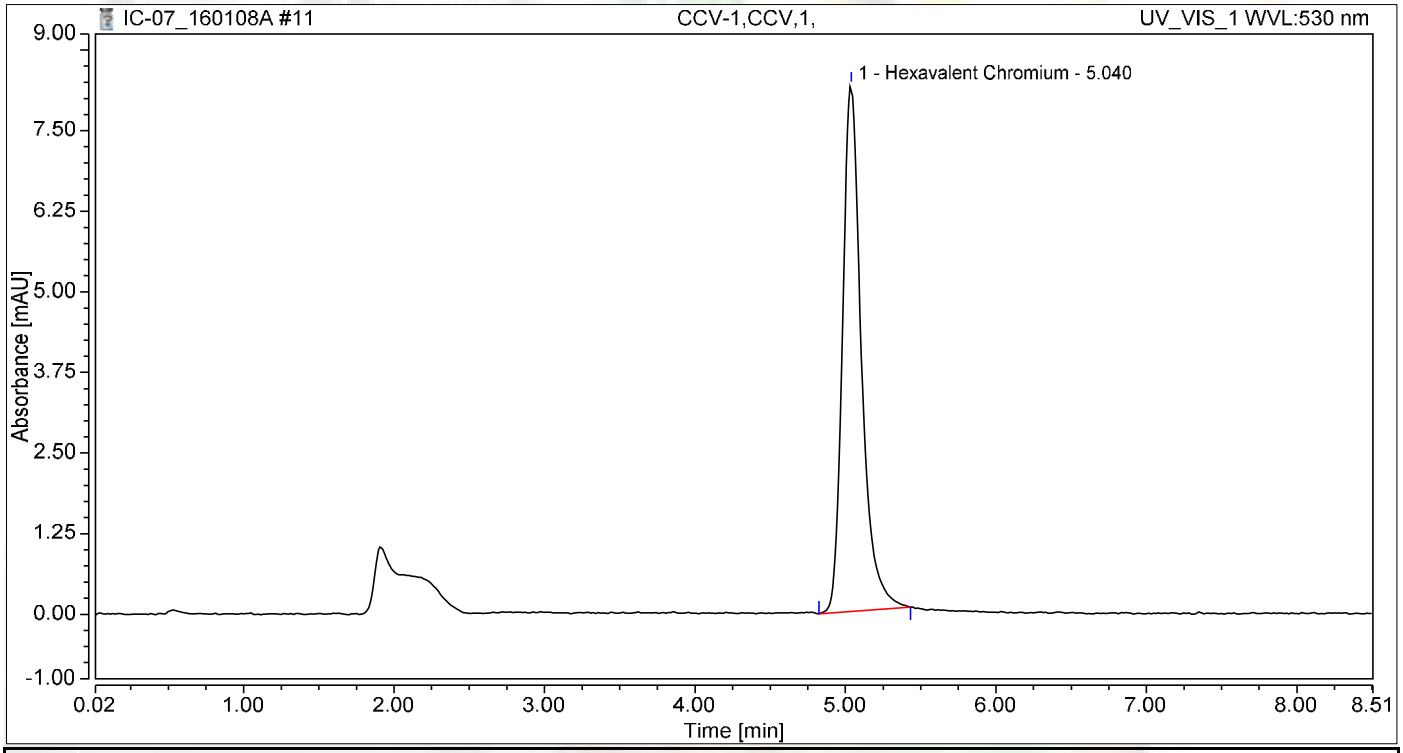
61	CCV-5,CCV,1	1	1000	Unknown		01/08/2016 19:03	Finished	CCV @ 5ppb, IWST-160105C
62	CCV-5,CCV,1	2	1000	Unknown		01/08/2016 19:14	Finished	CCV @ 5ppb, IWST-160105C
63	CCB-5,CCB,1	3	1000	Unknown		01/08/2016 19:24	Finished	CCB
64	N018302-001A,SAMF	4	1000	Unknown		01/08/2016 19:33	Finished	SAMP, 2 to 10mL
65	MB-H2O,MBLK,1	5	1000	Unknown		01/08/2016 19:43	Finished	MB
66	LCS-H2O,LCS,1	6	1000	Unknown		01/08/2016 19:52	Finished	LCS @ 5ppb, IWST-160107A
67	N018302-007A,SAMF	7	1000	Unknown		01/08/2016 20:02	Finished	SAMP, 0.2 to 10mL
68	N018302-007A-DUP,I	8	1000	Unknown		01/08/2016 20:11	Finished	DUP, 0.2 to 10mL
69	N018302-007A-MS,M	9	1000	Unknown		01/08/2016 20:21	Finished	MS(5ppb), IWST-160107A, 10r
70	N018302-007A-MSD,	10	1000	Unknown		01/08/2016 20:30	Finished	MSD(5ppb), IWST-160107A, 1
71	N018302-008A,SAMF	11	1000	Unknown		01/08/2016 20:40	Finished	SAMP, 0.2 to 10mL
72	N018302-009A,SAMF	12	1000	Unknown		01/08/2016 20:49	Finished	SAMP, 2 to 10mL
73	N018302-010A,SAMF	13	1000	Unknown		01/08/2016 20:58	Finished	SAMP, 2 to 10mL
74	CCV-6,CCV,1	14	1000	Unknown		01/08/2016 21:08	Finished	CCV @ 10ppb, IWST-160105C
75	CCB-6,CCB,1	15	1000	Unknown		01/08/2016 21:17	Finished	CCB
76	N018302-011A,SAMF	16	1000	Unknown		01/08/2016 21:27	Finished	SAMP, 2 to 10mL
77	N018302-012A,SAMF	17	1000	Unknown		01/08/2016 21:36	Finished	SAMP, 10mL
78	N018304-001A,SAMF	18	1000	Unknown		01/08/2016 21:46	Finished	SAMP, 10mL
79	N018304-002A,SAMF	19	1000	Unknown		01/08/2016 21:55	Finished	SAMP, 10mL
80	N018304-003A,SAMF	20	1000	Unknown		01/08/2016 22:05	Finished	SAMP, 10mL
81	N018304-004A,SAMF	21	1000	Unknown		01/08/2016 22:14	Finished	SAMP, 10mL
82	N018304-005A,SAMF	22	1000	Unknown		01/08/2016 22:24	Finished	SAMP, 10mL
83	N018304-006A,SAMF	23	1000	Unknown		01/08/2016 22:33	Finished	SAMP, 10mL
84	N018304-007A,SAMF	24	1000	Unknown		01/08/2016 22:43	Finished	SAMP, 10mL
85	N018304-008A,SAMF	25	1000	Unknown		01/08/2016 22:52	Finished	SAMP, 10mL
86	CCV-7,CCV,1	26	1000	Unknown		01/08/2016 23:02	Finished	CCV @ 10ppb, IWST-160105C
87	CCB-7,CCB,1	27	1000	Unknown		01/08/2016 23:11	Finished	CCB
88	N018304-009A,SAMF	28	1000	Unknown		01/08/2016 23:20	Finished	SAMP, 10mL
89	N018304-010A,SAMF	29	1000	Unknown		01/08/2016 23:30	Finished	SAMP, 10mL
90	N018304-011A,SAMF	30	1000	Unknown		01/08/2016 23:39	Finished	SAMP, 10mL
91	N018304-012A,SAMF	31	1000	Unknown		01/08/2016 23:49	Finished	SAMP, 10mL
92	N018304-013A,SAMF	32	1000	Unknown		01/08/2016 23:58	Finished	SAMP, 2 to 10mL
93	N018304-014A,SAMF	33	1000	Unknown		01/09/2016 00:08	Finished	SAMP, 0.5 to 10mL
94	CCV-8,CCV,1	34	1000	Unknown		01/09/2016 00:17	Finished	CCV @ 10ppb, IWST-160105C
95	CCB-8,CCB,1	35	1000	Unknown		01/09/2016 00:27	Finished	CCB
96	SHUTDOWN	36	1000	Unknown		01/09/2016 00:36	Finished	BLANK
97	Eluent: R160108A	37	1000	Unknown		n.a.	Finished	Eluent
98	PCR: R160108B	38	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 10:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

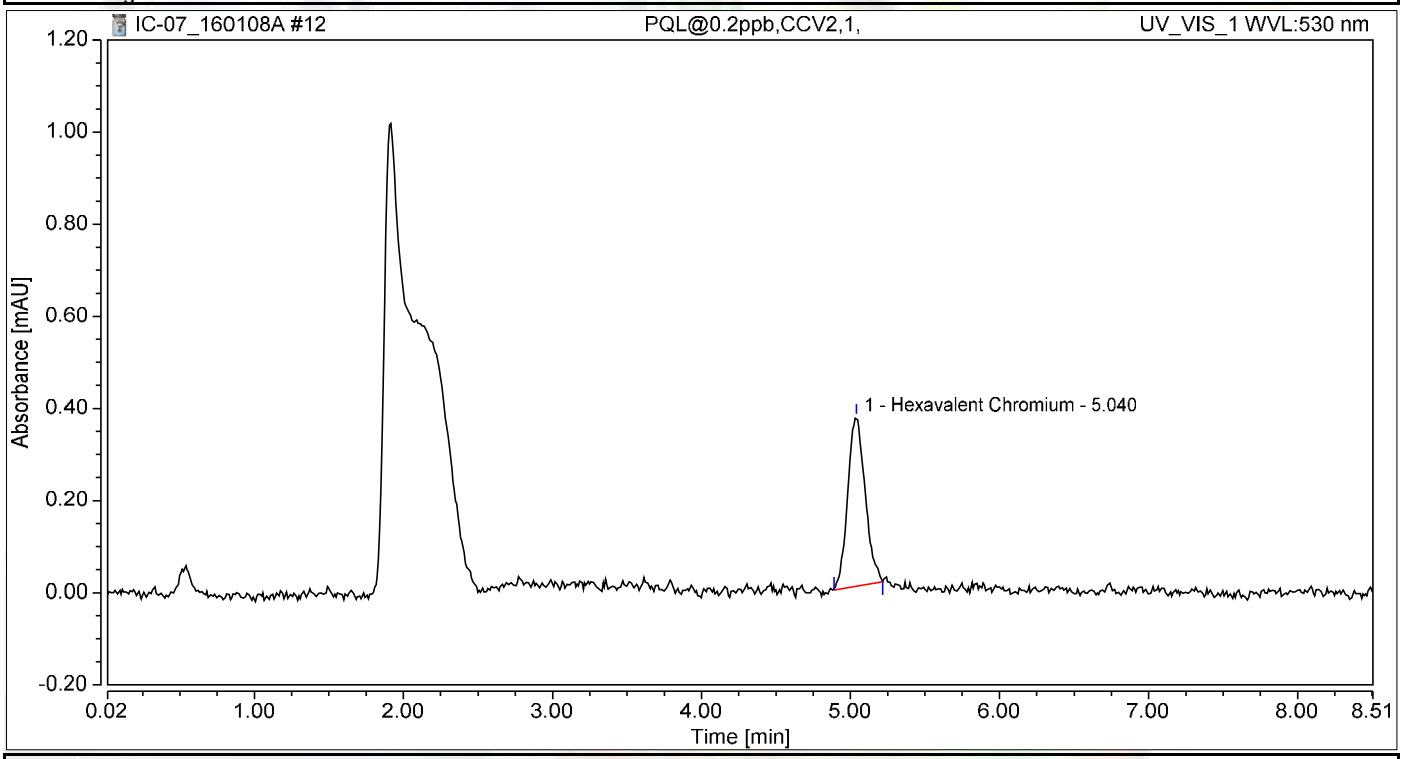
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.184	8.161	100.00	100.00	4.9100
Total:			**1.184**	**8.161**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 10:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

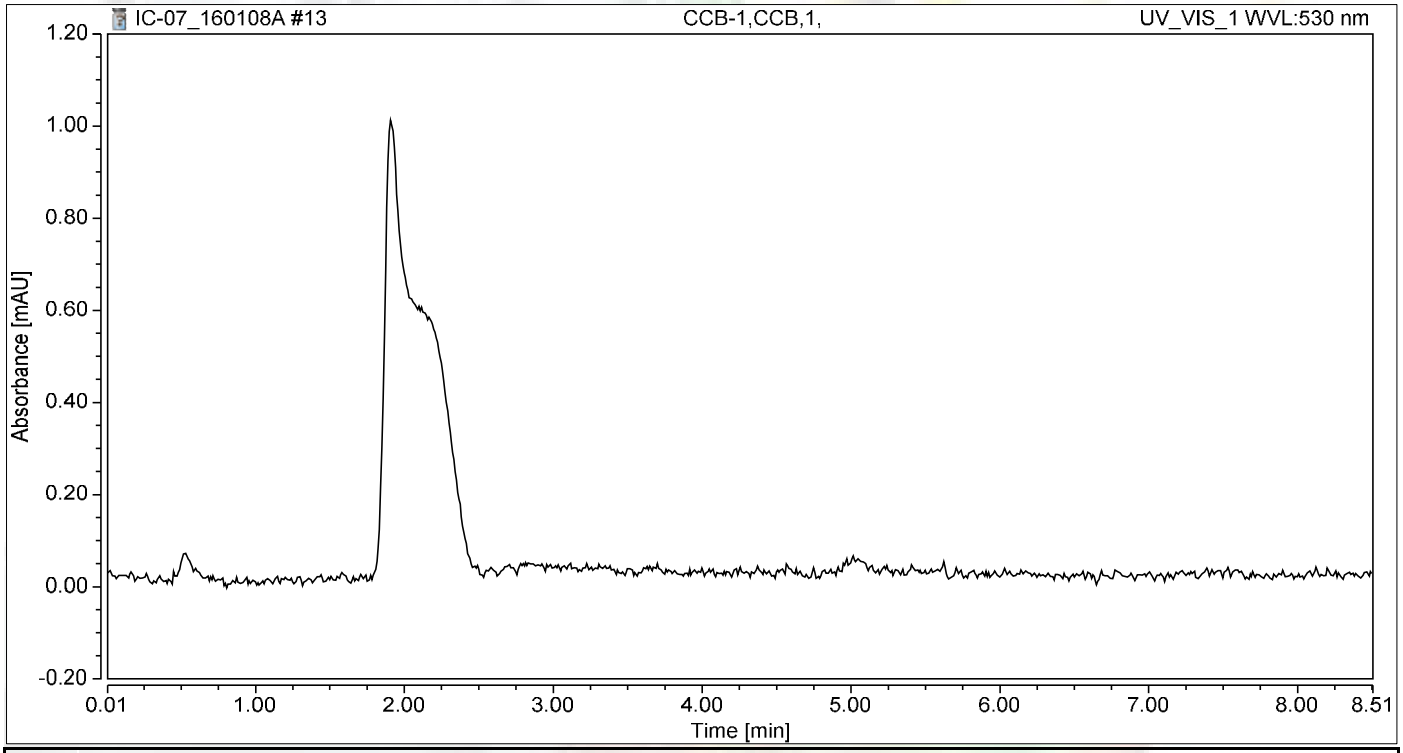
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.050	0.368	100.00	100.00	0.2057
Total:			**0.050**	**0.368**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 10:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

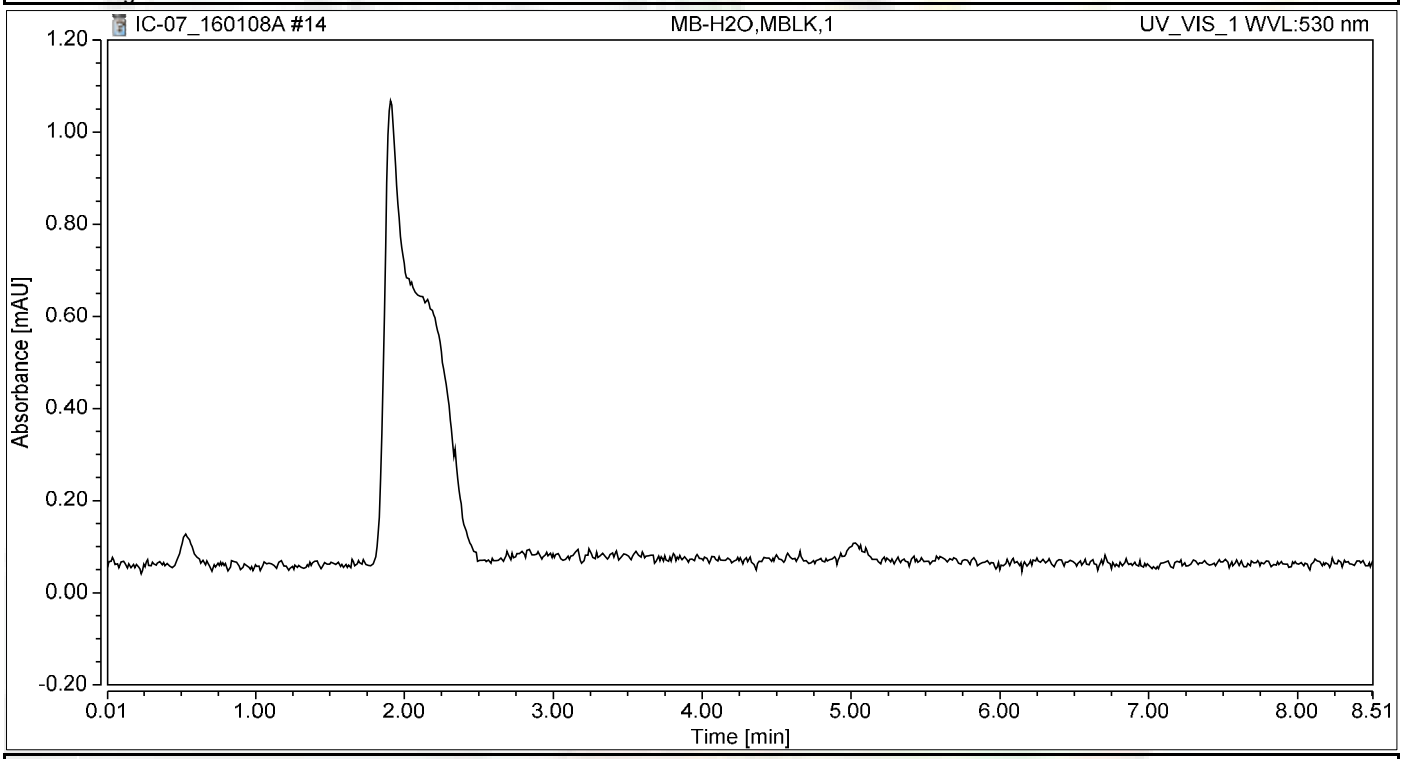
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

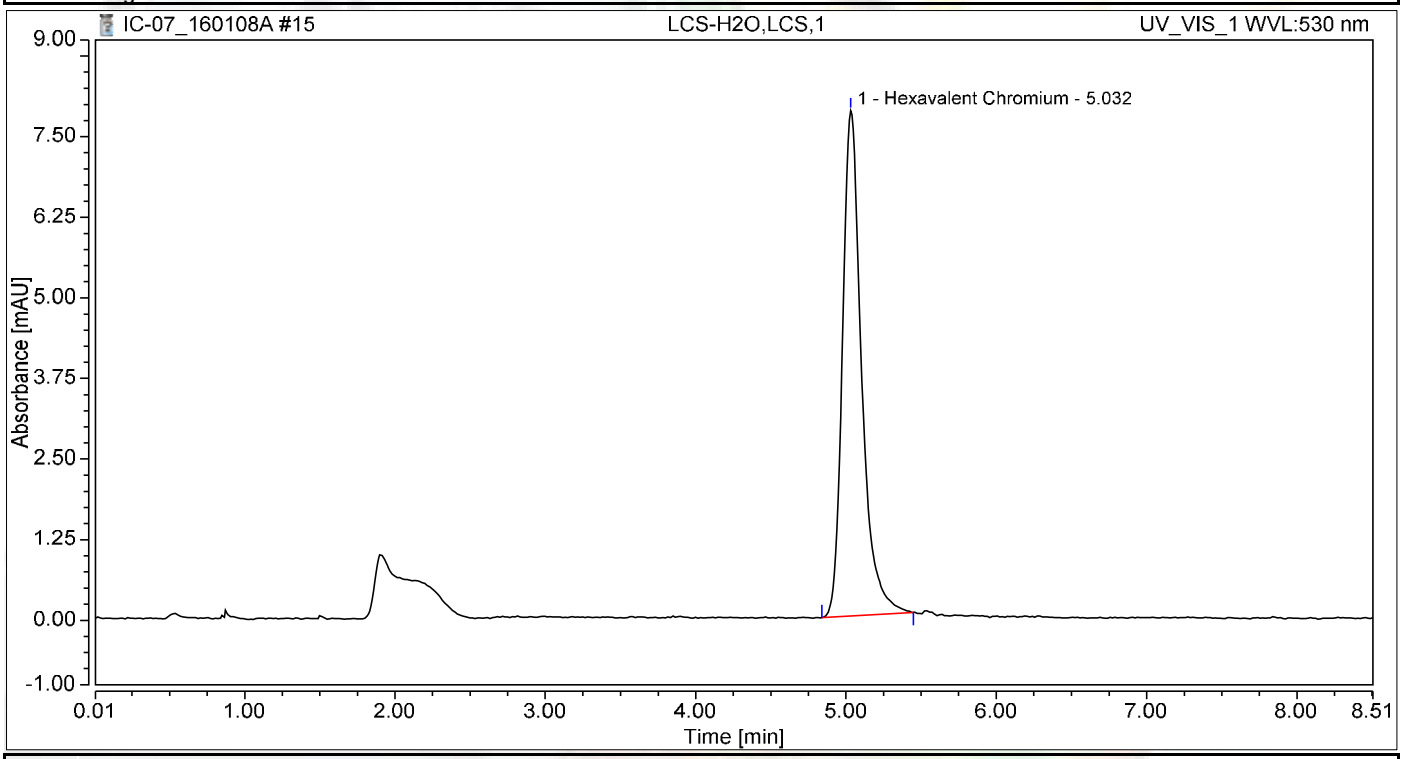
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

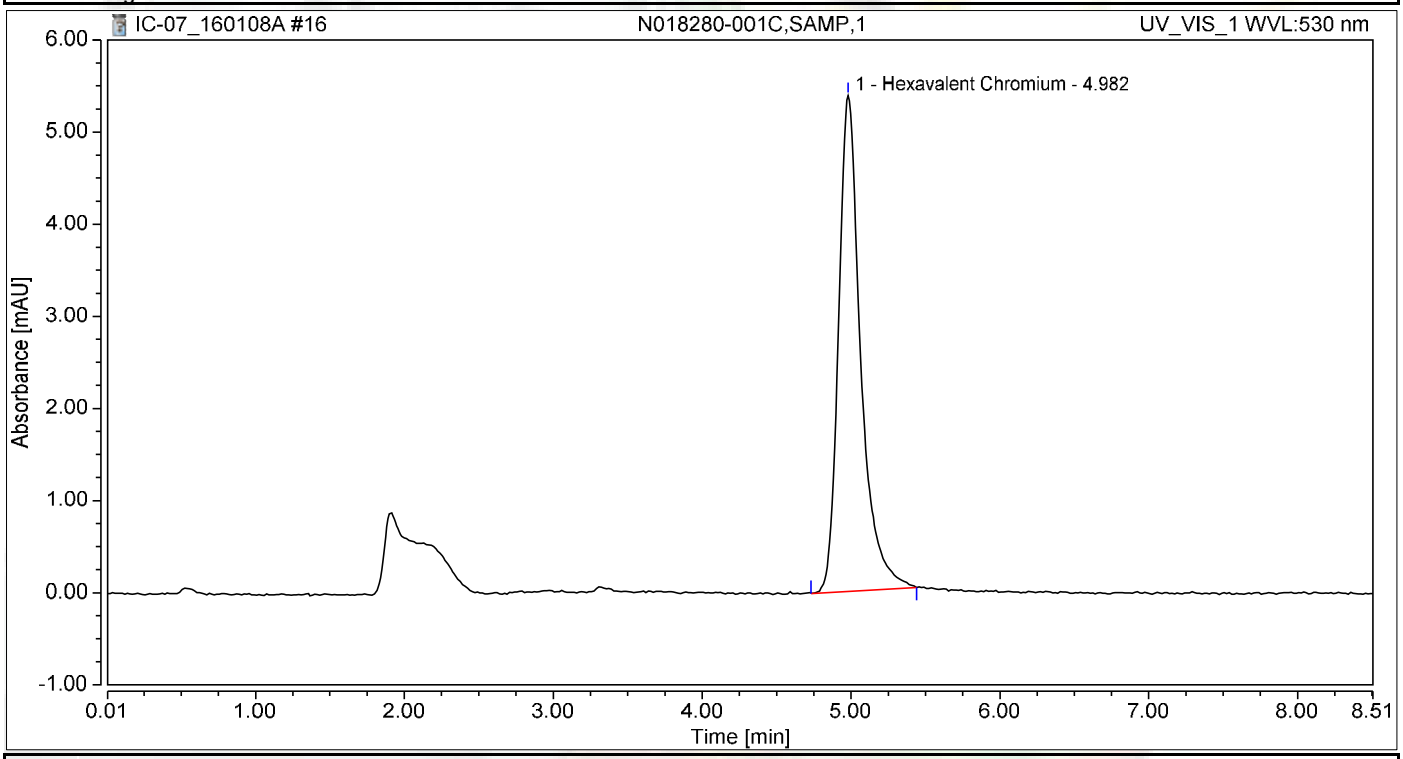
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.148	7.835	100.00	100.00	4.7598
Total:			**1.148**	**7.835**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

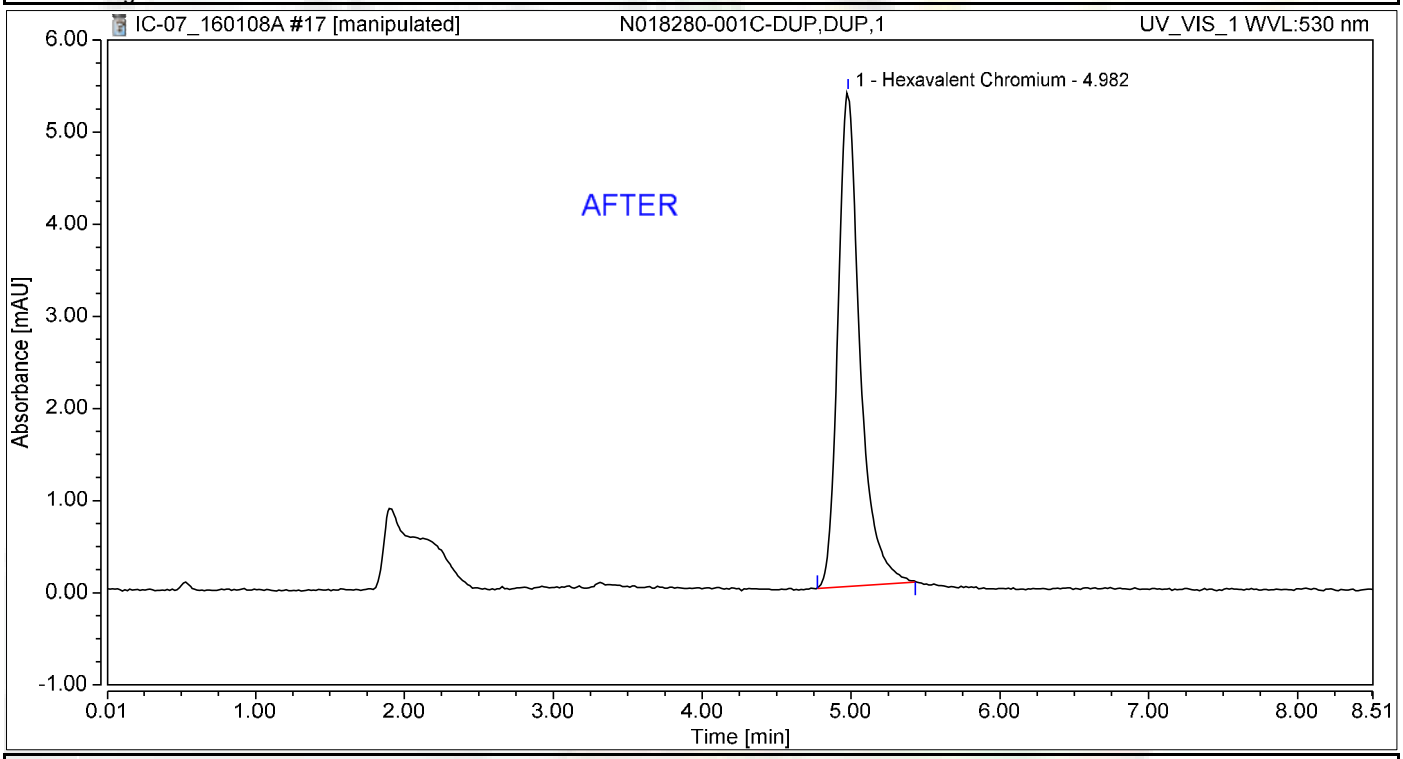
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	0.927	5.381	100.00	100.00	3.8427
Total:			**0.927**	**5.381**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C-DUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	0.920	5.367	100.00	100.00	3.8135
Total:			**0.920**	**5.367**	**100.00**	**100.00**	

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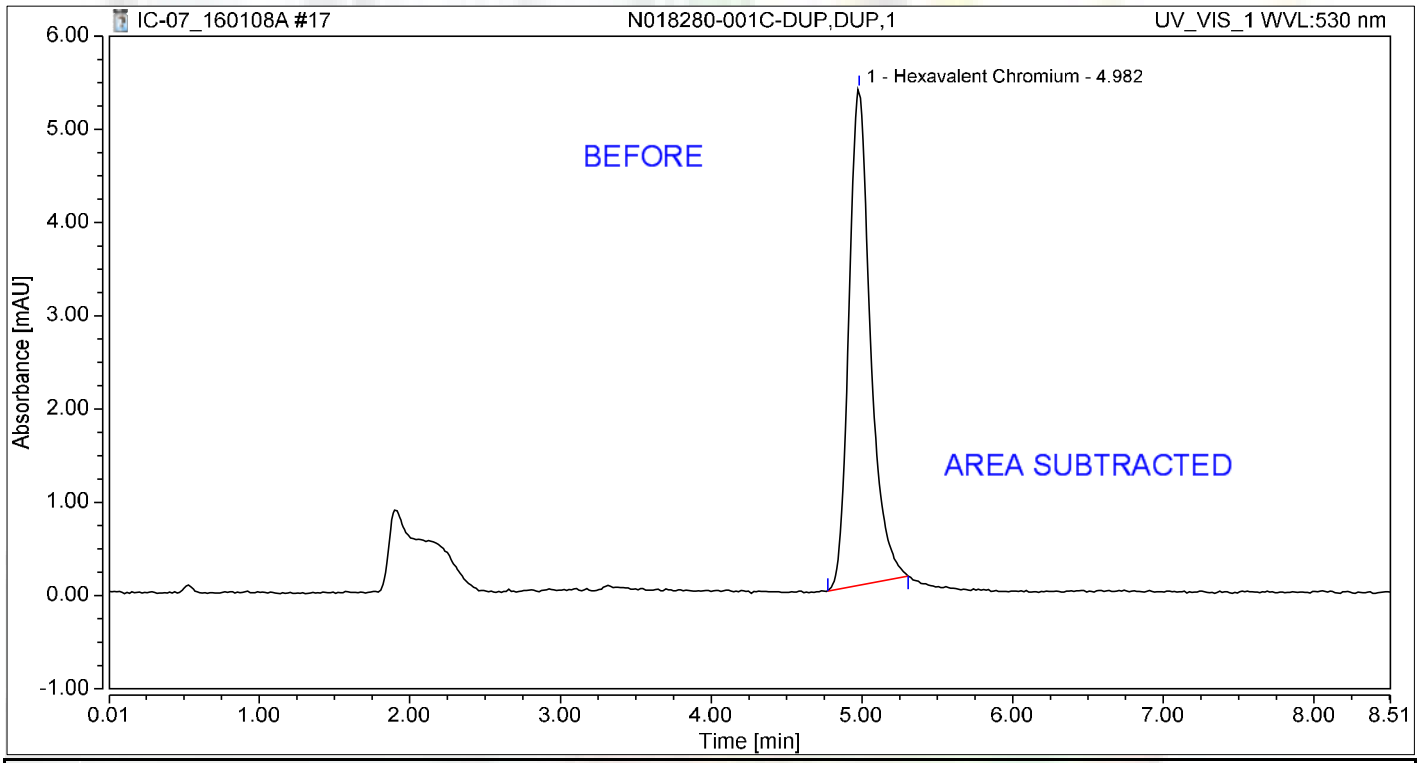
Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C-DUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	0.885	5.326	100.00	100.00	3.6709
Total:			**0.885**	**5.326**	**100.00**	**100.00**	

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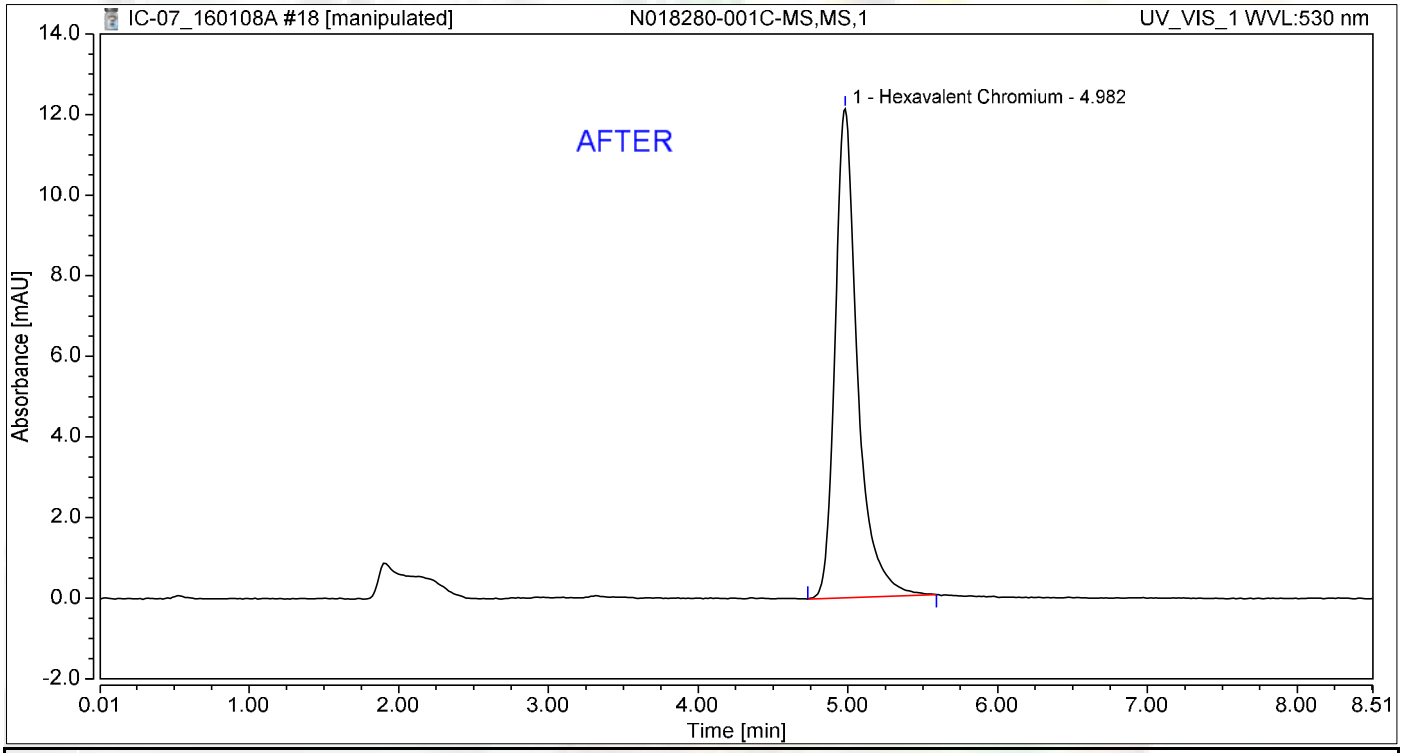
Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	2.110	12.131	100.00	100.00	8.7504
Total:			**2.110**	**12.131**	**100.00**	**100.00**	

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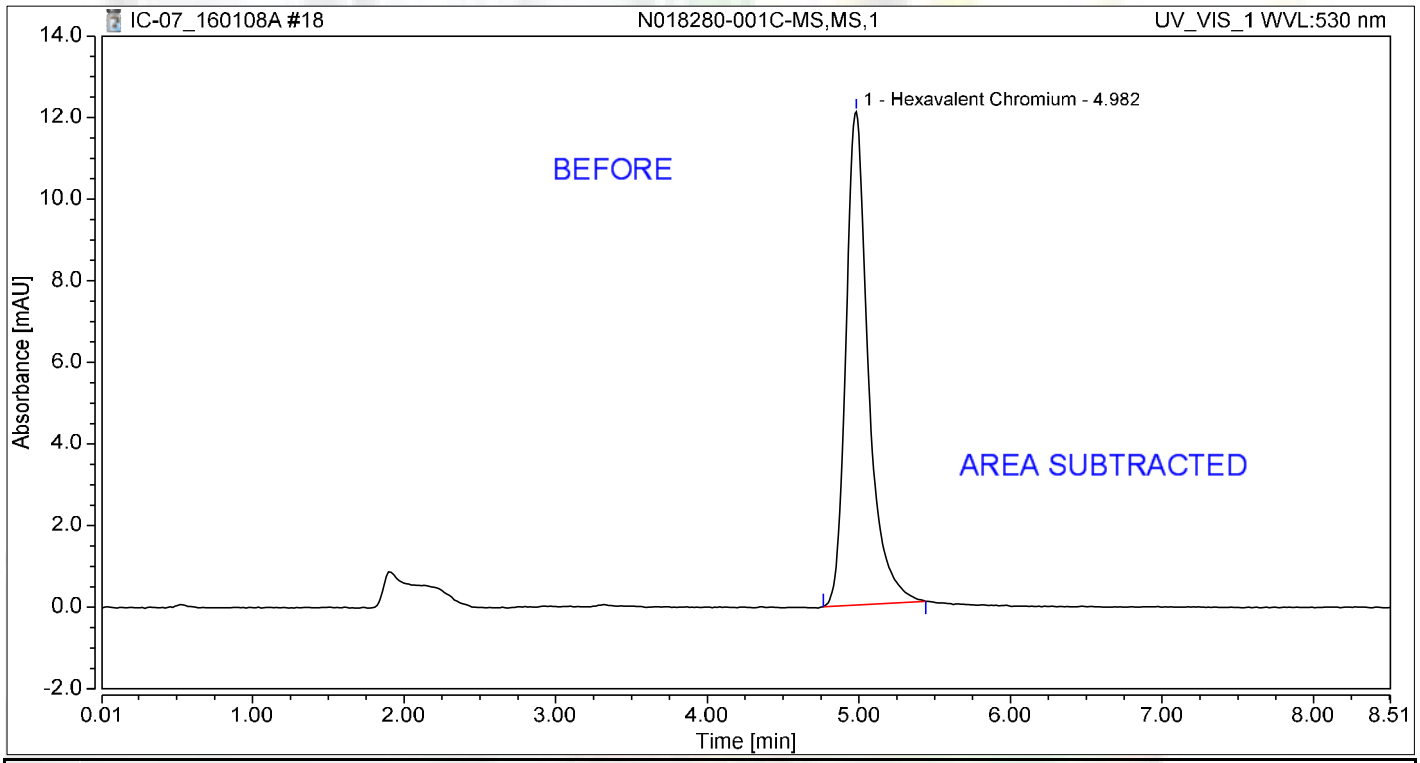
1/13/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	2.071	12.092	100.00	100.00	8.5879
Total:			**2.071**	**12.092**	**100.00**	**100.00**	

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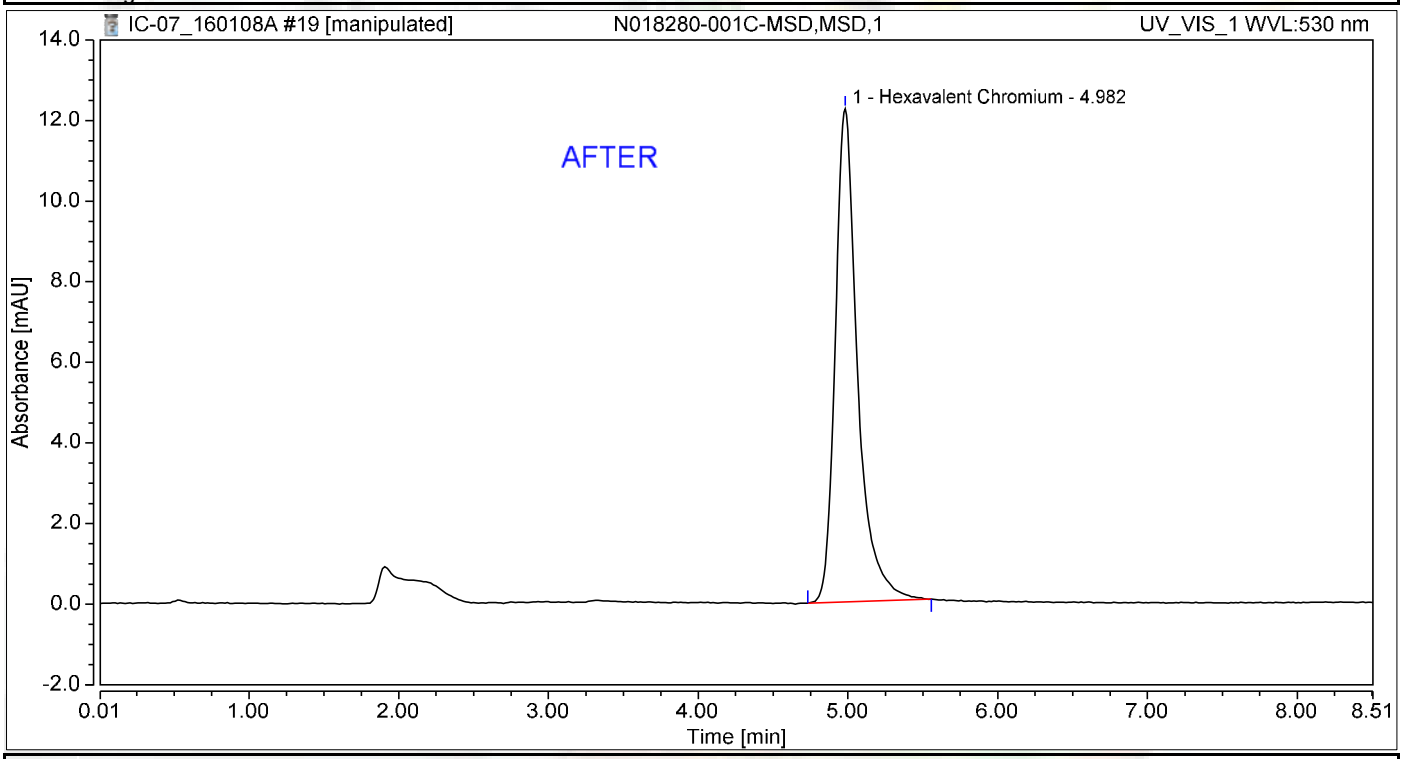
Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C-MSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	2.113	12.239	100.00	100.00	8.7609
Total:			**2.113**	**12.239**	**100.00**	**100.00**	

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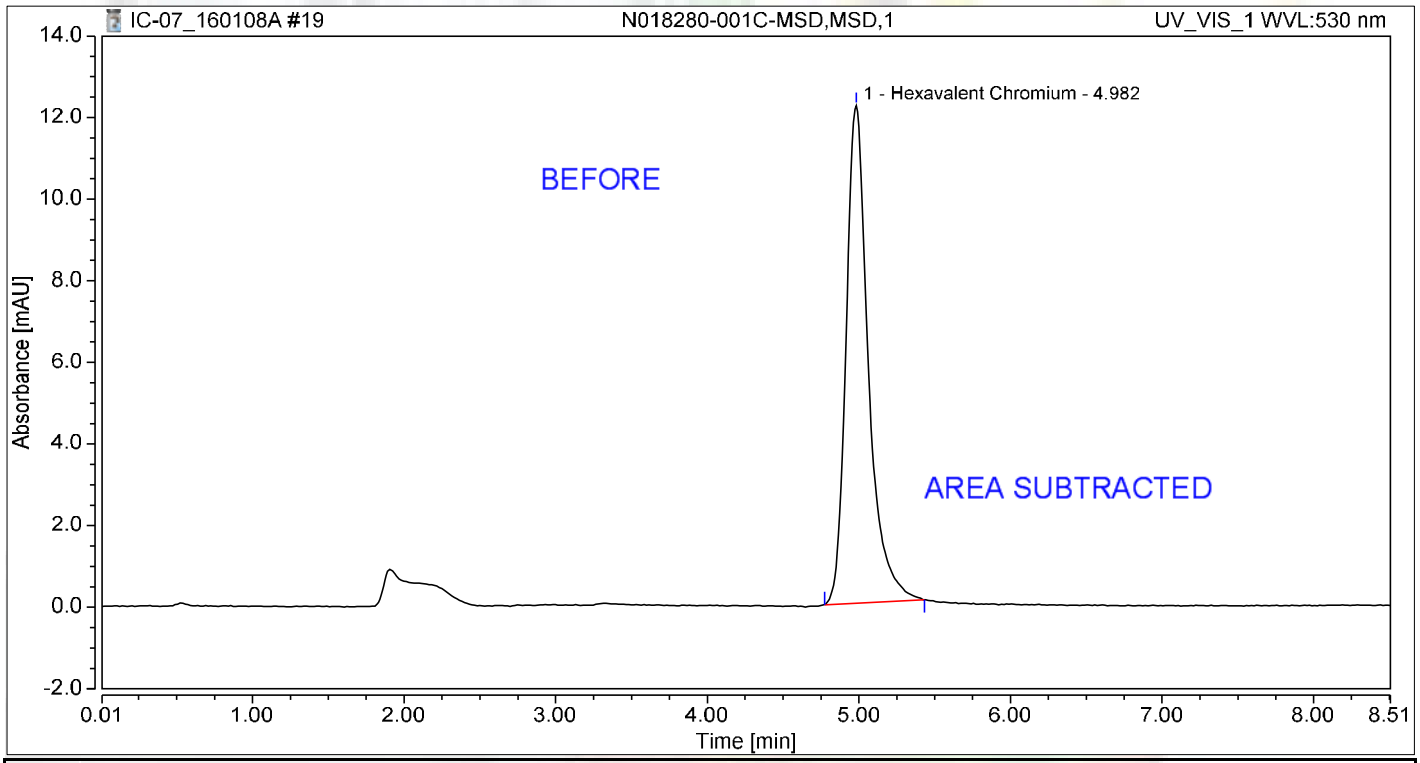
1/13/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018280-001C-MSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 11:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.982	2.074	12.194	100.00	100.00	8.5996
Total:			**2.074**	**12.194**	**100.00**	**100.00**	

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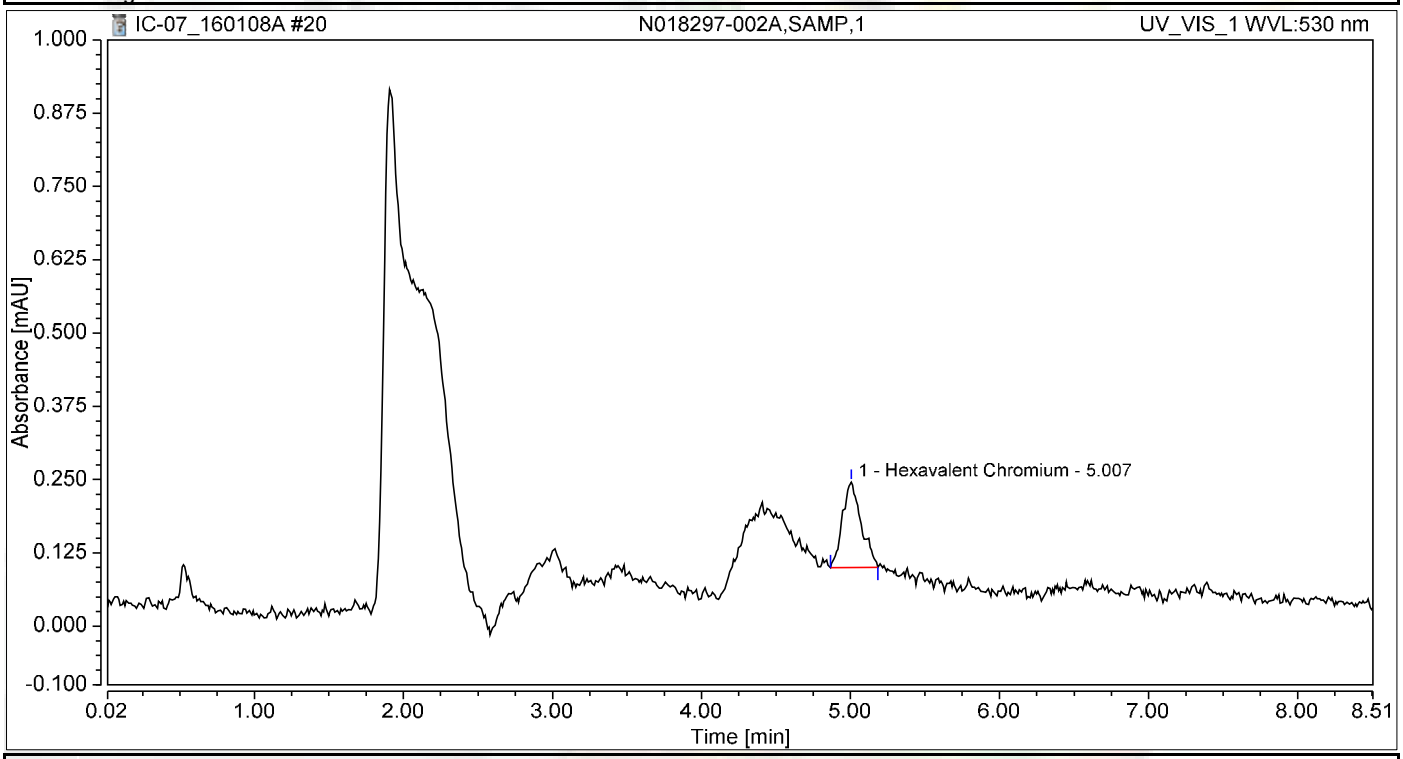
Chromatogram and Results

Injection Details

Injection Name:	**N018297-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 12:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

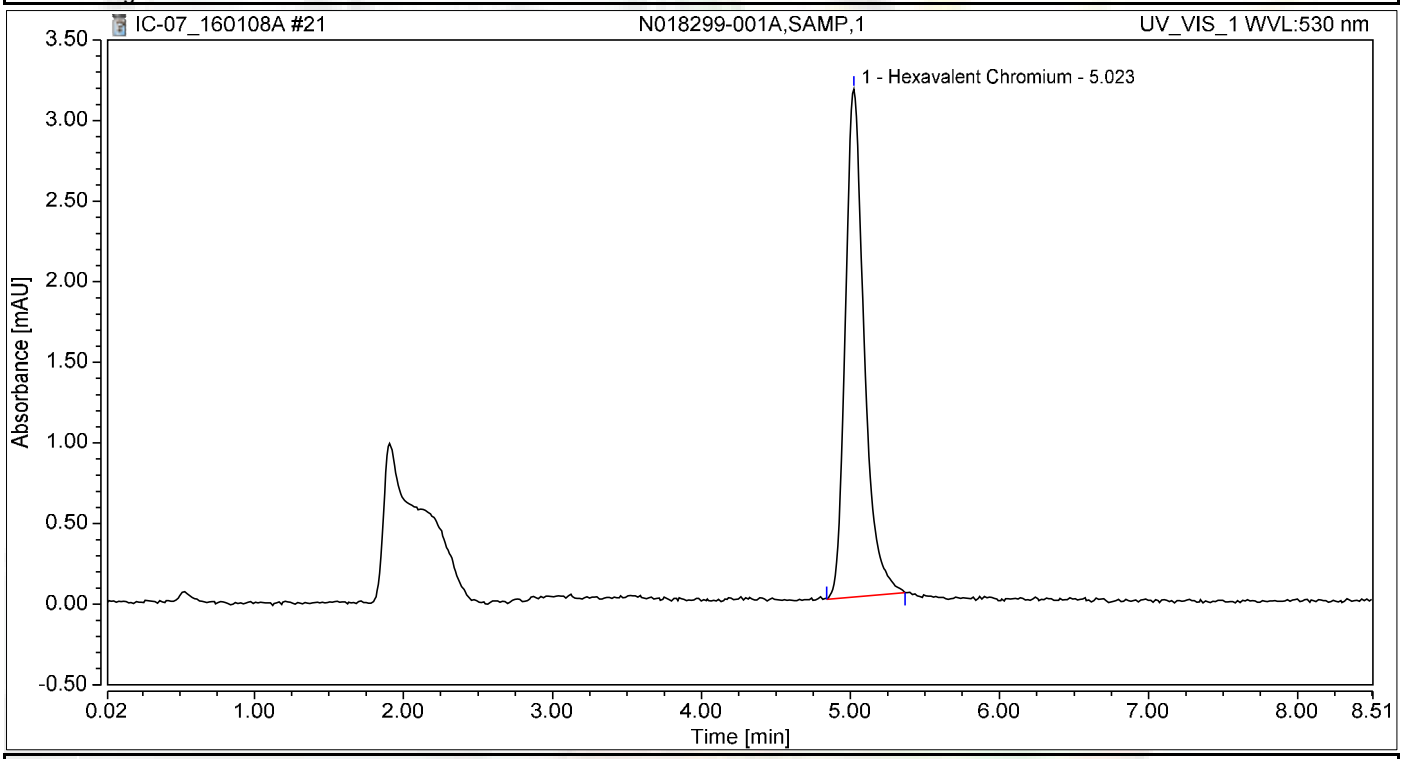
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.007	0.021	0.146	100.00	100.00	0.0887
Total:			**0.021**	**0.146**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 12:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

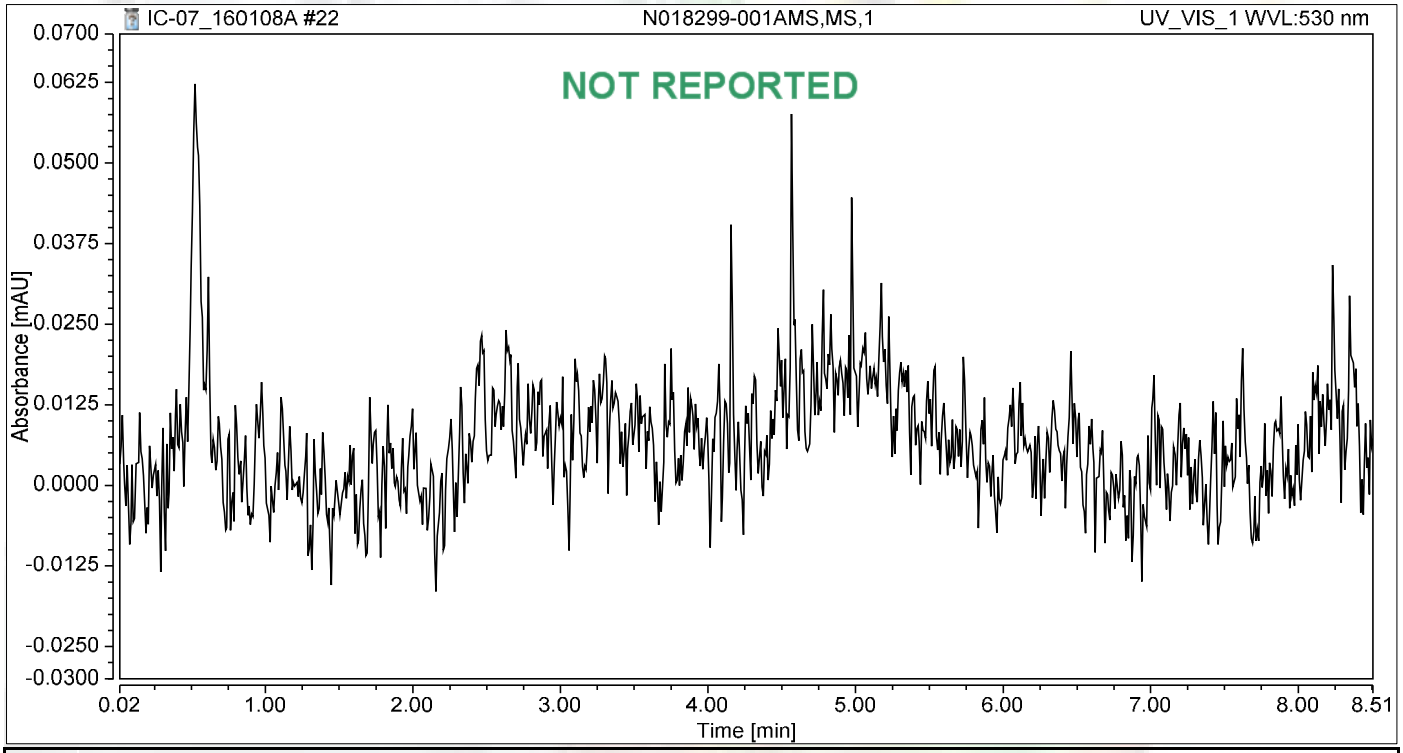
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.461	3.151	100.00	100.00	1.9130
Total:			**0.461**	**3.151**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 12:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

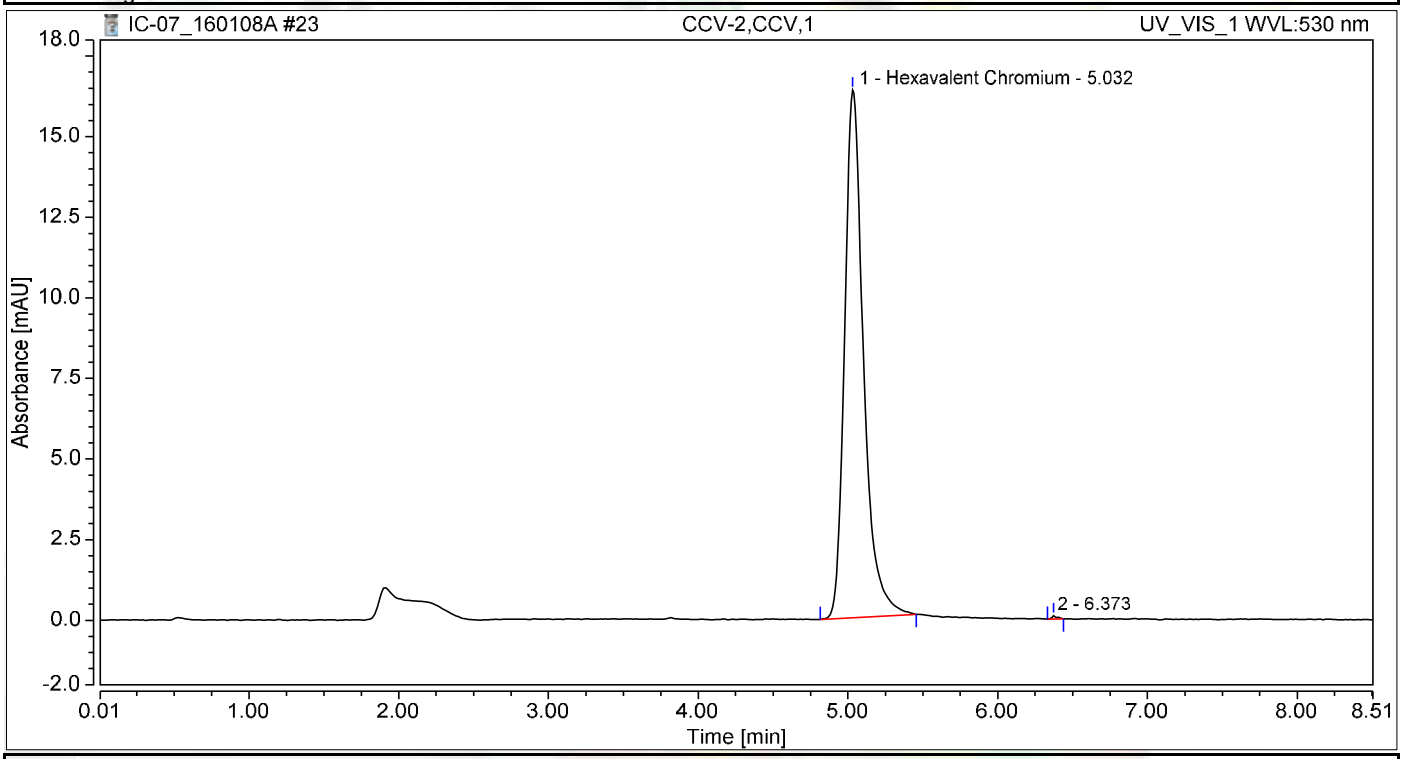
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 12:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

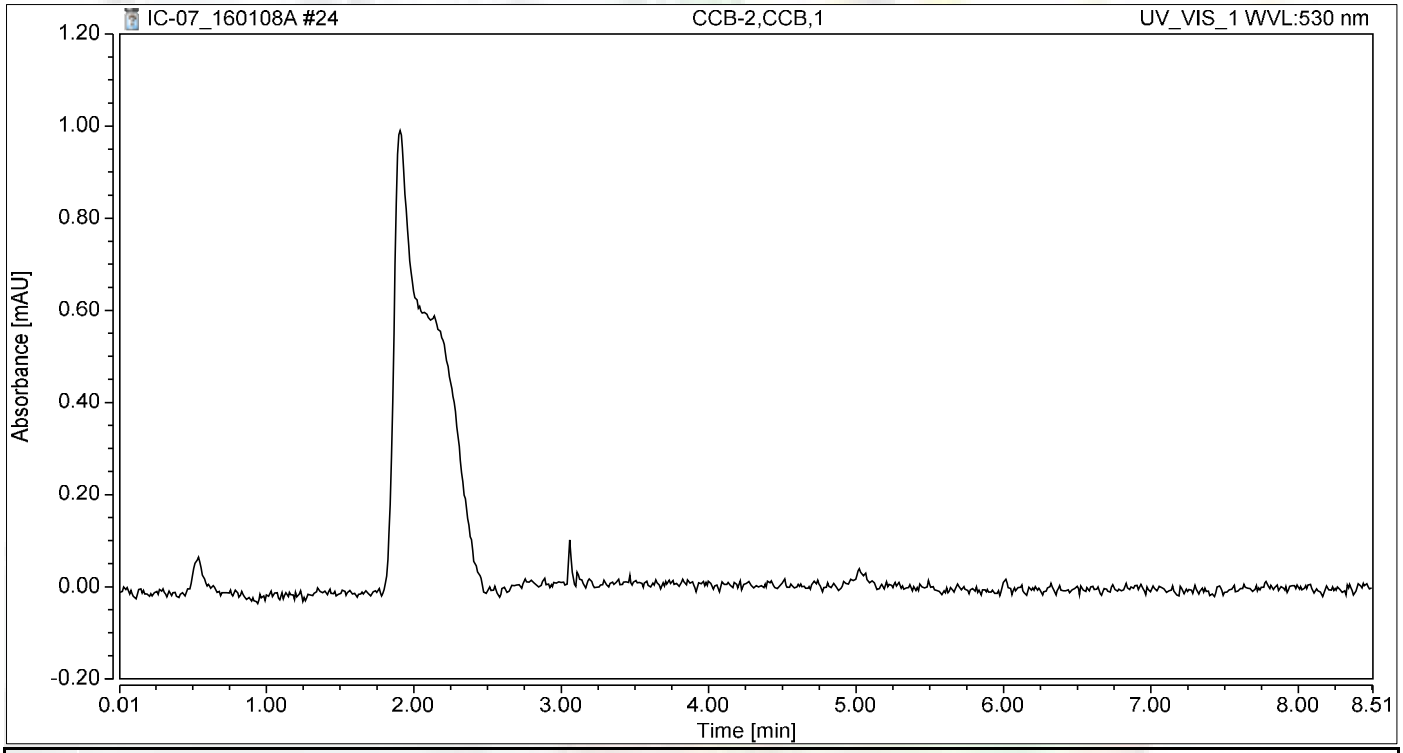
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	2.382	16.372	99.82	99.33	9.8751
2		6.373	0.004	0.110	0.18	0.67	n.a.
Total:			**2.386**	**16.481**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

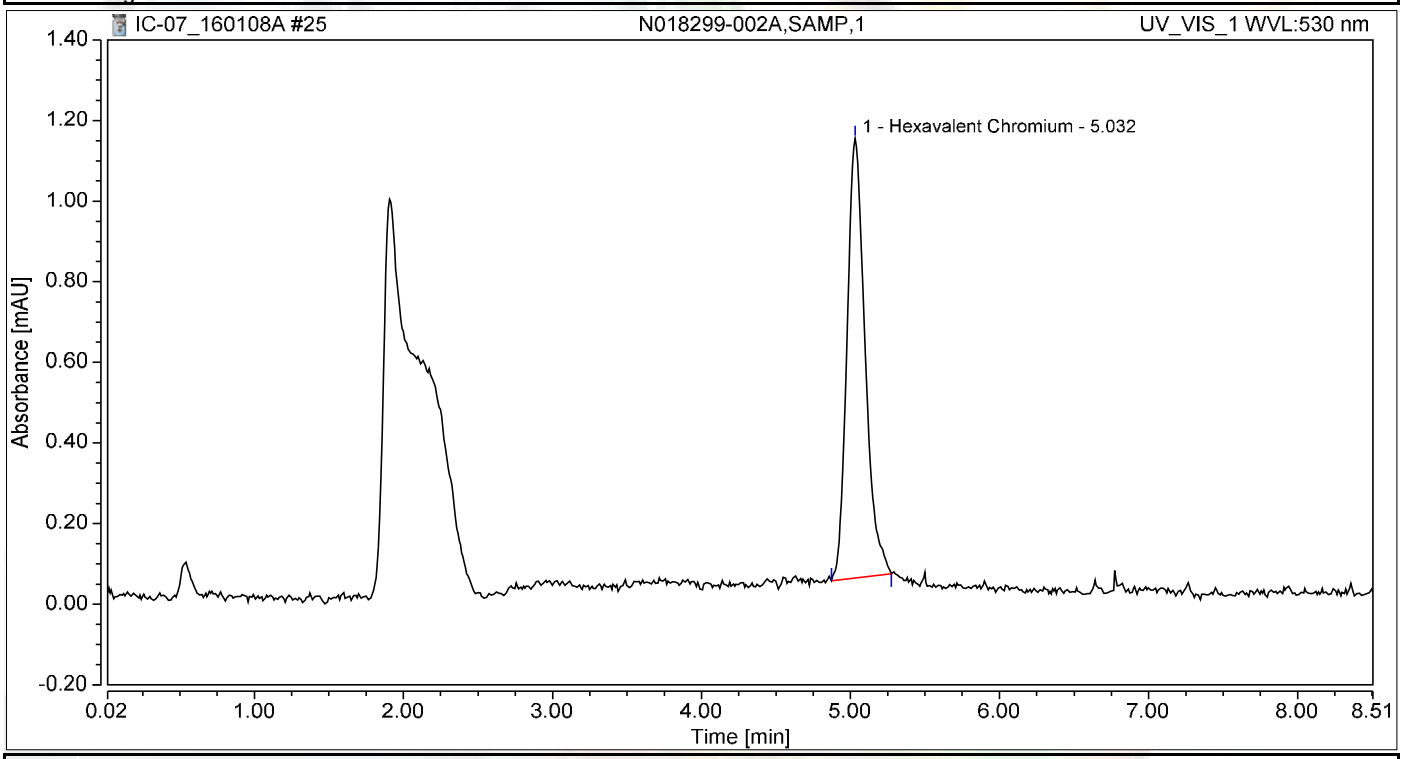
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 12:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

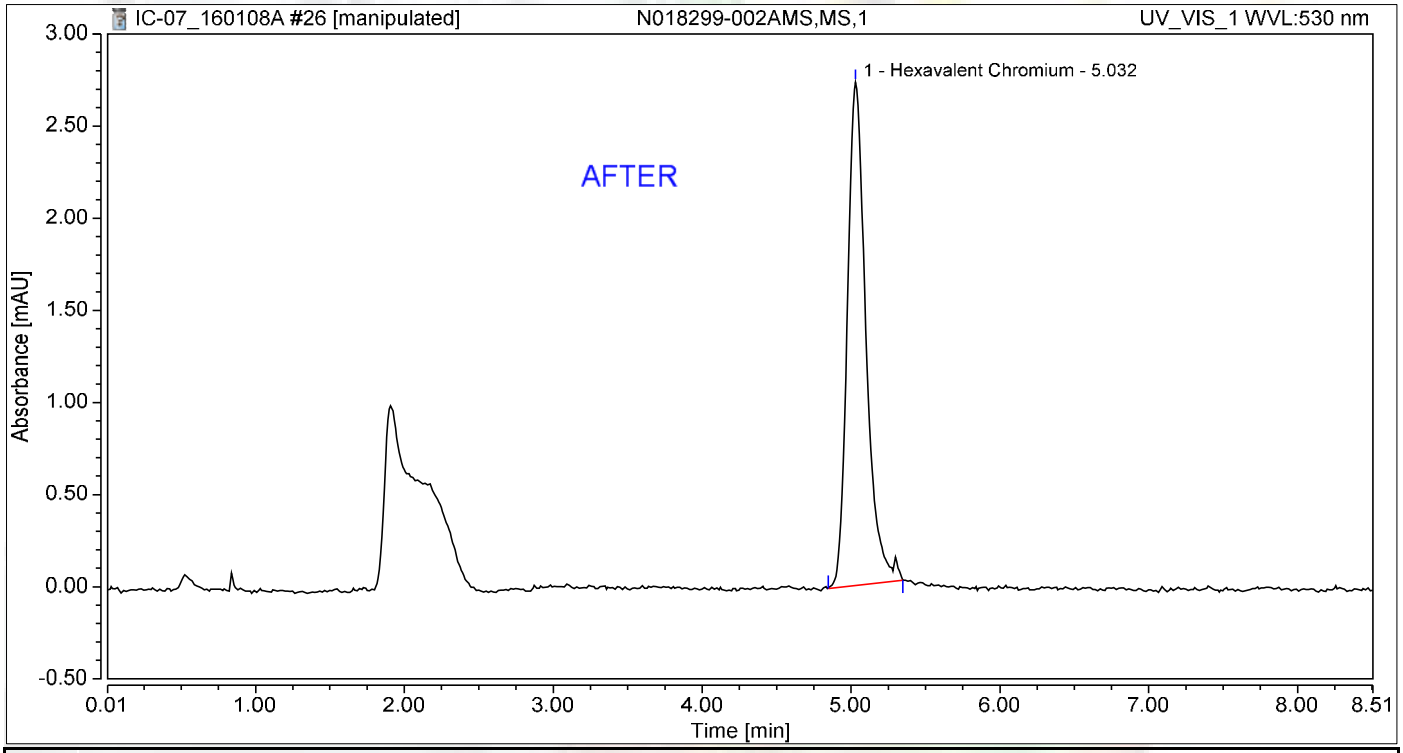
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.152	1.091	100.00	100.00	0.6315
Total:			**0.152**	**1.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.393	2.730	100.00	100.00	1.6277
Total:			**0.393**	**2.730**	**100.00**	**100.00**	

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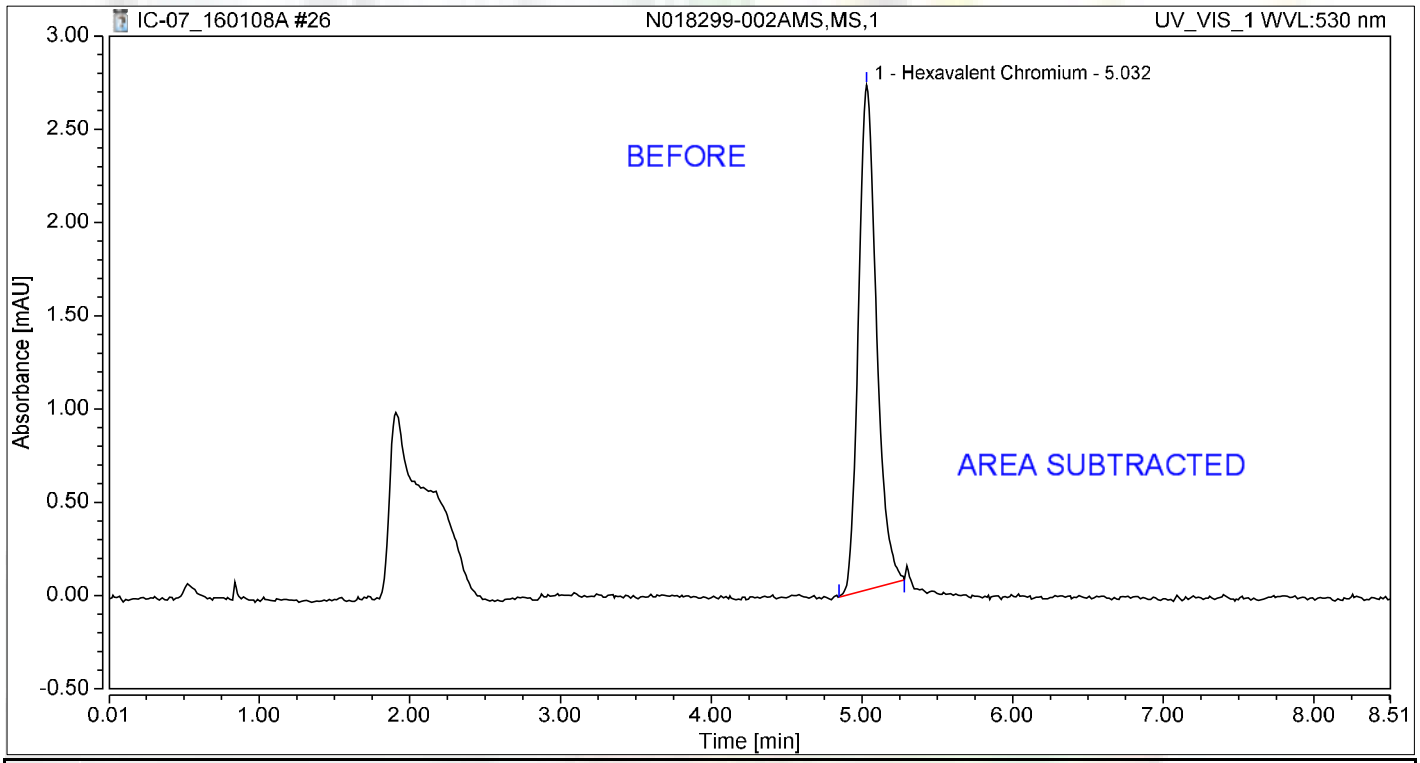
Chromatogram and Results

Injection Details

Injection Name:	**N018299-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.376	2.706	100.00	100.00	1.5611
Total:			**0.376**	**2.706**	**100.00**	**100.00**	

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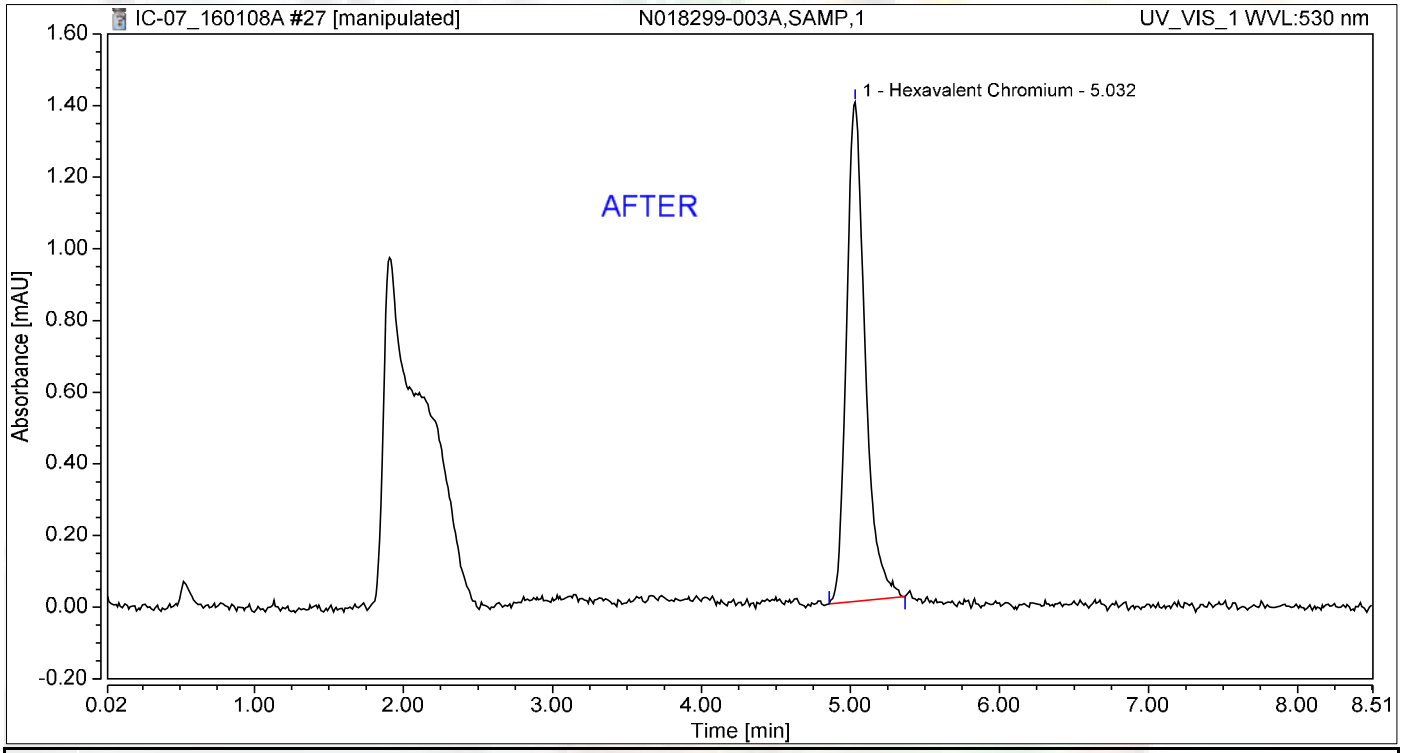
Chromatogram and Results

Injection Details

Injection Name:	**N018299-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.201	1.393	100.00	100.00	0.8345
Total:			**0.201**	**1.393**	**100.00**	**100.00**	

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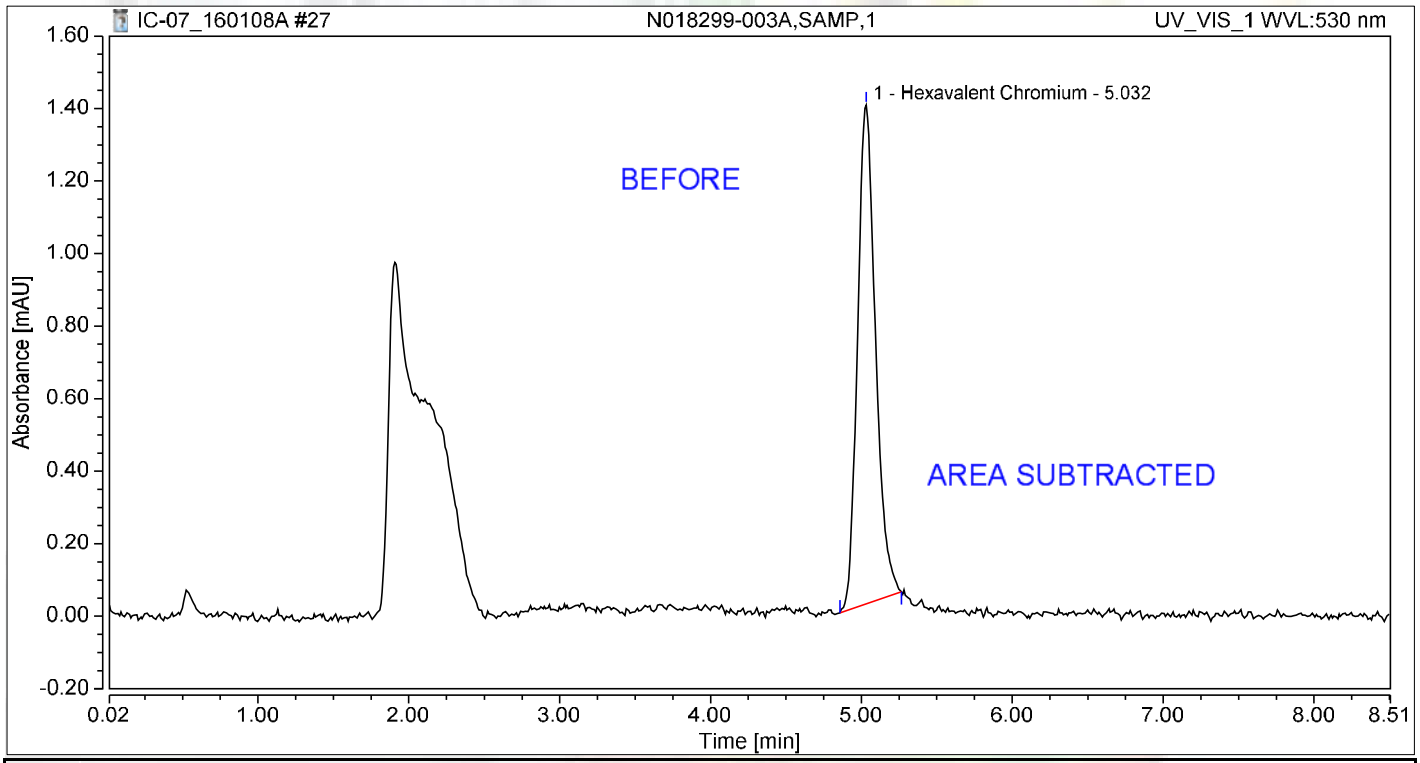
Chromatogram and Results

Injection Details

Injection Name:	**N018299-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.191	1.375	100.00	100.00	0.7904
Total:			**0.191**	**1.375**	**100.00**	**100.00**	

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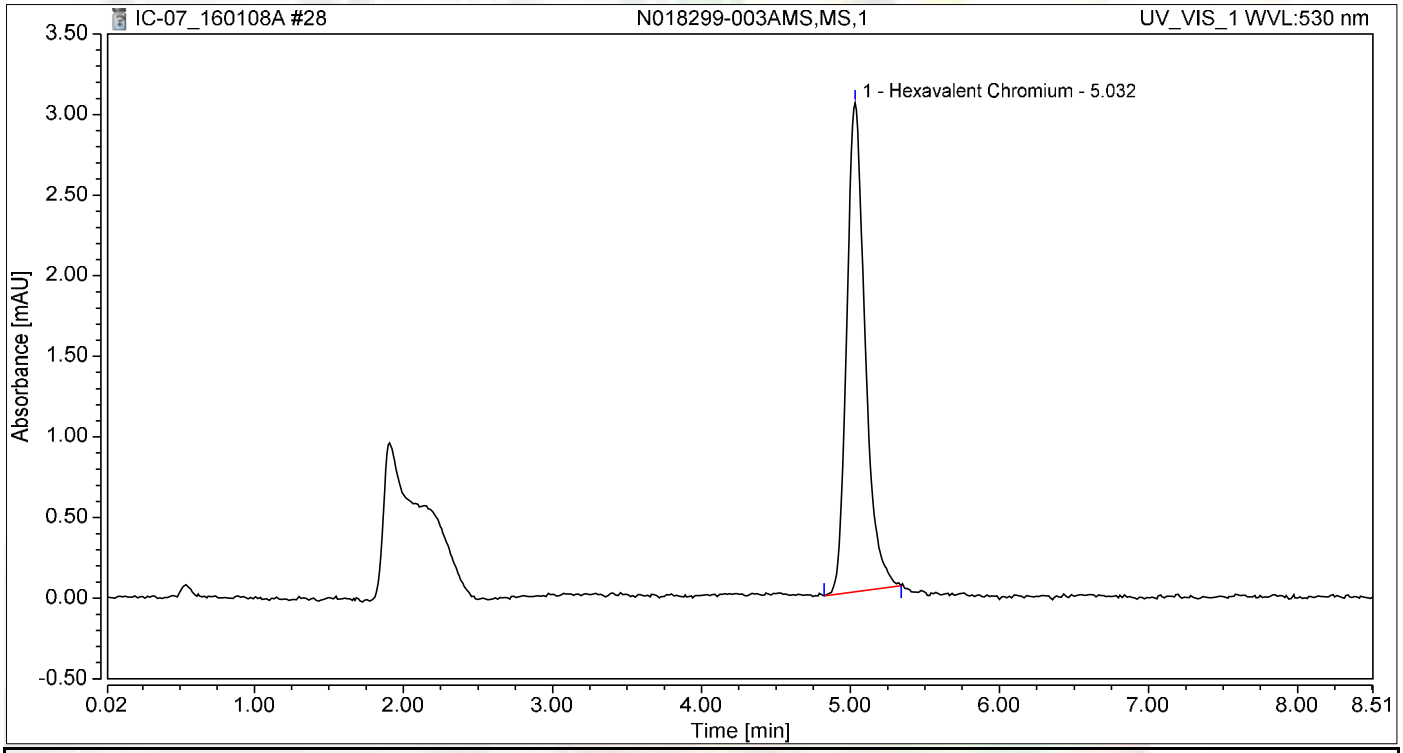
Chromatogram and Results

Injection Details

Injection Name:	**N018299-003AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

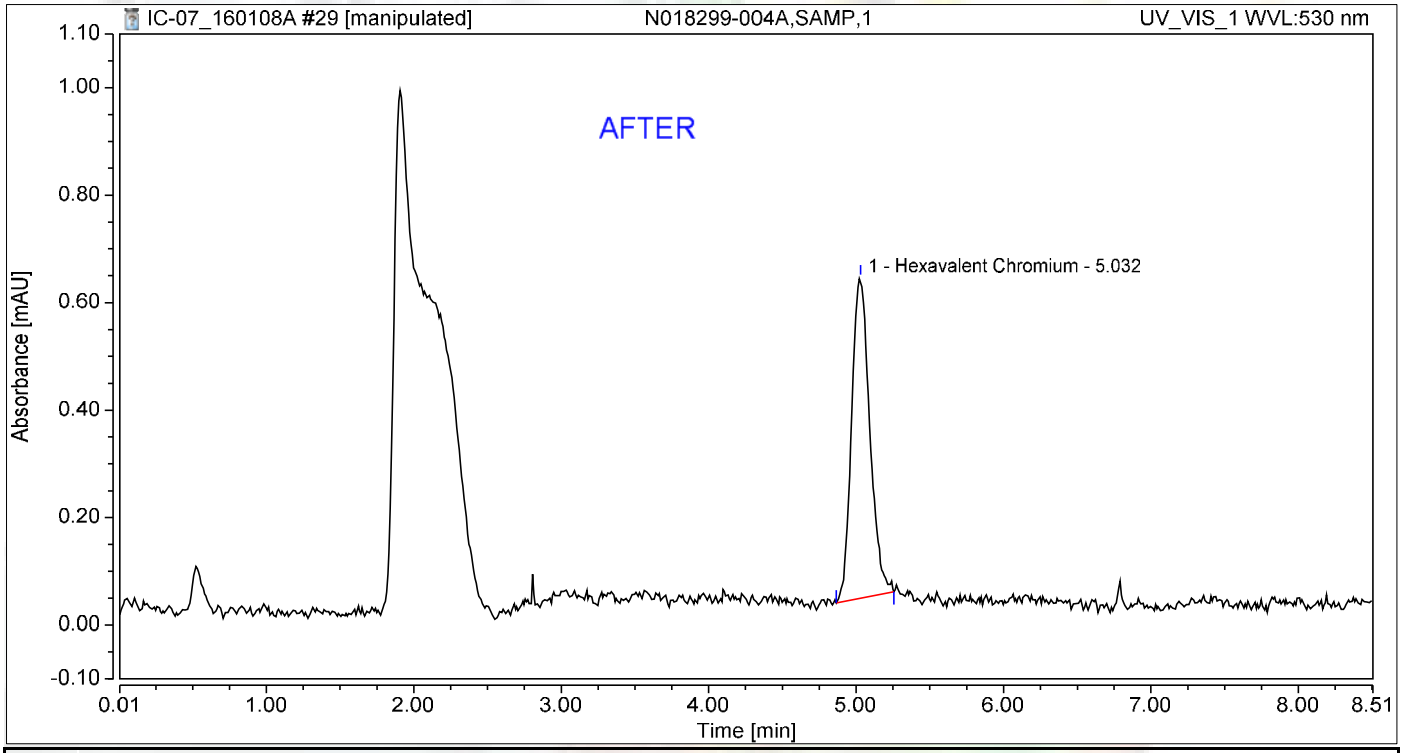
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.432	3.034	100.00	100.00	1.7926
Total:			**0.432**	**3.034**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.084	0.596	100.00	100.00	0.3495
Total:			**0.084**	**0.596**	**100.00**	**100.00**	

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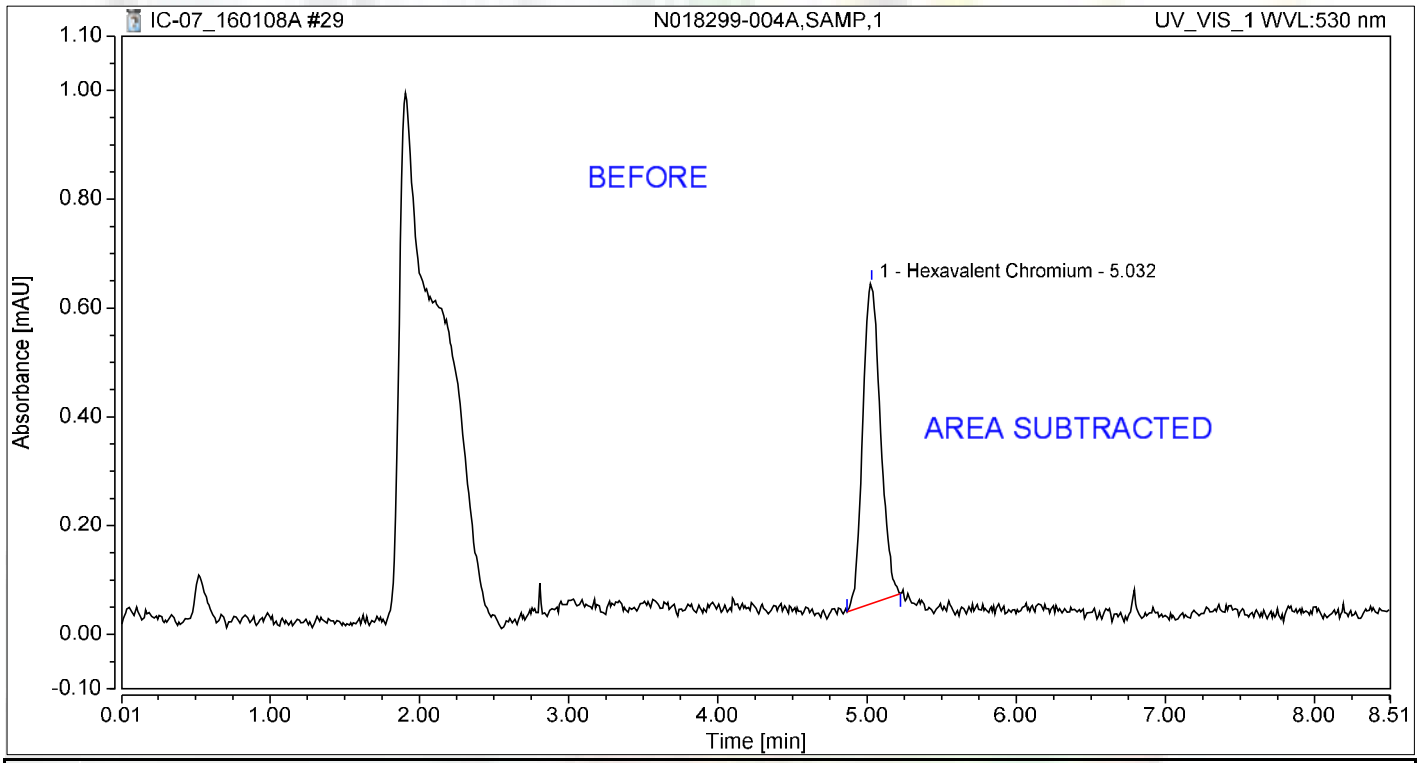
Chromatogram and Results

Injection Details

Injection Name:	**N018299-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.081	0.589	100.00	100.00	0.3372
Total:			**0.081**	**0.589**	**100.00**	**100.00**	

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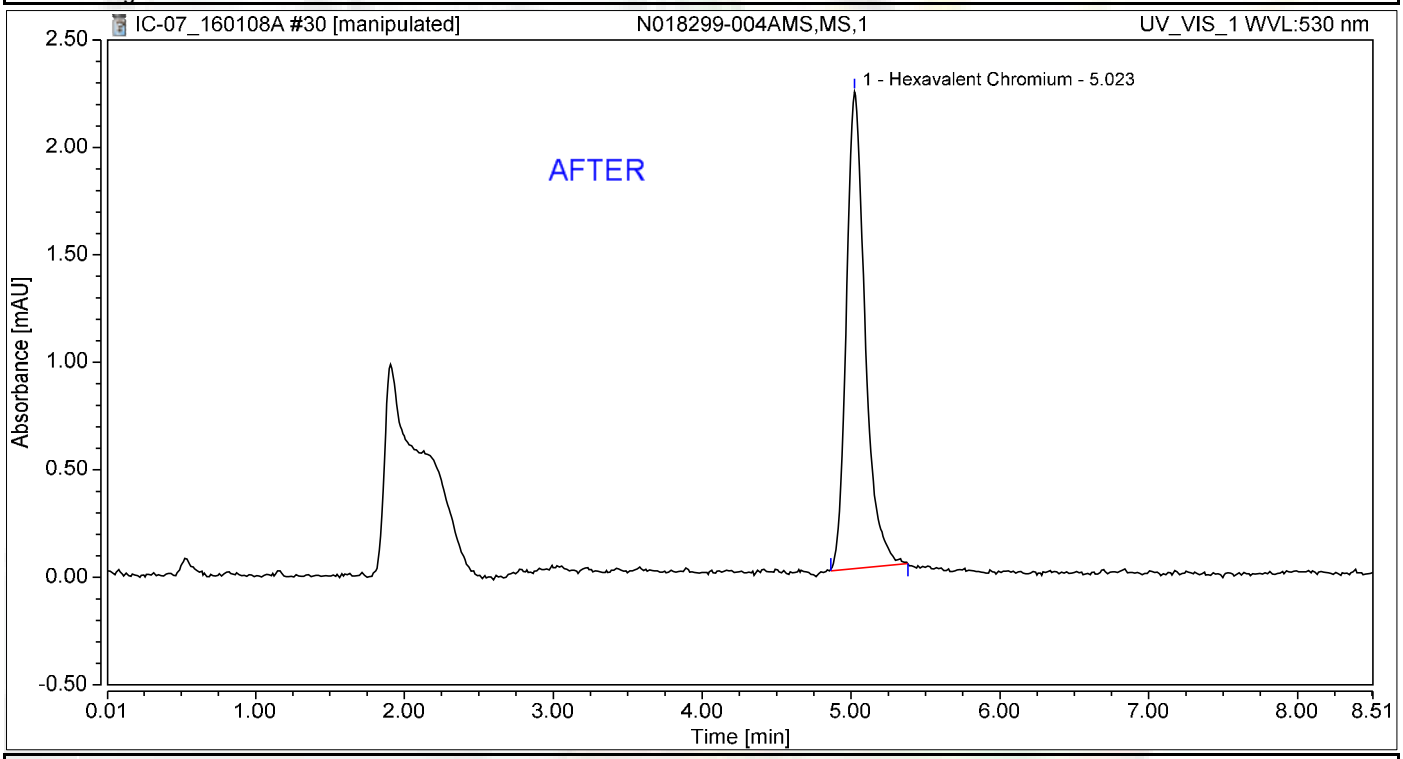
Chromatogram and Results

Injection Details

Injection Name:	**N018299-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.322	2.219	100.00	100.00	1.3356
Total:			**0.322**	**2.219**	**100.00**	**100.00**	

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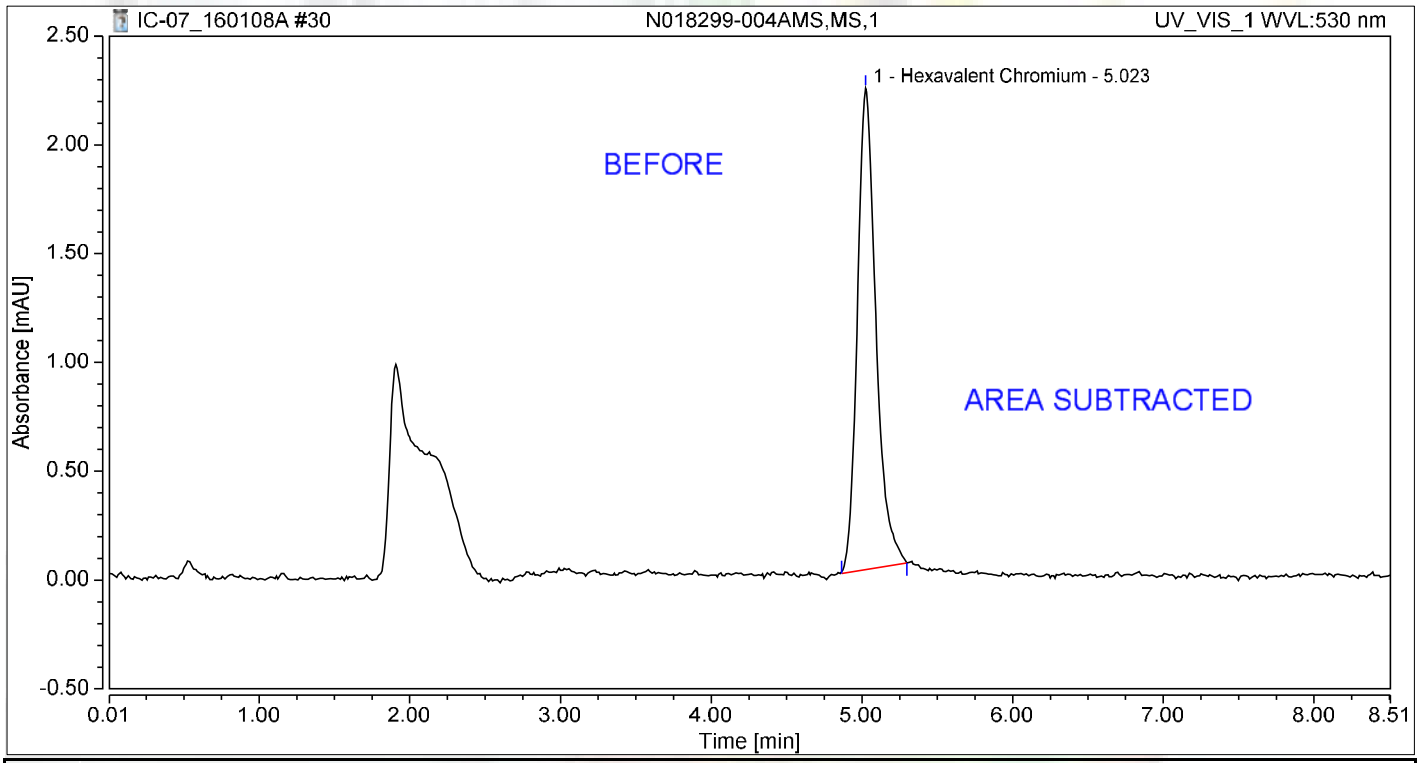
Chromatogram and Results

Injection Details

Injection Name:	**N018299-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.316	2.212	100.00	100.00	1.3120
Total:			**0.316**	**2.212**	**100.00**	**100.00**	

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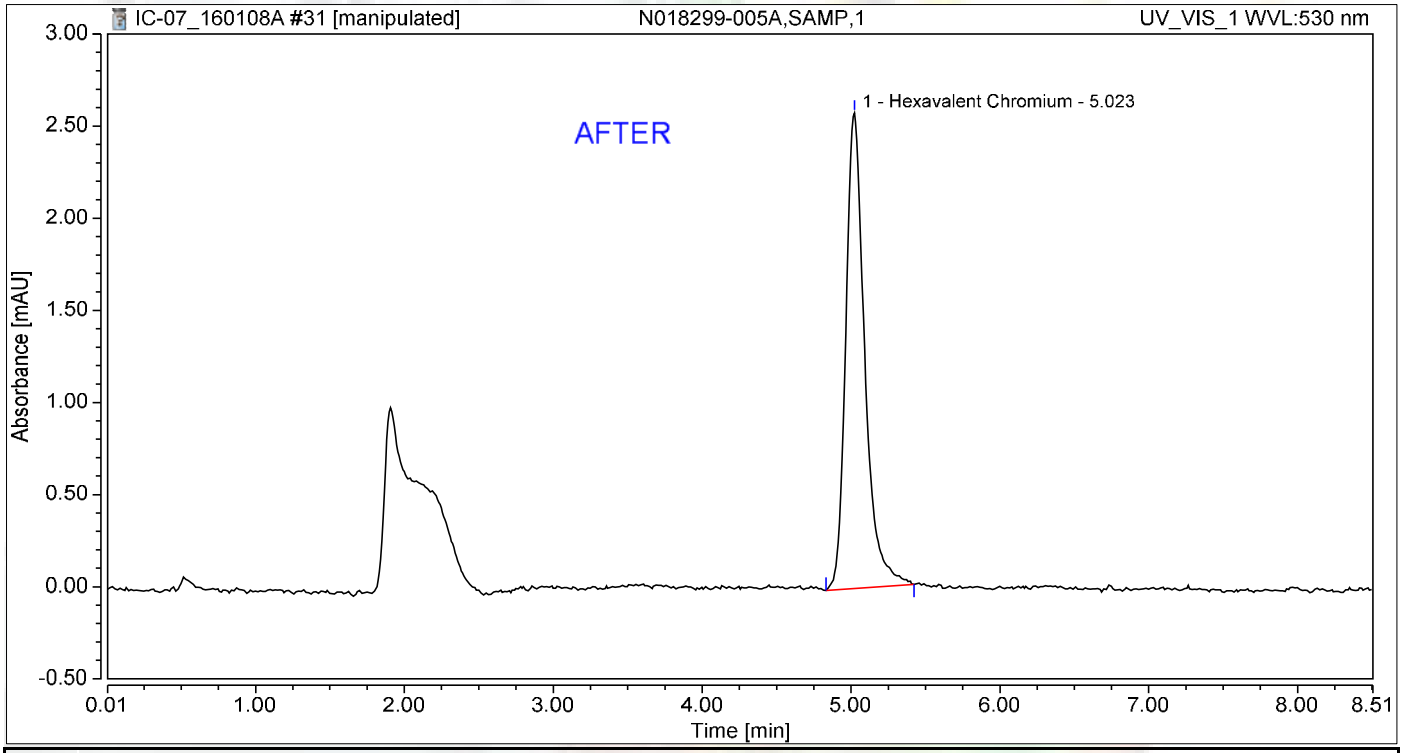
Chromatogram and Results

Injection Details

Injection Name:	**N018299-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.379	2.580	100.00	100.00	1.5707
Total:			**0.379**	**2.580**	**100.00**	**100.00**	

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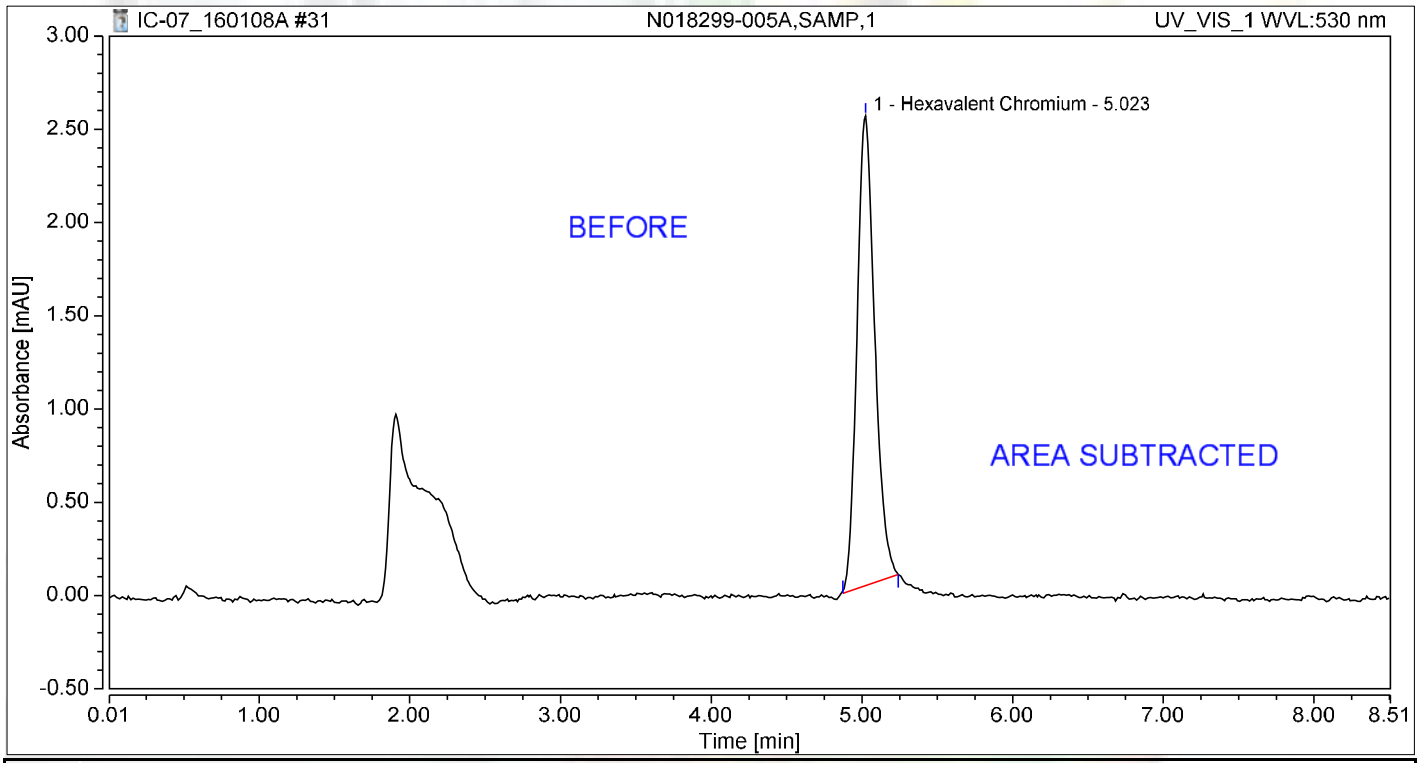
Chromatogram and Results

Injection Details

Injection Name:	**N018299-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 13:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.344	2.518	100.00	100.00	1.4266
Total:			**0.344**	**2.518**	**100.00**	**100.00**	

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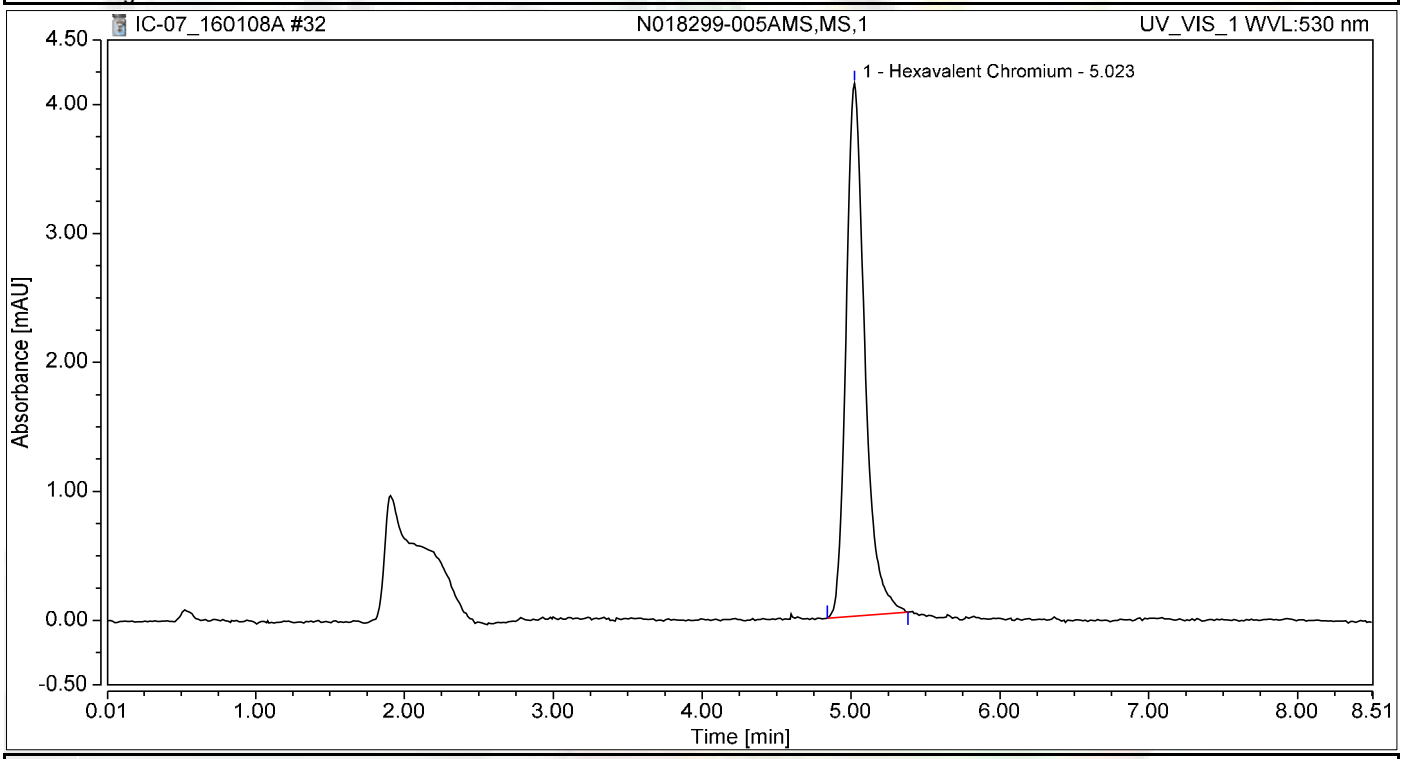
Chromatogram and Results

Injection Details

Injection Name:	**N018299-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

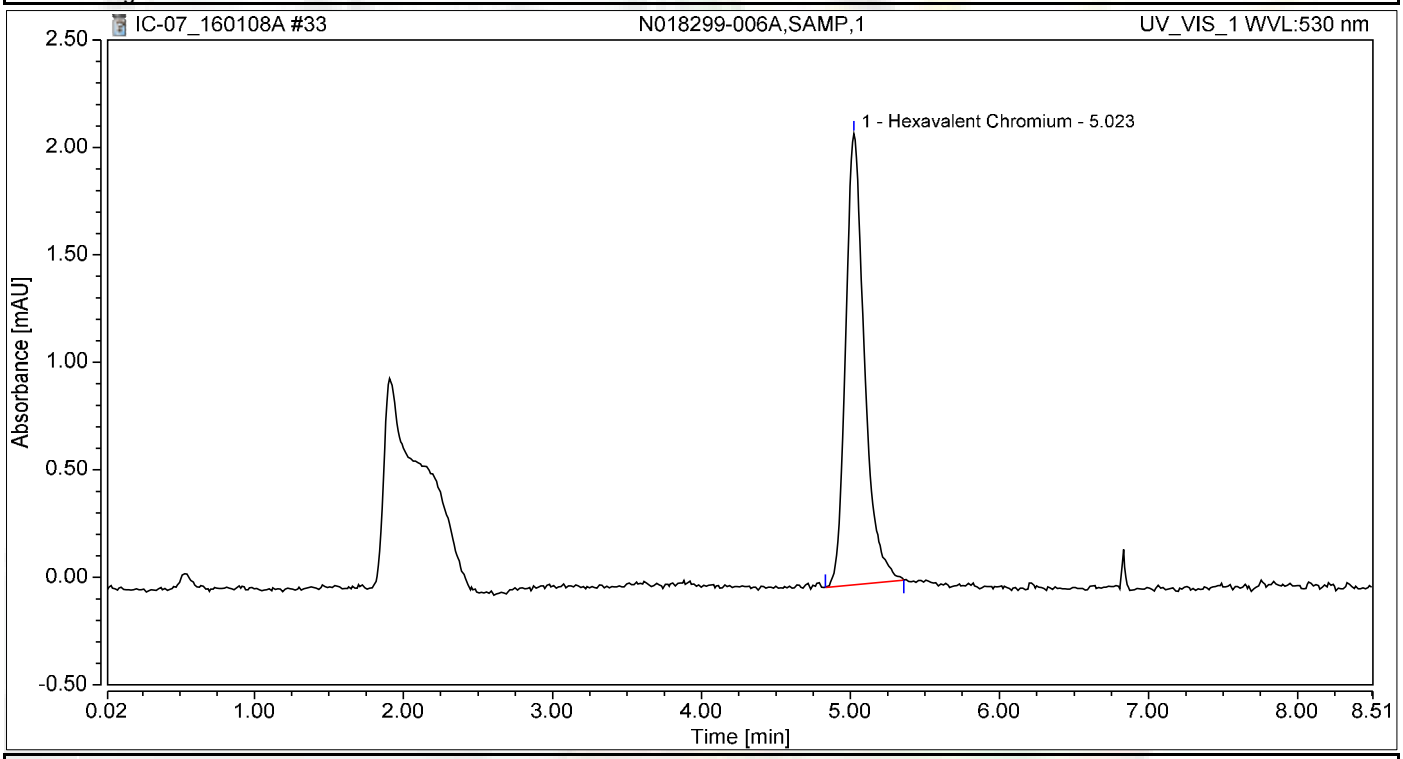
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.600	4.130	100.00	100.00	2.4867
Total:			**0.600**	**4.130**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

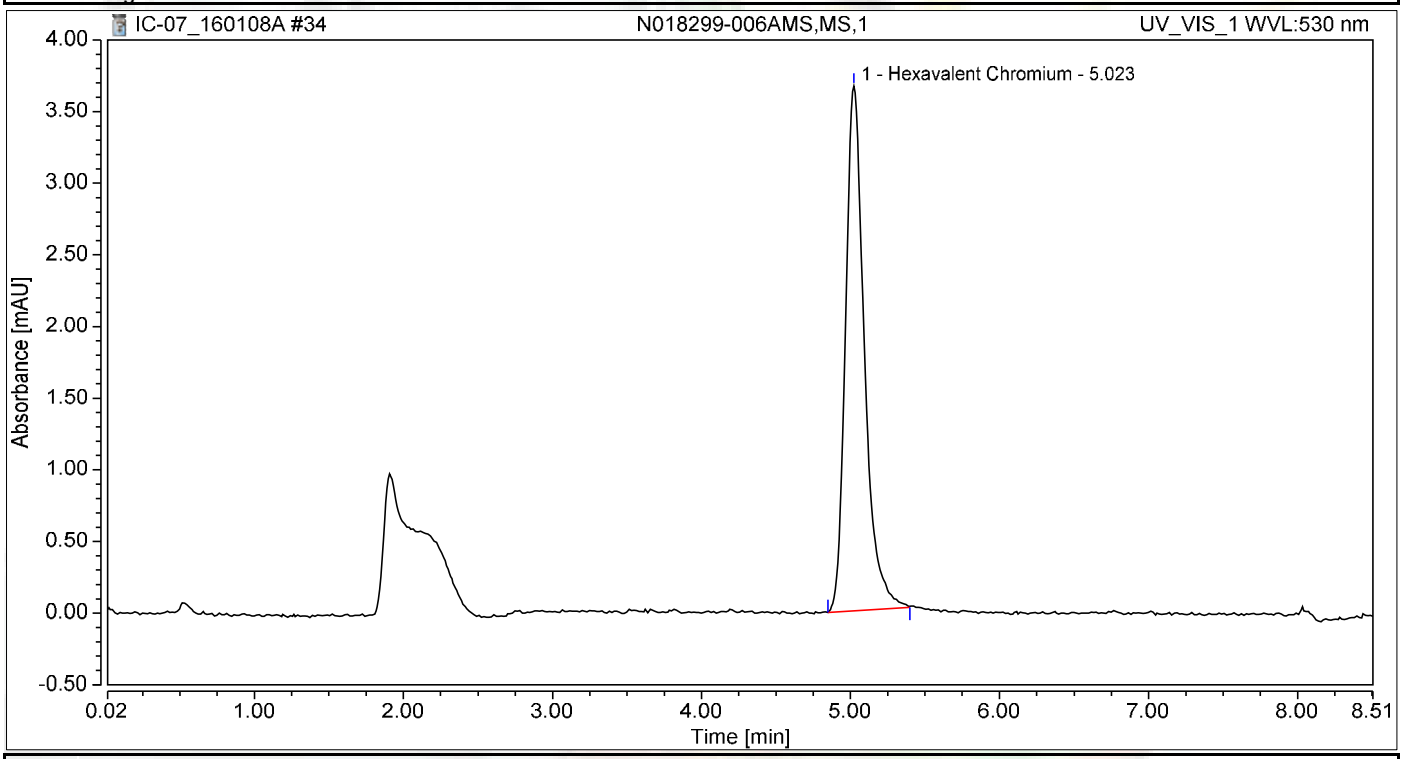
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.307	2.099	100.00	100.00	1.2723
Total:			**0.307**	**2.099**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

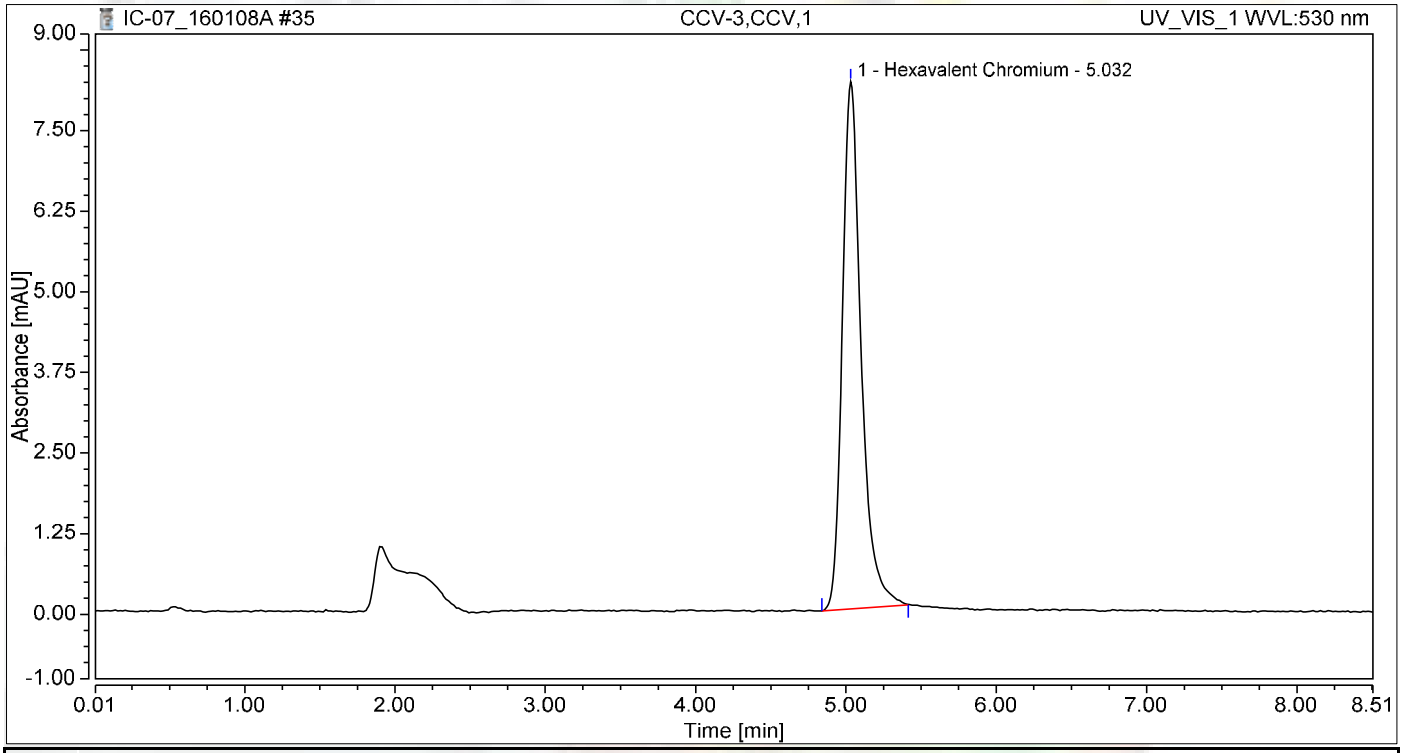
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.536	3.662	100.00	100.00	2.2218
Total:			**0.536**	**3.662**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

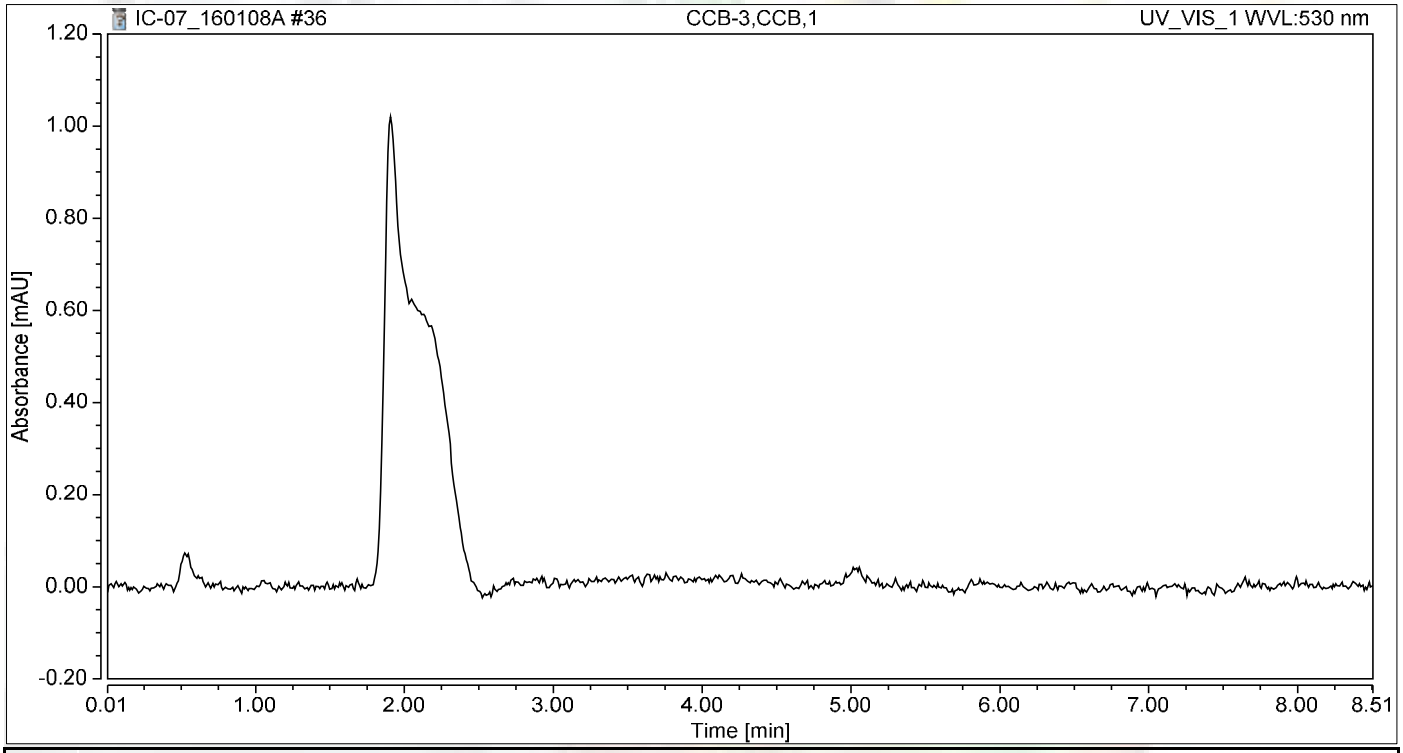
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.183	8.171	100.00	100.00	4.9065
Total:			**1.183**	**8.171**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

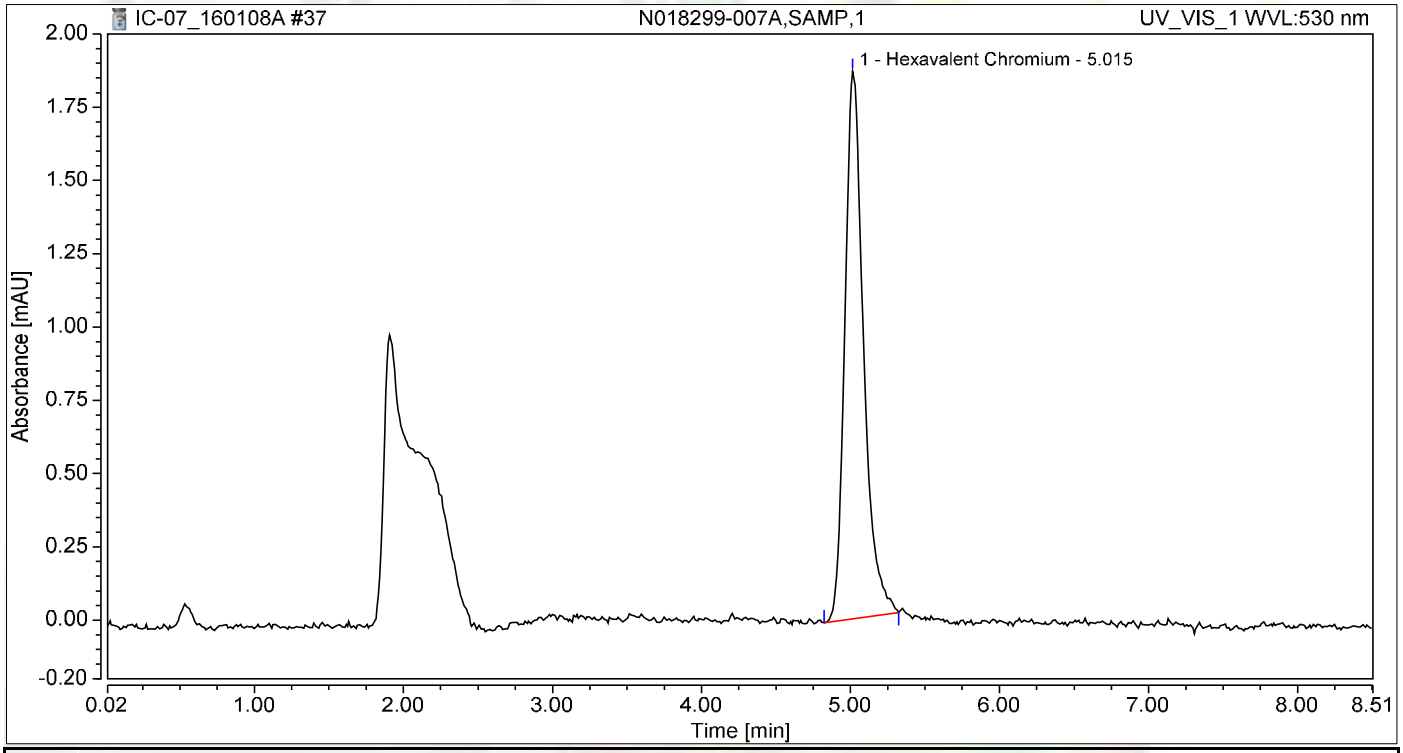
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-007A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

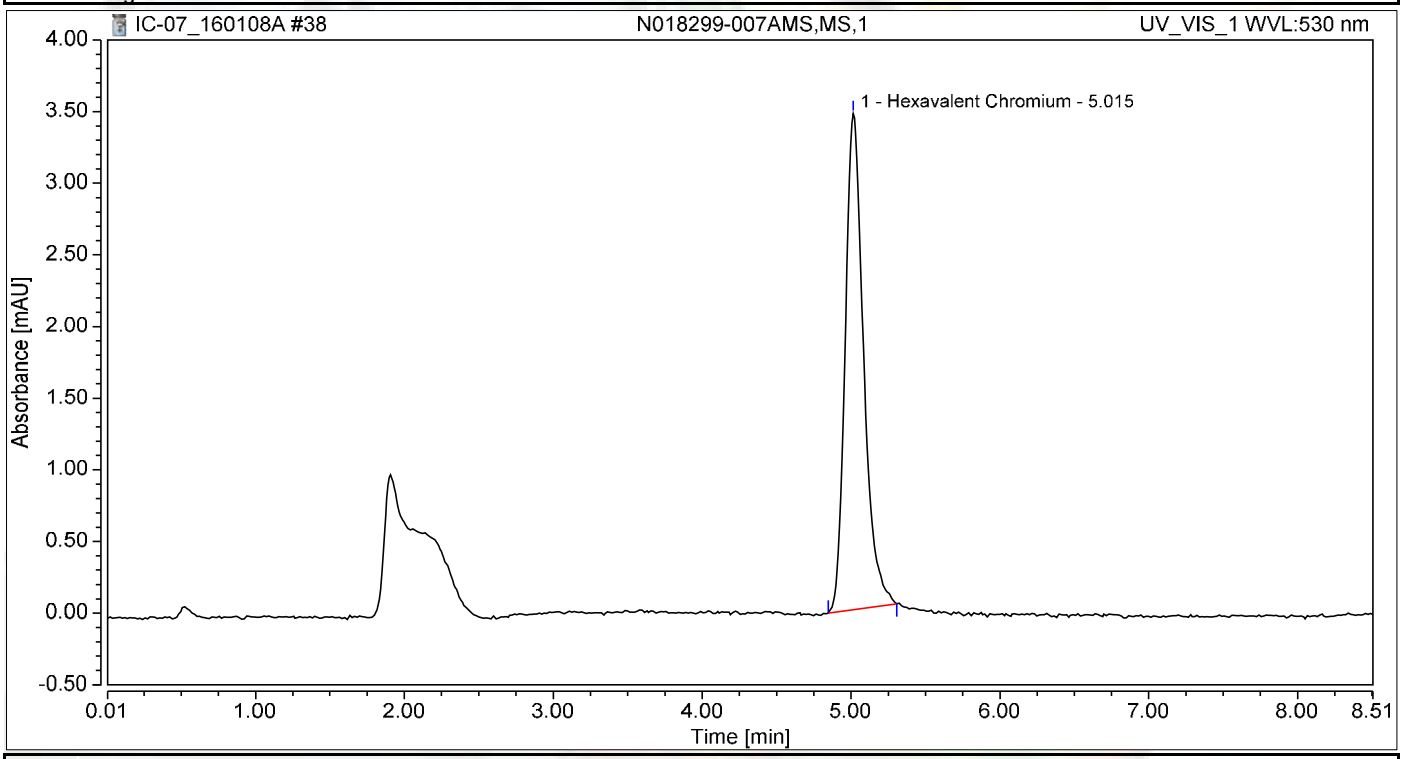
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.271	1.867	100.00	100.00	1.1217
Total:			**0.271**	**1.867**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 14:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

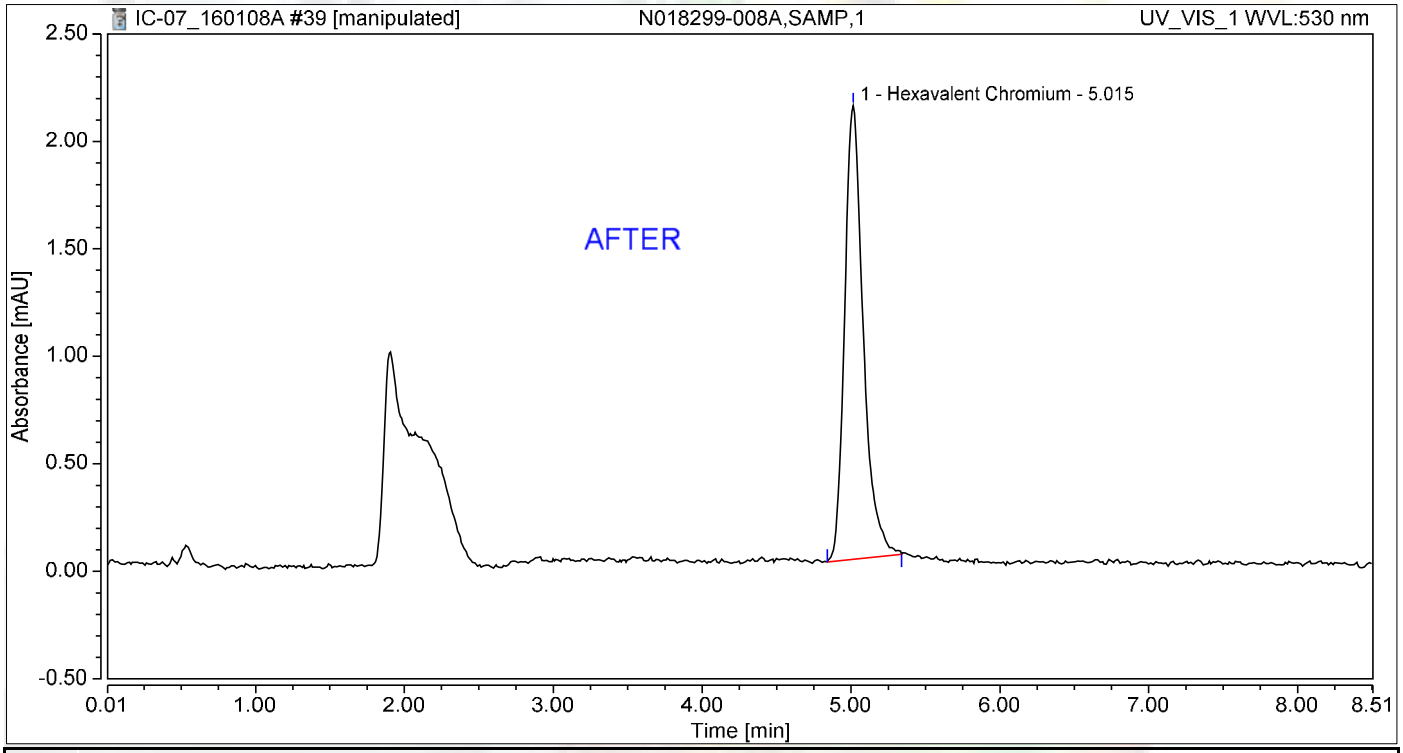
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.493	3.463	100.00	100.00	2.0457
Total:			**0.493**	**3.463**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.305	2.111	100.00	100.00	1.2658
Total:			**0.305**	**2.111**	**100.00**	**100.00**	

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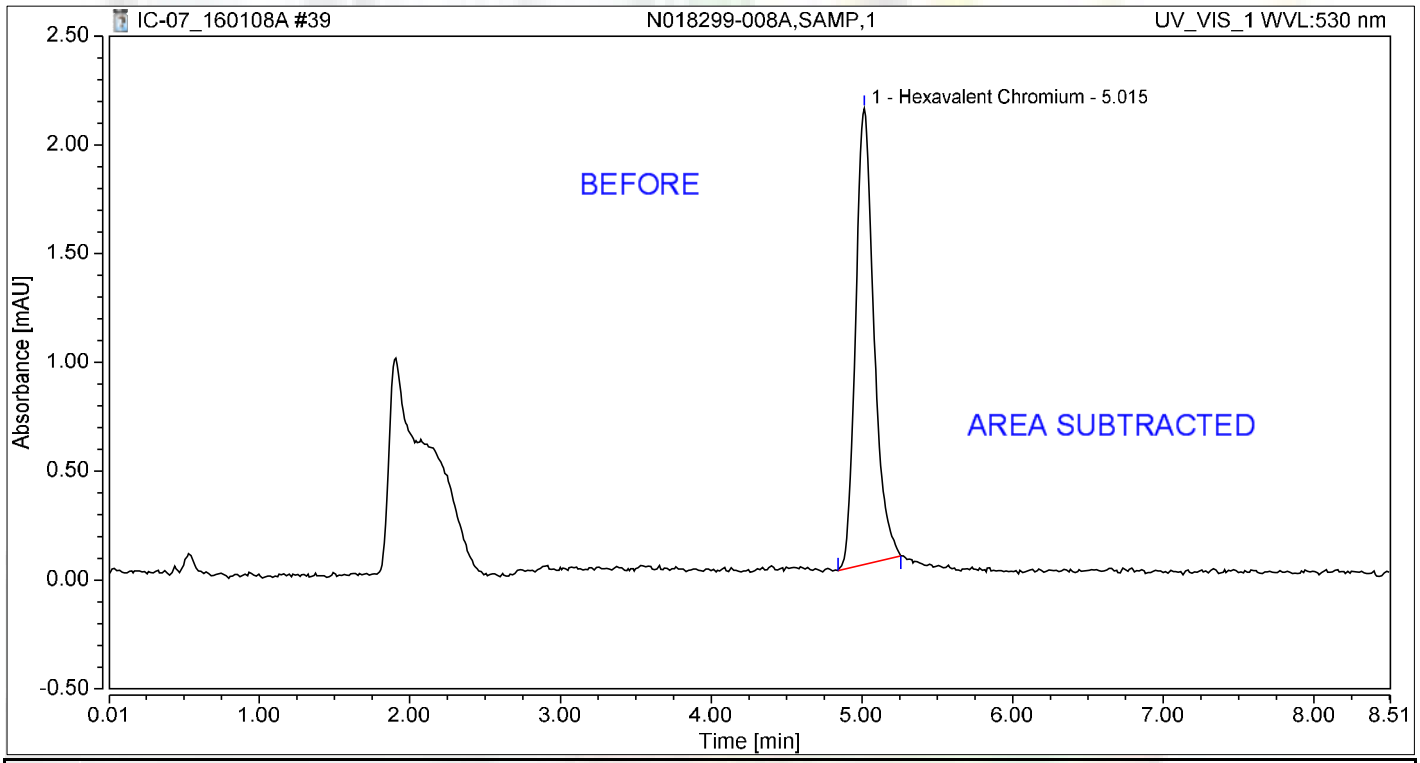
Chromatogram and Results

Injection Details

Injection Name:	**N018299-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.295	2.095	100.00	100.00	1.2248
Total:			**0.295**	**2.095**	**100.00**	**100.00**	

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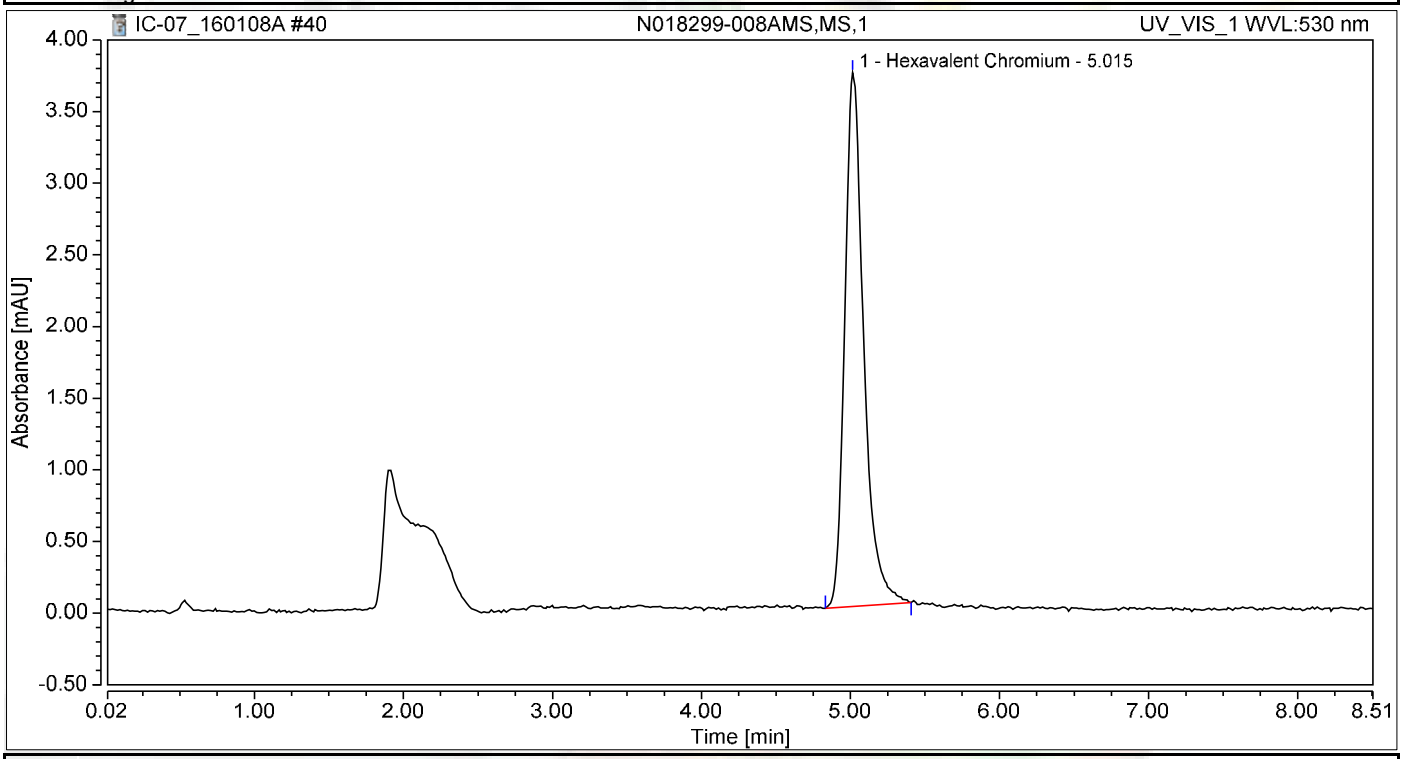
Chromatogram and Results

Injection Details

Injection Name:	**N018299-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

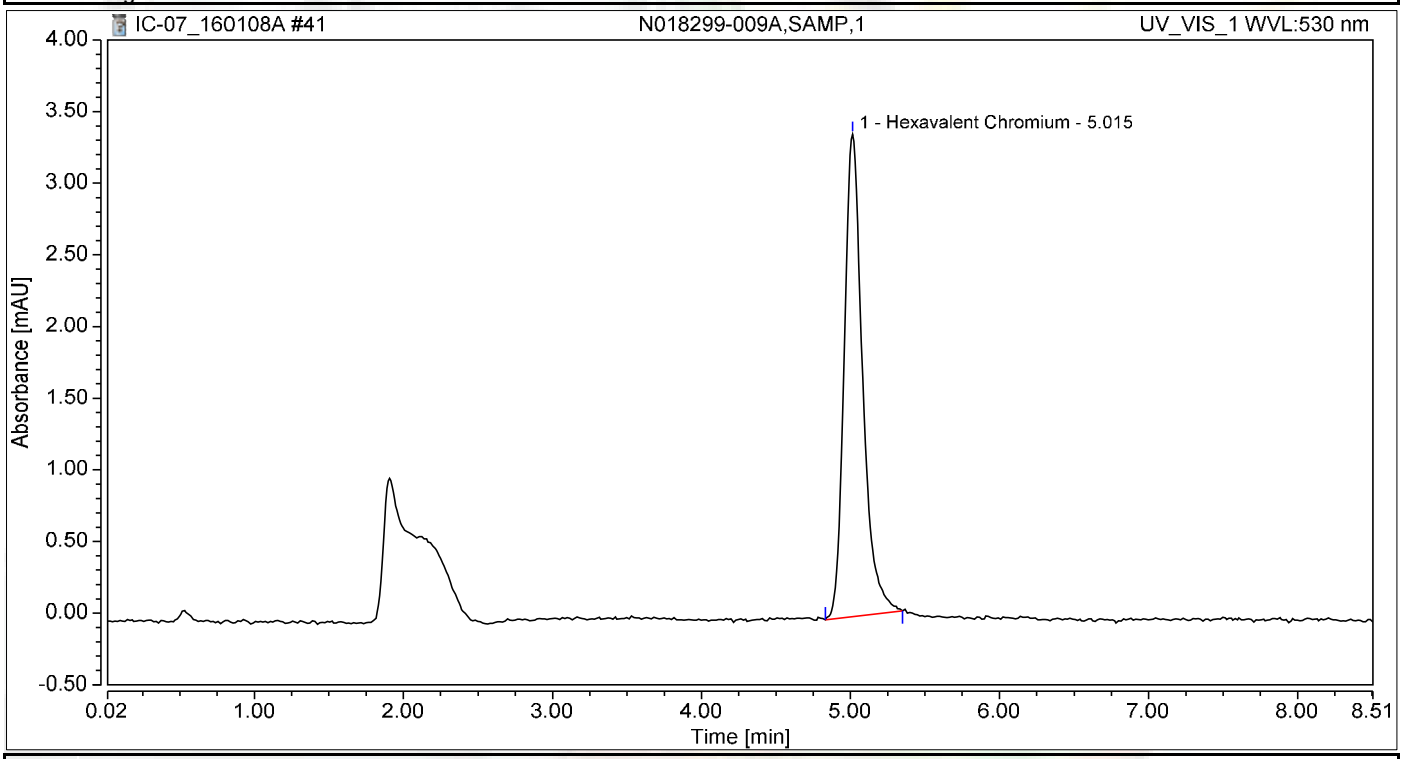
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.547	3.723	100.00	100.00	2.2692
Total:			**0.547**	**3.723**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

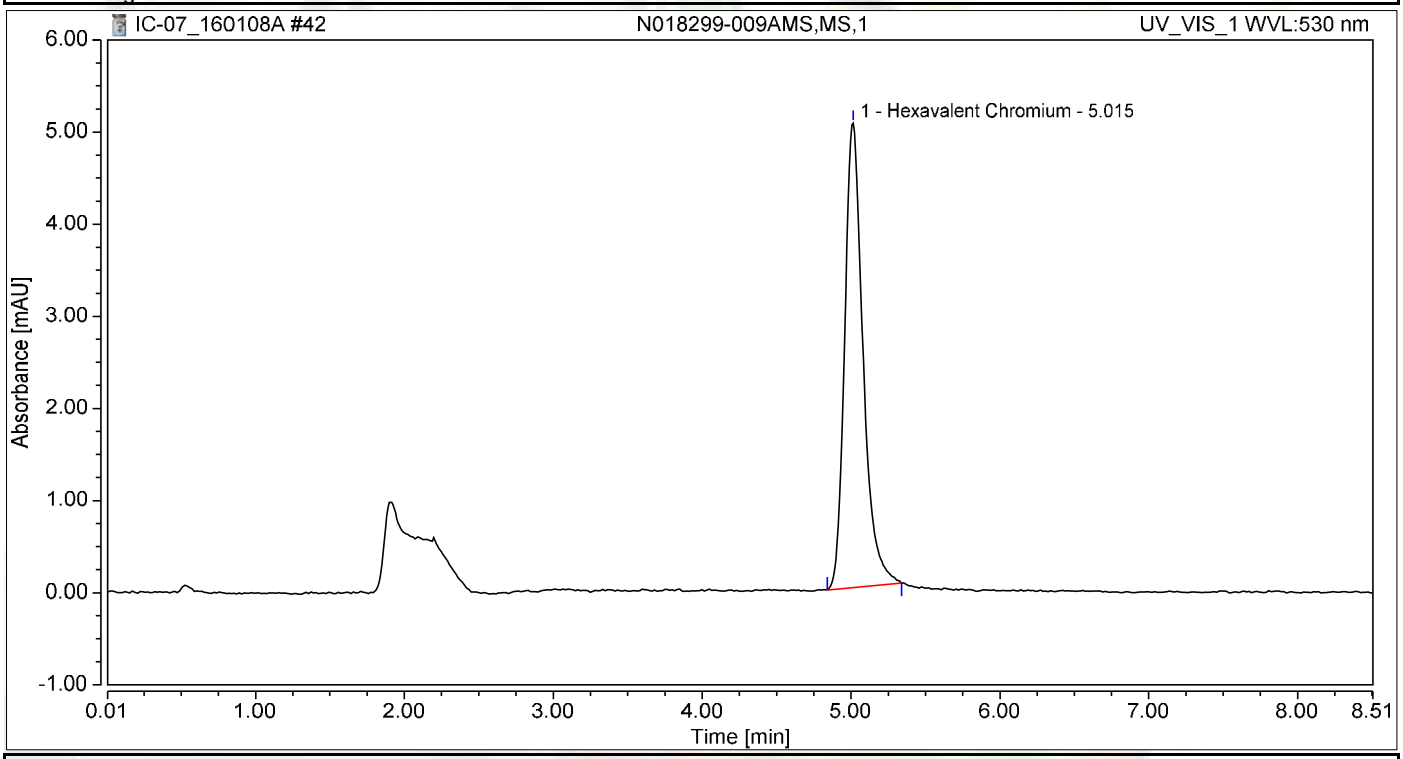
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.480	3.364	100.00	100.00	1.9883
Total:			**0.480**	**3.364**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

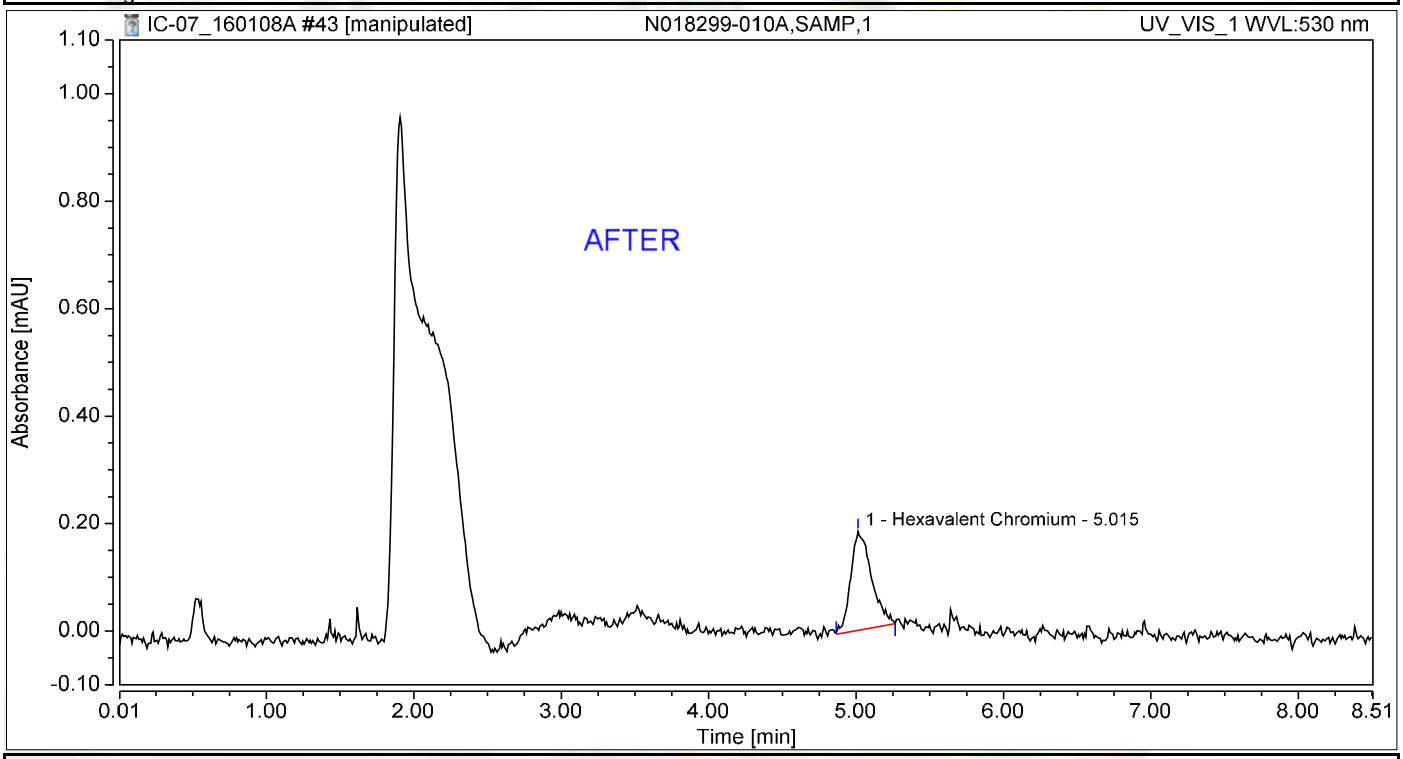
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.718	5.042	100.00	100.00	2.9785
Total:			**0.718**	**5.042**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.030	0.184	100.00	100.00	0.1233
Total:			**0.030**	**0.184**	**100.00**	**100.00**	

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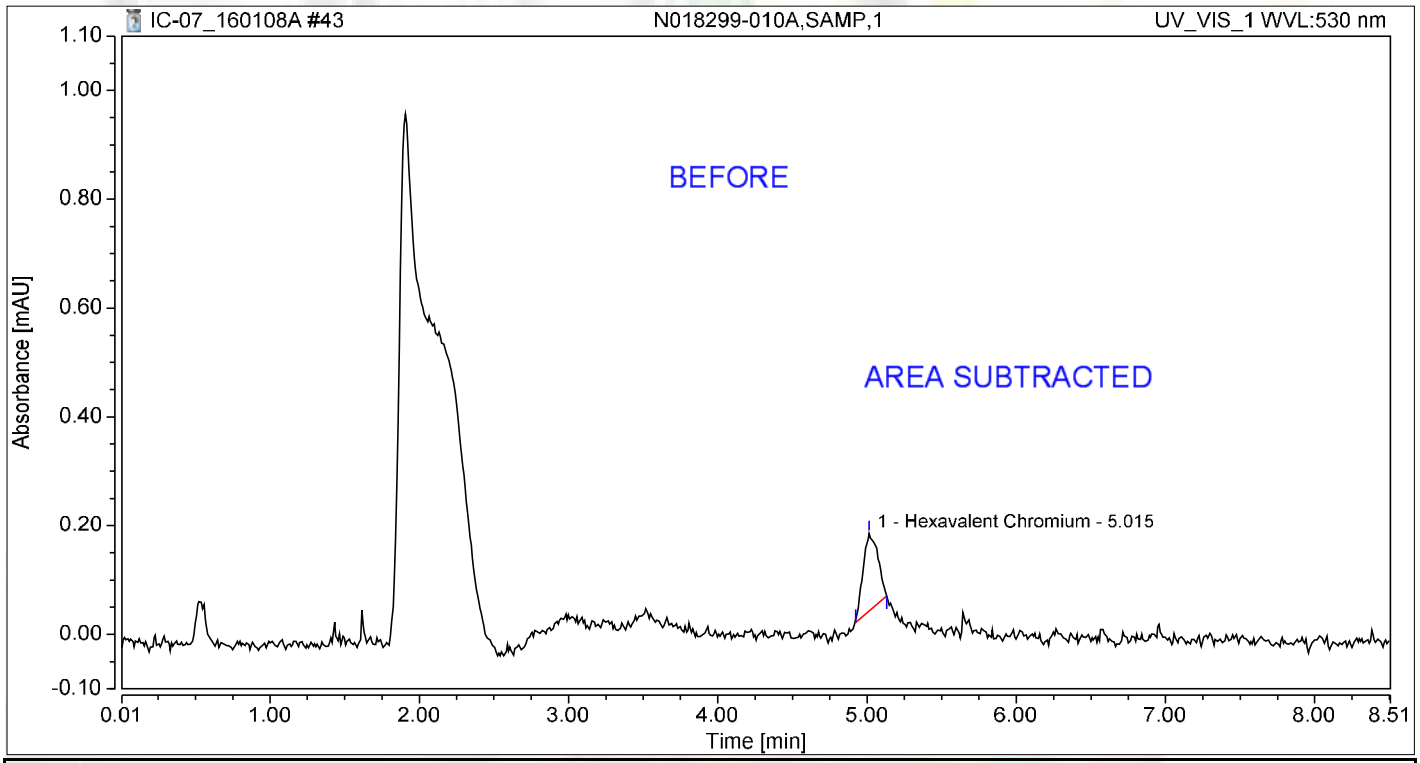
Chromatogram and Results

Injection Details

Injection Name:	**N018299-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.016	0.142	100.00	100.00	0.0667
Total:			**0.016**	**0.142**	**100.00**	**100.00**	

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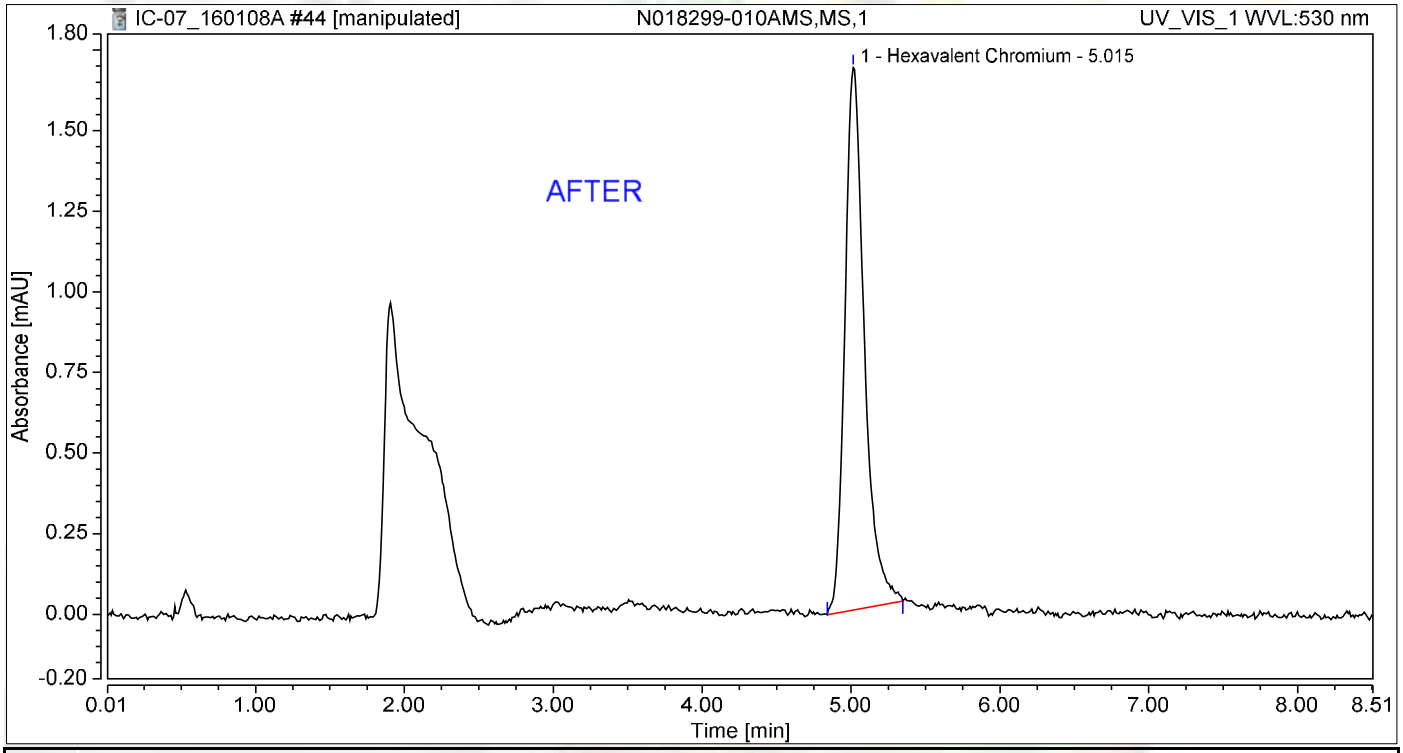
Chromatogram and Results

Injection Details

Injection Name:	**N018299-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.255	1.682	100.00	100.00	1.0557
Total:			**0.255**	**1.682**	**100.00**	**100.00**	

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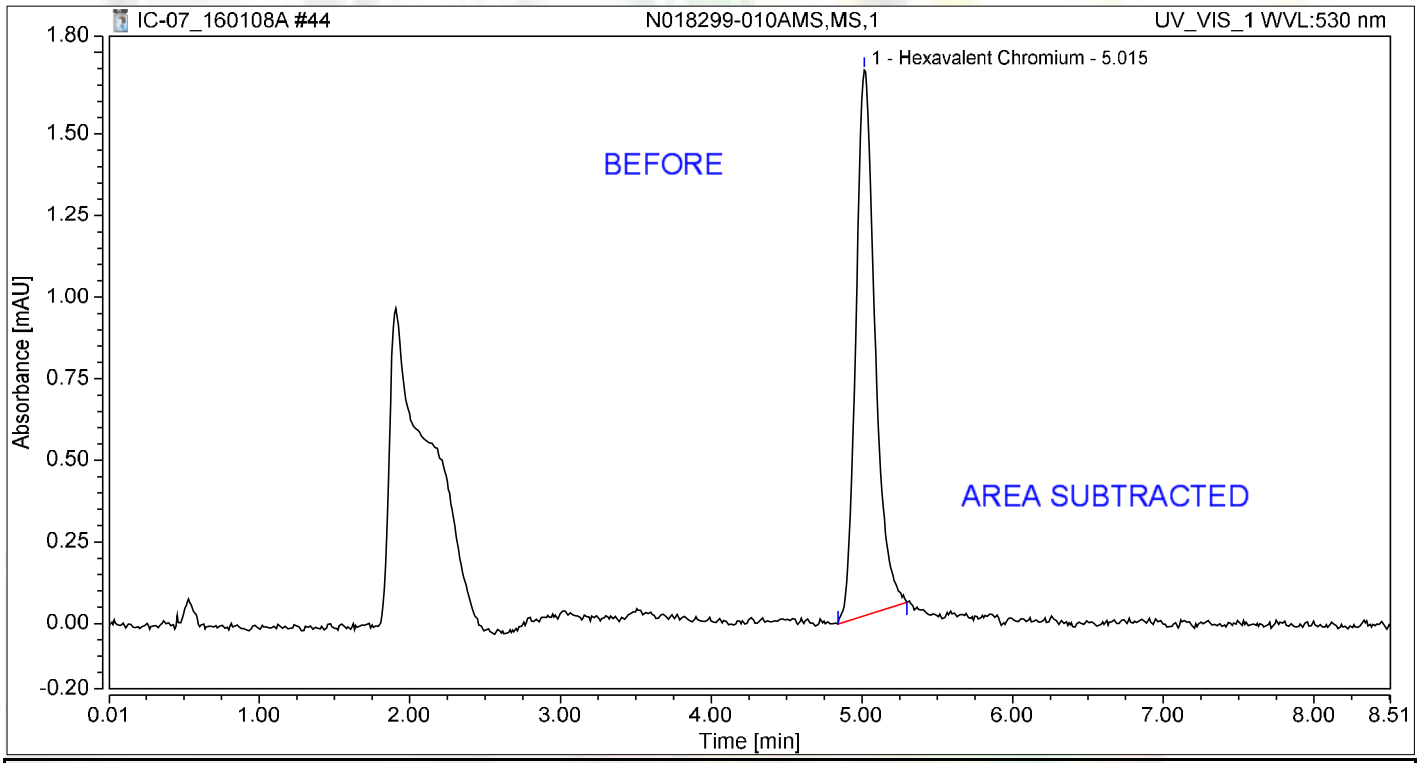
Chromatogram and Results

Injection Details

Injection Name:	**N018299-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 15:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.247	1.671	100.00	100.00	1.0236
Total:			**0.247**	**1.671**	**100.00**	**100.00**	

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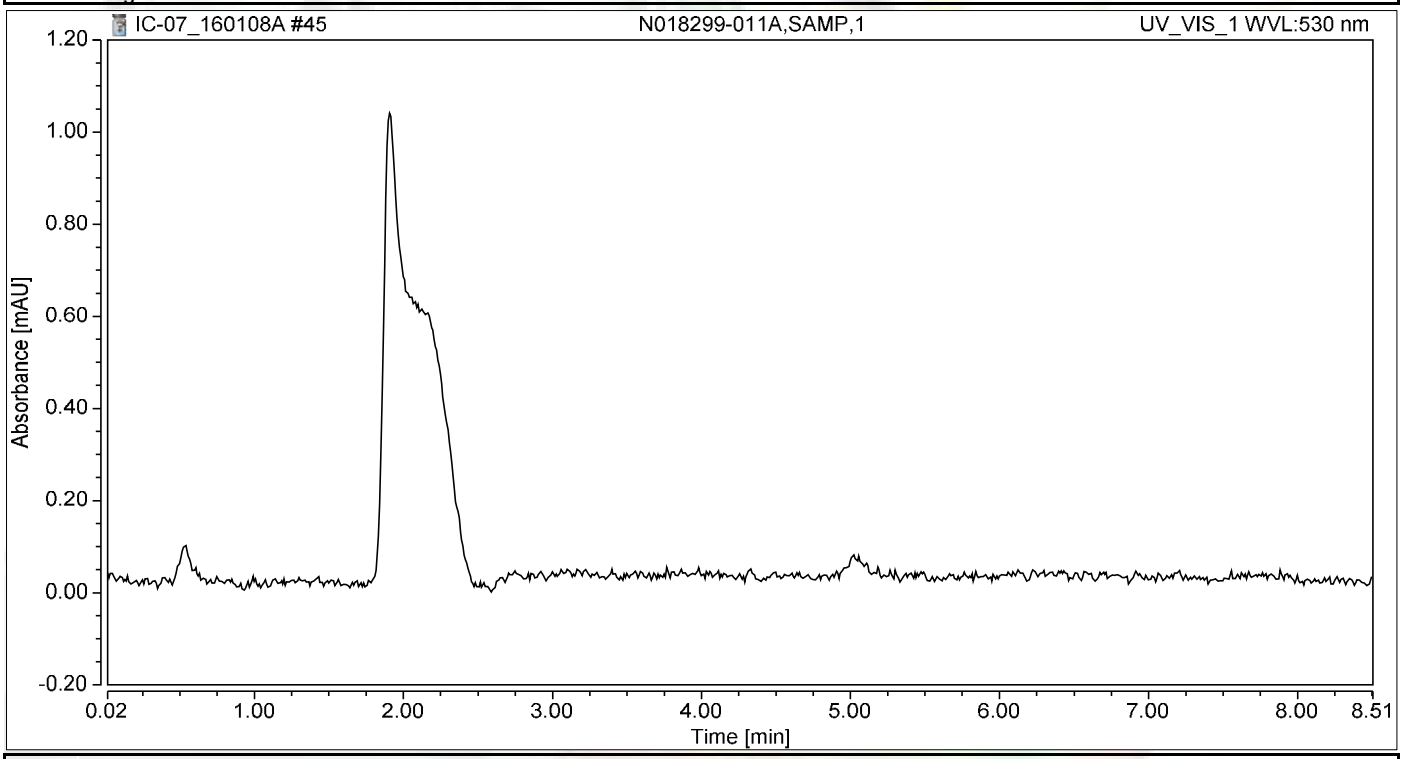
Chromatogram and Results

Injection Details

Injection Name:	**N018299-011A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 16:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

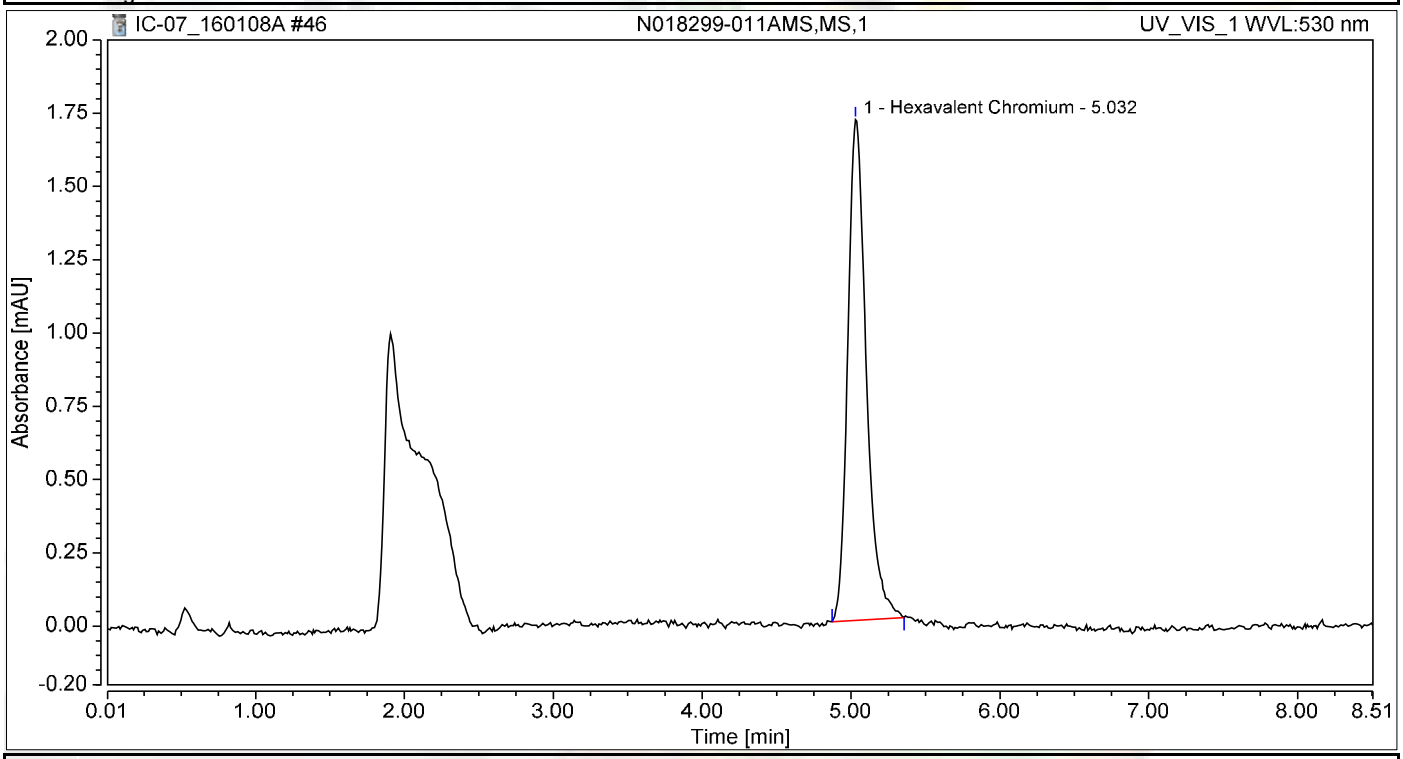
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-011AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 16:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

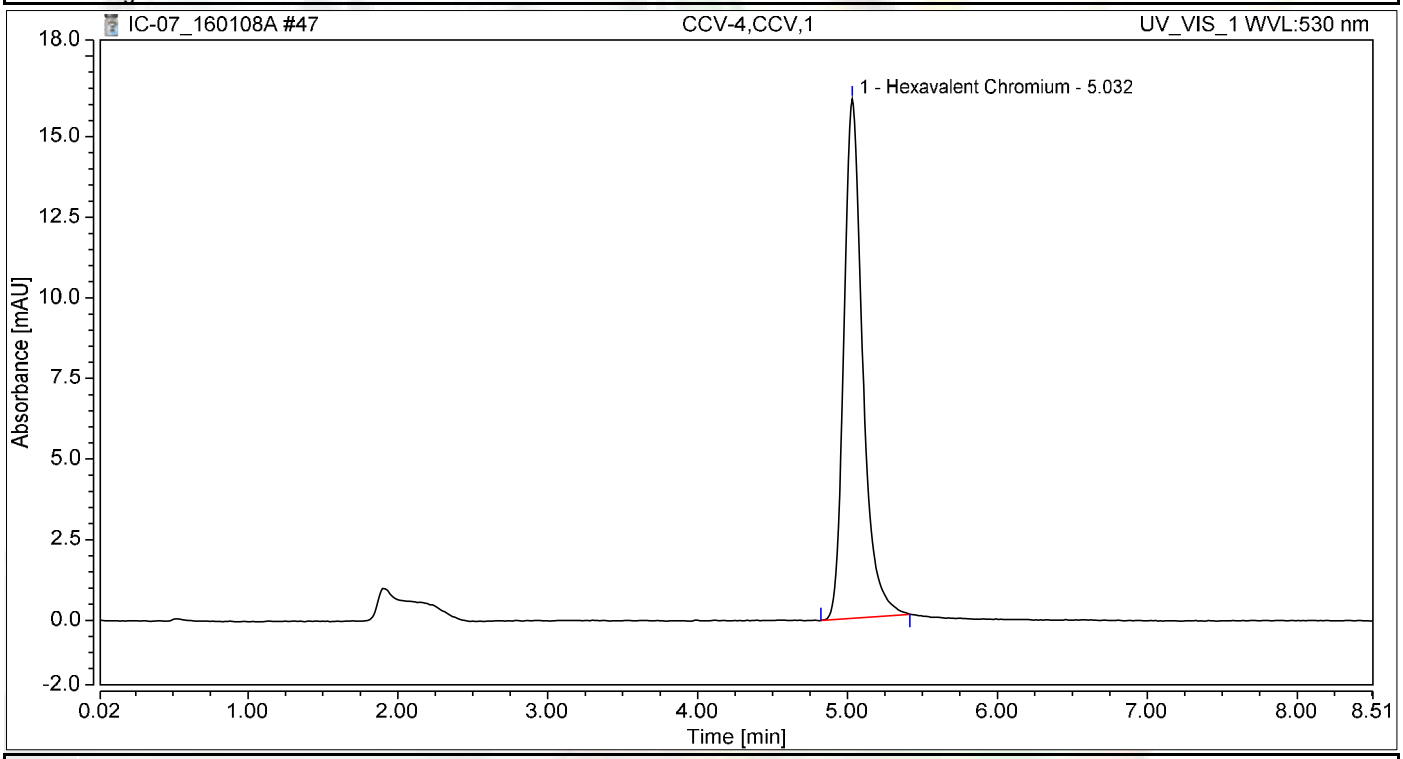
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.245	1.709	100.00	100.00	1.0160
Total:			**0.245**	**1.709**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

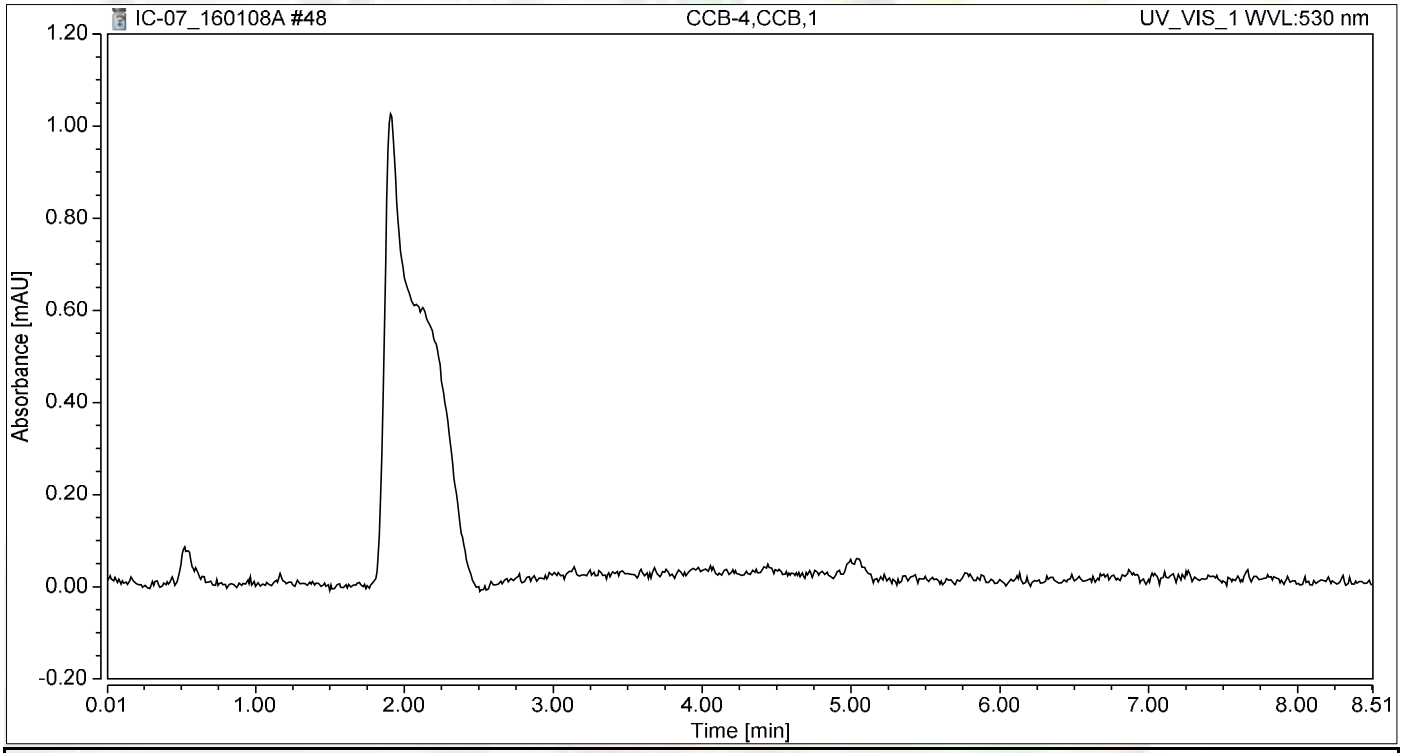
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	2.331	16.112	100.00	100.00	9.6649
Total:			**2.331**	**16.112**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 16:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

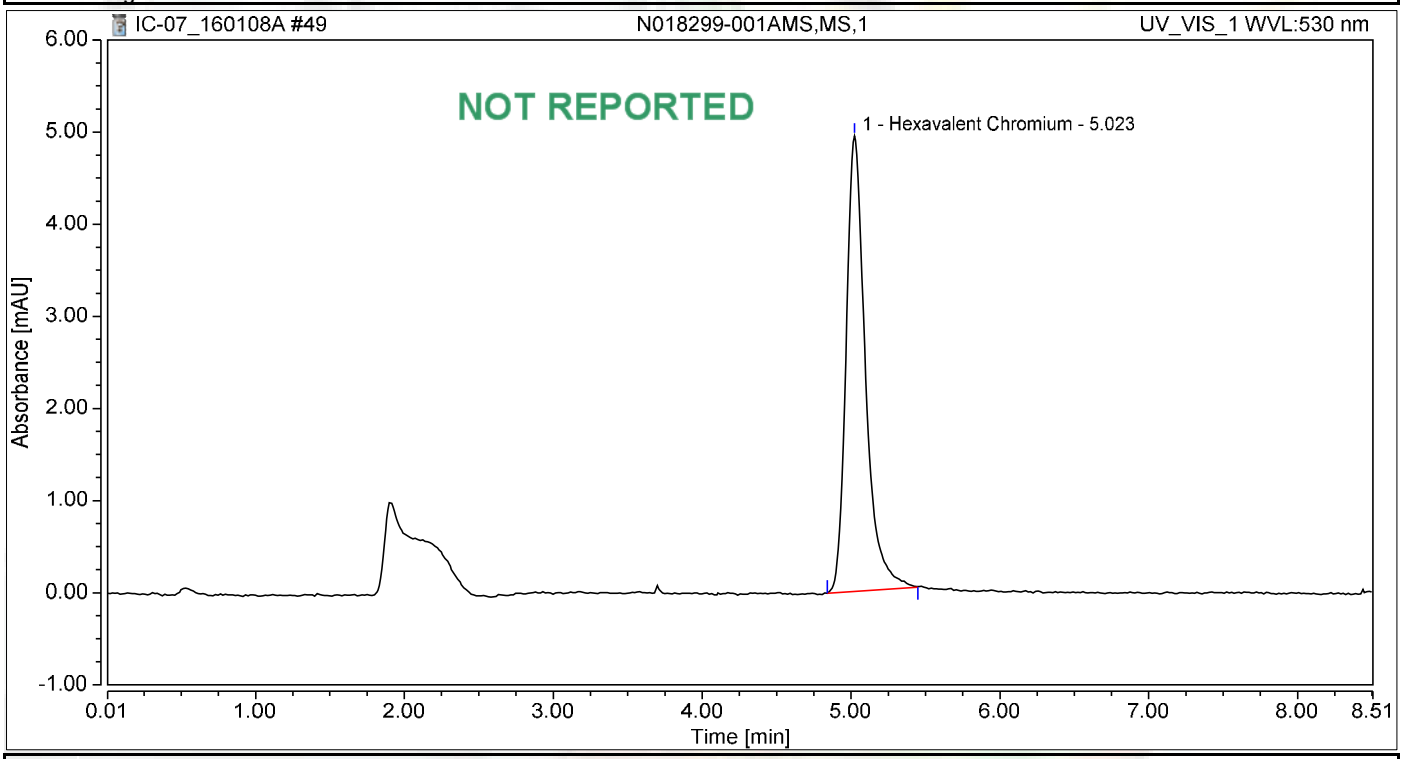
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

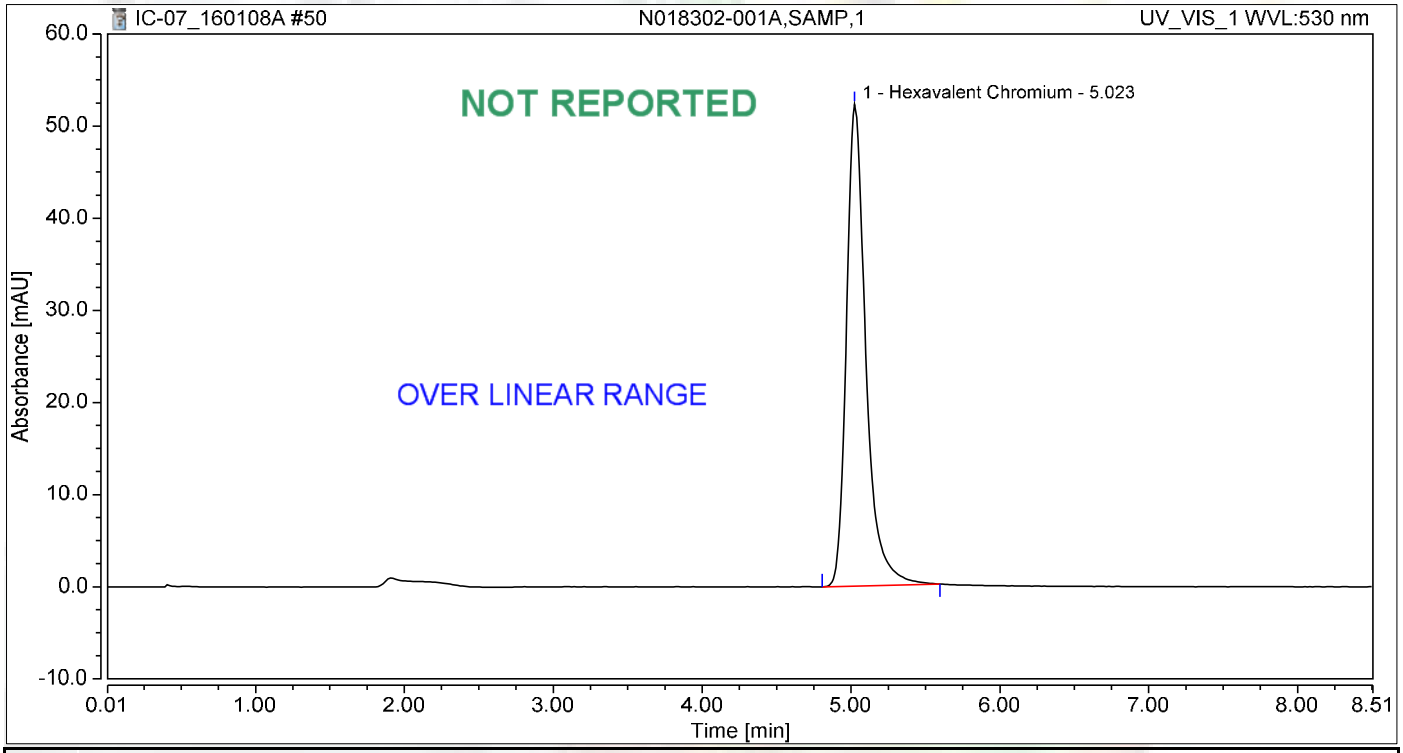
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.737	4.942	100.00	100.00	3.0560
Total:			**0.737**	**4.942**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 16:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

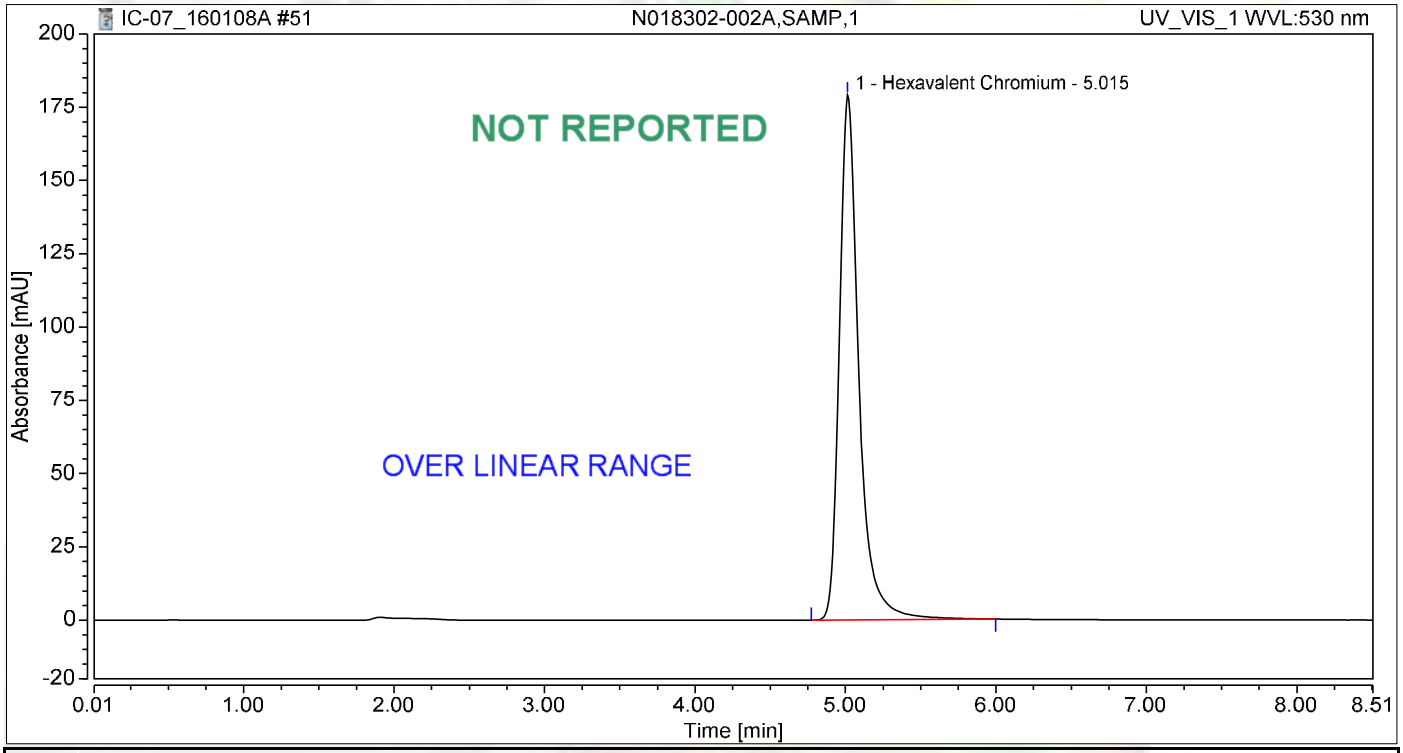
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	7.840	52.279	100.00	100.00	32.5090
Total:			**7.840**	**52.279**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 17:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

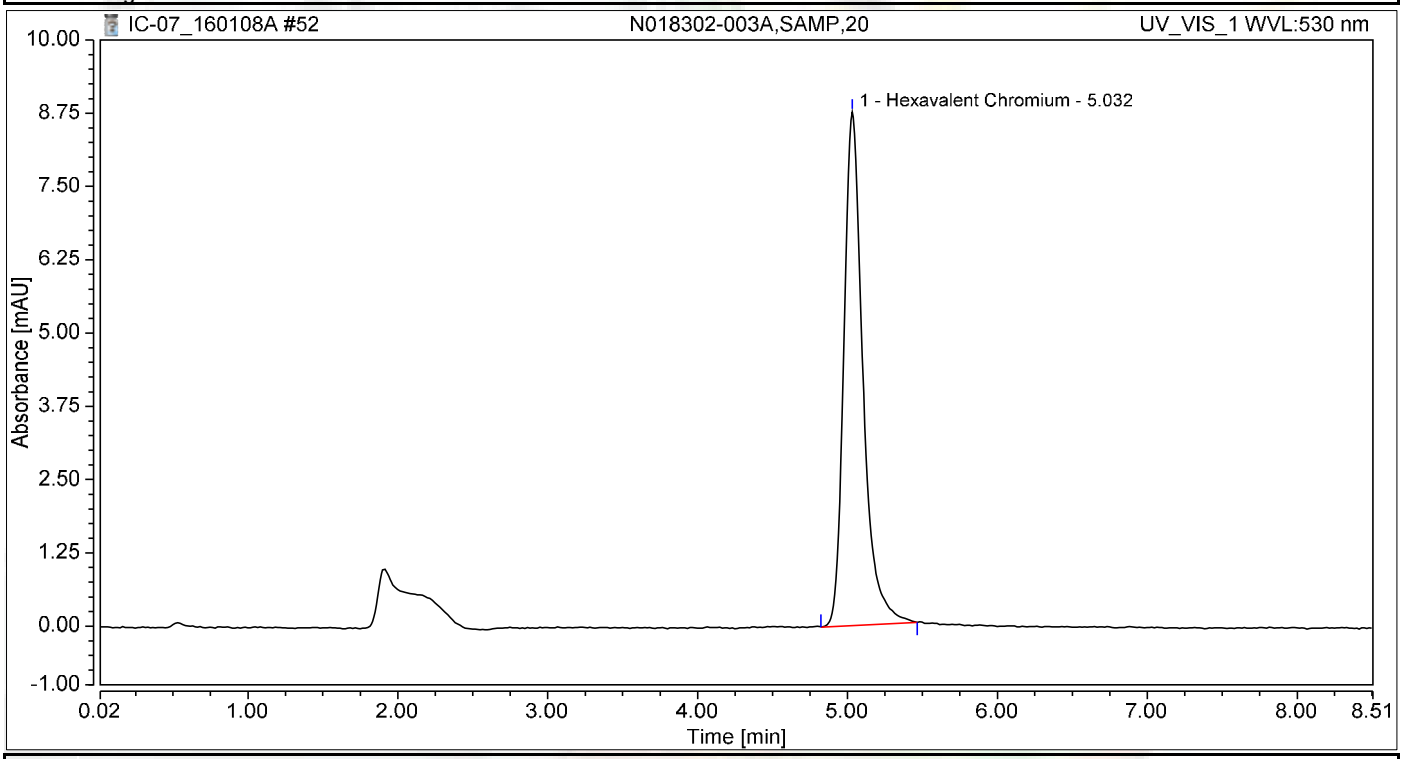
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	26.902	179.085	100.00	100.00	111.5503
Total:			**26.902**	**179.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-003A,SAMP,20**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 17:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

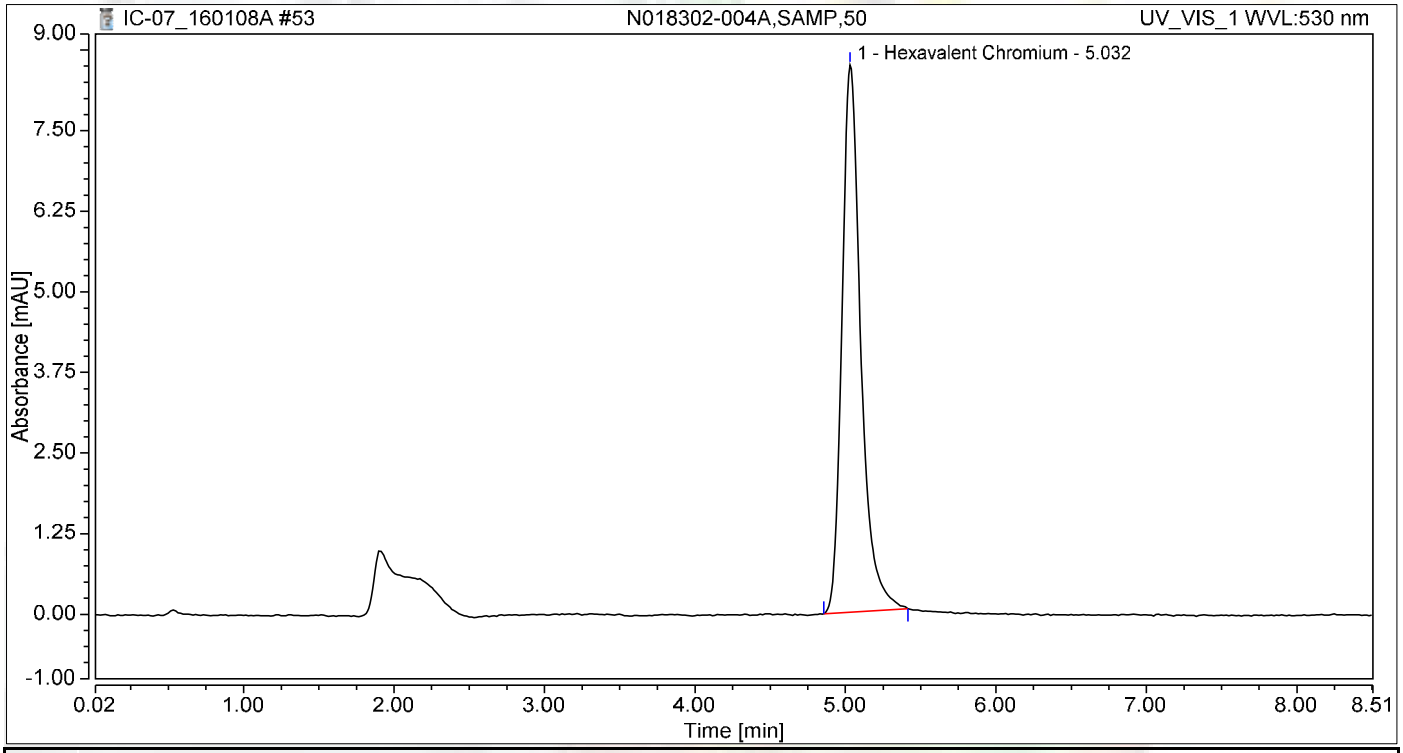
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.284	8.759	100.00	100.00	5.3255
Total:			**1.284**	**8.759**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-004A,SAMP,50**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 17:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

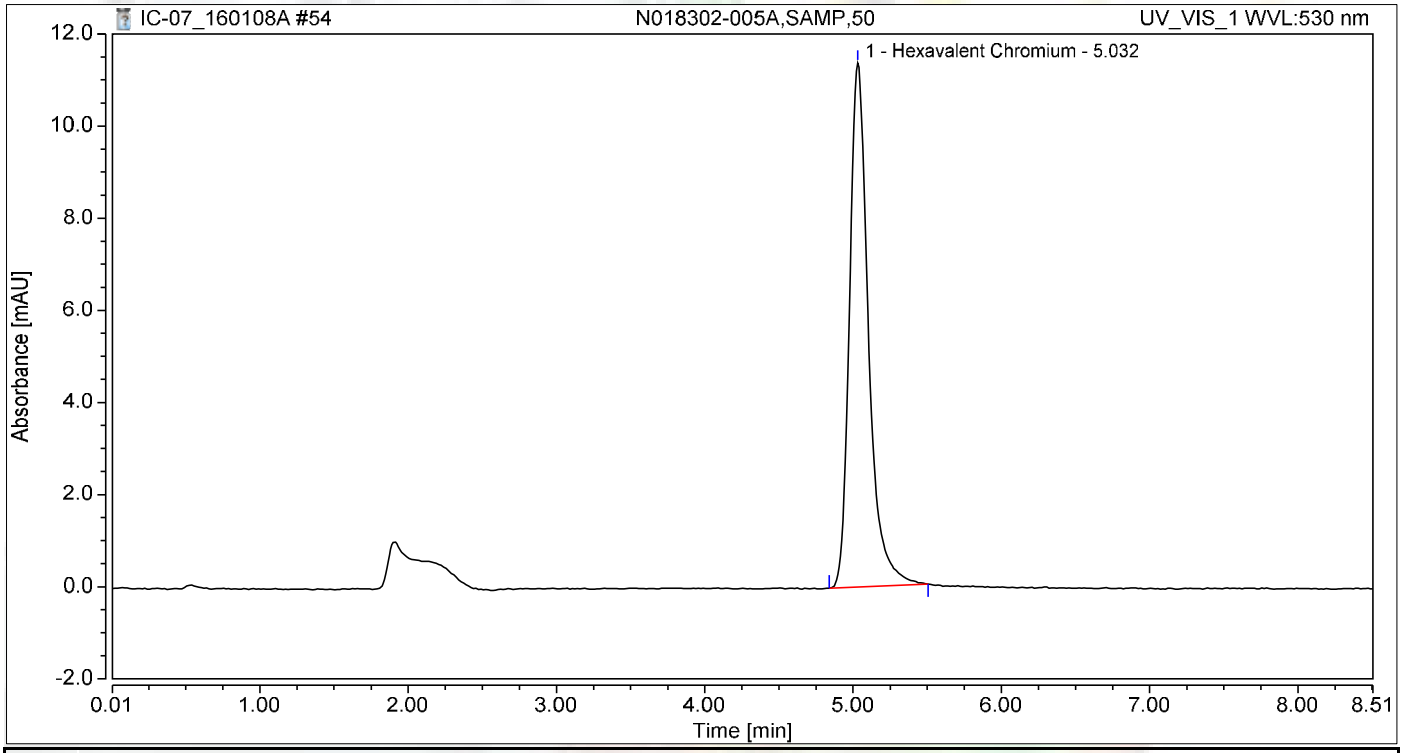
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.232	8.488	100.00	100.00	5.1073
Total:			**1.232**	**8.488**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-005A,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 17:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

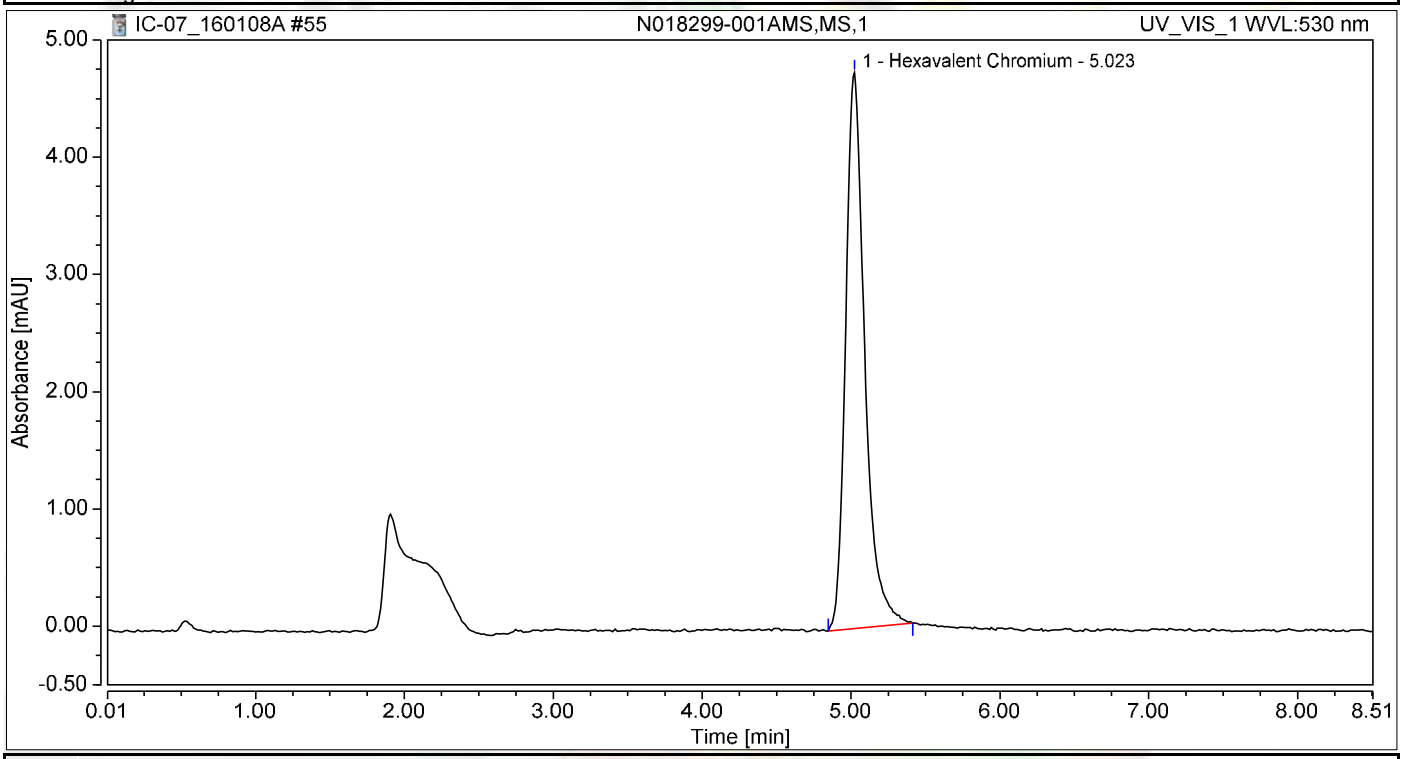
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.669	11.372	100.00	100.00	6.9196
Total:			**1.669**	**11.372**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018299-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 17:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

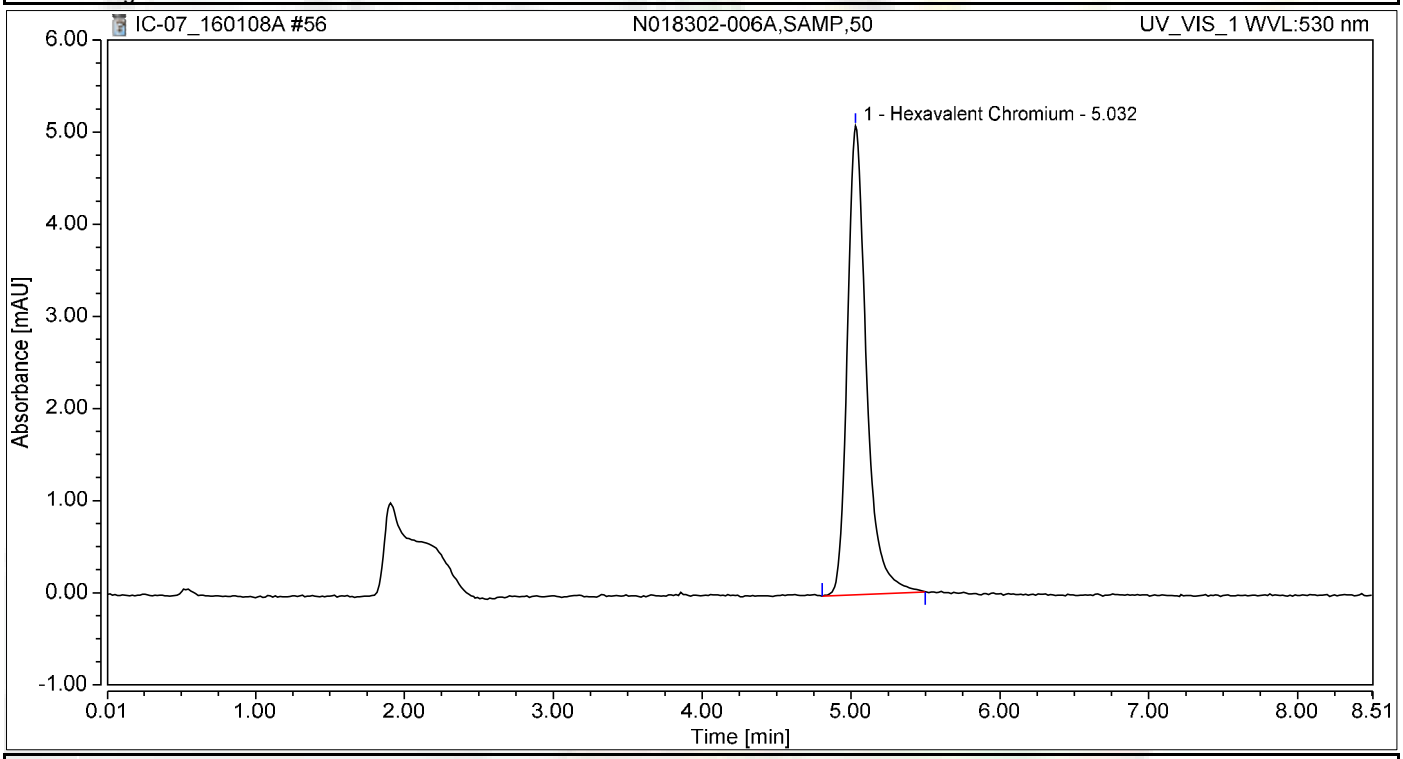
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.702	4.741	100.00	100.00	2.9097
Total:			**0.702**	**4.741**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-006A,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 17:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

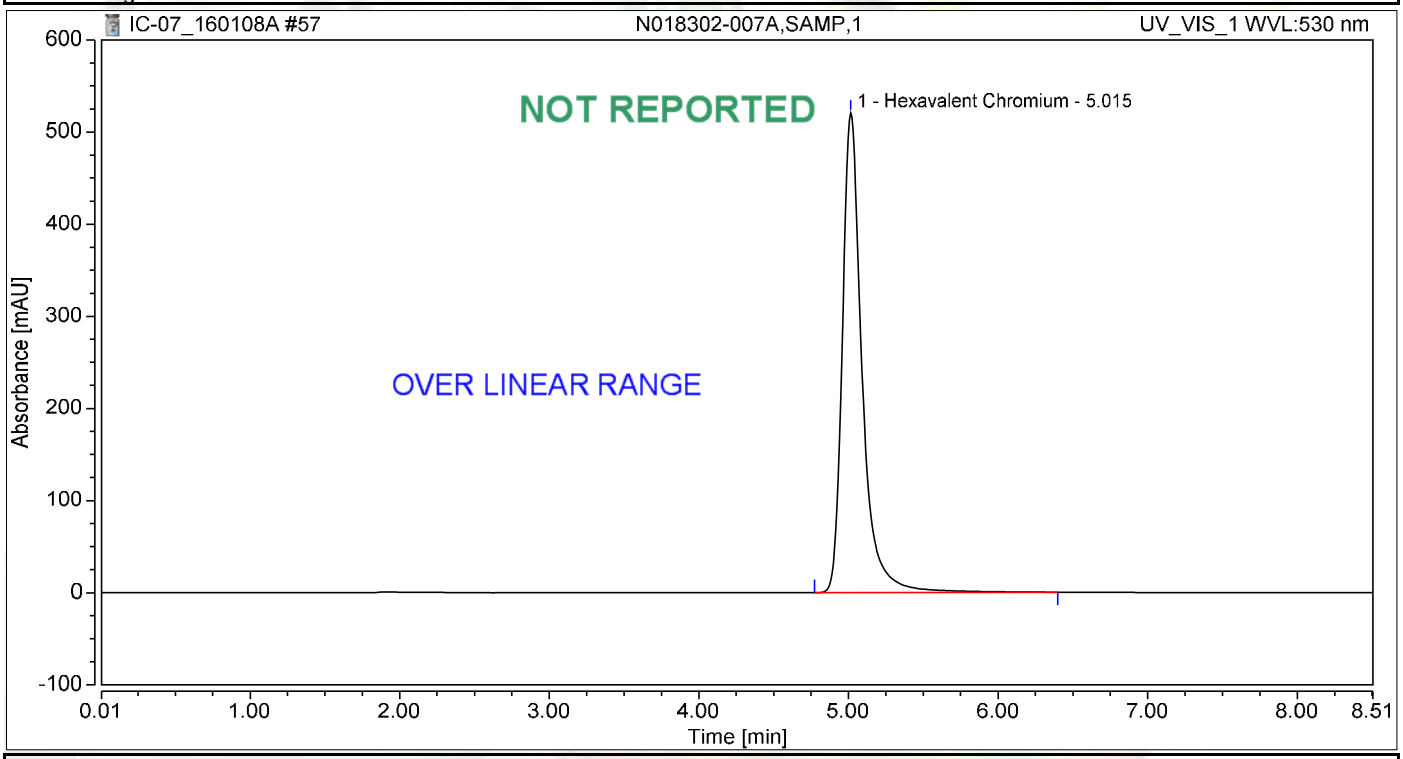
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.752	5.089	100.00	100.00	3.1164
Total:			**0.752**	**5.089**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 18:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

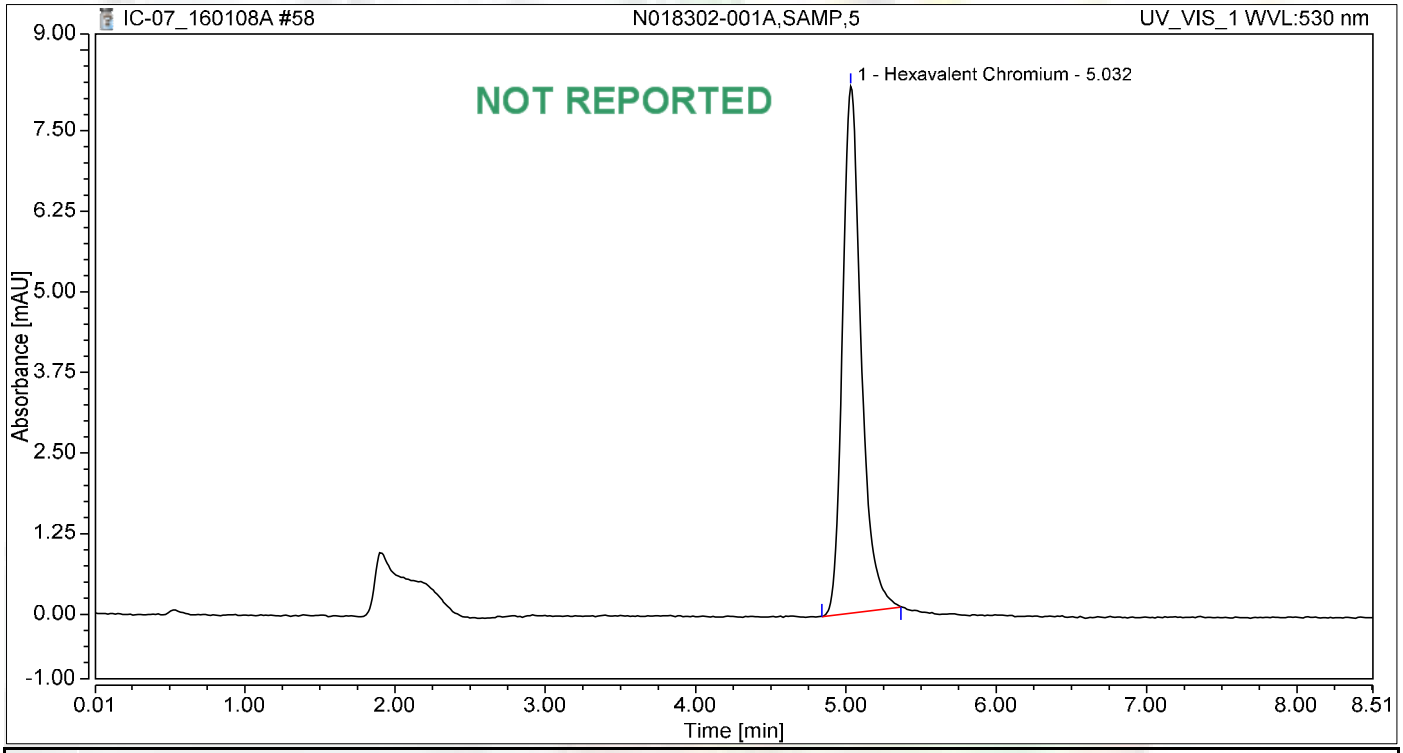
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	79.223	520.823	100.00	100.00	328.5068
Total:			**79.223**	**520.823**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 18:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

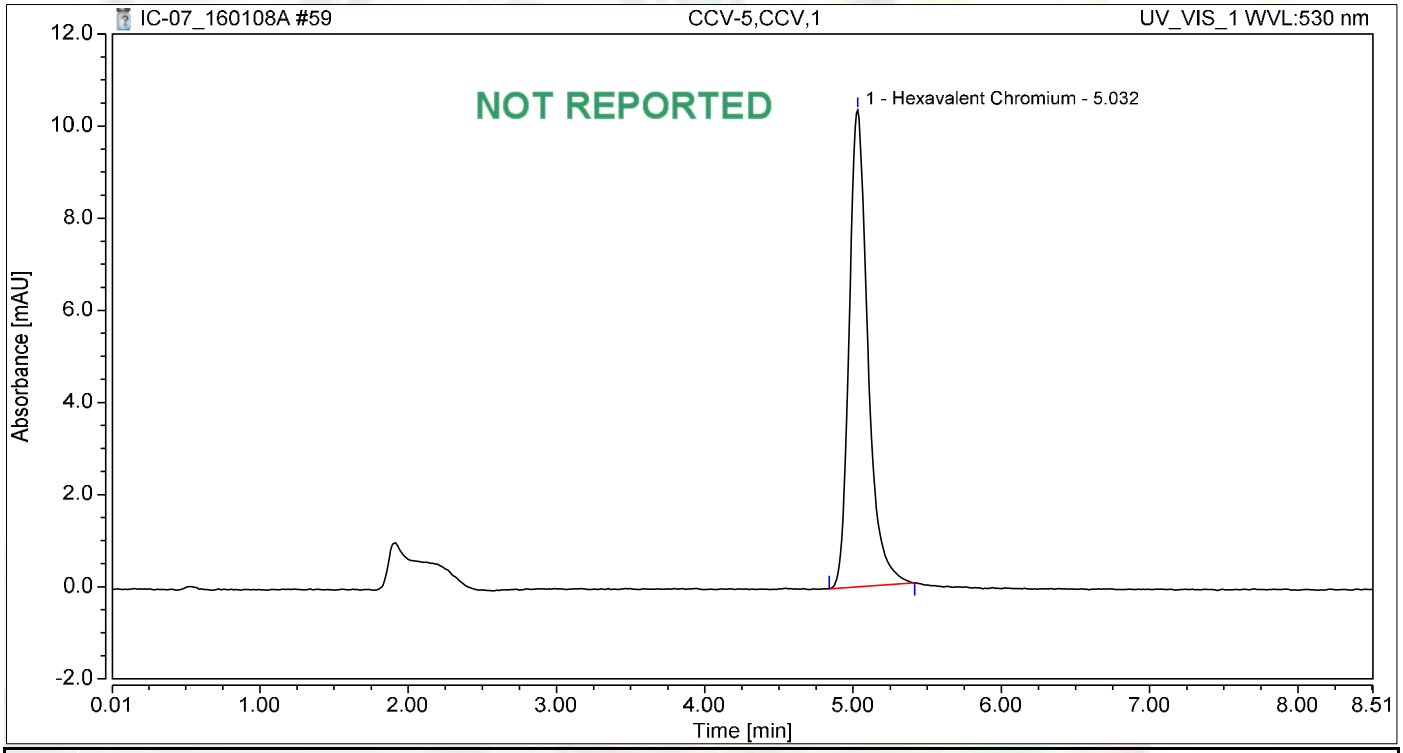
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.178	8.168	100.00	100.00	4.8851
Total:			**1.178**	**8.168**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 18:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

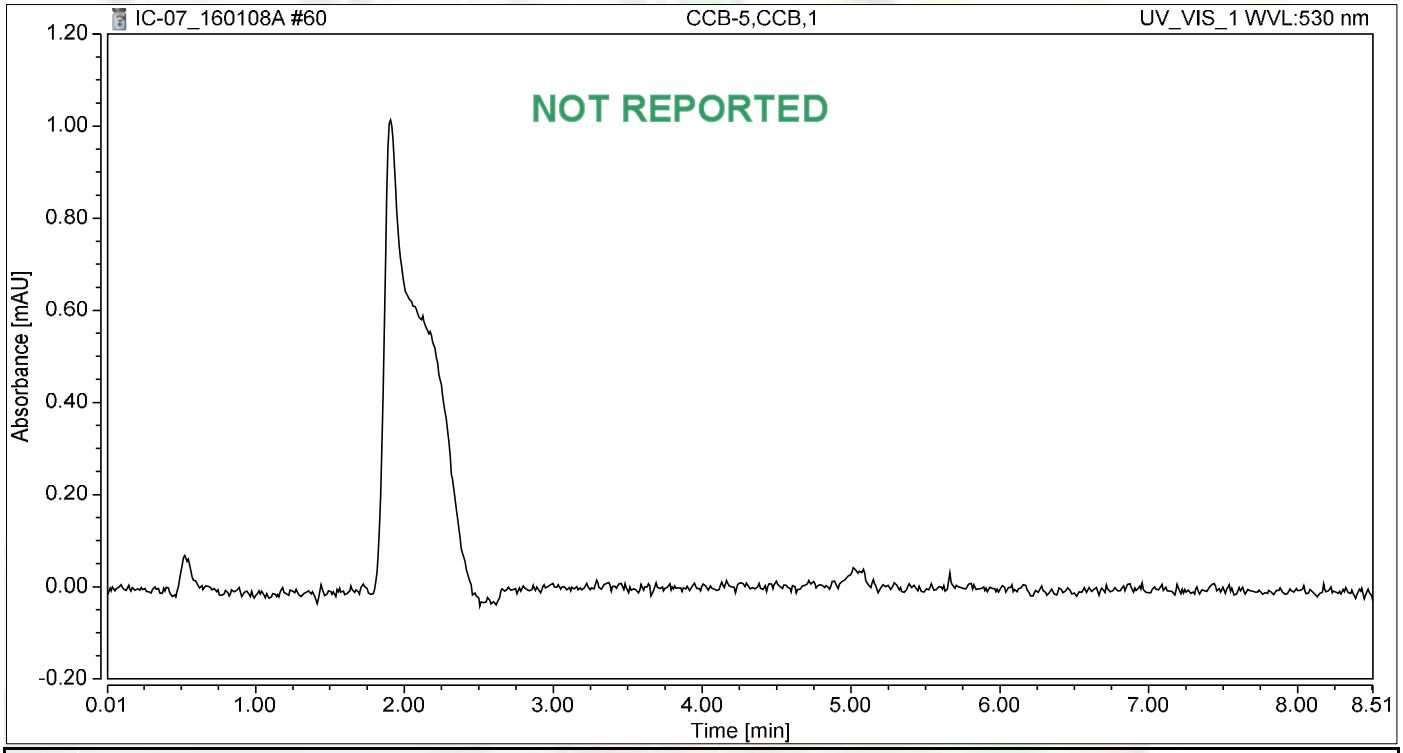
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.503	10.345	100.00	100.00	6.2322
Total:			**1.503**	**10.345**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 18:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

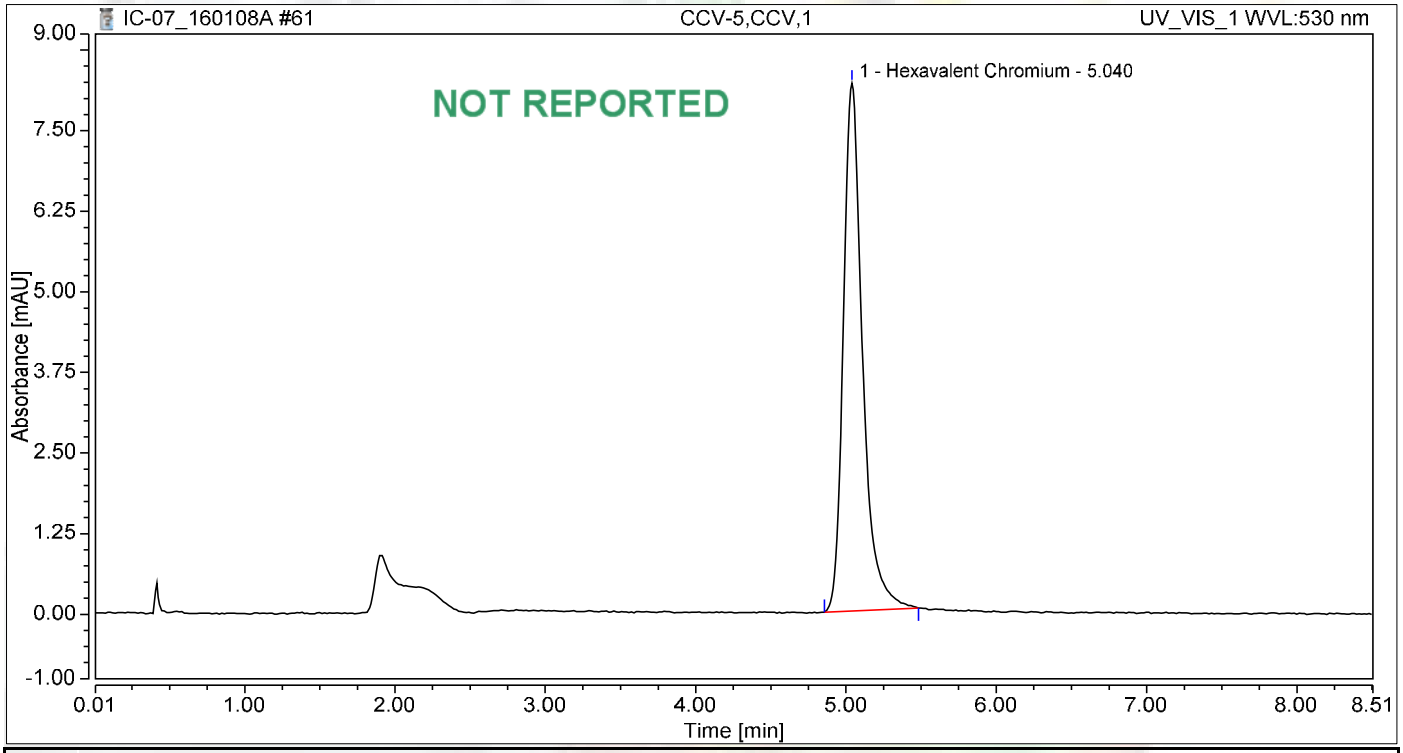
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 19:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

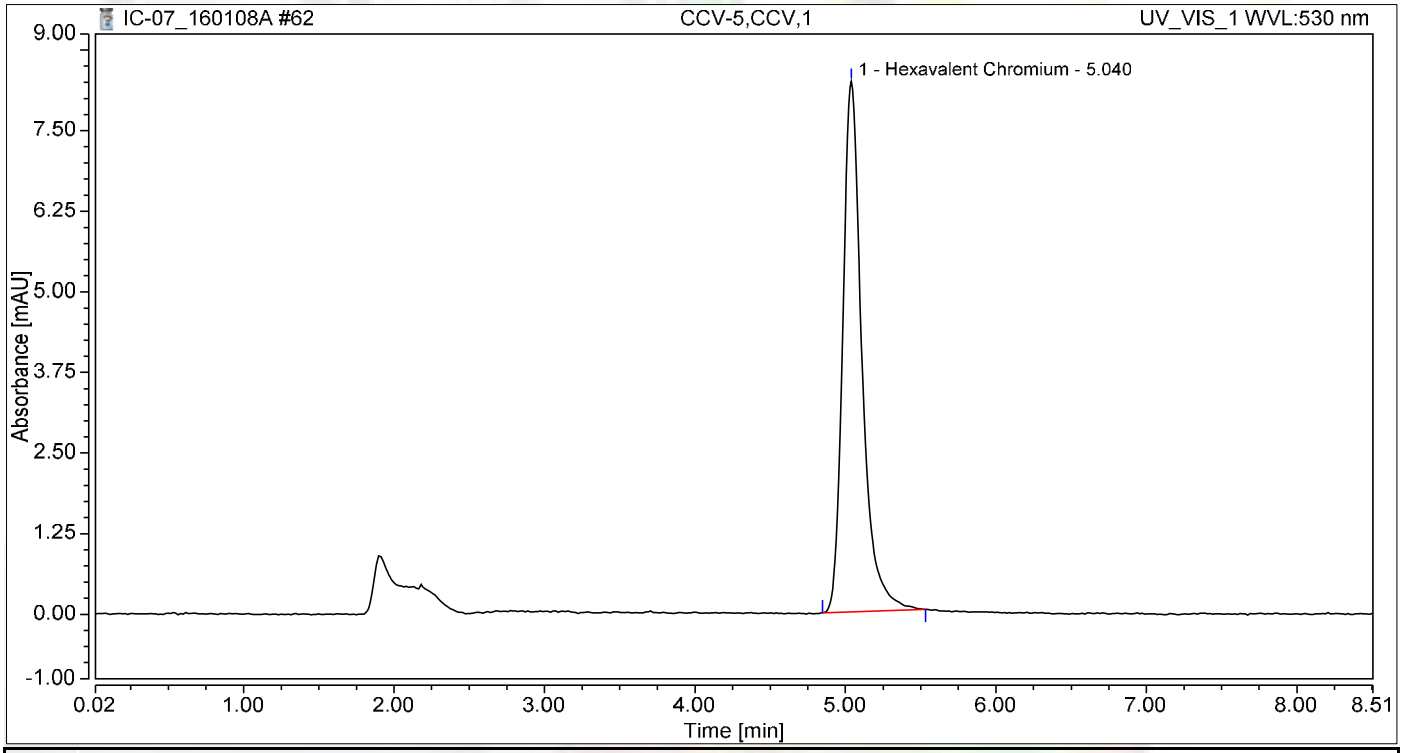
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.207	8.189	100.00	100.00	5.0040
Total:			**1.207**	**8.189**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

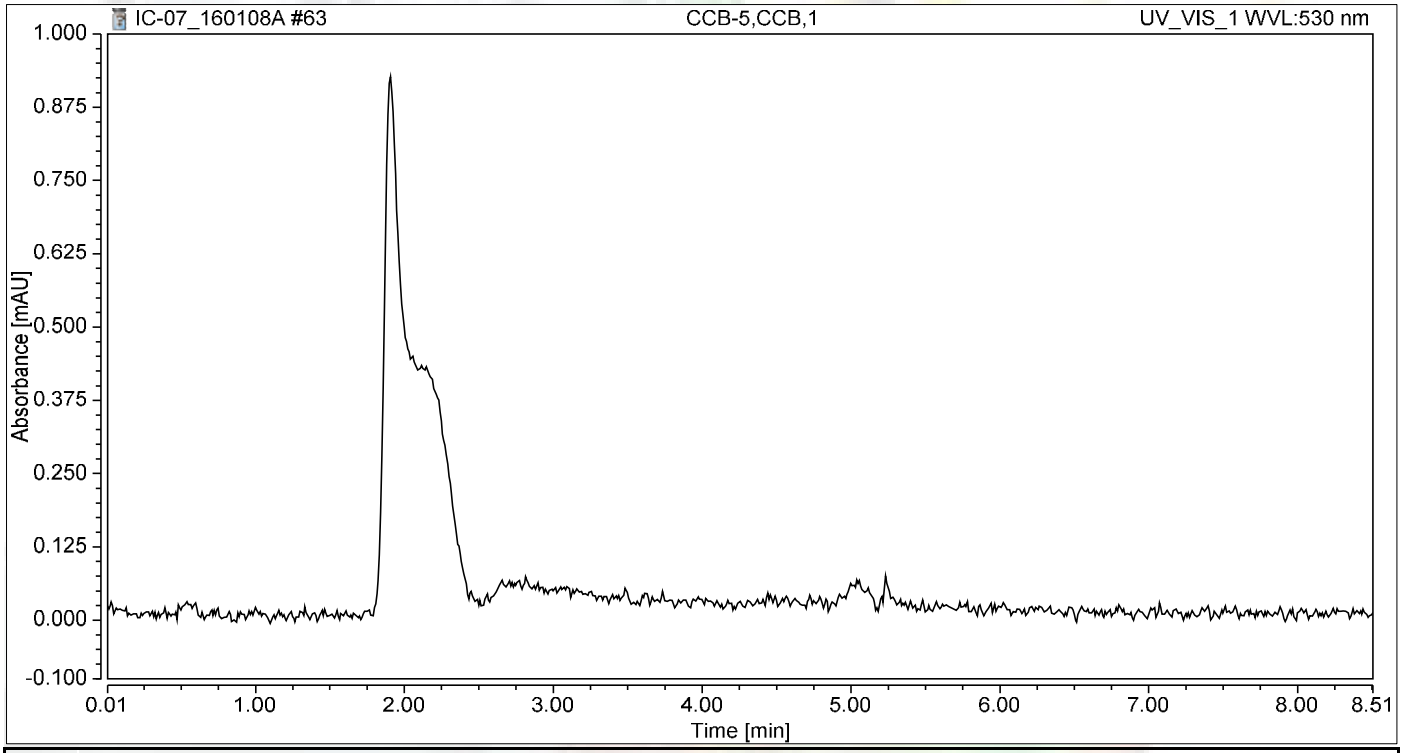
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.210	8.227	100.00	100.00	5.0178
Total:			**1.210**	**8.227**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 19:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

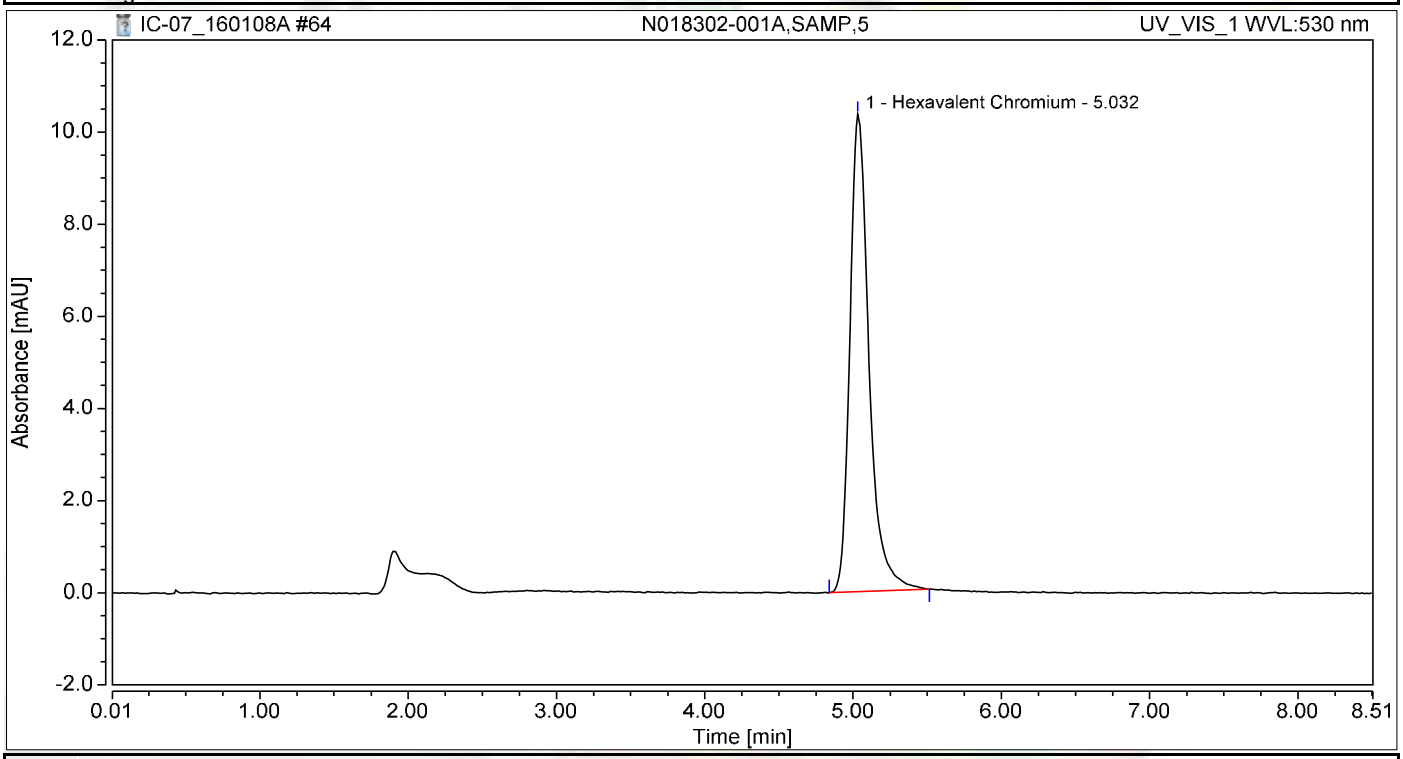
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018302-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 19:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

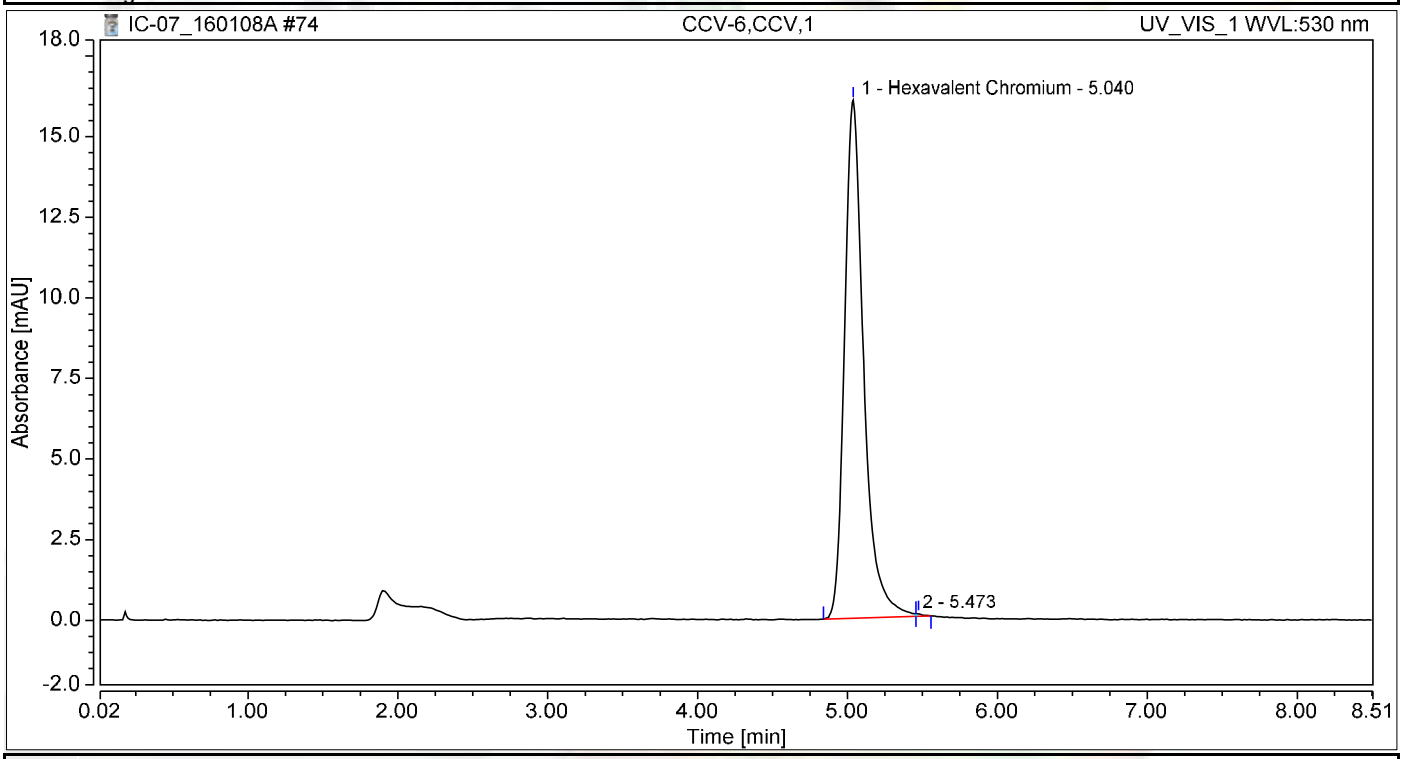
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.533	10.367	100.00	100.00	6.3564
Total:			**1.533**	**10.367**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-6,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 21:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

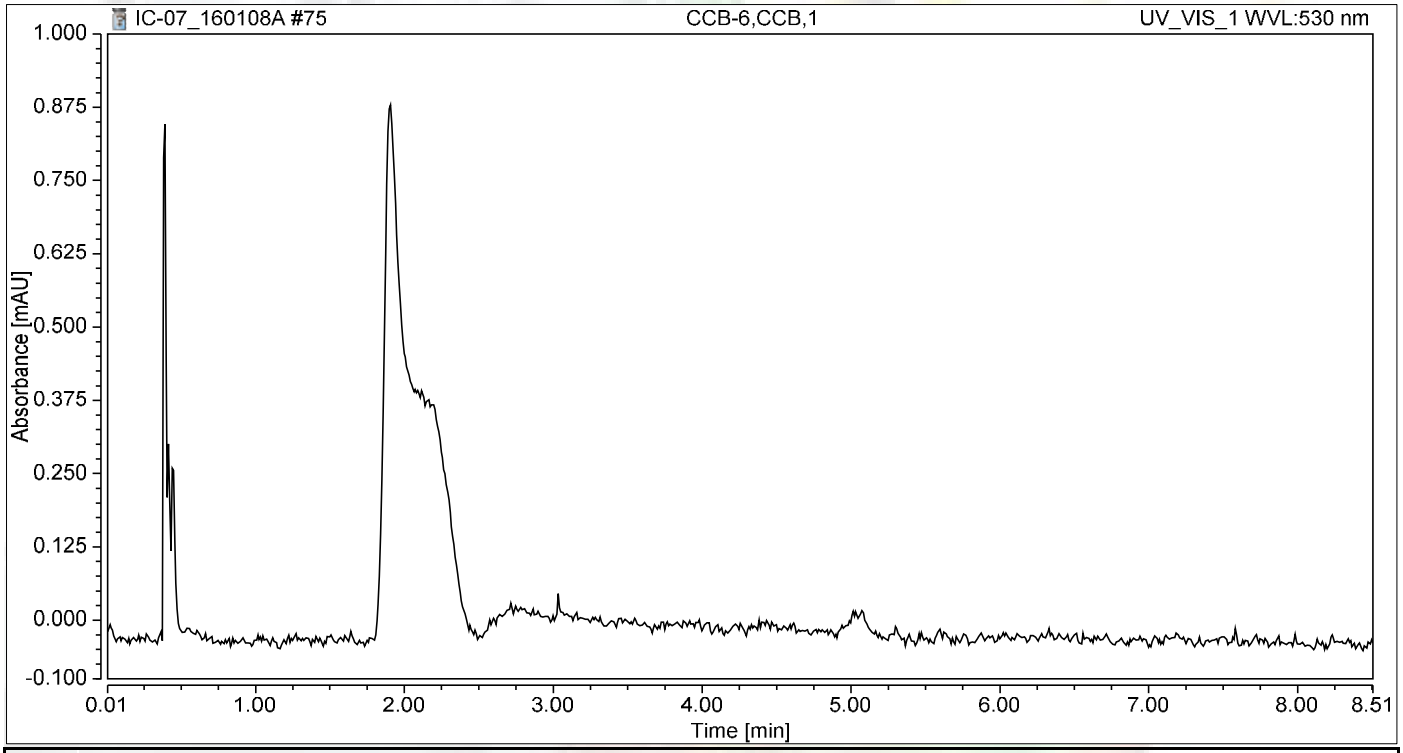
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.374	16.071	99.83	99.45	9.8430
2		5.473	0.004	0.089	0.17	0.55	n.a.
Total:			**2.378**	**16.160**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-6,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**08/Jan/16 21:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 2320B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105301 **Analyst:** LSR

ASSET #: N018280 **Date Analyzed:** 1/12/2016

Method: EPA 2320

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 1/18/2016

2nd Level Reviewer Nancy 1/19/2016 Date: –

SAMPLE CALCULATION

Sample ID: **N018280-001A @ pH 7.71**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (11.60 mL)

= **0.02155 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$ volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (9.70) (0.02155 N) (1) * 1000

= 209.0350 mg/**L**

Reporting results in two significant figures,

= **210 mg/L** as CaCO3

Julia Ramit 1/18/2016

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02155 N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (9.70 mL) (0.02155) (1) * 1000

= 209.0350 **mg/L** as CaCO3

Where:

$P_{vol.}$ - Volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - Volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = 209.0350 **mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = 210 **mg/L**

Julia Ramit 1/18/2016

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SAMPLE	PH SAMPLE	AMOUNT	V@8.3	VT TO 4.5	Sample Type
MB-1	5.35	50	0.00	0.05	MBLK
LCS-1	8.55	50	0.05	4.65	LCS
N018280-001A	7.71	50	0.00	9.70	SAMP
N018280-002A	7.43	50	0.00	6.30	SAMP
N018280-001ADUP	7.75	50	0.00	9.90	DUP
N018280-002AMS	7.78	50	0.00	10.70	MS
N018280-002AMSD	7.80	50	0.00	10.90	MSD

Standardization:		
Spike amt:	**5**	ml
Titrant used:	**11.6**	ml
N H2SO4	**0.02155**	Normal
Date Analyzed:	**1/12/16**	
Time:	**7:45 PM**	
Analyzed By:	**LSR**	
Sodium Carbonate:	**CINV-150202G**	
Sodium Bicarbonate:	**CINV-150601A**	
Sulfuric Acid:	**R151216A**	

Silia Ramit 1/18/2016

Date Analyzed:	1/12/16		**Reagents:**					**Standardization:**					**P = 0**
Time Started:	7:45 PM			Sodium Carbonate:		CINV-150202G			Spike amt:	5	**mL**		**P < 1/2 T**
Analyzed By:	**LSR**			Hydrochloric Acid:		0			Titrant used:	11.6	**mL**		**P = 1/2 T**
				Sulfuric Acid:		R151216A							**P > 1/2 T**
									N H2SO4	0.02155	**N**		**P = T**
Sample ID	**Sample Vol/Wt.**	**Sample pH**	**Std. Code**	**Spike Amount**	**Spike Conc.**	**Normality, Titrant**	**Vol. Used to pH 8.3, ml.**	**Vol. Used pH 8.3 to 4.5, ml.**	**Total Vol. Used, ml.**	**DF (50ml/Vsamp.)**	**P Alkalinity**	**T Alkalinity**	**Comments**
MB-1	50	5.35				0.02155	0.00	0.05	0.05	1	0.00	1.08	
LCS-1	50	8.554				0.02155	0.05	4.60	4.65	1	1.08	100.22	
N018280-001A	50	7.71				0.02155	0.00	9.70	9.70	1	0.00	209.05	
N018280-002A	50	7.43				0.02155	0.00	6.30	6.30	1	0.00	135.78	
N018280-001ADU	50	7.75				0.02155	0.00	9.90	9.90	1	0.00	213.36	
N018280-002AMS	50	7.78				0.02155	0.00	10.70	10.70	1	0.00	230.60	
N018280-002AMS	50	7.8				0.02155	0.00	10.90	10.90	1	0.00	234.91	

Silia Ramit 1/18/2016

Speciated, Alkalinity as CaCO3

SM 2320B

Date Analyzed:	1/12/16
Time:	7:45 PM
Analyzed By:	LSR

SAMPLE ID	OH	CO3	HCO3	TOTAL	CHECK	COMMENT	REMARKS
MB-1	0.00	0.00	1.08	1.08	1.08		P = 0
LCS-1	0.00	2.16	98.06	100.22	100.22		P < 1/2 T
N018280-001A	0.00	0.00	209.05	209.05	209.05		P = 0
N018280-002A	0.00	0.00	135.78	135.78	135.78		P = 0
N018280-001ADUP	0.00	0.00	213.36	213.36	213.36		P = 0
N018280-002AMS	0.00	0.00	230.60	230.60	230.60		P = 0
N018280-002AMSD	0.00	0.00	234.91	234.91	234.91		P = 0

Julia Ramit 1/18/2016

Alkalinity Preparation and Runlog

Book #5

Matrix: H_2O

Date Extracted: 1/12/16
Time Extracted: 1/12/16
Extracted By: [illegible]

Date Analyzed: 1/12/16
Time Analyzed: 1945
Analyzed By: [illegible]

Reagent Lot # / Reagent ID
Sodium Carbonate: CINV1500202G
Hydrochloric Acid: –
Sulfuric Acid: R151216A
$NaHCO_3$: 150601A

pH meter CALIBRATION
SLOPE: 96.1%
pH 4 - CINV 150828B
7 - ↓ A
10 - CINV 150708A

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added	Spike Conc.	Norm. Titrant	Vol. At pH = 8.3	Vol. At pH = 4.5	Dilution (F/I)	Calculations	Comments
	STANDARD ADDITION											
	#1	50 mL	10.90	1WST160105A	5 mL	0.05N	–	–	11.60	50/50	N H_2SO_4 (2.65g/g)(5 mL)	= 0.02155 / 724
	#2	↓	10.87	↓	↓	↓	–	–	11.60	↓	(53) (V titrant)	
1)	MBLK	50 mL	5.35	–	–	–	0.02155	0	0.05	50/50		
2)	LCS	↓	8.55	1WST160105B	1 mL	0.05N		0.05	4.65			
3)	N018280-001A		7.71	–	–	–		0	9.70			
4)	-002A		7.43	–	–	–		0	9.30			
5)	-001A DUP		7.75	–	–	–		0	9.90			
6)	-002A MS		7.78	1WST160105B	1 mL	0.05N		0	10.70			
7)	-002A MSD	↓	7.80	↓	↓	↓	↓	0	10.90	↓		
8)												
9)												
10)												
11)												
12)												
13)												
14)												
15)												
16)				$P = \frac{(V\ pH\ 8.3)(N\ H_2SO_4)(50{,}000)}{V_{sx}}$								
17)												
18)												
19)												
20)				$T = \frac{(V\ pH\ 4.5)(N\ H_2SO_4)(50{,}000)}{V_{sx}}$								
	MS											
	MSD											
	LCS											

Julia Ramit 1/18/2016

EPA 300.0

IC ARCUS
REV 1.0
101515

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

QC Batch Number: R105142
ASSET #: N018277 / N018280

Instrument ID: IC-02
Analyst: QBM
Date Analyzed: 1/7/2016

Method:

[X] EPA 300.0
[ ] EPA 7199

[ ] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)			X			
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?			X			
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?			X			
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)			X			
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)			X			
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM, GMP, ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 1/14/2016

2nd Level Reviewer _____ 1/19/2016 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 300.0
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Sulfate concentration, in mg/L, in the original sample as follows:

Sulfate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N018280-001C** concentration in mg/L is calculated as follows:

Sulfate, mg/L = 7.371 * 50

= 368.55

Reporting result in two significant figures,

Sulfate, mg/L = 370

ANALYSIS RUN LOG

DIONEX SCHEDULE - C:\DX\SCHEDULE\151210.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\151210.M	..\15121001.D01	1	1	1
2	,BLANK,	..\151210.M	..\15121001.D02	1	1	1
3	AUTOCAL1R	..\151210.M	..\15121001.D03	1	1	1
4	AUTOCAL2R	..\151210.M	..\15121001.D04	1	1	1
5	AUTOCAL3R	..\151210.M	..\15121001.D05	1	1	1
6	AUTOCAL4R	..\151210.M	..\15121001.D06	1	1	1
7	AUTOCAL5R	..\151210.M	..\15121001.D07	1	1	1
8	AUTOCAL6R	..\151210.M	..\15121001.D08	1	1	1
9	,ICV,ICV,1,	..\151210.M	..\15121001.D09	1	1	1
10	,ICB,ICB,1,	..\151210.M	..\15121001.D10	1	1	1
11	,MB-H2O,MBLK,1,	..\151210.M	..\15121001.D11	1	1	1
12	,LCS-H2O,LCS,1,	..\151210.M	..\15121001.D12	1	1	1
13	,N017796-015C,SAMP,	..\151210.M	..\15121001.D13	1	1	1
14	,N017796-016C,SAMP,	..\151210.M	..\15121001.D14	1	1	1
15	,N017823-001C,SAMP,	..\151210.M	..\15121001.D15	1	1	1
16	,N017823-002C,SAMP,	..\151210.M	..\15121001.D16	1	1	1
17	,N017823-003C,SAMP,	..\151210.M	..\15121001.D17	1	1	1
18	,N017823-004C,SAMP,	..\151210.M	..\15121001.D18	1	1	1
19	,N017823-017C,SAMP,	..\151210.M	..\15121001.D19	1	1	1
20	,N017823-018C,SAMP,	..\151210.M	..\15121001.D20	1	1	1
21	,CCV-1,CCV,1,	..\151210.M	..\15121001.D21	1	1	1
22	,CCB-1,CCB,1,	..\151210.M	..\15121001.D22	1	1	1
23	,N017823-017CMS,MS,	..\151210.M	..\15121001.D23	1	1	1
24	,N017823-017CMSD,MS	..\151210.M	..\15121001.D24	1	1	1
25	,N017823-018CDUP,DU	..\151210.M	..\15121001.D25	1	1	1
26	,N017823-018CMS,MS,	..\151210.M	..\15121001.D26	1	1	1
27	,N017823-005C,SAMP,	..\151210.M	..\15121001.D27	1	1	1
28	,N017823-006C,SAMP,	..\151210.M	..\15121001.D28	1	1	1
29	,N017823-007C,SAMP,	..\151210.M	..\15121001.D29	1	1	1
30	,N017823-008C,SAMP,	..\151210.M	..\15121001.D30	1	1	1
31	,N017823-009C,SAMP,	..\151210.M	..\15121001.D31	1	1	1
32	,N017823-011C,SAMP,	..\151210.M	..\15121001.D32	1	1	1
33	,CCV-2,CCV,1,	..\151210.M	..\15121001.D33	1	1	1
34	,CCB-2,CCB,1,	..\151210.M	..\15121001.D34	1	1	1
35	,N017823-013C,SAMP,	..\151210.M	..\15121001.D35	1	1	1
36	,N017823-016C,SAMP,	..\151210.M	..\15121001.D36	1	1	1
37	,N017823-020C,SAMP,	..\151210.M	..\15121001.D37	1	1	1
38	,N017824-002C,SAMP,	..\151210.M	..\15121001.D38	1	1	1
39	,N017824-003C,SAMP,	..\151210.M	..\15121001.D39	1	1	1
40	,N017824-004C,SAMP,	..\151210.M	..\15121001.D40	1	1	1
41	,CCV-3,CCV,1,	..\151210.M	..\15121001.D41	1	1	1
42	,CCB-3,CCB,1,	..\151210.M	..\15121001.D42	1	1	1
43	SHUTDOWN	..\SHUTDOWN		1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST150206A, B, C, D, E, F and ISST-151104A

12/13/2015

DIONEX SCHEDULE - C:\DX\SCHEDULE\160107.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\151210.M	..\16010701.D01	1	1	1
2	,BLANK,	..\151210.M	..\16010701.D02	1	1	1
3	,BLANK,	..\151210.M	..\16010701.D03	1	1	1
4	,CCV-1,CCV,1,	..\151210.M	..\16010701.D04	1	1	1
5	,CCB-1,CCB,1,	..\151210.M	..\16010701.D05	1	1	1
6	,MB-H2O,MBLK,1,	..\151210.M	..\16010701.D06	1	1	1
7	,LCS-H2O,LCS,1,	..\151210.M	..\16010701.D07	1	1	1
8	,N018277-001C,SAMP,	..\151210.M	..\16010701.D08	1	1	1
9	,N018277-002C,SAMP,	..\151210.M	..\16010701.D09	1	1	1
10	,N018277-003C,SAMP,	..\151210.M	..\16010701.D10	1	1	1
11	,N018277-004C,SAMP,	..\151210.M	..\16010701.D11	1	1	1
12	,N018277-005C,SAMP,	..\151210.M	..\16010701.D12	1	1	1
13	,N018277-008C,SAMP,	..\151210.M	..\16010701.D13	1	1	1
14	,N018277-001CMS,MS,	..\151210.M	..\16010701.D14	1	1	1
15	,N018277-001CMSD,MS	..\151210.M	..\16010701.D15	1	1	1
16	,CCV-2,CCV,1,	..\151210.M	..\16010701.D16	1	1	1
17	,CCB-2,CCB,1,	..\151210.M	..\16010701.D17	1	1	1
18	,N018277-005CDUP,DU	..\151210.M	..\16010701.D18	1	1	1
19	,N018277-008C,SAMP,	..\151210.M	..\16010701.D19	1	1	1
20	,N018280-001A,SAMP,	..\151210.M	..\16010701.D20	1	1	1
21	,N018280-001ADUP,DU	..\151210.M	..\16010701.D21	1	1	1
22	,N018280-002A,SAMP,	..\151210.M	..\16010701.D22	1	1	1
23	,N018280-002AMS,MS,	..\151210.M	..\16010701.D23	1	1	1
24	,N018280-002AMSD,MS	..\151210.M	..\16010701.D24	1	1	1
25	,N018280-001A,SAMP,	..\151210.M	..\16010701.D25	1	1	1
26	,N018280-001ADUP,DU	..\151210.M	..\16010701.D26	1	1	1
27	,N018280-002A,SAMP,	..\151210.M	..\16010701.D27	1	1	1
28	,CCV-3,CCV,1,	..\151210.M	..\16010701.D28	1	1	1
29	,CCB-3,CCB,1,	..\151210.M	..\16010701.D29	1	1	1
30	,N018280-002AMS,MS,	..\151210.M	..\16010701.D30	1	1	1
31	,N018280-002AMSD,MS	..\151210.M	..\16010701.D31	1	1	1
32	,CCV-4,CCV,1,	..\151210.M	..\16010701.D32	1	1	1
33	,CCB-4,CCB,1,	..\151210.M	..\16010701.D33	1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST150206A, B, C, D, E, F and ISST-151104A

1/14/2016

INITIAL CALIBRATION DATA SUMMARY

DIONEX METHOD PARAMETERS - 151210.MET

Method Comment:
Column ID:
Analyst ID:

System Parameters

System Name: ANIONS

Number of Detectors	1
Run Time (minutes)	13.00
Sampling Rate (seconds)	0.20
Detector 1 Type	COND
Detector 1 real time plot scale maximum (mV)	100.000
minimum	-10.000
Detector 1 Output Equivalent to 1 Volt (in mV)	100.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes

Data File Name: C:\DX\DATA\14120201.D02

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	Yes
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	Yes
Print Unknown Peaks	Yes
Print Chromatogram	Yes
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	0.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	0.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Format File Name: C:\DX\METHOD\DEFAULT.PRF

Integration Parameters

Starting Peak Width (seconds)	5.0
Peak Threshold	0.500
Peak Area Reject	2000
Area Reject for Reference Peaks	3000

Data Events

Time	Description
0.50	Start peak detection
0.51	Force baseline at start of this peak
0.51	Split peak
0.51	Force common baseline following this peak
0.52	End peaks on baseline penetration

12/13/2015

Calibration Parameters

Number Of Levels for Calibration.....	6
Force Calibration Curve Through Origin.....	No
Calibration Fit Type.....	Linear
Replace Or Average Calibrations.....	Replace
External or Internal Calibration.....	External
Calculate Unknowns by Area or Height.....	Area
Default Sample Volume.....	1.0
Default Dilution Factor.....	1.0
Default Response Factor for Unknown Peaks.....	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	

12/13/2015

Component Table -- Last Modified: 14:35 on Thu, 10 Dec 2015

Component # 1 Fluoride Retention Time 2.67
Reference Comp. Fluoride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 2.56120E-002
K1 = 2.57169E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	17064	2112
3	5.00000E-001	180504	19917
4	1.00000E+000	362546	39435
5	2.50000E+000	960987	108511
6	5.00000E+000	1938231	228674

Component # 2 Chloride Retention Time 3.99
Reference Comp. Chloride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 8.74795E-002
K1 = 3.44625E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	135636	14798
3	1.00000E+000	261892	28443
4	2.50000E+000	673356	75323
5	5.00000E+000	1391888	160160
6	1.00000E+001	2898167	345532

Component # 3 Nitrite Retention Time 4.85
Reference Comp. Nitrite Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 2.21150E-002
K1 = 1.96235E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	25967	1792
3	5.00000E-001	243511	16709
4	1.00000E+000	482603	35599
5	2.50000E+000	1242905	98957
6	5.00000E+000	2549206	217259

Component # 4 Bromide Retention Time 5.85
Reference Comp. Bromide Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = -4.89884E-003
K1 = 7.46895E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	2.00000E-001	19754	1739
3	5.00000E-001	75161	5311
4	1.00000E+000	138599	9876
5	2.50000E+000	331769	25826
6	5.00000E+000	670419	52575

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Component # 5 Nitrate Retention Time 6.60
Reference Comp. Nitrate Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 1.94362E-002
K1 = 1.38346E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	38649	2677
3	5.00000E-001	360959	24178
4	1.00000E+000	679825	50438
5	2.50000E+000	1755839	133376
6	5.00000E+000	3621997	282283

Component # 6 Phosphate Retention Time 8.61
Reference Comp. Phosphate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = -9.83280E-003
K1 = 4.18359E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	1.00000E-001	22475	1408
3	5.00000E-001	141985	6667
4	1.00000E+000	236043	12505
5	2.50000E+000	585513	33377
6	5.00000E+000	1203252	68081

Component # 7 Sulfate Retention Time 9.88
Reference Comp. Sulfate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = 1.05527E-001
K1 = 4.92818E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	115341	5021
3	2.00000E+000	385535	18842
4	5.00000E+000	971654	47914
5	1.00000E+001	1931092	97878
6	2.00000E+001	4077204	210496

Timed Events File: C:\DX\METHOD\AS4ASC2.TE

Step	Time	Description
Init		ACI Autosmp OFF
Init		ACI Autooff OFF
Init		ACI Pmpstrt ON
Init		ACI Inject OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
1	0.0	ACI Autosmp ON
2	2.3	ACI Autosmp OFF
2	2.3	ACI Autooff ON
3	2.4	ACI Inject ON
3	2.4	Start Sampling

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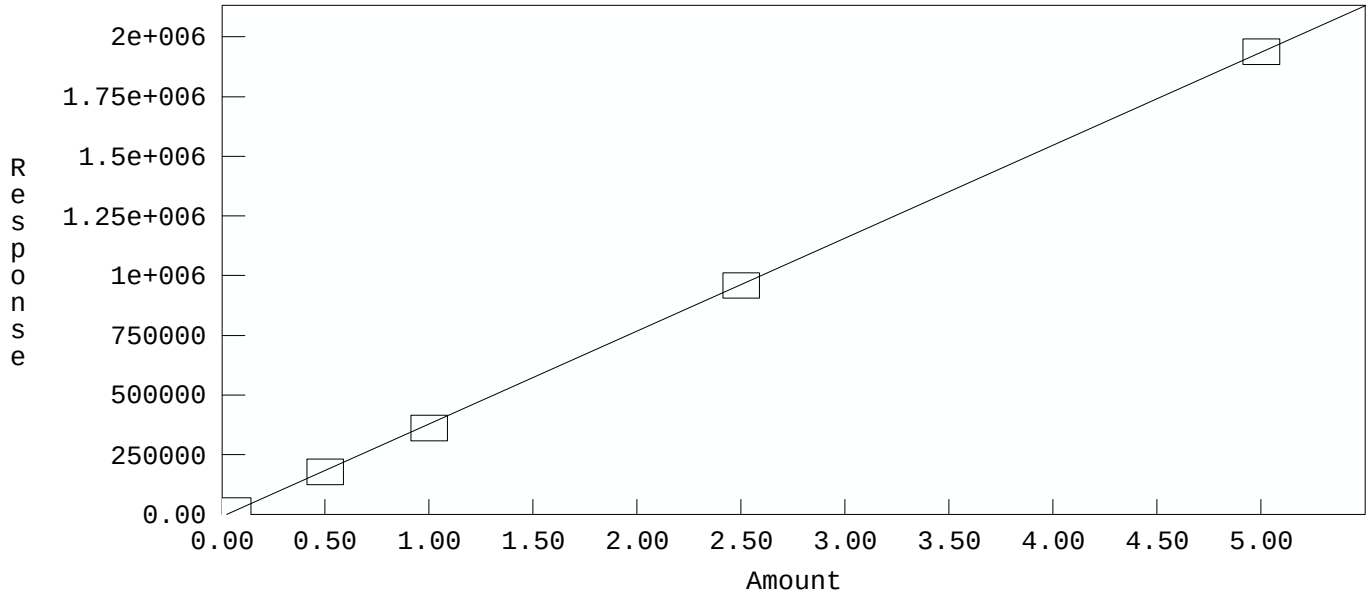
Method: 151210.MET - Last Updated: 14:35 on Thu, 10 Dec 2015

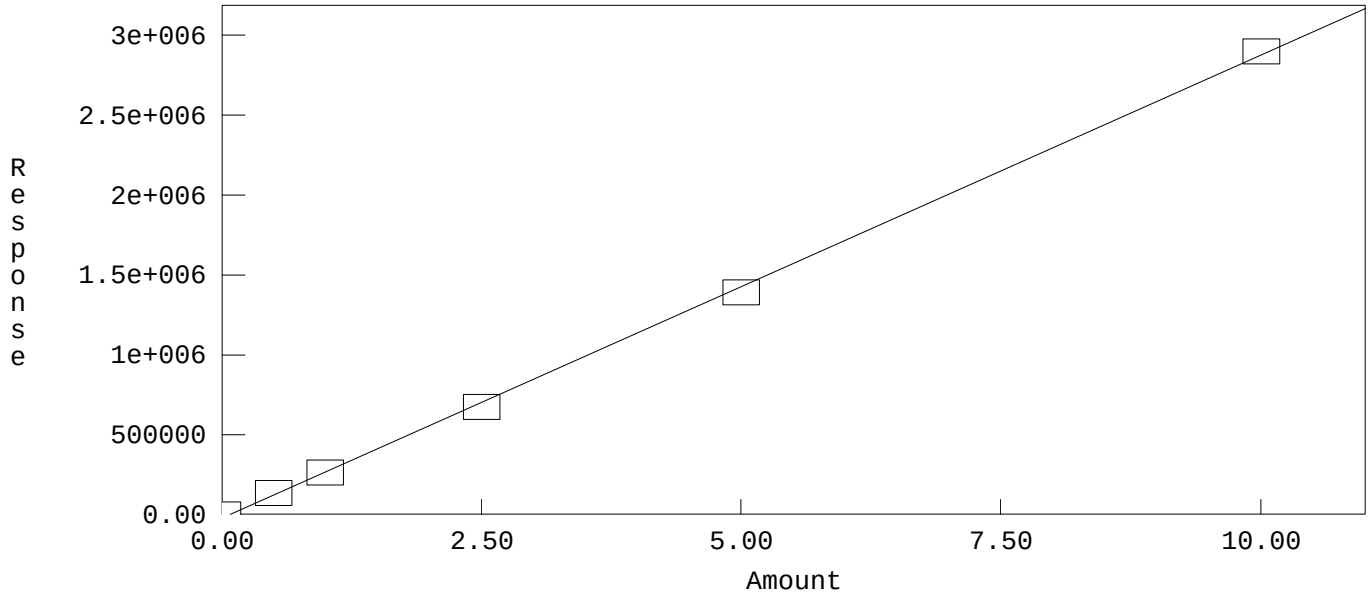
Component: Fluoride
Fit Type: Linear
r^2 = 0.999840
Amt = Resp * 2.572e-006 + 0.02561
Resp = Amt * 3.888e+005 + -9959
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\151210.MET

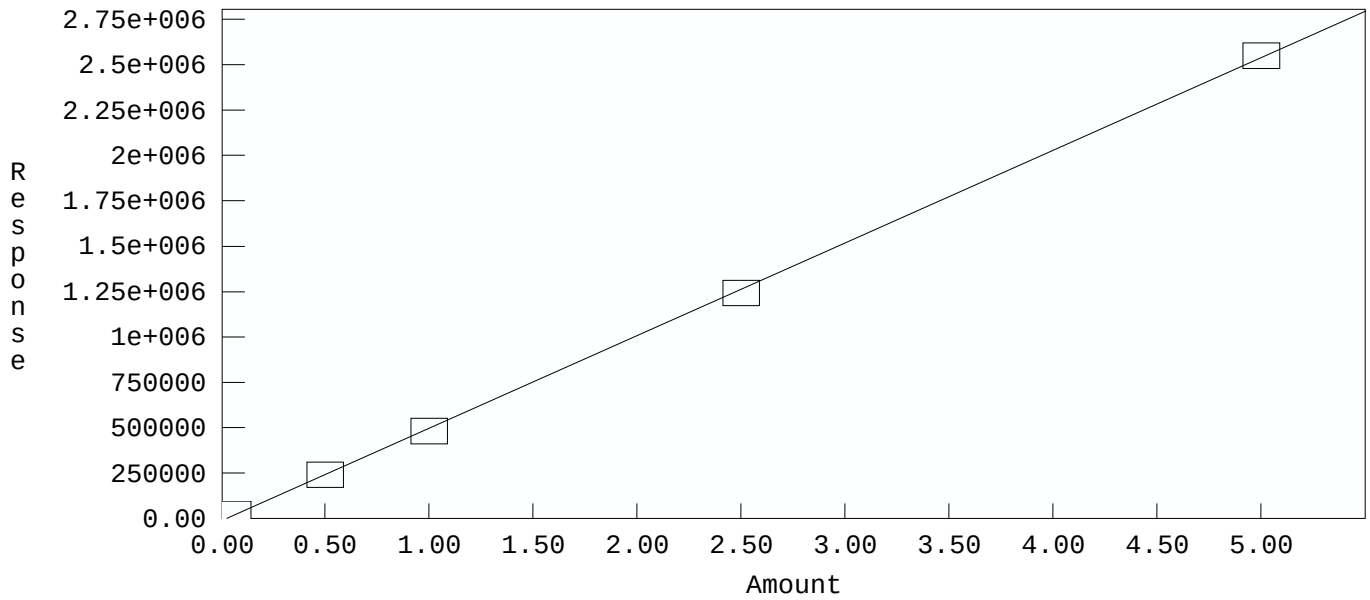
Component: Chloride
Fit Type: Linear
r^2 = 0.999471
Amt = Resp * 3.446e-006 + 0.08748
Resp = Amt * 2.902e+005 + -2.538e+004
Standardization: External
Calibration: Area

12/13/2015



Method: C:\DX\METHOD\151210.MET

Component: Nitrite
Fit Type: Linear
r^2 = 0.999783
Amt = Resp * 1.962e-006 + 0.02212
Resp = Amt * 5.096e+005 + -1.127e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\151210.MET

Component: Bromide
Fit Type: Linear
r^2 = 0.999558
Amt = Resp * 7.469e-006 + -0.004899
Resp = Amt * 1.339e+005 + 655.9
Standardization: External
Calibration: Area

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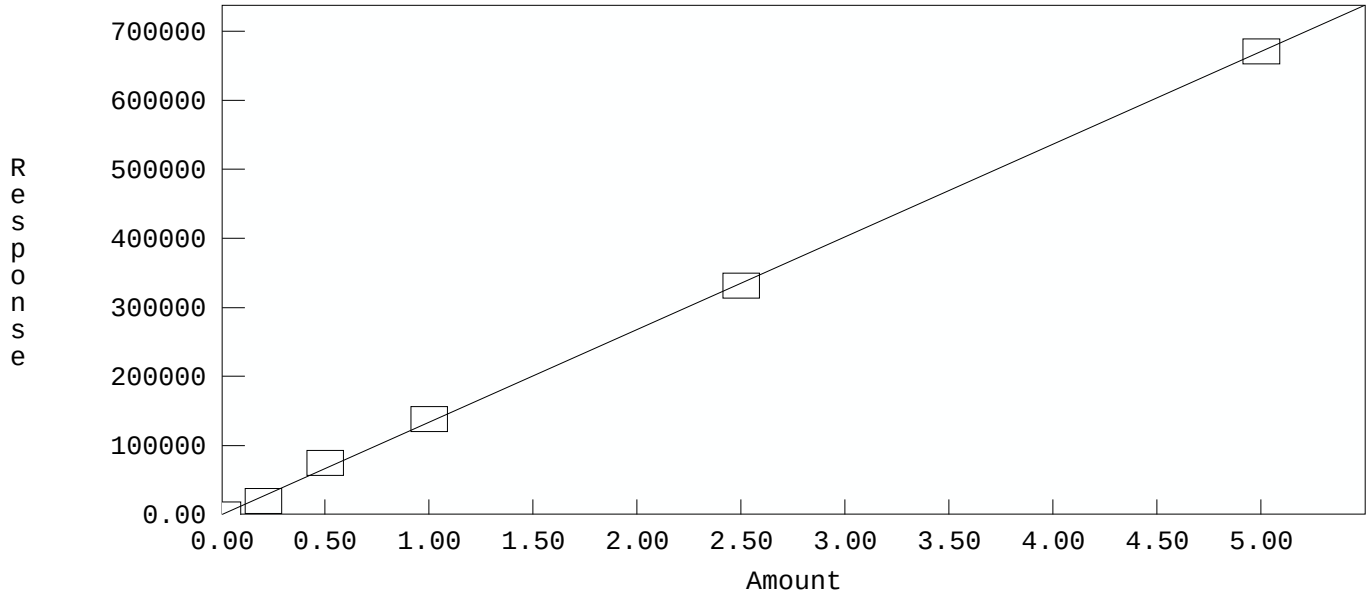
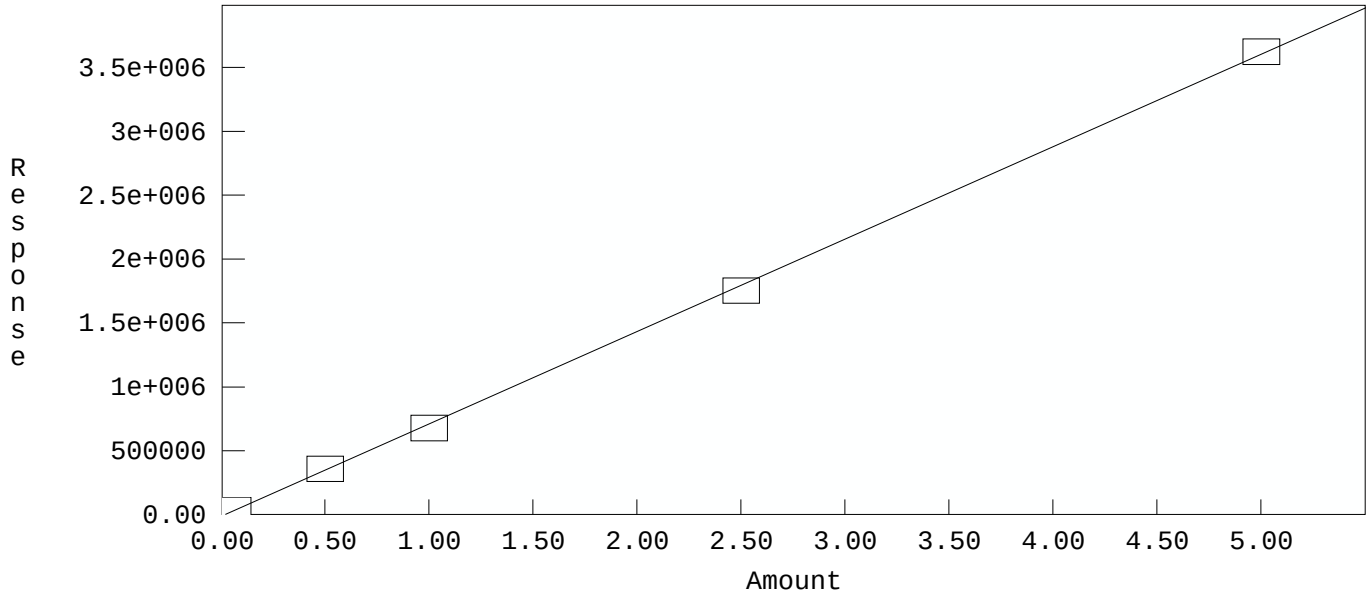


Method: C:\DX\METHOD\151210.MET

Component: Nitrate
Fit Type: Linear
r^2 = 0.999659
Amt = Resp * 1.383e-006 + 0.01944
Resp = Amt * 7.228e+005 + -1.405e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\151210.MET

Component: Phosphate
Fit Type: Linear
r^2 = 0.999351
Amt = Resp * 4.184e-006 + -0.009833
Resp = Amt * 2.39e+005 + 2350
Standardization: External
Calibration: Area

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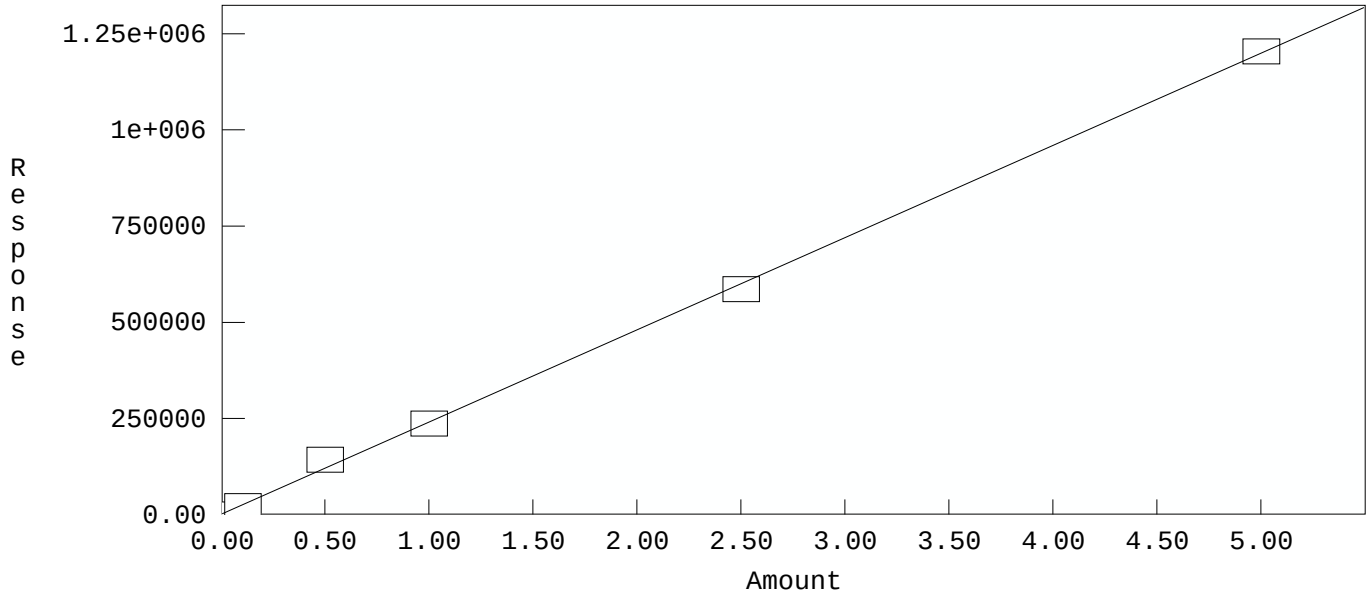
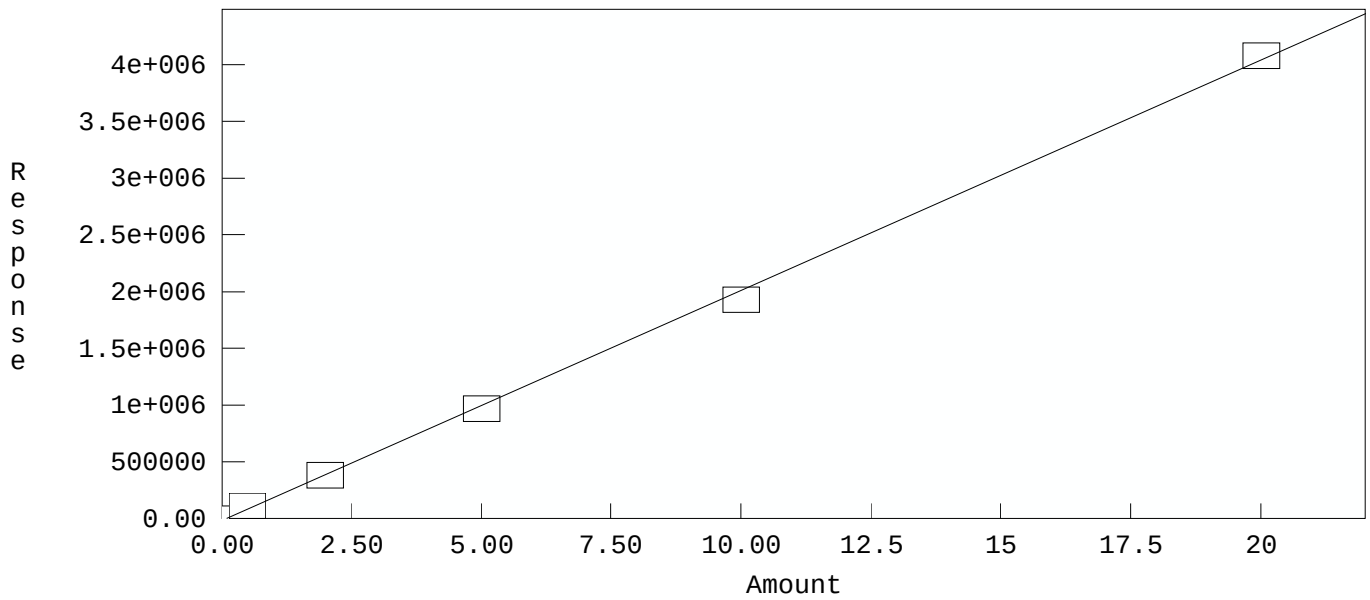


Method: C:\DX\METHOD\151210.MET

Component: Sulfate
Fit Type: Linear
r^2 = 0.999204
Amt = Resp * 4.928e-006 + 0.1055
Resp = Amt * 2.029e+005 + -2.141e+004
Standardization: External
Calibration: Area



12/13/2015

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ICV** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **12/10/2015** SeqNo: **2194185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.545	0.50	2.500	0	102	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCV** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.565	0.50	2.500	0	103	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCV** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.446	0.50	2.500	0	97.8	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCV** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.548	0.50	2.500	0	102	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCV** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.520	0.50	2.500	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	CCV-1	SampType:	CCV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCV	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194202

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.965	0.50	5.000	0	99.3	90	110				

Sample ID	CCV-2	SampType:	CCV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCV	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194206

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.753	0.50	5.000	0	95.1	90	110				

Sample ID	CCV-3	SampType:	CCV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCV	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194213

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	5.119	0.50	5.000	0	102	90	110				

Sample ID	CCV-4	SampType:	CCV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCV	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194215

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.901	0.50	5.000	0	98.0	90	110				

Sample ID	ICV	SampType:	ICV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	ICV	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	12/10/2015	SeqNo:	2198804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.866	0.50	5.000	0	97.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICB** SampType: **ICB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **ICB** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **12/10/2015** SeqNo: **2194186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-1** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCB** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.161	0.50									

Sample ID **CCB-2** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCB** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-3** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCB** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-4** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105142**
Client ID: **CCB** Batch ID: **R105142** TestNo: **EPA 300.0** Analysis Date: **1/7/2016** SeqNo: **2194201**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	CCB-1	SampType:	CCB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCB	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194203

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	CCB-2	SampType:	CCB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCB	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194207

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	CCB-3	SampType:	CCB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCB	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194214

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	CCB-4	SampType:	CCB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	CCB	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	1/7/2016	SeqNo:	2194216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	ICB	SampType:	ICB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105142
Client ID:	ICB	Batch ID:	R105142	TestNo:	EPA 300.0			Analysis Date:	12/10/2015	SeqNo:	2198805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 1/7/2016

Sample Name		Retention Time	Evaluation
CCV-1	Chloride	4.04	
CCV-2	Chloride	3.97	
CCV-3	Chloride	4.05	
CCV-4	Chloride	3.99	
	Average	4.013	
	Lower Limit	3.813	
	Upper Limit	4.213	
MB-R105142_CL	Chloride	4.05	PASS
LCS-R105142_CL	Chloride	4.09	PASS
N018280-001A	Chloride	4.03	PASS
N018280-001ADUP	Chloride	4.07	PASS
N018280-002A	Chloride	4.06	PASS
N018280-002AMS	Chloride	4.01	PASS
N018280-002AMSD	Chloride	4.09	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 1/7/2016

Sample Name		Retention Time	Evaluation
CCV-1	Sulfate	9.85	
CCV-2	Sulfate	9.81	
CCV-3	Sulfate	9.91	
CCV-4	Sulfate	9.79	
	Average	9.840	
	Lower Limit	9.640	
	Upper Limit	10.040	
MB-R105142_SO4	Sulfate	N.A.	N.A.
LCS-R105142_SO4	Sulfate	9.85	PASS
N018280-001A	Sulfate	9.77	PASS
N018280-001ADUP	Sulfate	9.95	PASS
N018280-002A	Sulfate	9.77	PASS
N018280-002AMS	Sulfate	9.95	PASS
N018280-002AMSD	Sulfate	9.73	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **INORGANIC IONS by Ion Chromatography**
Method Number: EPA 300.0
Analysis Date(s): 3/23/2015 & 10/12/2015
Analyst: Quennie Manimtim

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-02**

Acceptance Criteria: MDL < spike < 10X MDL

Datafile: 15032301.D06 15032301.D07 15032301.D08 15032301.D09 15032301.D10 15032301.D11 15032301.D12

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Fluoride	0.039	0.047	0.046	0.038	0.039	0.046	0.045	0.020	0.0040	3.143	**0.0125**	**0.10**	OK,meets criteria
Chloride	0.159	0.149	0.158	0.169	0.149	0.142	0.141	0.10	0.0101	3.143	**0.0317**	**0.50**	OK,meets criteria
Nitrite	0.033	0.027	0.030	0.027	0.030	0.026	0.026	0.020	0.0026	3.143	**0.0083**	**0.050**	OK,meets criteria
Nitrate	0.034	0.027	0.036	0.033	0.028	0.027	0.030	0.020	0.0036	3.143	**0.0114**	**0.050**	OK,meets criteria
Phosphate	0.050	0.053	0.060	0.046	0.049	0.062	0.044	0.050	0.0068	3.143	**0.0214**	**0.10**	OK,meets criteria
Sulfate	0.267	0.246	0.243	0.238	0.250	0.245	0.235	0.10	0.0104	3.143	**0.0327**	**0.50**	OK,meets criteria

Datafile: 15101201.D13 15101201.D14 15101201.D15 15101201.D16 15101201.D17 15101201.D18 15101201.D19

Bromide	0.074	0.045	0.102	0.055	0.057	0.071	0.061	0.10	0.0185	3.143	**0.0581**	**0.50**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

SM 3500-Cr B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105312 **Analyst:** QBM

ASSET #: N018280 **Date Analyzed:** 1/19/16

Method: 3500_Cr

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)	X					
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 1/20/2016

2nd Level Reviewer _____ 1/20/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 3500-Cr B
TEST NAME: Hexavalent Chromium by Colorimetric Method
MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in ug/L, in the original sample as follows:

Hexavalent Chromium, ug/L = A * DF

Where:

A= ug/L, UV-VIS Hexavalent Chromium calculated concentration

DF= dilution factor

For **N018280-002C,** concentration in ug/L is calculated as follows:

Hexavalent Chromium, ug/L = 368.177 * 2

= 736.354 ug/L

Reporting result in 2 significant figures,

Hexavalent Chromium, ug/L = 740

1/20/2016

INITIAL CALIBRATION DATA SUMMARY

THERMO SPECTRONIC ~ VISION32 SOFTWARE V1.25

Operator Name	(None Entered)		
Department	(None Entered)	Date of Report	1/19/2016
Organisation	(None Entered)	Time of Report	5:35:57
Information	(None Entered)		

Calibration - EPA 3500_CRB_01192016.fqc

Operator Name	(None Entered)
Instrument ID	152119

Calibration Method - EPA 3500_CRB_01192016.fqc

Description	Hexavalent Chromium by EPA 3500_CRB (Colorimetric)		
Operator Name	QBM		
Quant Mode	Single Lambda	Standards	5
Lambda 1	540.0 nm	Replicates	1
Lambda 2	Off	Initial Curve Fit	Linear
Lambda 3	Off	Conc. Units	ug/L
Integ. Time	00:00:01	Conc. Dec. Places	3
Lamp Change	325.0 nm	Flier Detection	Off
Bandwidth	2.0 nm	Valid Until	1/19/2017
Method Status	Unlocked		

Standards Table - EPA 3500_CRB_01192016.fqc

Standard	Conc.	Use	540.0nm	Errors
Standard01				
	10.000	Yes	0.009	None
Standard02				
	100.000	Yes	0.083	None
Standard03				
	250.000	Yes	0.204	None
Standard04				
	500.000	Yes	0.396	None
Standard05				
	1000.000	Yes	0.758	None

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.

Errors Key

None : No Errors Detected
I : Invalid Data

Calibration Line / Curve Statistics

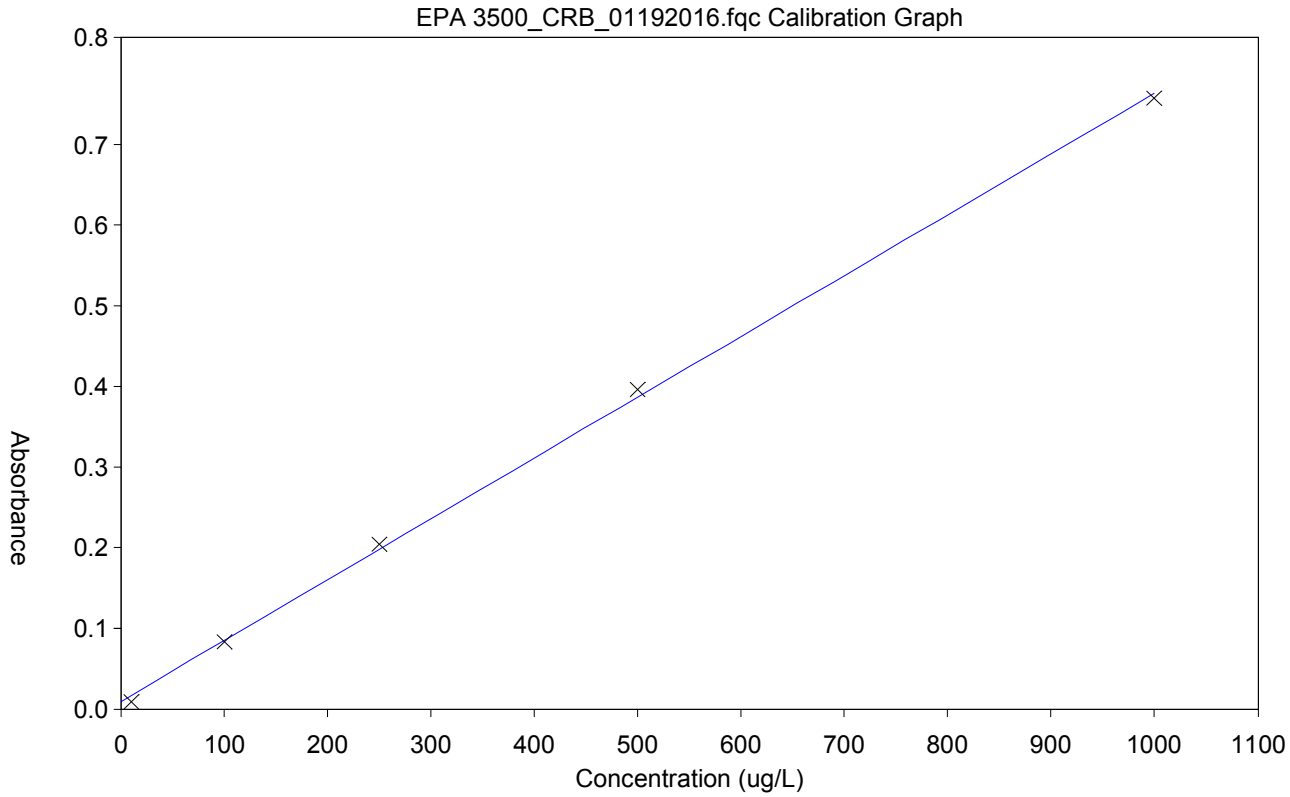
Equation	A = 0.0008 x Conc + 0.0095
Selected Fit	Linear

THERMO SPECTRONIC ~ VISION32 SOFTWARE V1.25

Operator Name	(None Entered)		
Department	(None Entered)	Date of Report	1/19/2016
Organisation	(None Entered)	Time of Report	5:35:57
Information	(None Entered)		

Coefficient	0.999359
Sum of Residuals	0.0002

Calibration Graph



ICAL: IWST151020A
ICV/LCS/MS/MSD: IWST160119A
CCV: ISST150306A
10% H2SO4: R151214G
1,5-Diphenylcarbazide Solution: R160119A

1/20/2016 **237**

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID **CCV-1** SampType: **CCV** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **CCV** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	515.877	10	500.0	0	103	90	110				

Sample ID **ICV** SampType: **ICV** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105312**
Client ID: **ICV** Batch ID: **R105312** TestNo: **SM 3500-Cr B** Analysis Date: **1/19/2016** SeqNo: **2203400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	257.331	10	250.0	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID	**CCB-1**	SampType:	**CCB**	TestCode:	**3500_CrBPG**	Units:	**µg/L**	Prep Date:		RunNo:	**105312**
Client ID:	**CCB**	Batch ID:	**R105312**	TestNo:	**SM 3500-Cr B**			Analysis Date:	**1/19/2016**	SeqNo:	**2203397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	-9.752	10									

Sample ID	**ICB**	SampType:	**ICB**	TestCode:	**3500_CrBPG**	Units:	**µg/L**	Prep Date:		RunNo:	**105312**
Client ID:	**ICB**	Batch ID:	**R105312**	TestNo:	**SM 3500-Cr B**			Analysis Date:	**1/19/2016**	SeqNo:	**2203399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	-10.19	10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Calibration Method - EPA 3500_CRB_01192016.fqc 1/19/2016 17:36

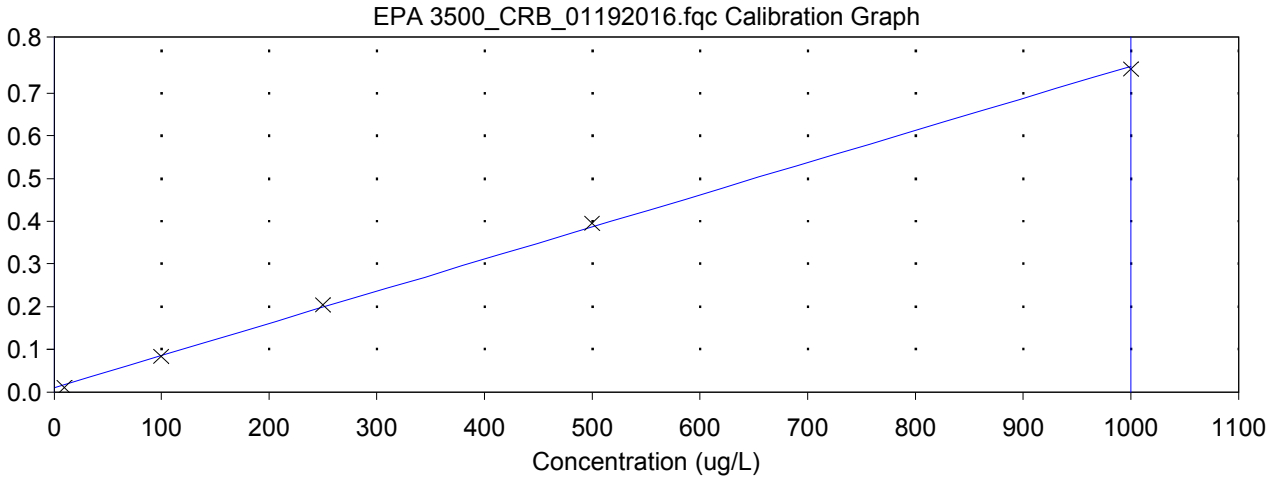
Description	Hexavalent Chromium by EPA 3500_CRB (Colorimetric)		
Operator Name	QBM		
Quant Mode	Single Lambda	Standards	5
Lambda 1	540.0 nm	Replicates	1
Lambda 2	Off	Initial Curve Fit	Linear
Lambda 3	Off	Conc. Units	ug/L
Integ. Time	00:00:01	Conc. Dec. Places	3
Lamp Change	325.0 nm	Flier Detection	Off
Bandwidth	2.0 nm	Valid Until	1/19/2017
Method Status	Unlocked		

Calibration Line / Curve Statistics

Equation	A = 0.0008 x Conc + 0.0095
Selected Fit	Linear
Coefficient	0.999359
Sum of Residuals	0.0002

Standard	Conc.	Use	540.0nm	Errors
Standard01	10.000	Yes	0.009	None
Standard02	100.000	Yes	0.083	None
Standard03	250.000	Yes	0.204	None
Standard04	500.000	Yes	0.396	None
Standard05	1000.000	Yes	0.758	None

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.



Batch : Hexavalent Chromium_01192016001.qre

	Sample	540.0nm	Conc.	Errors
1	,ICV,ICV,1,	0.204	257.331	None
2	,ICB,ICB,1,	0.002	-10.190	I
3	,MB-,MBLK,1,	0.002	-10.124	I
4	,LCS-,LCS,1,	0.083	97.360	None
5	,N018231-002D,SAMP,2,	0.289	370.714	None
6	,N018231-002DDUP,DUP,2,	0.289	370.429	None
7	,N018280-002C,SAMP,2,	0.287	368.177	None
8	,N018280-002CMS,MS,2,	0.478	620.645	None
9	,N018280-002CMSD,MSD,2,	0.478	621.007	None
10	,CCV-1,CCV,1,	0.399	515.877	None
11	,CCB-1,CCB,1,	0.002	-9.752	I

ICAL: IWST151020A
ICV/LCS/MS/MSD: IWST160119A
CCV: ISST150306A
10% H2SO4: R151214G
1,5-Diphenylcarbazide Solution: R160119A

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.

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SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105297 **Analyst:** REB

ASSET #: N018280 **Date Analyzed:** 1/17/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer REB 1/19/2016 Date: —

2nd Level Reviewer Nancy 1/19/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: Water

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018280-002D**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.6697*5

= 3.3485 mg/L

Reporting results in two significant figures:

Nitrate/Nitrite-N, mg/L = 3.3 mg/L

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

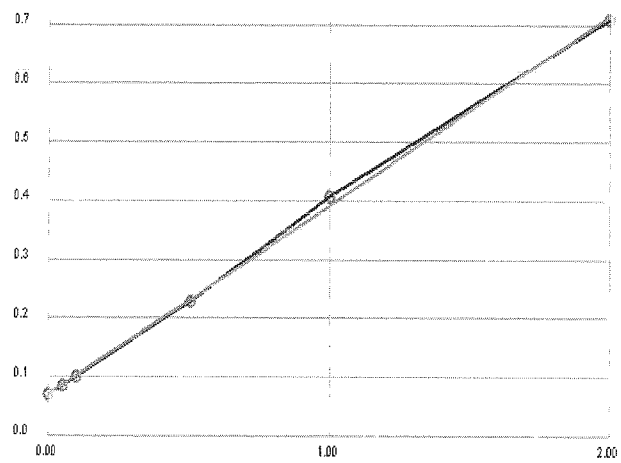
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3218x + 0.071
Correlation	.999641



Calibrant	Energy	Set	Conc
1	0.0693	0.0000	-0.0053
2	0.0859	0.0500	0.0463
3	0.1012	0.1000	0.0938
4	0.2294	0.5000	0.4922
5	0.4061	1.0000	1.0413
6	0.7087	2.0000	1.9817

Notes:
R1 buffer - R160112 D
R2 coloring Rgt - R151222C
2% CuSO4 - R160112C
1° - 1SST - 150202D
2° - 1SST - 150730F

REB 1/19/2016

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INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **ICV** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.502	0.050	0.5000	0	100	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **CCV** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.471	0.050	0.5000	0	94.2	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **CCV** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.485	0.050	0.5000	0	97.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **ICB** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **CCB** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105297**
Client ID: **CCB** Batch ID: **R105297** TestNo: **SM4500-NO3** Analysis Date: **1/17/2016** SeqNo: **2202799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 01-17-2016 20:34
Time end: 01-17-2016 22:23

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	22:00:25	0.0012		0.0714
2	<BLANK>	22:01:25	-0.0041		0.0697
3	<CAL1>	22:02:19	-0.0053	[0]	0.0693
4	<CAL2>	22:03:20	0.0463	[0.05]	0.0859
5	<CAL3>	22:04:16	0.0938	[0.1]	0.1012
6	<CAL4>	22:05:11	0.4922	[0.5]	0.2294
7	<CAL5>	22:06:11	1.0413	[1]	0.4061
8	<CAL6>	22:07:06	1.9817	[2]	0.7087
9	,BLANK,BLANK,1,	22:07:55	0.0419		0.0845
10	,ICV,ICV,1,	22:08:37	0.5022		0.2326
11	,ICB,ICB,1,	22:09:27	0.0071		0.0733
12	,MB-H2O,MBLK,1,	22:10:09	0.0006		0.0712
13	,LCS-H2O,LCS,1,	22:10:58	0.4565		0.2179
14	,N018280-001D,SAMP,1,	22:11:41	0.0164		0.0763
15	,N018280-001DDUP,DUP,1,	22:12:23	-0.0025		0.0702
16	,N018280-001DMS,MS,1,	22:13:12	0.5357		0.2434
17	,N018280-001DMSD,MSD,1,	22:13:54	0.5609		0.2515
18	,N018331-001D,SAMP,1,	22:14:37	0.5506		0.2482
19	,N018331-002D,SAMP,1,	22:15:25	0.3126		0.1716
20	,N018331-003D,SAMP,1,	22:16:09	0.7188		0.3023
21	,BLANK,BLANK,1	22:16:58	0.0124		0.0750
22	,CCV-1,CCV,1,	22:17:40	0.4708		0.2225
23	,CCB-1,CCB,1,	22:18:23	0.0040		0.0723
24	,N018280-002D,SAMP,5,	22:19:11	0.6697		0.2865
25	,BLANK,BLANK,1	22:19:54	0.0161		0.0762
26	,CCV-2,CCV,1,	22:20:36	0.4848		0.2270

REB 1/19/2016

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
27	,CCB-2,CCB,1,	22:21:26	-0.0003		0.0709

REB 1/19/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 01/17/2016
Time Analyzed: 08:34 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160112D
Color reagent: R151222C
2% Copper Sulfate: R160112C
Ammonium Hydroxide: CINV-151130B

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018280-001D		8.25						
2)	N018280-002D		7.87						
3)	N018331-001D		8.81						
4)	N018331-002D		8.98						
5)	N018331-003D		8.96						
6)									
7)									
8)									
9)									
10)									
11)									
12)									
13)									
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

REB 1/19/2016

EPA 6010B
Dissolved

METALS ARCUS
REV 0
101215

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 55832 **Instrument ID:** ICP-02
ASSET #: N018280 **Analyst:** CEI
Method: **Date Analyzed:** 1/16/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X	X				
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

% Rec of Na in N018280-002B PS/MS/MSD failed due to high analyte concentration present in the sample.
However LCS passed criteria.
12 injection between CCV4 and CCV5. LCS passed CCV criteria ; affected are QC samples
N018280-002B-MS2 & N018280-002B-MSD2

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer [signature] 01/18/2016 Date: —

2nd Level Reviewer [signature] 1/19/2016 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 55832 **Instrument ID:** ICP-02
ASSET #: N018280 **Analyst:** CEI
Method: **Date Analyzed:** 1/17/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018280 only.
% Rec of Ca in LLCCV2 failed low bias. However, Sample concentration is high.
% Rec of Ca , Fe & Mg in N018277-002B PS & ~~Fe~~ Ca in MS/MSD failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 01/18/2016 Date: –
2nd Level Reviewer 1/19/2016 Date: –

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Water

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018280-001B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.06528 * 1 * (25/25) * 1000

Iron , ug/L = 65.28

Reporting results in two significant figures,

Iron , ug/L = 65

% RSD SUMMARY

RSD SUMMARY: 160116A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Na	0	4.45	15	PASS
Standard1	ICAL	1	Na	0.1	8.025	15	PASS
Standard2	ICAL	1	Na	1	0.54	15	PASS
Standard3	ICAL	1	Na	5	0.11	15	PASS
Standard4	ICAL	1	Na	10	0.24	15	PASS
Standard5	ICAL	1	Na	20	0.22	15	PASS
Standard6	ICAL	1	Na	40	0.083	15	PASS
ICV	ICV	1	Na	10.058	0.32	15	PASS
ICB	ICB	1	Na	0.0033	142.99	15	<PQL
ICSA1	ICSA	1	Na	0.012	127.52	15	<PQL
ICSAB1	ICSAB	1	Na	10.035	0.3	15	PASS
CCV1	CCV	1	Na	9.9	0.32	15	PASS
CCB1	CCB	1	Na	0.036	24.49	15	<PQL
CCV2	CCV	1	Na	9.77	0.36	15	PASS
CCB2	CCB	1	Na	0.019	8.55	15	PASS
CCV3	CCV	1	Na	9.81	0.38	15	PASS
CCB3	CCB	1	Na	0.017	37.94	15	<PQL
MB-55832	MBLK	1	Na	0.018	90.87	15	<PQL
LCS2-55832	LCS	1	Na	20.6	0.12	15	PASS
N018280-001B	SAMP	100	Na	8.11	0.38	15	PASS
N018280-002B	SAMP	100	Na	15.31	0.066	15	PASS
N018280-002B	SAMP	500	Na	3.16	0.057	15	PASS
N018280-002B-PS	PS	100	Na	15.97	0.2	15	PASS
CCV4	CCV	1	Na	9.76	0.31	15	PASS
CCB4	CCB	1	Na	0.015	35.52	15	<PQL
N018280-002B-MS2	MS	100	Na	15.61	0.064	15	PASS
N018280-002B-MSD2	MSD	100	Na	15.72	0.18	15	PASS
CCV5	CCV	1	Na	9.91	0.12	15	PASS
CCB5	CCB	1	Na	0.011	53.042	15	<PQL
ICSA2	ICSA	1	Na	0.0099	63.0064	15	<PQL
ICSAB2	ICSAB	1	Na	9.99	0.12	15	PASS
CCV6	CCV	1	Na	9.89	0.28	15	PASS
CCB6	CCB	1	Na	0.0084	79.18	15	<PQL
ICSA3	ICSA	1	Na	0.015	20.011	15	<PQL
ICSAB3	ICSAB	1	Na	9.92	0.3	15	PASS

RSD SUMMARY: 160117A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Ca	0	3.13	15	PASS
Standard1	ICAL	1	Ca	0.2	9.98	15	PASS
Standard2	ICAL	1	Ca	1	0.52	15	PASS
Standard3	ICAL	1	Ca	2	1.6	15	PASS
Standard4	ICAL	1	Ca	5	0.36	15	PASS
Standard5	ICAL	1	Ca	7.5	0.56	15	PASS
Standard6	ICAL	1	Ca	10	0.48	15	PASS
Standard7	ICAL	1	Ca	20	0.15	15	PASS
ICV	ICV	1	Ca	10.082	0.52	15	PASS
ICB	ICB	1	Ca	0.0033	1281.87	15	<PQL
LLCCV1	CCV1	1	Ca	0.17	17.73	20	PASS
ICSA1	ICSA	1	Ca	453.14	0.1	15	PASS
ICSA1	ICSA	1	Ca	463.85	0.089	15	PASS
ICSAB1	ICSAB	1	Ca	500.09	0.12	15	PASS
CCV1	CCV	1	Ca	9.58	0.21	15	PASS
CCB1	CCB	1	Ca	-0.039	37.83	15	<PQL
MB-55832	MBLK	1	Ca	-0.072	40.72	15	<PQL
LCS1-55832	LCS	1	Ca	9.78	0.59	15	PASS
CCV2	CCV	1	Ca	9.48	0.4	15	PASS
CCB2	CCB	1	Ca	-0.068	4.84	15	PASS
N018277-002B	SAMP	1	Ca	97.74	0.77	15	PASS
N018277-002B	SAMP	5	Ca	19.86	0.6	15	PASS
N018277-002B-PS	PS	1	Ca	103.75	0.47	15	PASS
N018277-002B-MS1	MS	1	Ca	101.57	0.17	15	PASS
N018277-002B-MSD1	MSD	1	Ca	101.57	0.045	15	PASS
N018280-001B	SAMP	1	Ca	84.2	0.23	15	PASS
N018280-002B	SAMP	1	Ca	183.42	0.059	15	PASS
N018302-001B	SAMP	1	Ca	127.07	0.16	15	PASS
N018304-013B	SAMP	1	Ca	116.5	0.11	15	PASS
N018304-014B	SAMP	1	Ca	123.3	0.18	15	PASS
CCV3	CCV	1	Ca	9.37	0.55	15	PASS
CCB3	CCB	1	Ca	-0.076	47.73	15	<PQL
CCV4	CCV	1	Ca	9.39	0.066	15	PASS
CCB4	CCB	1	Ca	-0.056	19.64	15	<PQL
LLCCV2	CCV2	1	Ca	0.13	26.42	20	<PQL
ICSA3	ICSA	1	Ca	447.12	0.068	15	PASS
ICSAB2	ICSAB	1	Ca	481.74	0.11	15	PASS
CalBlk	IBLK	1	Fe	0	10.37	15	PASS
Standard1	ICAL	1	Fe	0.02	2.021	15	PASS
Standard2	ICAL	1	Fe	0.05	0.84	15	PASS
Standard3	ICAL	1	Fe	2	0.16	15	PASS
Standard4	ICAL	1	Fe	5	0.014	15	PASS

RSD SUMMARY: 160117A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
Standard5	ICAL	1	Fe	7.5	0.081	15	PASS
Standard6	ICAL	1	Fe	10	0.12	15	PASS
Standard7	ICAL	1	Fe	20	0.19	15	PASS
ICV	ICV	1	Fe	10.031	0.072	15	PASS
ICB	ICB	1	Fe	0.00038	259.1	15	<PQL
LLCCV1	CCV1	1	Fe	0.02	0.96	20	PASS
ICSA1	ICSA	1	Fe	180.91	0.22	15	PASS
ICSA1	ICSA	1	Fe	175.07	0.51	15	PASS
ICSAB1	ICSAB	1	Fe	189.44	0.88	15	PASS
CCV1	CCV	1	Fe	9.87	0.079	15	PASS
CCB1	CCB	1	Fe	0.00054	134.6	15	<PQL
MB-55832	MBLK	1	Fe	-0.00083	66.2	15	<PQL
LCS1-55832	LCS	1	Fe	0.11	0.62	15	PASS
CCV2	CCV	1	Fe	9.9	0.19	15	PASS
CCB2	CCB	1	Fe	-0.00043	137	15	<PQL
N018277-002B	SAMP	1	Fe	0.052	2.53	15	PASS
N018277-002B	SAMP	5	Fe	0.011	3.067	15	PASS
N018277-002B-PS	PS	1	Fe	0.13	0.053	15	PASS
N018277-002B-MS1	MS	1	Fe	0.14	0.48	15	PASS
N018277-002B-MSD1	MSD	1	Fe	0.14	0.062	15	PASS
N018280-001B	SAMP	1	Fe	0.065	0.6	15	PASS
N018280-002B	SAMP	1	Fe	0.0038	6.59	15	PASS
N018302-001B	SAMP	1	Fe	0.0025	10.93	15	PASS
N018304-013B	SAMP	1	Fe	0.0039	5.92	15	PASS
N018304-014B	SAMP	1	Fe	-0.00072	26.82	15	<PQL
CCV3	CCV	1	Fe	9.89	0.15	15	PASS
CCB3	CCB	1	Fe	0.00056	56.99	15	<PQL
CCV4	CCV	1	Fe	9.87	0.033	15	PASS
CCB4	CCB	1	Fe	0.00059	150.0019	15	<PQL
LLCCV2	CCV2	1	Fe	0.02	1.77	20	PASS
ICSA3	ICSA	1	Fe	172.36	0.2	15	PASS
ICSAB2	ICSAB	1	Fe	187.22	0.71	15	PASS
CalBlk	IBLK	1	Mg	0	3.54	15	PASS
Standard1	ICAL	1	Mg	0.1	0.78	15	PASS
Standard2	ICAL	1	Mg	1	0.86	15	PASS
Standard3	ICAL	1	Mg	2	0.25	15	PASS
Standard4	ICAL	1	Mg	5	0.13	15	PASS
Standard5	ICAL	1	Mg	7.5	0.13	15	PASS
Standard6	ICAL	1	Mg	10	0.27	15	PASS
Standard7	ICAL	1	Mg	20	0.43	15	PASS
ICV	ICV	1	Mg	9.94	0.19	15	PASS
ICB	ICB	1	Mg	-0.0004	200.77	15	<PQL

RSD SUMMARY: 160117A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
LLCCV1	CCV1	1	Mg	0.11	1.65	20	PASS
ICSA1	ICSA	1	Mg	450.39	0.32	15	PASS
ICSA1	ICSA	1	Mg	452.9	0.67	15	PASS
ICSAB1	ICSAB	1	Mg	491.76	0.94	15	PASS
CCV1	CCV	1	Mg	9.11	0.097	15	PASS
CCB1	CCB	1	Mg	-0.0021	20.82	15	<PQL
MB-55832	MBLK	1	Mg	-0.0024	19.71	15	<PQL
LCS1-55832	LCS	1	Mg	9.58	0.84	15	PASS
CCV2	CCV	1	Mg	9.085	0.24	15	PASS
CCB2	CCB	1	Mg	-0.0026	15.067	15	<PQL
N018277-002B	SAMP	1	Mg	14.97	0.099	15	PASS
N018277-002B	SAMP	5	Mg	3.15	0.31	15	PASS
N018277-002B-PS	PS	1	Mg	22.89	0.15	15	PASS
N018277-002B-MS1	MS	1	Mg	24.25	0.17	15	PASS
N018277-002B-MSD1	MSD	1	Mg	24.13	0.1	15	PASS
N018280-001B	SAMP	1	Mg	12.99	0.16	15	PASS
N018280-002B	SAMP	1	Mg	26.61	0.17	15	PASS
N018302-001B	SAMP	1	Mg	20.84	0.066	15	PASS
N018304-013B	SAMP	1	Mg	19.31	0.15	15	PASS
N018304-014B	SAMP	1	Mg	20.51	0.061	15	PASS
CCV3	CCV	1	Mg	9.057	0.26	15	PASS
CCB3	CCB	1	Mg	-0.0029	12.75	15	PASS
CCV4	CCV	1	Mg	9.045	0.18	15	PASS
CCB4	CCB	1	Mg	-0.0026	11.8	15	PASS
LLCCV2	CCV2	1	Mg	0.087	1.39	20	PASS
ICSA3	ICSA	1	Mg	435.38	0.24	15	PASS
ICSAB2	ICSAB	1	Mg	475.57	0.7	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160116A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151123H,0.025<50mL
Standard2	MWST-151123H,0.25<50mL
Standard3	MWST-151123H,1.25<50mL
Standard4	MWST-151123H,2.5<50mL
Standard5	MWST-151123H,5<50mL
Standard6	MWST-151123H,10<50mL
ICV	MSST-140120B/-111006A/-150717A
CCV	MWST-151123H,2.5<50mL
ICSA/ICSAB	MWST151123F/I
Int. Std. (Sc):	MSST-150923A
PS Spike	MSST-140120B/-111006A/-150717A

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	01/16/2016	08:03:08 AM
2	Standard1	ICAL	1	01/16/2016	08:06:26 AM
3	Standard2	ICAL	1	01/16/2016	08:09:43 AM
4	Standard3	ICAL	1	01/16/2016	08:13:01 AM
5	Standard4	ICAL	1	01/16/2016	08:16:53 AM
6	Standard5	ICAL	1	01/16/2016	08:20:45 AM
7	Standard6	ICAL	1	01/16/2016	08:24:39 AM
8	ICV	ICV	1	01/16/2016	08:31:09 AM
1	ICB	ICB	1	01/16/2016	08:35:01 AM
3	ICSA1	ICSA	1	01/16/2016	08:38:19 AM
4	ICSAB1	ICSAB	1	01/16/2016	08:41:37 AM
98	MB-55817	MBLK	1	01/16/2016	08:45:02 AM
99	LCS-55817	LCS	1	01/16/2016	08:48:21 AM
100	N018349-001D	SAMP	5	01/16/2016	08:52:18 AM
101	N018349-002D	SAMP	5	01/16/2016	08:55:39 AM
102	N018349-003D	SAMP	5	01/16/2016	08:59:00 AM
103	N018349-004D	SAMP	5	01/16/2016	09:02:21 AM
104	N018400-001B	SAMP	5	01/16/2016	09:05:42 AM
105	N018400-002B	SAMP	5	01/16/2016	09:10:38 AM
106	N018400-001B	SAMP	100	01/16/2016	09:15:31 AM
107	N018400-002B	SAMP	100	01/16/2016	09:18:52 AM
5	CCV1	CCV	1	01/16/2016	09:22:13 AM
1	CCB1	CCB	1	01/16/2016	09:26:06 AM
108	N018349-004D	SAMP	25	01/16/2016	09:29:24 AM
109	N018349-004D-PS	PS	5	01/16/2016	09:32:45 AM
110	N018349-004D-MS2	MS	5	01/16/2016	09:36:38 AM
111	N018349-004D-MSD2	MSD	5	01/16/2016	09:40:31 AM
112	MB-55794	MBLK	1	01/16/2016	09:44:24 AM
113	LCS2-55794	LCS	1	01/16/2016	09:47:54 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
114	N018198-001A	SAMP	100	01/16/2016	09:51:50 AM
115	N018199-001A	SAMP	100	01/16/2016	09:56:12 AM
116	N018198-001A	SAMP	1000	01/16/2016	10:00:36 AM
117	N018199-001A	SAMP	1000	01/16/2016	10:03:57 AM
5	CCV2	CCV	1	01/16/2016	10:07:18 AM
1	CCB2	CCB	1	01/16/2016	10:11:12 AM
118	N018199-001A	SAMP	5000	01/16/2016	10:14:29 AM
119	N018199-001A-PS	PS	1000	01/16/2016	10:17:48 AM
120	N018199-001A-MS2	MS	1000	01/16/2016	10:21:10 AM
121	N018199-001A-MSD2	MSD	100	01/16/2016	10:24:31 AM
122	MB-55796	MBLK	1	01/16/2016	10:27:53 AM
123	LCS2-55796	LCS	1	01/16/2016	10:31:13 AM
124	N018231-001B	SAMP	100	01/16/2016	10:35:10 AM
125	N018231-002B	SAMP	100	01/16/2016	10:38:32 AM
126	N018231-001B	SAMP	500	01/16/2016	10:41:53 AM
127	N018231-001B-PS	PS	100	01/16/2016	10:45:15 AM
5	CCV3	CCV	1	01/16/2016	10:48:36 AM
1	CCB3	CCB	1	01/16/2016	10:52:29 AM
123	LCS2-55796	LCS	1	01/16/2016	10:57:12 AM
128	N018231-001B-MS2	MS	100	01/16/2016	11:01:11 AM
129	N018231-001B-MSD2	MSD	100	01/16/2016	11:04:33 AM
130	MB-55832	MBLK	1	01/16/2016	11:07:55 AM
131	LCS2-55832	LCS	1	01/16/2016	11:11:16 AM
132	N018280-001B	SAMP	100	01/16/2016	11:15:13 AM
133	N018280-002B	SAMP	100	01/16/2016	11:18:35 AM
134	N018280-002B	SAMP	500	01/16/2016	11:21:57 AM
135	N018280-002B-PS	PS	100	01/16/2016	11:25:18 AM
5	CCV4	CCV	1	01/16/2016	11:28:40 AM
1	CCB4	CCB	1	01/16/2016	11:32:33 AM
136	N018280-002B-MS2	MS	100	01/16/2016	11:35:49 AM
137	N018280-002B-MSD2	MSD	100	01/16/2016	11:39:12 AM
138	MB-55808	MBLK	1	01/16/2016	11:42:34 AM
139	LCS2-55808	LCS	1	01/16/2016	11:45:55 AM
140	N018317-001A	SAMP	5	01/16/2016	11:49:49 AM
141	N018317-002A	SAMP	5	01/16/2016	11:53:10 AM
142	N018317-001A	SAMP	1	01/16/2016	11:57:02 AM
143	N018317-002A	SAMP	1	01/16/2016	12:02:09 PM
144	N018317-002A	SAMP	25	01/16/2016	12:06:03 PM
145	N018317-002A-PS	PS	1	01/16/2016	12:09:24 PM
146	N018317-002A-PS	PS	5	01/16/2016	12:13:17 PM
147	N018317-002A-MS2	MS	1	01/16/2016	12:16:39 PM
28	CCV5	CCV	1	01/16/2016	12:20:34 PM
29	CCB5	CCB	1	01/16/2016	12:26:00 PM
26	ICSA2	ICSA	1	01/16/2016	12:29:17 PM
27	ICSAB2	ICSAB	1	01/16/2016	12:32:35 PM
145	N018317-002A-PS	PS	1	01/16/2016	12:36:27 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
146	N018317-002A-PS	PS	5	01/16/2016	12:40:22 PM
147	N018317-002A-MS2	MS	1	01/16/2016	12:44:15 PM
148	N018317-002A-MS2	MS	5	01/16/2016	12:48:14 PM
149	N018317-002A-MSD2	MSD	1	01/16/2016	12:52:08 PM
150	N018317-002A-MSD2	MSD	5	01/16/2016	12:56:07 PM
125	N018231-002B	SAMP	100	01/16/2016	01:00:00 PM
28	CCV6	CCV	1	01/16/2016	01:03:22 PM
29	CCB6	CCB	1	01/16/2016	01:07:13 PM
26	ICSA3	ICSA	1	01/16/2016	01:10:31 PM
27	ICSAB3	ICSAB	1	01/16/2016	01:13:49 PM

INJECTION LOG: 160117A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151123E,0.5<50mL
Standard2	MWST-151123D
Standard3	MWST-151123C,5<50mL
Standard4	MWST-151123C,12.5<50mL
Standard5	MWST-151123C,15<40mL
Standard6	MWST-151123C,25<50mL
Standard7	MWST-151123C
ICV	MWST-151102C
CCV	MWST-151123C,25<50mL
ICSA/ICSAB	MWST-151123F/G
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/MWST-151201A/MWST-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	01/17/2016	03:20:29 PM
2	Standard1	ICAL	1	01/17/2016	03:25:37 PM
3	Standard2	ICAL	1	01/17/2016	03:30:26 PM
4	Standard3	ICAL	1	01/17/2016	03:35:15 PM
5	Standard4	ICAL	1	01/17/2016	03:40:07 PM
6	Standard5	ICAL	1	01/17/2016	03:45:33 PM
7	Standard6	ICAL	1	01/17/2016	03:50:57 PM
8	Standard7	ICAL	1	01/17/2016	03:56:21 PM
9	ICV	ICV	1	01/17/2016	04:01:54 PM
1	ICB	ICB	1	01/17/2016	04:07:19 PM
2	LLCCV1	CCV1	1	01/17/2016	04:12:07 PM
4	ICSA1	ICSA	1	01/17/2016	04:45:41 PM
4	ICSA1	ICSA	1	01/17/2016	05:06:47 PM
5	ICSAB1	ICSAB	1	01/17/2016	05:12:21 PM
38	MB-55817	MBLK	1	01/17/2016	05:19:31 PM
39	LCS1-55817	LCS	1	01/17/2016	05:26:59 PM
40	N018400-001B	SAMP	1	01/17/2016	05:32:49 PM
41	N018400-002B	SAMP	1	01/17/2016	05:38:11 PM
42	N018349-001D	SAMP	1	01/17/2016	05:43:33 PM
43	N018349-001D	SAMP	5	01/17/2016	05:49:23 PM
44	N018349-001D-PS	PS	1	01/17/2016	05:54:13 PM
45	N018349-001D-MS1	MS	1	01/17/2016	05:59:37 PM
46	N018349-001D-MSD1	MSD	1	01/17/2016	06:05:02 PM
47	MB-55796	MBLK	1	01/17/2016	06:10:27 PM
7	CCV1	CCV	1	01/17/2016	06:15:18 PM
1	CCB1	CCB	1	01/17/2016	06:20:43 PM
48	LCS1-55796	LCS	1	01/17/2016	06:25:32 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
49	N018230-001D	SAMP	1	01/17/2016	06:31:26 PM
50	N018230-002D	SAMP	1	01/17/2016	06:36:51 PM
51	N018380-002B	SAMP	1	01/17/2016	06:42:12 PM
52	N018380--002B	SAMP	5	01/17/2016	06:47:06 PM
53	N018380-002B-PS	PS	1	01/17/2016	06:51:57 PM
54	N018380-002B-MS1	MS	1	01/17/2016	06:57:20 PM
55	N018380-002B-MSD1	MSD	1	01/17/2016	07:03:27 PM
56	MB-55832	MBLK	1	01/17/2016	07:08:51 PM
57	LCS1-55832	LCS	1	01/17/2016	07:13:42 PM
7	CCV2	CCV	1	01/17/2016	07:19:34 PM
1	CCB2	CCB	1	01/17/2016	07:24:58 PM
58	N018277-002B	SAMP	1	01/17/2016	07:29:48 PM
59	N018277-002B	SAMP	5	01/17/2016	07:34:11 PM
60	N018277-002B-PS	PS	1	01/17/2016	07:39:02 PM
61	N018277-002B-MS1	MS	1	01/17/2016	07:44:27 PM
62	N018277-002B-MSD1	MSD	1	01/17/2016	07:49:53 PM
63	N018280-001B	SAMP	1	01/17/2016	07:55:19 PM
64	N018280-002B	SAMP	1	01/17/2016	07:59:43 PM
65	N018302-001B	SAMP	1	01/17/2016	08:05:08 PM
66	N018304-013B	SAMP	1	01/17/2016	08:10:31 PM
67	N018304-014B	SAMP	1	01/17/2016	08:15:54 PM
7	CCV3	CCV	1	01/17/2016	08:21:18 PM
1	CCB3	CCB	1	01/17/2016	08:26:42 PM
50	N018230-002D	SAMP	1	01/17/2016	08:31:14 PM
7	CCV4	CCV	1	01/17/2016	08:36:35 PM
1	CCB4	CCB	1	01/17/2016	08:42:00 PM
2	LLCCV2	CCV2	1	01/17/2016	08:46:37 PM
4	ICSA3	ICSA	1	01/17/2016	08:55:31 PM
5	ICSAB2	ICSAB	1	01/17/2016	09:01:33 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/15/2016 2:44:36 P**
Prep End Date: **1/15/2016 7:00:00 P**

for:
Initials/ Date: 01/18/2016

Prep Batch **55832** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**1-15**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-55832	Aqueous		25	☐	0	0	25	1.000		
LCS2-55832	Aqueous		25	☐	0	0	25	1.000		
MB-55832	Aqueous		25	☐	0	0	25	1.000		
N018277-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018277-002B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018277-002B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018280-001B	Water	<2	25	☐	0	0	25	1.000		
N018280-002B	Water	<2	25	☐	0	0	25	1.000		
N018280-002B-MS	Water	<2	25	☐	0	0	25	1.000		
N018280-002B-MS	Water	<2	25	☐	0	0	25	1.000		
N018302-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018304-013B	Groundwater	<2	25	☐	0	0	25	1.000		
N018304-014B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8028	HYDROCHLORIC ACID
8140	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160116A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Sodium								
CalBlk	01/16/2016	08:03:08 AM	Na	589.594	-183	0.00	mg/L	
Standard1	01/16/2016	08:06:26 AM	Na	589.594	308	0.1000	mg/L	
Standard2	01/16/2016	08:09:43 AM	Na	589.594	2801	1.000	mg/L	
Standard3	01/16/2016	08:13:01 AM	Na	589.594	13803	5.000	mg/L	
Standard4	01/16/2016	08:16:53 AM	Na	589.594	27452	10.000	mg/L	
Standard5	01/16/2016	08:20:45 AM	Na	589.594	55624	20.000	mg/L	
Standard6	01/16/2016	08:24:39 AM	Na	589.594	109432	40.000	mg/L	1.0000

INITIAL CALIBRATION SUMMARY: 160117A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Magnesium								
CalBlk	01/17/2016	03:20:29 PM	Mg	279.079	296	0.00	mg/L	
Standard1	01/17/2016	03:25:37 PM	Mg	279.079	1964	0.1000	mg/L	
Standard2	01/17/2016	03:30:26 PM	Mg	279.079	17891	1.000	mg/L	
Standard3	01/17/2016	03:35:15 PM	Mg	279.079	37509	2.000	mg/L	
Standard4	01/17/2016	03:40:07 PM	Mg	279.079	91681	5.000	mg/L	
Standard5	01/17/2016	03:45:33 PM	Mg	279.079	135778	7.500	mg/L	
Standard6	01/17/2016	03:50:57 PM	Mg	279.079	181589	10.000	mg/L	
Standard7	01/17/2016	03:56:21 PM	Mg	279.079	360571	20.000	mg/L	1.0000
Calcium								
CalBlk	01/17/2016	03:20:29 PM	Ca	227.546	-171	0.00	mg/L	
Standard1	01/17/2016	03:25:37 PM	Ca	227.546	84	0.2000	mg/L	
Standard2	01/17/2016	03:30:26 PM	Ca	227.546	467	1.000	mg/L	
Standard3	01/17/2016	03:35:15 PM	Ca	227.546	908	2.000	mg/L	
Standard4	01/17/2016	03:40:07 PM	Ca	227.546	2208	5.000	mg/L	
Standard5	01/17/2016	03:45:33 PM	Ca	227.546	3319	7.500	mg/L	
Standard6	01/17/2016	03:50:57 PM	Ca	227.546	4405	10.000	mg/L	
Standard7	01/17/2016	03:56:21 PM	Ca	227.546	8756	20.000	mg/L	1.0000
Iron								
CalBlk	01/17/2016	03:20:29 PM	Fe	273.953	-118	0.00	mg/L	
Standard1	01/17/2016	03:25:37 PM	Fe	273.953	844	0.0200	mg/L	
Standard2	01/17/2016	03:30:26 PM	Fe	273.953	2189	0.050	mg/L	
Standard3	01/17/2016	03:35:15 PM	Fe	273.953	84281	2.000	mg/L	
Standard4	01/17/2016	03:40:07 PM	Fe	273.953	206512	5.000	mg/L	
Standard5	01/17/2016	03:45:33 PM	Fe	273.953	308063	7.500	mg/L	
Standard6	01/17/2016	03:50:57 PM	Fe	273.953	413650	10.000	mg/L	
Standard7	01/17/2016	03:56:21 PM	Fe	273.953	824391	20.000	mg/L	1.0000

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10057.541	500	10000	0	101	90	110				

Sample ID: **CCV1** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9896.661	500	10000	0	99.0	90	110				

Sample ID: **CCV2** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9770.096	500	10000	0	97.7	90	110				

Sample ID: **CCV3** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9812.032	500	10000	0	98.1	90	110				

Sample ID: **CCV4** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200871**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9758.873	500	10000	0	97.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCV5** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9905.636	500	10000	0	99.1	90	110				

Sample ID: **CCV6** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCV** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9889.547	500	10000	0	98.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICV** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10082.309	500	10000	0	101	90	110				
Iron	10031.162	20	10000	0	100	90	110				
Magnesium	9937.558	100	10000	0	99.4	90	110				

Sample ID: **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ZZZZZZ** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	168.111	500	200.0	0	84.1	80	120				
Iron	20.330	20	20.00	0	102	80	120				
Magnesium	105.105	100	100.0	0	105	80	120				

Sample ID: **CCV1** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCV** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9582.589	500	10000	0	95.8	90	110				
Iron	9873.312	20	10000	0	98.7	90	110				
Magnesium	9112.020	100	10000	0	91.1	90	110				

Sample ID: **CCV2** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCV** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9480.374	500	10000	0	94.8	90	110				
Iron	9897.805	20	10000	0	99.0	90	110				
Magnesium	9084.737	100	10000	0	90.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCV3** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCV** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202052**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9371.881	500	10000	0	93.7	90	110				
Iron	9887.689	20	10000	0	98.9	90	110				
Magnesium	9056.890	100	10000	0	90.6	90	110				

Sample ID: **CCV4** SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCV** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9393.825	500	10000	0	93.9	90	110				
Iron	9873.026	20	10000	0	98.7	90	110				
Magnesium	9044.589	100	10000	0	90.4	90	110				

Sample ID: **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ZZZZZZ** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	129.647	500	200.0	0	64.8	70	130				S
Iron	20.231	20	20.00	0	101	70	130				
Magnesium	87.140	100	100.0	0	87.1	70	130				

Ca on LLCCV2 is low biased, however, sample results are greater than the regular CCV.

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Nancy 1/19/2016

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICB** SampType: **ICB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3.309	500									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	35.884	500									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	18.830	500									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	16.654	500									

Sample ID: **CCB4** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	14.737	500									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCB5** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	11.250	500									

Sample ID: **CCB6** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **CCB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	8.428	500									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICB** SampType: **ICB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	3.339	500									
Iron	0.378	20									
Magnesium	-0.395196	100									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-39.198133	500									
Iron	0.536	20									
Magnesium	-2.065974	100									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-68.20025	500									
Iron	-0.428656	20									
Magnesium	-2.61381	100									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **CCB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-75.76258	500									
Iron	0.555	20									
Magnesium	-2.904215	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCB4**	SampType: **CCB**	TestCode: **6010_WDPGE** Units: **ug/L**	Prep Date:	RunNo: **105278**
Client ID: **CCB**	Batch ID: **R105278**	TestNo: **EPA 6010B**	Analysis Date: **1/17/2016**	SeqNo: **2202056**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-56.010093	500									
Iron	0.593	20									
Magnesium	-2.559123	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICSA** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	11.779	500									

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICSAB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10034.562	500	10000	0	100	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICSA** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9.912	500									

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICSAB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9985.117	500	10000	0	99.9	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICSA** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	14.653	500									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ICSAB** Batch ID: **R105258** TestNo: **EPA 6010B** Analysis Date: **1/16/2016** SeqNo: **2200899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9919.459	500	10000	0	99.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICSA** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	505110.065	50	500000	0	101	80	120				
Calcium	463845.519	500	500000	0	92.8	80	120				
Iron	175073.051	20	200000	0	87.5	80	120				
Magnesium	452900.208	100	500000	0	90.6	80	120				

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICSAB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	551279.662	50	500000	0	110	80	120				
Calcium	500090.249	500	500000	0	100	80	120				
Iron	189436.603	20	200000	0	94.7	80	120				
Magnesium	491759.580	100	500000	0	98.4	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICSA** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	498909.180	50	500000	0	99.8	80	120				
Calcium	447120.941	500	500000	0	89.4	80	120				
Iron	172357.049	20	200000	0	86.2	80	120				
Magnesium	435377.188	100	500000	0	87.1	80	120				

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICSAB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	545398.504	50	500000	0	109	80	120				
Calcium	481743.772	500	500000	0	96.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ICSAB** Batch ID: **R105278** TestNo: **EPA 6010B** Analysis Date: **1/17/2016** SeqNo: **2202059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187220.454	20	200000	0	93.6	80	120				
Magnesium	475569.224	100	500000	0	95.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160116A

Instrument ID: ICP-02

Sample Name	Type	DF	Scandium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	0.99	99.46	65-125	PASS
Standard2	ICAL	1	1.0075	100.75	65-125	PASS
Standard3	ICAL	1	1.0094	100.94	65-125	PASS
Standard4	ICAL	1	1.01	101.01	65-125	PASS
Standard5	ICAL	1	1.018	101.75	65-125	PASS
Standard6	ICAL	1	1.015	101.46	65-125	PASS
ICV	ICV	1	1.0081	100.81	65-125	PASS
ICB	ICB	1	1.0042	100.42	65-125	PASS
ICSA1	ICSA	1	1.016	101.58	65-125	PASS
ICSAB1	ICSAB	1	1.022	102.19	65-125	PASS
CCV1	CCV	1	1.041	104.11	65-125	PASS
CCB1	CCB	1	1.029	102.86	65-125	PASS
CCV2	CCV	1	1.048	104.75	65-125	PASS
CCB2	CCB	1	1.036	103.64	65-125	PASS
CCV3	CCV	1	1.053	105.29	65-125	PASS
CCB3	CCB	1	1.048	104.79	65-125	PASS
MB-55832	MBLK	1	1.051	105.07	65-125	PASS
LCS2-55832	LCS	1	1.13	113.18	65-125	PASS
N018280-001B	SAMP	100	1.057	105.67	65-125	PASS
N018280-002B	SAMP	100	1.049	104.9	65-125	PASS
N018280-002B	SAMP	500	1.044	104.38	65-125	PASS
N018280-002B-PS	PS	100	1.045	104.54	65-125	PASS
CCV4	CCV	1	1.072	107.21	65-125	PASS
CCB4	CCB	1	1.056	105.61	65-125	PASS
N018280-002B-MS2	MS	100	1.05	105.04	65-125	PASS
N018280-002B-MSD2	MSD	100	1.05	104.98	65-125	PASS
CCV5	CCV	1	1.09	108.97	65-125	PASS
CCB5	CCB	1	1.08	108.02	65-125	PASS
ICSA2	ICSA	1	1.077	107.75	65-125	PASS
ICSAB2	ICSAB	1	1.085	108.48	65-125	PASS
CCV6	CCV	1	1.095	109.54	65-125	PASS
CCB6	CCB	1	1.081	108.06	65-125	PASS
ICSA3	ICSA	1	1.084	108.4	65-125	PASS
ICSAB3	ICSAB	1	1.089	108.85	65-125	PASS

INTERNAL STANDARD: 160117A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.007	100.7	65-125	PASS
Standard2	ICAL	1	1.12	112.21	65-125	PASS
Standard3	ICAL	1	1.098	109.83	65-125	PASS
Standard4	ICAL	1	1.099	109.85	65-125	PASS
Standard5	ICAL	1	1.14	114.25	65-125	PASS
Standard6	ICAL	1	0.99	99.12	65-125	PASS
Standard7	ICAL	1	0.97	97.085	65-125	PASS
ICV	ICV	1	0.99	98.9	65-125	PASS
ICB	ICB	1	1	99.97	65-125	PASS
LLCCV1	CCV1	1	1.0048	100.48	65-125	PASS
ICSA1	ICSA	1	0.82	82.48	65-125	PASS
ICSA1	ICSA	1	1.018	101.75	65-125	PASS
ICSAB1	ICSAB	1	0.84	83.96	65-125	PASS
CCV1	CCV	1	1.0045	100.45	65-125	PASS
CCB1	CCB	1	1.014	101.37	65-125	PASS
MB-55832	MBLK	1	1	99.83	65-125	PASS
LCS1-55832	LCS	1	1.033	103.31	65-125	PASS
CCV2	CCV	1	0.99	99.25	65-125	PASS
CCB2	CCB	1	1.0028	100.28	65-125	PASS
N018277-002B	SAMP	1	0.96	96.49	65-125	PASS
N018277-002B	SAMP	5	0.98	97.63	65-125	PASS
N018277-002B-PS	PS	1	0.98	97.75	65-125	PASS
N018277-002B-MS1	MS	1	0.98	97.87	65-125	PASS
N018277-002B-MSD1	MSD	1	0.97	97.34	65-125	PASS
N018280-001B	SAMP	1	1.034	103.35	65-125	PASS
N018280-002B	SAMP	1	0.87	86.55	65-125	PASS
N018302-001B	SAMP	1	0.99	98.81	65-125	PASS
N018304-013B	SAMP	1	0.96	95.56	65-125	PASS
N018304-014B	SAMP	1	0.97	96.87	65-125	PASS
CCV3	CCV	1	1	99.96	65-125	PASS
CCB3	CCB	1	1.0072	100.72	65-125	PASS
CCV4	CCV	1	1	99.57	65-125	PASS
CCB4	CCB	1	1.0003	100.03	65-125	PASS
LLCCV2	CCV2	1	1.0081	100.81	65-125	PASS
ICSA3	ICSA	1	1.012	101.21	65-125	PASS
ICSAB2	ICSAB	1	0.83	83.089	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018280
Test Method: EPA 6010B
Analysis Date: 01/16/16

Matrix: Groundwater
Batch No.: 55832

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018280-002B -DT 500X	Sodium	ug/L	1578222	PASS	1530755	3.10%	10

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018280
Test Method: EPA 6010B
Analysis Date: 01/17/16

Matrix: Groundwater
Batch No.: 55832

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018277-002B ~~N018277-001B~~ -DT 5X	Calcium	ug/L	99315.3527	PASS	97739.46250	1.61%	10
~~N018277-001B~~ -DT 5X	Iron	ug/L	0	NA	51.582001	100.00%	10
~~N018277-001B~~ -DT 5X	Magnesium	ug/L	15743.173785	PASS	14971.820840	5.15%	10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N018280-002B-PS** SampType: **PS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105258**
Client ID: **ZZZZZZ** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/16/2016** SeqNo: **2200870**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1596948.126	50000	20000	1531000	331	80	120				S

Sample ID: **N018277-002B-PS** SampType: **PS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **105278**
Client ID: **ZZZZZZ** Batch ID: **55832** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/17/2016** SeqNo: **2202044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	103749.799	500	10000	97740	60.1	80	120				S
Iron	130.869	20	100.0	51.58	79.3	80	120				S
Magnesium	22885.904	100	10000	14970	79.1	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 55731
ASSET #: N018280
Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 1/13/2016

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Cr & Mn in N018279-011B MS failed, low bias. However LCS passed criteria.
Cr in N018280-002B is over linear range. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 01/19/2016 Date: —
2nd Level Reviewer 1/19/2016 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 55731
ASSET #: N018280
Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 1/14/2016

Method:
- [ ] EPA 6010B / 200.7
- [ ] EPA 7470A / 7471A/245.1
- [x] EPA 6020 / 200.8
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits			X			
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For dilution of Cr in N018280-002B only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 01/19/2016 Date:

2nd Level Reviewer 1/19/2016 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Water

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018280-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 3.60981 * 1 * (25/25)

Chromium , ug/L = 3.609810

Reporting results in two significant figures,

Chromium , ug/L = 3.6

% RSD SUMMARY

PERCENT RSD SUMMARY: 160113A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	2.038	15	PASS	0.093	12.51	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.49	2.54	15	PASS	0.47	2.24	15	PASS
Std3-5/50 ppb	ICAL	1	5.015	1.5	15	PASS	4.93	0.84	15	PASS
Std4-10/100 ppb	ICAL	1	9.91	0.96	15	PASS	9.83	1.084	15	PASS
Std5-20/200 ppb	ICAL	1	19.89	0.59	15	PASS	19.85	1.32	15	PASS
Std6-40/400 ppb	ICAL	1	39.76	0.19	15	PASS	39.62	0.31	15	PASS
Std7-100/1000 ppb	ICAL	1	101.22	1.14	15	PASS	97.49	0.2	15	PASS
Std8-200/2000 ppb	ICAL	1	199.45	0.55	15	PASS	201.36	0.81	15	PASS
ICV	ICV	1	10.34	1.15	15	PASS	101.76	0.98	15	PASS
ICB	ICB	1	0.0037	61.85	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.088	2.97	20	PASS	0.54	5.48	20	PASS
ICSA1	ICSA	1	0.17	10.018	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.91	0.92	15	PASS	16.65	1.49	15	PASS
MB-55731	MBLK	1	0.047	8.87	15	PASS	<0.000	N/A	15	<PQL
LCS-55731	LCS	1	10.48	0.56	15	PASS	102.56	0.15	15	PASS
N018279-001B	SAMP	1	4.78	0.93	15	PASS	3.74	2.47	15	PASS
N018279-001B	SAMP	5	1.044	1.7	15	PASS	0.78	2.7	15	PASS
N018279-001B-PS	PS	1	13.88	0.54	15	PASS	95.31	0.28	15	PASS
N018279-001B-MS	MS	1	13.36	0.79	15	PASS	94.12	0.43	15	PASS
CCV1	CCV	1	19.86	0.63	15	PASS	20.02	1.35	15	PASS
CCB1	CCB	1	0.0057	107.082	15	<PQL	<0.000	N/A	15	<PQL
N018279-001B-MSD	MSD	1	13.47	2.47	15	PASS	93.27	1.59	15	PASS
N018279-002B	SAMP	1	5.13	0.7	15	PASS	6.046	1.94	15	PASS
N018279-003B	SAMP	1	1.83	0.26	15	PASS	16.82	0.82	15	PASS
N018279-004B	SAMP	1	6.18	1.39	15	PASS	1.031	2.86	15	PASS
N018279-005B	SAMP	1	8.98	1.49	15	PASS	0.39	6.35	15	PASS
N018279-006B	SAMP	1	2.9	0.91	15	PASS	3.58	1.19	15	PASS
N018279-007B	SAMP	1	4.17	1.19	15	PASS	<0.000	N/A	15	<PQL
N018279-008B	SAMP	1	3.14	1.34	15	PASS	<0.000	N/A	15	<PQL
N018279-009B	SAMP	1	9.43	0.89	15	PASS	<0.000	N/A	15	<PQL
N018279-010B	SAMP	1	3.37	1.058	15	PASS	0.14	28.87	15	<PQL
CCV2	CCV	1	19.96	1.37	15	PASS	20.04	1.29	15	PASS
CCB2	CCB	1	0.0039	87.32	15	<PQL	<0.000	N/A	15	<PQL
N018279-011B	SAMP	1	14.17	1.11	15	PASS	0.071	34.47	15	<PQL
N018279-011B-MS	MS	1	18.028	0.85	15	PASS	74.28	0.34	15	PASS
N018279-012B	SAMP	1	24.62	1.31	15	PASS	<0.000	N/A	15	<PQL
N018279-013B	SAMP	1	43.45	0.38	15	PASS	1.37	7.9	15	PASS
N018279-014B	SAMP	1	42.68	0.52	15	PASS	1.27	4.44	15	PASS
N018279-015B	SAMP	1	2.44	2.68	15	PASS	<0.000	N/A	15	<PQL
N018279-016B	SAMP	1	16.56	1.15	15	PASS	1.42	2.88	15	PASS

PERCENT RSD SUMMARY: 160113A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018280-001B	SAMP	1	3.61	1.076	15	PASS	75.11	0.68	15	PASS
N018280-002B	SAMP	1	709.42	0.74	15	PASS	13.37	0.44	15	PASS
CCV3	CCV	1	19.93	0.78	15	PASS	20.0016	0.94	15	PASS
CCB3	CCB	1	0.036	5.35	15	PASS	<0.000	N/A	15	<PQL
CCV4	CCV	1	20.24	0.94	15	PASS	20.33	1.7	15	PASS
CCB4	CCB	1	0.016	43.96	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.073	2.6	20	PASS	0.54	3.079	20	PASS
ICSA2	ICSA	1	0.18	10.068	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.78	0.4	15	PASS	17.29	1.055	15	PASS

PERCENT RSD SUMMARY: 160114B

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.094	19.55	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.46	4.89	15	PASS
Std3-5/50 ppb	ICAL	1	4.93	0.57	15	PASS
Std4-10/100 ppb	ICAL	1	9.86	1.37	15	PASS
Std5-20/200 ppb	ICAL	1	19.84	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	39	2.13	15	PASS
Std7-100/1000 ppb	ICAL	1	97.84	0.64	15	PASS
Std8-200/2000 ppb	ICAL	1	201.3	0.83	15	PASS
ICV	ICV	1	10.18	0.33	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.0089	1.8	20	PASS
ICSA1	ICSA	1	0.16	12.63	15	PASS
ICSAB1	ICSAB	1	20.35	1.59	15	PASS
CCV1	CCV	1	19.32	1.038	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.48	0.21	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.43	0.86	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL
N018280-002B	SAMP	5	148.34	0.23	15	PASS
CCV3	CCV	1	19.41	0.68	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.03	3.64	20	PASS
ICSA2	ICSA	1	0.17	11.31	15	PASS
ICSAB2	ICSAB	1	20.5	0.48	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160113A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0113001.D	RINSE	RINSE	1	01/13/16 7:56 AM
A0113002.D	Cal Blank	IBLK	1	01/13/16 8:02 AM
A0113003.D	Std1-0.1/1 ppb	ICAL	1	01/13/16 8:07 AM
A0113004.D	Std2-0.5/5 ppb	ICAL	1	01/13/16 8:13 AM
A0113005.D	Std3-5/50 ppb	ICAL	1	01/13/16 8:18 AM
A0113006.D	Std4-10/100 ppb	ICAL	1	01/13/16 8:24 AM
A0113007.D	Std5-20/200 ppb	ICAL	1	01/13/16 8:29 AM
A0113008.D	Std6-40/400 ppb	ICAL	1	01/13/16 8:35 AM
A0113009.D	Std7-100/1000 ppb	ICAL	1	01/13/16 8:40 AM
A0113010.D	Std8-200/2000 ppb	ICAL	1	01/13/16 8:46 AM
A0113011.D	ICV	ICV	1	01/13/16 8:51 AM
A0113012.D	ICB	ICB	1	01/13/16 8:57 AM
A0113013.D	LLICV	CCV1	1	01/13/16 9:01 AM
A0113014.D	ICSA1	ICSA	1	01/13/16 9:07 AM
A0113015.D	ICSAB1	ICSAB	1	01/13/16 9:12 AM
A0113016.D	N018241-002A	SAMP	5	01/13/16 9:19 AM
A0113017.D	N018258-002C	SAMP	2	01/13/16 9:25 AM
A0113018.D	N017499-012B	SAMP	5	01/13/16 9:30 AM
A0113019.D	N017499-012A	SAMP	5	01/13/16 9:36 AM
A0113020.D	MB-55731	MBLK	1	01/13/16 9:40 AM
A0113021.D	LCS-55731	LCS	1	01/13/16 9:46 AM
A0113022.D	N018279-001B	SAMP	1	01/13/16 9:53 AM
A0113023.D	N018279-001B	SAMP	5	01/13/16 9:58 AM
A0113024.D	N018279-001B-PS	PS	1	01/13/16 10:02 AM
A0113025.D	N018279-001B-MS	MS	1	01/13/16 10:07 AM
A0113026.D	CCV1	CCV	1	01/13/16 10:15 AM
A0113027.D	CCB1	CCB	1	01/13/16 10:21 AM
A0113028.D	N018279-001B-MSD	MSD	1	01/13/16 10:25 AM
A0113029.D	N018279-002B	SAMP	1	01/13/16 10:32 AM
A0113030.D	N018279-003B	SAMP	1	01/13/16 10:37 AM
A0113031.D	N018279-004B	SAMP	1	01/13/16 10:43 AM
A0113032.D	N018279-005B	SAMP	1	01/13/16 10:48 AM
A0113033.D	N018279-006B	SAMP	1	01/13/16 10:54 AM
A0113034.D	N018279-007B	SAMP	1	01/13/16 10:59 AM
A0113035.D	N018279-008B	SAMP	1	01/13/16 11:05 AM
A0113036.D	N018279-009B	SAMP	1	01/13/16 11:11 AM
A0113037.D	N018279-010B	SAMP	1	01/13/16 11:16 AM
A0113038.D	CCV2	CCV	1	01/13/16 11:22 AM
A0113039.D	CCB2	CCB	1	01/13/16 11:27 AM
A0113040.D	N018279-011B	SAMP	1	01/13/16 11:33 AM
A0113041.D	N018279-011B-MS	MS	1	01/13/16 11:37 AM
A0113042.D	N018279-012B	SAMP	1	01/13/16 11:44 AM

INJECTION LOG: 160113A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0113043.D	N018279-013B	SAMP	1	01/13/16 11:49 AM
A0113044.D	N018279-014B	SAMP	1	01/13/16 11:55 AM
A0113045.D	N018279-015B	SAMP	1	01/13/16 12:00 PM
A0113046.D	N018279-016B	SAMP	1	01/13/16 12:06 PM
A0113047.D	N018280-001B	SAMP	1	01/13/16 12:11 PM
A0113048.D	N018280-002B	SAMP	1	01/13/16 12:17 PM
A0113049.D	MB-55771	MBLK	1	01/13/16 12:22 PM
A0113050.D	CCV3	CCV	1	01/13/16 12:28 PM
A0113051.D	CCB3	CCB	1	01/13/16 12:34 PM
A0113052.D	LCS-55771	LCS	1	01/13/16 12:39 PM
A0113053.D	N018295-001C	SAMP	10	01/13/16 12:45 PM
A0113054.D	N018295-001C	SAMP	50	01/13/16 12:50 PM
A0113055.D	N018295-001C-PS	PS	10	01/13/16 12:56 PM
A0113056.D	N018295-001C-MS	MS	10	01/13/16 1:02 PM
A0113057.D	N018295-001C-MSD	MSD	10	01/13/16 1:08 PM
A0113058.D	N018295-002C	SAMP	10	01/13/16 1:13 PM
A0113059.D	N018295-003C	SAMP	10	01/13/16 1:19 PM
A0113060.D	N018331-001C	SAMP	10	01/13/16 1:24 PM
A0113061.D	N018331-002C	SAMP	10	01/13/16 1:30 PM
A0113062.D	CCV4	CCV	1	01/13/16 1:35 PM
A0113063.D	CCB4	CCB	1	01/13/16 1:41 PM
A0113064.D	LLCCV1	CCV2	1	01/13/16 1:46 PM
A0113065.D	ICSA2	ICSA	1	01/13/16 1:52 PM
A0113066.D	ICSAB2	ICSAB	1	01/13/16 1:58 PM
A0113067.D	N018331-003C	SAMP	10	01/13/16 2:03 PM
A0113068.D	N018295-001C	SAMP	5	01/13/16 2:09 PM
A0113069.D	N018295-001C	SAMP	25	01/13/16 2:14 PM
A0113070.D	N018295-001C-PS	PS	5	01/13/16 2:20 PM
A0113071.D	N018295-001C-MS	MS	5	01/13/16 2:26 PM
A0113072.D	N018295-001C-MSD	MSD	5	01/13/16 2:31 PM
A0113073.D	N018331-001C	SAMP	5	01/13/16 2:37 PM
A0113074.D	N018331-002C	SAMP	5	01/13/16 2:42 PM
A0113075.D	N018331-003C	SAMP	5	01/13/16 2:48 PM
A0113076.D	N018295-003C	SAMP	25	01/13/16 2:53 PM
A0113077.D	CCV5	CCV	1	01/13/16 2:59 PM
A0113078.D	CCB5	CCB	1	01/13/16 3:04 PM
A0113079.D	LLCCV2	CCV2	1	01/13/16 3:11 PM
A0113080.D	ICSA3	ICSA	1	01/13/16 3:16 PM
A0113081.D	ICSAB3	ICSAB	1	01/13/16 3:22 PM

INJECTION LOG: 160114B

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
B0114001.D	RINSE	RINSE	1	01/14/16 2:42 PM
B0114002.D	Cal Blank	IBLK	1	01/14/16 2:48 PM
B0114003.D	Std1-0.1/1 ppb	ICAL	1	01/14/16 2:54 PM
B0114004.D	Std2-0.5/5 ppb	ICAL	1	01/14/16 2:59 PM
B0114005.D	Std3-5/50 ppb	ICAL	1	01/14/16 3:05 PM
B0114006.D	Std4-10/100 ppb	ICAL	1	01/14/16 3:10 PM
B0114007.D	Std5-20/200 ppb	ICAL	1	01/14/16 3:16 PM
B0114008.D	Std6-40/400 ppb	ICAL	1	01/14/16 3:21 PM
B0114009.D	Std7-100/1000 ppb	ICAL	1	01/14/16 3:27 PM
B0114010.D	Std8-200/2000 ppb	ICAL	1	01/14/16 3:32 PM
B0114011.D	ICV	ICV	1	01/14/16 3:38 PM
B0114012.D	ICB	ICB	1	01/14/16 3:43 PM
B0114013.D	LLICV	CCV1	1	01/14/16 3:50 PM
B0114014.D	ICSA1	ICSA	1	01/14/16 3:55 PM
B0114015.D	ICSAB1	ICSAB	1	01/14/16 4:01 PM
B0114016.D	MB-55793	MBLK	1	01/14/16 4:06 PM
B0114017.D	LCS-55793	LCS	1	01/14/16 4:12 PM
B0114018.D	N018380-001B	SAMP	1	01/14/16 4:17 PM
B0114019.D	N018380-001B	SAMP	5	01/14/16 4:23 PM
B0114020.D	N018380-001B-PS	PS	1	01/14/16 4:28 PM
B0114021.D	N018380-001B-MS	MS	1	01/14/16 4:34 PM
B0114022.D	N018380-001B-MSD	MSD	1	01/14/16 4:40 PM
B0114023.D	N018380-002B	SAMP	1	01/14/16 4:44 PM
B0114024.D	N018380-003B	SAMP	1	01/14/16 4:50 PM
B0114025.D	MB-55792	MBLK	1	01/14/16 4:55 PM
B0114026.D	CCV1	CCV	1	01/14/16 5:01 PM
B0114027.D	CCB1	CCB	1	01/14/16 5:06 PM
B0114028.D	LCS-55792	LCS	1	01/14/16 5:10 PM
B0114029.D	N018382-001B	SAMP	1	01/14/16 5:17 PM
B0114030.D	N018382-002B	SAMP	1	01/14/16 5:23 PM
B0114031.D	N018349-001B	SAMP	1	01/14/16 5:28 PM
B0114032.D	N018349-001B	SAMP	5	01/14/16 5:34 PM
B0114033.D	N018349-001B-PS	PS	1	01/14/16 5:39 PM
B0114034.D	N018349-001B-MS	MS	1	01/14/16 5:45 PM
B0114035.D	N018349-001B-MSD	MSD	1	01/14/16 5:51 PM
B0114036.D	N018349-002B	SAMP	1	01/14/16 5:56 PM
B0114037.D	N018349-003B	SAMP	1	01/14/16 6:02 PM
B0114038.D	CCV2	CCV	1	01/14/16 6:07 PM
B0114039.D	CCB2	CCB	1	01/14/16 6:13 PM
B0114040.D	N018349-004B	SAMP	1	01/14/16 6:22 PM
B0114041.D	N018349-005B	SAMP	1	01/14/16 6:27 PM
B0114042.D	N018349-006B	SAMP	1	01/14/16 6:33 PM

INJECTION LOG: 160114B

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
B0114043.D	N018349-007B	SAMP	1	01/14/16 6:38 PM
B0114044.D	N018362-001B	SAMP	1	01/14/16 6:44 PM
B0114045.D	N018345-001B	SAMP	1	01/14/16 6:49 PM
B0114046.D	N018345-001B-MS	MS	1	01/14/16 6:55 PM
B0114047.D	N018345-002B	SAMP	1	01/14/16 7:00 PM
B0114048.D	N018345-003B	SAMP	1	01/14/16 7:06 PM
B0114049.D	N018345-004B	SAMP	1	01/14/16 7:11 PM
B0114050.D	CCV2	CCV	1	01/14/16 7:17 PM
B0114051.D	CCB2	CCB	1	01/14/16 7:23 PM
B0114052.D	N018345-005B	SAMP	1	01/14/16 7:28 PM
B0114053.D	N018345-006B	SAMP	1	01/14/16 7:34 PM
B0114054.D	N018345-007B	SAMP	1	01/14/16 7:39 PM
B0114055.D	N018345-009B	SAMP	1	01/14/16 7:45 PM
B0114056.D	N018345-012B	SAMP	1	01/14/16 7:50 PM
B0114057.D	N018280-002B	SAMP	5	01/14/16 7:56 PM
B0114058.D	N018349-001B	SAMP	1	01/14/16 8:01 PM
B0114059.D	N018349-001B	SAMP	5	01/14/16 8:07 PM
B0114060.D	CCV3	CCV	1	01/14/16 8:12 PM
B0114061.D	CCB3	CCB	1	01/14/16 8:18 PM
B0114062.D	LLCCV1	CCV2	1	01/14/16 8:23 PM
B0114063.D	ICSA2	ICSA	1	01/14/16 8:29 PM
B0114064.D	ICSAB2	ICSAB	1	01/14/16 8:34 PM
B0114065.D	RINSE	RINSE	1	01/14/16 8:40 PM
B0114066.D	RINSE	RINSE	1	01/14/16 8:46 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/11/2016 7:50:51 A**
Prep End Date: **1/11/2016 12:10:00**

Initials/ Date: for: 01/19/2016

Prep Batch **55731** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**02-46**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-55731	Aqueous		25	☐	0	0	25	1.000		
MB-55731	Aqueous		25	☐	0	0	25	1.000		
N018279-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/11/2016 7:50:51 A**
Prep End Date: **1/11/2016 12:10:00**

Initials/ Date: for: 01/19/2016

Prep Batch **55731** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**02-46**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018279-011B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-011B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-012B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-013B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-014B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-015B	Groundwater	<2	25	☐	0	0	25	1.000		
N018279-016B	Groundwater	<2	25	☐	0	0	25	1.000		
N018280-001B	Water	<2	25	☐	0	0	25	1.000		
N018280-002B	Water	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 13 Jan 2016 07:43:44 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	190210.00	0.00	
24 Mg	746476.00	0.00	
25 Mg	99457.30	0.00	
26 Mg	117563.00	0.00	
59 Co	1238990.00	0.00	
115 In	2374440.00	0.00	
206 Pb	565077.00	0.00	
207 Pb	491053.00	0.00	
208 Pb	1205830.00	0.00	

RSD (%)

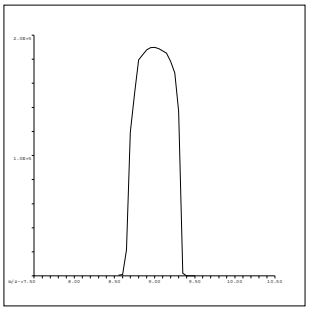
Element	Actual	Required	Flag
9 Be	0.69	5.00	
24 Mg	1.42	5.00	
25 Mg	0.88	5.00	
26 Mg	1.36	5.00	
59 Co	0.88	5.00	
115 In	0.70	5.00	
206 Pb	1.13	5.00	
207 Pb	0.68	5.00	
208 Pb	0.88	5.00	

Ion Ratio

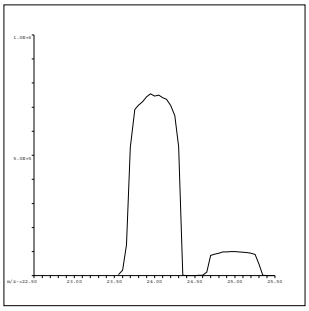
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

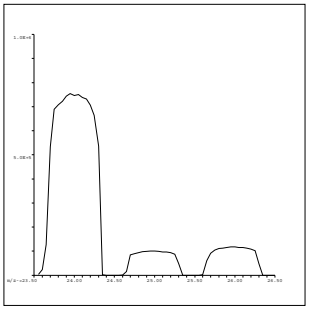
Element	Actual	Required	Flag



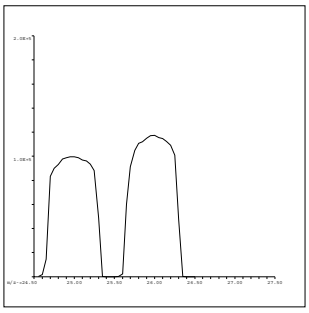
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



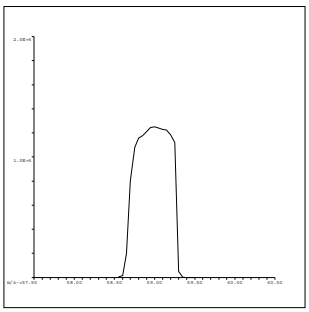
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



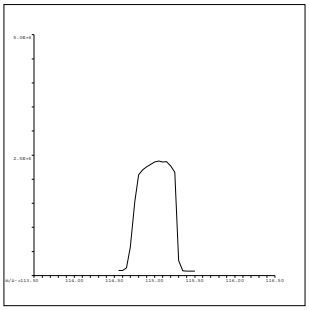
25 Mg
Mass Calib.
Actual: 24.95
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



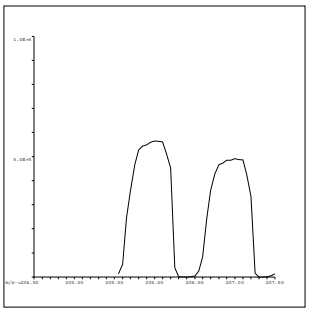
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



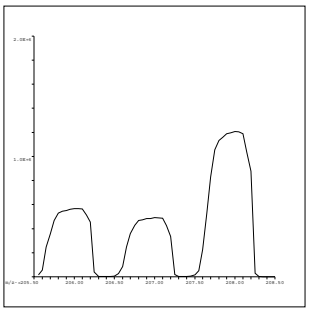
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



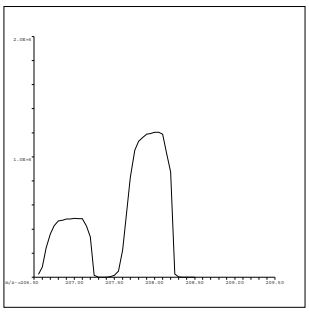
115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 14 Jan 2016 06:33:44 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	102094.00	0.00	
24 Mg	557415.00	0.00	
25 Mg	73660.20	0.00	
26 Mg	85148.70	0.00	
59 Co	814656.00	0.00	
115 In	1839240.00	0.00	
206 Pb	473155.00	0.00	
207 Pb	411746.00	0.00	
208 Pb	1009240.00	0.00	

RSD (%)

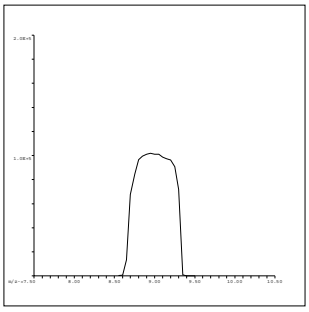
Element	Actual	Required	Flag
9 Be	0.22	5.00	
24 Mg	2.26	5.00	
25 Mg	1.90	5.00	
26 Mg	2.54	5.00	
59 Co	1.52	5.00	
115 In	1.28	5.00	
206 Pb	1.14	5.00	
207 Pb	1.34	5.00	
208 Pb	2.02	5.00	

Ion Ratio

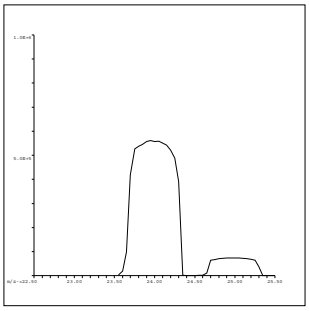
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

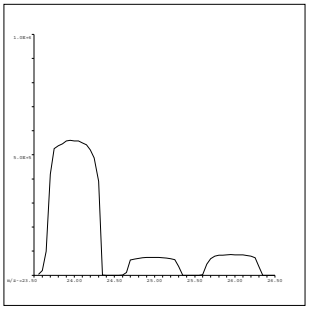
Element	Actual	Required	Flag



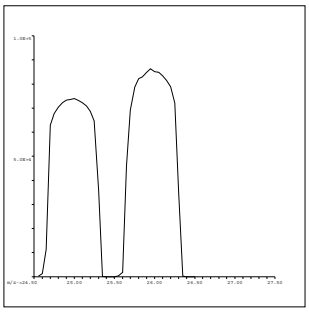
9 Be
Mass Calib.
Actual: 8.95
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



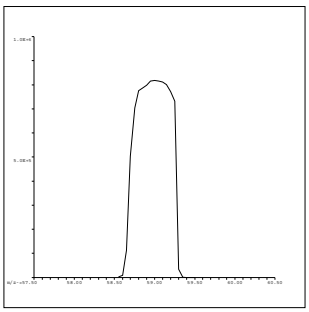
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



25 Mg
Mass Calib.
Actual: 24.95
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

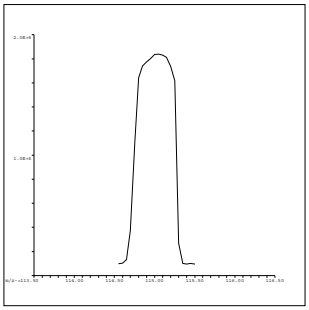


26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

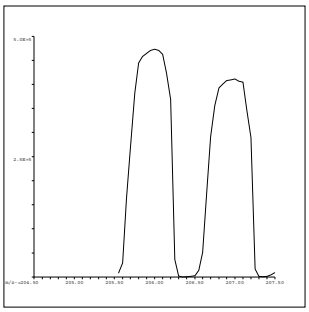


59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

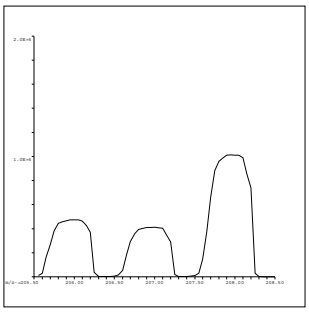
C:\ICPMH\1\7500\qctune.d



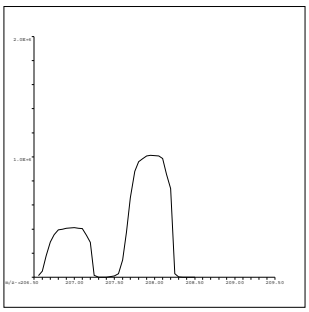
115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160113A

Instrument ID: ICPMS-02

Analyte	Data File	A0113002.D	A0113004.D	A0113005.D	A0113006.D	A0113007.D	A0113008.D	A0113009.D	A0113010.D	
	Acq. Date-Time	01/13/2016 08:02 AM	01/13/2016 08:13 AM	01/13/2016 08:18 AM	01/13/2016 08:24 AM	01/13/2016 08:29 AM	01/13/2016 08:35 AM	01/13/2016 08:40 AM	01/13/2016 08:46 AM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	252950.1	258455.6	257413.9	258615.3	259695.6	256711.2	258103.8	252946	
55 Mn [2]	CPS	274.8	4866.5	47861.3	95694.2	193730.3	381951	944533.5	1911517.9	0.9999
52 Cr [2]	CPS	446.2	9080.1	89248	176768.8	355860.2	702679.8	1797765.6	3471461.2	1.0000

Standard Code	
ICAL: ~~2MWST-130315B~~	2MSST-140630A
ICAL: ~~2MSST-130301A~~	2MSST-141025A
ICAL: ~~2MSST-130301B~~	2MWST-151207A
IS Mix: ~~2MWST-130907B~~	2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

01/19/2016

INITIAL CALIBRATION SUMMARY: 160114B

Instrument ID: ICPMS-02

Analyte	Data File	B0114002.D	B0114004.D	B0114005.D	B0114006.D	B0114007.D	B0114008.D	B0114009.D	B0114010.D	
	Acq. Date-Time	01/14/2016 02:48 PM	01/14/2016 02:59 PM	01/14/2016 03:05 PM	01/14/2016 03:10 PM	01/14/2016 03:16 PM	01/14/2016 03:21 PM	01/14/2016 03:27 PM	01/14/2016 03:32 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	104097.4	108659.8	109935.7	109179.7	107361.1	109935.8	108201.2	110241.5	
52 Cr [2]	CPS	392.1	3891.5	37841.4	74709.1	147479.8	296422.9	731536.6	1533145.8	0.9999

Standard Code	
ICAL: ~~2MWST-140630A~~	2MSST-140630A
ICAL: 2MSST-141025A	
ICAL: 2~~MSST-150907C~~	2MWST-151207A
IS Mix: 2MWST-150907C	

Calibration Acceptance Criteria: > 0.995 Correlation

01/19/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	101.762	0.50	100.0	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ZZZZZZ** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.540	0.50	0.5000	0	108	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.020	0.50	20.00	0	100	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.040	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.002	0.50	20.00	0	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV4	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105199
Client ID:	CCV	Batch ID:	R105199	TestNo:	EPA 6020			Analysis Date:	1/13/2016	SeqNo:	2197473

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.327	0.50	20.00	0	102	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105199
Client ID:	ZZZZZZ	Batch ID:	R105199	TestNo:	EPA 6020			Analysis Date:	1/13/2016	SeqNo:	2197475

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.537	0.50	0.5000	0	107	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.344	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ZZZZZZ** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.088	1.0	1.000	0	109	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.863	1.0	20.00	0	99.3	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197360**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.962	1.0	20.00	0	99.8	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCV** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.931	1.0	20.00	0	99.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105199
Client ID:	CCV	Batch ID:	R105199	TestNo:	EPA 6020			Analysis Date:	1/13/2016	SeqNo:	2197384

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.244	1.0	20.00	0	101	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105199
Client ID:	ZZZZZZ	Batch ID:	R105199	TestNo:	EPA 6020			Analysis Date:	1/13/2016	SeqNo:	2197386

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.073	1.0	1.000	0	107	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ICV** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.181	1.0	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ZZZZZZ** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.009	1.0	1.000	0	101	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCV** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.316	1.0	20.00	0	96.6	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCV** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.484	1.0	20.00	0	97.4	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCV** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.428	1.0	20.00	0	97.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105241
Client ID:	CCV	Batch ID:	R105241	TestNo:	EPA 6020			Analysis Date:	1/14/2016	SeqNo:	2199204

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.406	1.0	20.00	0	97.0	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105241
Client ID:	ZZZZZZ	Batch ID:	R105241	TestNo:	EPA 6020			Analysis Date:	1/14/2016	SeqNo:	2199206

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.030	1.0	1.000	0	103	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**6020_DIS**	**µg/L**		**105199**
Client ID: **ICB**	Batch ID: **R105199**	TestNo: **EPA 6020**		Analysis Date: **1/13/2016**	SeqNo: **2197423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB1	**CCB**	**6020_DIS**	**µg/L**		**105199**
Client ID: **CCB**	Batch ID: **R105199**	TestNo: **EPA 6020**		Analysis Date: **1/13/2016**	SeqNo: **2197438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB2	**CCB**	**6020_DIS**	**µg/L**		**105199**
Client ID: **CCB**	Batch ID: **R105199**	TestNo: **EPA 6020**		Analysis Date: **1/13/2016**	SeqNo: **2197450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB3	**CCB**	**6020_DIS**	**µg/L**		**105199**
Client ID: **CCB**	Batch ID: **R105199**	TestNo: **EPA 6020**		Analysis Date: **1/13/2016**	SeqNo: **2197462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB4	**CCB**	**6020_DIS**	**µg/L**		**105199**
Client ID: **CCB**	Batch ID: **R105199**	TestNo: **EPA 6020**		Analysis Date: **1/13/2016**	SeqNo: **2197474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **CCB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ICB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199195**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **CCB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199205**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSA** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSAB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.650	0.50	20.00	0	83.2	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSA** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSAB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	17.292	0.50	20.00	0	86.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSA** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.167	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSAB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.908	1.0	20.00	0	105	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSA** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.180	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ICSAB** Batch ID: **R105199** TestNo: **EPA 6020** Analysis Date: **1/13/2016** SeqNo: **2197388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.782	1.0	20.00	0	104	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ICSA** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.160	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ICSAB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.351	1.0	20.00	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ICSA** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199207**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.165	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105241**
Client ID: **ICSAB** Batch ID: **R105241** TestNo: **EPA 6020** Analysis Date: **1/14/2016** SeqNo: **2199208**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.497	1.0	20.00	0	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160113A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	252950.1	252950.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	257560.7	252950.1	101.82	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	258455.6	252950.1	102.18	PASS	70-130
Std3-5/50 ppb	ICAL	1	257413.9	252950.1	101.76	PASS	70-130
Std4-10/100 ppb	ICAL	1	258615.3	252950.1	102.24	PASS	70-130
Std5-20/200 ppb	ICAL	1	259695.6	252950.1	102.67	PASS	70-130
Std6-40/400 ppb	ICAL	1	256711.2	252950.1	101.49	PASS	70-130
Std7-100/1000 ppb	ICAL	1	258103.8	252950.1	102.04	PASS	70-130
Std8-200/2000 ppb	ICAL	1	252946	252950.1	100	PASS	70-130
ICV	ICV	1	249316.3	252950.1	98.56	PASS	70-130
ICB	ICB	1	248145.4	252950.1	98.1	PASS	70-130
LLICV	CCV1	1	220321	252950.1	87.1	PASS	70-130
ICSA1	ICSA	1	242639.5	252950.1	95.92	PASS	70-130
ICSAB1	ICSAB	1	251745.6	252950.1	99.52	PASS	70-130
MB-55731	MBLK	1	184237.7	252950.1	72.84	PASS	70-130
LCS-55731	LCS	1	201141.5	252950.1	79.52	PASS	70-130
N018279-001B	SAMP	1	249118.8	252950.1	98.49	PASS	70-130
N018279-001B	SAMP	5	239148.3	252950.1	94.54	PASS	70-130
N018279-001B-PS	PS	1	188954.9	252950.1	74.7	PASS	70-130
N018279-001B-MS	MS	1	199334	252950.1	78.8	PASS	70-130
CCV1	CCV	1	234266.9	252950.1	92.61	PASS	70-130
CCB1	CCB	1	226896.6	252950.1	89.7	PASS	70-130
N018279-001B-MSD	MSD	1	183518.9	252950.1	72.55	PASS	70-130
N018279-002B	SAMP	1	230757.1	252950.1	91.23	PASS	70-130
N018279-003B	SAMP	1	225142.9	252950.1	89.007	PASS	70-130
N018279-004B	SAMP	1	221398.4	252950.1	87.53	PASS	70-130
N018279-005B	SAMP	1	219916.9	252950.1	86.94	PASS	70-130
N018279-006B	SAMP	1	215342.4	252950.1	85.13	PASS	70-130
N018279-007B	SAMP	1	204706.1	252950.1	80.93	PASS	70-130
N018279-008B	SAMP	1	206678.6	252950.1	81.71	PASS	70-130
N018279-009B	SAMP	1	206496.4	252950.1	81.64	PASS	70-130
N018279-010B	SAMP	1	196735.4	252950.1	77.78	PASS	70-130
CCV2	CCV	1	205109.7	252950.1	81.087	PASS	70-130
CCB2	CCB	1	201383.7	252950.1	79.61	PASS	70-130
N018279-011B	SAMP	1	203284.8	252950.1	80.37	PASS	70-130
N018279-011B-MS	MS	1	202221.2	252950.1	79.95	PASS	70-130
N018279-012B	SAMP	1	196940.8	252950.1	77.86	PASS	70-130
N018279-013B	SAMP	1	201623.8	252950.1	79.71	PASS	70-130
N018279-014B	SAMP	1	192820.9	252950.1	76.23	PASS	70-130
N018279-015B	SAMP	1	192477.7	252950.1	76.093	PASS	70-130
N018279-016B	SAMP	1	191500.1	252950.1	75.71	PASS	70-130

INTERNAL STANDARD: 160113A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018280-001B	SAMP	1	196040.6	252950.1	77.5	PASS	70-130
N018280-002B	SAMP	1	192503.7	252950.1	76.1	PASS	70-130
CCV3	CCV	1	227969.5	252950.1	90.12	PASS	70-130
CCB3	CCB	1	217602.2	252950.1	86.026	PASS	70-130
CCV4	CCV	1	198954.3	252950.1	78.65	PASS	70-130
CCB4	CCB	1	198102.2	252950.1	78.32	PASS	70-130
LLCCV1	CCV2	1	200076.9	252950.1	79.097	PASS	70-130
ICSA2	ICSA	1	205054.1	252950.1	81.065	PASS	70-130
ICSAB2	ICSAB	1	215649.9	252950.1	85.25	PASS	70-130

INTERNAL STANDARD: 160114B

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	104097.4	104097.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	109374.2	104097.4	105.07	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	108659.8	104097.4	104.38	PASS	70-130
Std3-5/50 ppb	ICAL	1	109935.7	104097.4	105.61	PASS	70-130
Std4-10/100 ppb	ICAL	1	109179.7	104097.4	104.88	PASS	70-130
Std5-20/200 ppb	ICAL	1	107361.1	104097.4	103.14	PASS	70-130
Std6-40/400 ppb	ICAL	1	109935.8	104097.4	105.61	PASS	70-130
Std7-100/1000 ppb	ICAL	1	108201.2	104097.4	103.94	PASS	70-130
Std8-200/2000 ppb	ICAL	1	110241.5	104097.4	105.9	PASS	70-130
ICV	ICV	1	107048.1	104097.4	102.83	PASS	70-130
ICB	ICB	1	108234.6	104097.4	103.97	PASS	70-130
LLICV	CCV1	1	107763.7	104097.4	103.52	PASS	70-130
ICSA1	ICSA	1	110997.5	104097.4	106.63	PASS	70-130
ICSAB1	ICSAB	1	119069.5	104097.4	114.38	PASS	70-130
CCV1	CCV	1	107582.6	104097.4	103.35	PASS	70-130
CCB1	CCB	1	98056.7	104097.4	94.2	PASS	70-130
CCV2	CCV	1	103874.7	104097.4	99.79	PASS	70-130
CCB2	CCB	1	96248.6	104097.4	92.46	PASS	70-130
CCV2	CCV	1	107593.9	104097.4	103.36	PASS	70-130
CCB2	CCB	1	99080.4	104097.4	95.18	PASS	70-130
N018280-002B	SAMP	5	90823	104097.4	87.25	PASS	70-130
CCV3	CCV	1	100741.3	104097.4	96.78	PASS	70-130
CCB3	CCB	1	92368.6	104097.4	88.73	PASS	70-130
LLCCV1	CCV2	1	97521.2	104097.4	93.68	PASS	70-130
ICSA2	ICSA	1	97217.3	104097.4	93.39	PASS	70-130
ICSAB2	ICSAB	1	104096	104097.4	100	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018280
Test Method: EPA 6020
Analysis Date: 1/13/2016

Matrix: Water
Batch No.: 55731

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr & Mn. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018279-001B DT 5X	Chromium	ug/L	5.217708	NA	4.780182	9.15%	10
N018279-001B DT 5X	Manganese	ug/L	3.922855	NA	3.742919	4.81%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018279-001B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105199**
Client ID: **ZZZZZZ** Batch ID: **55731** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/13/2016** SeqNo: **2197435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.314	0.50	100.0	3.743	91.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018280
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	N018279-001B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105199
Client ID:	ZZZZZZ	Batch ID:	55731	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	1/13/2016	SeqNo:	2197346

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.880	1.0	10.00	4.780	91.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock

ASSET Laboratories Work Order: N018560

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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February 11, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018560

RE: PG&E Topock

Attention: Dan Bush

Enclosed are the results for sample(s) received on January 27, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron on QC samples N018548-002B-MS, N018548-002B-MSD, N018549-003B-MS, N018616-001B-MS and N018616-001B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron on QC samples N018560-009C-MS and N018560-009C-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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ASSET Laboratories

Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock
Lab Order: N018560
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018560-001A	RMP-AB3-Q116L	Groundwater	1/27/2016 8:45:00 AM	1/27/2016	2/11/2016
N018560-002A	C-CON-D-Q116L	Groundwater	1/27/2016 9:10:00 AM	1/27/2016	2/11/2016
N018560-002B	C-CON-D-Q116L	Groundwater	1/27/2016 9:10:00 AM	1/27/2016	2/11/2016
N018560-002C	C-CON-D-Q116L	Groundwater	1/27/2016 9:10:00 AM	1/27/2016	2/11/2016
N018560-002D	C-CON-D-Q116L	Groundwater	1/27/2016 9:10:00 AM	1/27/2016	2/11/2016
N018560-002E	C-CON-D-Q116L	Groundwater	1/27/2016 9:10:00 AM	1/27/2016	2/11/2016
N018560-003A	C-CON-S-Q116L	Groundwater	1/27/2016 9:20:00 AM	1/27/2016	2/11/2016
N018560-003B	C-CON-S-Q116L	Groundwater	1/27/2016 9:20:00 AM	1/27/2016	2/11/2016
N018560-003C	C-CON-S-Q116L	Groundwater	1/27/2016 9:20:00 AM	1/27/2016	2/11/2016
N018560-003D	C-CON-S-Q116L	Groundwater	1/27/2016 9:20:00 AM	1/27/2016	2/11/2016
N018560-003E	C-CON-S-Q116L	Groundwater	1/27/2016 9:20:00 AM	1/27/2016	2/11/2016
N018560-004A	C-MAR-D-Q116L	Groundwater	1/27/2016 8:00:00 AM	1/27/2016	2/11/2016
N018560-004B	C-MAR-D-Q116L	Groundwater	1/27/2016 8:00:00 AM	1/27/2016	2/11/2016
N018560-004C	C-MAR-D-Q116L	Groundwater	1/27/2016 8:00:00 AM	1/27/2016	2/11/2016
N018560-004D	C-MAR-D-Q116L	Groundwater	1/27/2016 8:00:00 AM	1/27/2016	2/11/2016
N018560-004E	C-MAR-D-Q116L	Groundwater	1/27/2016 8:00:00 AM	1/27/2016	2/11/2016
N018560-005A	C-MAR-S-Q116L	Groundwater	1/27/2016 8:10:00 AM	1/27/2016	2/11/2016
N018560-005B	C-MAR-S-Q116L	Groundwater	1/27/2016 8:10:00 AM	1/27/2016	2/11/2016
N018560-005C	C-MAR-S-Q116L	Groundwater	1/27/2016 8:10:00 AM	1/27/2016	2/11/2016
N018560-005D	C-MAR-S-Q116L	Groundwater	1/27/2016 8:10:00 AM	1/27/2016	2/11/2016
N018560-005E	C-MAR-S-Q116L	Groundwater	1/27/2016 8:10:00 AM	1/27/2016	2/11/2016
N018560-006A	C-NR1-D-Q116L	Groundwater	1/27/2016 10:05:00 AM	1/27/2016	2/11/2016
N018560-006B	C-NR1-D-Q116L	Groundwater	1/27/2016 10:05:00 AM	1/27/2016	2/11/2016
N018560-006C	C-NR1-D-Q116L	Groundwater	1/27/2016 10:05:00 AM	1/27/2016	2/11/2016
N018560-006D	C-NR1-D-Q116L	Groundwater	1/27/2016 10:05:00 AM	1/27/2016	2/11/2016
N018560-006E	C-NR1-D-Q116L	Groundwater	1/27/2016 10:05:00 AM	1/27/2016	2/11/2016
N018560-007A	MW-701-Q116L	Groundwater	1/27/2016 10:00:00 AM	1/27/2016	2/11/2016
N018560-007B	MW-701-Q116L	Groundwater	1/27/2016 10:00:00 AM	1/27/2016	2/11/2016
N018560-007C	MW-701-Q116L	Groundwater	1/27/2016 10:00:00 AM	1/27/2016	2/11/2016

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock
Lab Order: N018560
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018560-007D	MW-701-Q116L	Groundwater	1/27/2016 10:00:00 AM	1/27/2016	2/11/2016
N018560-007E	MW-701-Q116L	Groundwater	1/27/2016 10:00:00 AM	1/27/2016	2/11/2016
N018560-008A	C-NR1-S-Q116L	Groundwater	1/27/2016 10:30:00 AM	1/27/2016	2/11/2016
N018560-008B	C-NR1-S-Q116L	Groundwater	1/27/2016 10:30:00 AM	1/27/2016	2/11/2016
N018560-008C	C-NR1-S-Q116L	Groundwater	1/27/2016 10:30:00 AM	1/27/2016	2/11/2016
N018560-008D	C-NR1-S-Q116L	Groundwater	1/27/2016 10:30:00 AM	1/27/2016	2/11/2016
N018560-008E	C-NR1-S-Q116L	Groundwater	1/27/2016 10:30:00 AM	1/27/2016	2/11/2016
N018560-009A	C-NR3-D-Q116L	Groundwater	1/27/2016 11:05:00 AM	1/27/2016	2/11/2016
N018560-009B	C-NR3-D-Q116L	Groundwater	1/27/2016 11:05:00 AM	1/27/2016	2/11/2016
N018560-009C	C-NR3-D-Q116L	Groundwater	1/27/2016 11:05:00 AM	1/27/2016	2/11/2016
N018560-009D	C-NR3-D-Q116L	Groundwater	1/27/2016 11:05:00 AM	1/27/2016	2/11/2016
N018560-009E	C-NR3-D-Q116L	Groundwater	1/27/2016 11:05:00 AM	1/27/2016	2/11/2016
N018560-010A	C-NR3-S-Q116L	Groundwater	1/27/2016 11:15:00 AM	1/27/2016	2/11/2016
N018560-010B	C-NR3-S-Q116L	Groundwater	1/27/2016 11:15:00 AM	1/27/2016	2/11/2016
N018560-010C	C-NR3-S-Q116L	Groundwater	1/27/2016 11:15:00 AM	1/27/2016	2/11/2016
N018560-010D	C-NR3-S-Q116L	Groundwater	1/27/2016 11:15:00 AM	1/27/2016	2/11/2016
N018560-010E	C-NR3-S-Q116L	Groundwater	1/27/2016 11:15:00 AM	1/27/2016	2/11/2016

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	990	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	940	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	970	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	990	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	960	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-701-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	960	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:30:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	970	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	990	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:15:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018560-002D DUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **105593**
Client ID: **ZZZZZZ** Batch ID: **R105593** TestNo: **EPA 120.1** Analysis Date: **1/28/2016** SeqNo: **2214597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	993.000	0.10						989.0	0.404	10	

Sample ID **N018561-002C DUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **105593**
Client ID: **ZZZZZZ** Batch ID: **R105593** TestNo: **EPA 120.1** Analysis Date: **1/28/2016** SeqNo: **2214609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1084.000	0.10						1087	0.276	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.0	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	19	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.1	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.0	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.0	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.1	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-701-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	19	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:30:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:15:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	19	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018560-002D DUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **105541**
Client ID: **ZZZZZZ** Batch ID: **R105541** TestNo: **SM4500-H+B** Analysis Date: **1/28/2016** SeqNo: **2212487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.040	0.10						8.000	0.499	10	H
Temp. at time of pH Analysis	18.800	0.10						19.00	1.06	10	H

Sample ID **N018561-002C DUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **105541**
Client ID: **ZZZZZZ** Batch ID: **R105541** TestNo: **SM4500-H+B** Analysis Date: **1/28/2016** SeqNo: **2212497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.620	0.10						7.600	0.263	10	H
Temp. at time of pH Analysis	18.200	0.10						18.10	0.551	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	54	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	55	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-701-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:30:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160129F**	QC Batch: **56043**				PrepDate	**1/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	1/29/2016 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160201F**	QC Batch: **56071**				PrepDate	**2/1/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/1/2016 01:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:15:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160201F**	QC Batch: **56071**				PrepDate	**2/1/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/1/2016 01:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID **MB-56043** SampType: **MBLK** TestCode: **160.2_2540D** Units: **mg/L** Prep Date: **1/29/2016** RunNo: **105589**
Client ID: **PBW** Batch ID: **56043** TestNo: **SM2540D** Analysis Date: **1/29/2016** SeqNo: **2214449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID **LCS-56043** SampType: **LCS** TestCode: **160.2_2540D** Units: **mg/L** Prep Date: **1/29/2016** RunNo: **105589**
Client ID: **LCSW** Batch ID: **56043** TestNo: **SM2540D** Analysis Date: **1/29/2016** SeqNo: **2214450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	977.000	10	1000	0	97.7	80	120				

Sample ID **N018560-002D DUP** SampType: **DUP** TestCode: **160.2_2540D** Units: **mg/L** Prep Date: **1/29/2016** RunNo: **105589**
Client ID: **ZZZZZZ** Batch ID: **56043** TestNo: **SM2540D** Analysis Date: **1/29/2016** SeqNo: **2214455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID	MB-56071	SampType:	MBLK	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/1/2016	RunNo:	105623
Client ID:	PBW	Batch ID:	56071	TestNo:	SM2540D			Analysis Date:	2/1/2016	SeqNo:	2216602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID	LCS-56071	SampType:	LCS	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/1/2016	RunNo:	105623
Client ID:	LCSW	Batch ID:	56071	TestNo:	SM2540D			Analysis Date:	2/1/2016	SeqNo:	2216603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	953.000	10	1000	0	95.3	80	120				

Sample ID	N018561-004D-DUP	SampType:	DUP	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/1/2016	RunNo:	105623
Client ID:	ZZZZZZ	Batch ID:	56071	TestNo:	SM2540D			Analysis Date:	2/1/2016	SeqNo:	2216607

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 12:53 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 12:57 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 01:32 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 01:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 01:51 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 01:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 02:39 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 01:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-006

Client Sample ID: C-NR1-D-Q116L
Collection Date: 1/27/2016 10:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160201A** QC Batch: **R105644** PrepDate							Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 03:00 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **ICP7_160205C** QC Batch: **56078** PrepDate **2/2/2016**							Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-701-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 03:19 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 01:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-008

Client Sample ID: C-NR1-S-Q116L
Collection Date: 1/27/2016 10:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 03:38 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 02:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 03:57 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 02:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-010

Client Sample ID: C-NR3-S-Q116L
Collection Date: 1/27/2016 11:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 04:34 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205C**	QC Batch: **56078**			PrepDate		**2/2/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/5/2016 02:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R105644** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **PBW** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R105644** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **LCSW** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.230	0.20	5.000	0	105	90	110				

Sample ID **N018560-002A-DUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.048	0.20						0.06700	0	20	

Sample ID **N018560-002A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.042	0.20	1.000	0.06700	97.5	90	110				

Sample ID **N018560-002A-MSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0.06700	95.9	90	110	1.042	1.54	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018560-003A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.04960	101	90	110				

Sample ID **N018560-004A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0.07770	97.5	90	110				

Sample ID **N018560-005A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0.05820	98.6	90	110				

Sample ID **N018560-006A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0.06780	92.7	90	110				

Sample ID **N018560-007A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0.05360	99.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018560-008A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0.07300	96.0	90	110				

Sample ID **N018560-009A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0.05560	99.2	90	110				

Sample ID **N018560-010A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0.06990	97.0	90	110				

Sample ID **N018561-002A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.133	0.20	1.000	0.1426	99.0	90	110				

Sample ID **N018561-003A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.119	0.20	1.000	0.1041	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018561-004A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217333

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.060	0.20	1.000	0.07460	98.6	90	110				

Sample ID	N018561-005A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217337

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0.07600	96.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-56078	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/2/2016	RunNo:	105709
Client ID:	PBW	Batch ID:	56078	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/5/2016	SeqNo:	2221804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-56078	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/2/2016	RunNo:	105709
Client ID:	LCSW	Batch ID:	56078	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/5/2016	SeqNo:	2221805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.454	1.0	10.00	0	94.5	85	115				

Sample ID	N018560-002B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/2/2016	RunNo:	105709
Client ID:	ZZZZZZ	Batch ID:	56078	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/5/2016	SeqNo:	2221811

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.069	1.0	10.00	0	90.7	75	125				

Sample ID	N018560-002B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/2/2016	RunNo:	105709
Client ID:	ZZZZZZ	Batch ID:	56078	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/5/2016	SeqNo:	2221812

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.146	1.0	10.00	0	91.5	75	125	9.069	0.838	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.48	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.48	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.45	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.46	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.45	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-701-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.47	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:30:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160210A**	QC Batch: **R105800**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	0.57	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.47	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:15:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.46	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R105800** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **PBW** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R105800** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **LCSW** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.516	0.050	0.5000	0	103	85	115				

Sample ID **N018560-002E-DUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ZZZZZZ** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.482	0.050						0.4790	0.521	20	

Sample ID **N018560-002E-MS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ZZZZZZ** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.976	0.050	0.5000	0.4790	99.3	75	125				

Sample ID **N018560-002E-MSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ZZZZZZ** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.969	0.050	0.5000	0.4790	97.9	75	125	0.9756	0.710	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-002

Client Sample ID: C-CON-D-Q116L
Collection Date: 1/27/2016 9:10:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/5/2016 11:34 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	130	17	20		ug/L	1	2/7/2016 06:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/5/2016 11:39 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	67	17	20		ug/L	1	2/7/2016 06:38 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-004

Client Sample ID: C-MAR-D-Q116L
Collection Date: 1/27/2016 8:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	86	17	20		ug/L	1	2/5/2016 11:44 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	1200	17	20		ug/L	1	2/7/2016 06:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-005

Client Sample ID: C-MAR-S-Q116L
Collection Date: 1/27/2016 8:10:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/5/2016 11:49 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	780	17	20		ug/L	1	2/7/2016 06:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-006

Client Sample ID: C-NR1-D-Q116L
Collection Date: 1/27/2016 10:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/6/2016 12:19 AM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	99	17	20		ug/L	1	2/7/2016 06:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-007

Client Sample ID: MW-701-Q116L
Collection Date: 1/27/2016 10:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/6/2016 12:23 AM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	74	17	20		ug/L	1	2/7/2016 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-008

Client Sample ID: C-NR1-S-Q116L
Collection Date: 1/27/2016 10:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56017**				PrepDate	**1/28/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/6/2016 12:28 AM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56083**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	86	17	20		ug/L	1	2/7/2016 07:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-009

Client Sample ID: C-NR3-D-Q116L
Collection Date: 1/27/2016 11:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56092**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/6/2016 01:21 AM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160209A**	QC Batch: **56157**				PrepDate	**2/7/2016**	Analyst: **CEI**
Iron	170	17	20		ug/L	1	2/9/2016 10:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:15:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160205C**	QC Batch: **56092**				PrepDate	**2/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/6/2016 01:26 AM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160209A**	QC Batch: **56157**				PrepDate	**2/7/2016**	Analyst: **CEI**
Iron	94	17	20		ug/L	1	2/9/2016 11:03 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56017** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/28/2016** RunNo: **105703**
Client ID: **PBW** Batch ID: **56017** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56017** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/28/2016** RunNo: **105703**
Client ID: **LCSW** Batch ID: **56017** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.124	20	100.0	0	98.1	85	115				

Sample ID **N018548-002B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/28/2016** RunNo: **105703**
Client ID: **ZZZZZZ** Batch ID: **56017** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	164.550	20	100.0	19.90	145	75	125				S

Sample ID **N018548-002B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/28/2016** RunNo: **105703**
Client ID: **ZZZZZZ** Batch ID: **56017** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	164.817	20	100.0	19.90	145	75	125	164.5	0.162	20	S

Sample ID **N018549-003B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **1/28/2016** RunNo: **105703**
Client ID: **ZZZZZZ** Batch ID: **56017** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	150.445	20	100.0	0	150	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-56092	SampType:	MBLK	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105703
Client ID:	PBW	Batch ID:	56092	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/6/2016	SeqNo:	2221499

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56092	SampType:	LCS	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105703
Client ID:	LCSW	Batch ID:	56092	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/6/2016	SeqNo:	2221500

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.756	20	100.0	0	95.8	85	115				

Sample ID	N018616-001B-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105703
Client ID:	ZZZZZZ	Batch ID:	56092	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/6/2016	SeqNo:	2221504

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	236.843	20	100.0	213.9	23.0	75	125				S

Sample ID	N018616-001B-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105703
Client ID:	ZZZZZZ	Batch ID:	56092	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/6/2016	SeqNo:	2221505

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	235.831	20	100.0	213.9	22.0	75	125	236.8	0.428	20	S

Sample ID	N018616-010B-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105703
Client ID:	ZZZZZZ	Batch ID:	56092	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/6/2016	SeqNo:	2221520

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	281.343	20	100.0	156.7	125	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-56083	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105743
Client ID:	PBW	Batch ID:	56083	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224809

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56083	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105743
Client ID:	LCSW	Batch ID:	56083	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.493	20	100.0	0	105	85	115				

Sample ID	N018548-002C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105743
Client ID:	ZZZZZZ	Batch ID:	56083	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224814

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	179.508	20	100.0	92.52	87.0	75	125				

Sample ID	N018548-002C-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105743
Client ID:	ZZZZZZ	Batch ID:	56083	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224815

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	178.507	20	100.0	92.52	86.0	75	125	179.5	0.559	20	

Sample ID	N018549-003C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/2/2016	RunNo:	105743
Client ID:	ZZZZZZ	Batch ID:	56083	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	210.932	20	100.0	116.8	94.2	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-56157	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	PBW	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226635

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56157	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	LCSW	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226636

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.070	20	100.0	0	107	85	115				

Sample ID	N018560-009C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226640

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	204.610	20	100.0	174.0	30.6	75	125				S

Sample ID	N018560-009C-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226641

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	204.005	20	100.0	174.0	30.0	75	125	204.6	0.296	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 12:57 PM
Barium	140	0.36	5.0		µg/L	5	2/5/2016 01:03 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 12:57 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/5/2016 12:57 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/5/2016 12:57 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 9:20:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 01:36 PM
Barium	130	0.072	1.0		µg/L	1	2/5/2016 01:36 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 01:36 PM
Molybdenum	5.1	0.029	0.50		µg/L	1	2/5/2016 01:36 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/5/2016 01:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:00:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/5/2016 01:42 PM
Barium	140	0.072	1.0		µg/L	1	2/5/2016 01:42 PM
Manganese	40	0.023	0.50		µg/L	1	2/5/2016 01:42 PM
Molybdenum	5.5	0.029	0.50		µg/L	1	2/5/2016 01:42 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/5/2016 01:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 8:10:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 01:47 PM
Barium	140	0.072	1.0		µg/L	1	2/5/2016 01:47 PM
Manganese	70	0.023	0.50		µg/L	1	2/5/2016 01:47 PM
Molybdenum	5.6	0.029	0.50		µg/L	1	2/5/2016 01:47 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/5/2016 01:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 01:53 PM
Barium	130	0.072	1.0		µg/L	1	2/5/2016 01:53 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 01:53 PM
Molybdenum	5.1	0.029	0.50		µg/L	1	2/5/2016 01:53 PM
Selenium	1.8	0.070	0.50		µg/L	1	2/5/2016 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018560
Project: PG&E Topock
Lab ID: N018560-007

Client Sample ID: MW-701-Q116L
Collection Date: 1/27/2016 10:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 01:58 PM
Barium	130	0.072	1.0		µg/L	1	2/5/2016 01:58 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 01:58 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/5/2016 01:58 PM
Selenium	1.8	0.070	0.50		µg/L	1	2/5/2016 01:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 10:30:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 02:04 PM
Barium	140	0.072	1.0		µg/L	1	2/5/2016 02:04 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 02:04 PM
Molybdenum	5.3	0.029	0.50		µg/L	1	2/5/2016 02:04 PM
Selenium	1.8	0.070	0.50		µg/L	1	2/5/2016 02:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:05:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 02:10 PM
Barium	140	0.072	1.0		µg/L	1	2/5/2016 02:10 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 02:10 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/5/2016 02:10 PM
Selenium	1.8	0.070	0.50		µg/L	1	2/5/2016 02:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116L
Lab Order:	N018560	**Collection Date:**	1/27/2016 11:15:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018560-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160205D**	QC Batch: **56078**				PrepDate	**2/2/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/5/2016 02:15 PM
Barium	130	0.072	1.0		µg/L	1	2/5/2016 02:15 PM
Manganese	ND	0.023	0.50		µg/L	1	2/5/2016 02:15 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/5/2016 02:15 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/5/2016 02:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56078** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/2/2016** RunNo: **105710**
Client ID: **PBW** Batch ID: **56078** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	0.085	1.0									
Manganese	0.047	0.50									
Molybdenum	0.067	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56078** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/2/2016** RunNo: **105710**
Client ID: **LCSW** Batch ID: **56078** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.684	0.10	10.00	0	96.8	85	115				
Barium	97.644	1.0	100.0	0	97.6	85	115				
Manganese	88.336	0.50	100.0	0	88.3	85	115				
Molybdenum	9.361	0.50	10.00	0	93.6	85	115				
Selenium	9.924	0.50	10.00	0	99.2	85	115				

Sample ID **N018560-002B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/2/2016** RunNo: **105710**
Client ID: **ZZZZZZ** Batch ID: **56078** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.359	0.10	10.00	2.314	100	75	125				
Manganese	89.005	0.50	100.0	0.1160	88.9	75	125				
Molybdenum	15.752	0.50	10.00	5.213	105	75	125				
Selenium	11.747	0.50	10.00	1.605	101	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018560-002B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/2/2016** RunNo: **105710**
Client ID: **ZZZZZZ** Batch ID: **56078** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/5/2016** SeqNo: **2221906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.222	0.10	10.00	2.314	99.1	75	125	12.36	1.11	20	
Manganese	89.434	0.50	100.0	0.1160	89.3	75	125	89.01	0.481	20	
Molybdenum	15.821	0.50	10.00	5.213	106	75	125	15.75	0.438	20	
Selenium	11.283	0.50	10.00	1.605	96.8	75	125	11.75	4.03	20	

Sample ID **N018560-002B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/2/2016** RunNo: **105765**
Client ID: **ZZZZZZ** Batch ID: **56078** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/8/2016** SeqNo: **2226582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	251.166	5.0	100.0	135.5	116	75	125				

Sample ID **N018560-002B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/2/2016** RunNo: **105765**
Client ID: **ZZZZZZ** Batch ID: **56078** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/8/2016** SeqNo: **2226583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.650	5.0	100.0	135.5	115	75	125	251.2	0.205	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Arcadis	
Address:	Company:	Address:	
Address:	Email:	Address:	
Phone: / Fax:	Address:	Email to:	P.O.#
Submitted By: Gary Clift		Phone:	Fax:
Title:	Phone: / Fax:		
Signature: GaryClift Date: 1/27/16	Sampled By: Jason Mahn		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock	Signature: / Date: 1/27/16		
Project Number:			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact		
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number	2	
Global ID:		Specify State:		6. Method of Cooling: ICE		

Sample Temp: 3.1°C/2.1°C/2.6°C

Courier:

Tracking No.:

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Water	TIME	DATE	E218.6 FF | Cr(VI) (E218.6 - river)FF	E218.6 FF | Field QC Cr(VI)	6020A FF | Dissolved metals FF Cr	SW6010B /SW6020 Adis | Dissolved metals FF (As, Mn, Fe, Se, Mo, Ba)	SW6010B | Total Fe	E120.1 | Specific Conductance	SM4500HB | pH	SM2540 | TSS	SM4500NO 3-E | Nitrate/Nitrite as Nitrogen	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N018560-1	RMP-AB3-Q116L	X	845	1/27		X									1	P		HOLD
2	-2	C-CON-D-Q116L	X	910	1/27	X		X	X	X	X	X	X	X	E	10	P		
3	-3	C-CON-S-Q116L	X	920	1/27	X		X	X	X	X	X	X	X	E	10	P		
4	-4	C-MAR-D-Q116L	X	800	1/27	X		X	X	X	X	X	X	X	E	10	P		
5	-5	C-MAR-S-Q116L	X	810	1/27	X		X	X	X	X	X	X	X	E	10	P		
6	-6	C-NR1-D-Q116L	X	1005	1/27	X		X	X	X	X	X	X	X	E	10	P		
7	-7	MW-701-Q116L	X	1000	1/27	X		X	X	X	X	X	X	X	E	10	P		
8	-8	C-NR1-S-Q116L	X	1030	1/27	X		X	X	X	X	X	X	X	E	10	P		
9	-9	C-NR3-D-Q116L	X	1105	1/27	X		X	X	X	X	X	X	X	E	10	P		
10	-10	C-NR3-S-Q116L	X	1115	1/27	X		X	X	X	X	X	X	X	E	10	P		

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
GaryClift GARY CLIFT	1/27/16 1630	[illegible]	1/27/16 1630
[illegible]	1/27/16 1900	[illegible]	1/27/16 1900

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:				M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	1/27/2016	Workorder:	N018560
Rep sample Temp (Deg C):	3.1/2.1/2.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for pH was past holding time upon receipt.

Checklist Completed B MBC MBC 1/28/2016

Reviewed By: gsg 02/05/16

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018560

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018560-001A	RMP-AB3-Q116L	1/27/2016 8:45:00 AM	2/10/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018560-002A	C-CON-D-Q116L	1/27/2016 9:10:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-002B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-002C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-002D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-002E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-003A	C-CON-S-Q116L	1/27/2016 9:20:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-003B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-003C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018560

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018560-003D	C-CON-S-Q116L	1/27/2016 9:20:00 AM	2/10/2016	Groundwater	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-003E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-004A	C-MAR-D-Q116L	1/27/2016 8:00:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-004B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-004C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-004D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-004E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-005A	C-MAR-S-Q116L	1/27/2016 8:10:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-005B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018560

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018560-005B	C-MAR-S-Q116L	1/27/2016 8:10:00 AM	2/10/2016	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-005C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-005D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-005E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-006A	C-NR1-D-Q116L	1/27/2016 10:05:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-006B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-006C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-006D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018560

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018560-006E	C-NR1-D-Q116L	1/27/2016 10:05:00 AM	2/10/2016	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-007A	MW-701-Q116L	1/27/2016 10:00:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-007B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-007C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-007D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-007E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-008A	C-NR1-S-Q116L	1/27/2016 10:30:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-008B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-008C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018560

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018560-008C	C-NR1-S-Q116L	1/27/2016 10:30:00 AM	2/10/2016	Groundwater	EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-008D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-008E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-009A	C-NR3-D-Q116L	1/27/2016 11:05:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-009B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-009C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-009D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-009E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-010A	C-NR3-S-Q116L	1/27/2016 11:15:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018560-010B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018560

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018560-010B	C-NR3-S-Q116L	1/27/2016 11:15:00 AM	2/10/2016	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018560-010C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018560-010D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018560-010E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018560-011A	FOLDER		2/10/2016		EDD	RWQCB	☐	☐	☐	LAB
			2/10/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018560**

NAME	TEST METHOD
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540D

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105593 **Analyst:** LSR

ASSET #: N018560 **Date Analyzed:** 1/28/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/4/2016

2nd Level Reviewer Nancy 2/11/201 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 1/28/16 1600
Analyst: LBR

Standard	Std ID	Reading	Comments
9.78 mS/cm	CINV - 150619B A	9.85 mS/cm @21.6°C	% Rec: (90-110%)
1414	150601B	1426 @21.6°C	
~~10009~~ 9992	~~150619B~~ 160111B	10170 @21.6°C	
99797	151012B	99200 @21.6°C	

	Sample ID	Matrix	Reading	Comments
1	N0185560-002D	water	989 mS/cm @20.9°C	
2	2D DUP		993 @20.1°C	
3	3D		944 @19.9°C	
4	4D		967 @19.5°C	
5	5D		993 @19.5°C	
6	6D		958 @19.5°C	
7	7D		964 @19.6°C	
8	8D		970 @19.8°C	
9	9D		989 @19.3°C	
10	10D		997 @19.3°C	
up				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Julia Ramit 2/4/2016

Date: 1/28/16 1600
Analyst: LBR CONTD

Standard	Std ID	Reading	Comments
1413 mS/cm	CINV -150527A	1448 mS/cm @20.9°C	% Rec: (90-110%)
10000	-150909A	10230 @21.0°C	
99996	-150430A	98100 @21.1°C	

	Sample ID	Matrix	Reading	Comments
1	N0185561-002C	water	1087 mS/cm @19.6°C	
2	2C DUP		1084 @19.5°C	
3	3C		987 @19.5°C	
4	4D		949 @19.3°C	
5	5D		956 @19.3°C	
6				
7				
8				
9	1413 mS/cm	CINV -150527A	1045 mS/cm @21.1°C	
10	10000	150909A	10280 @21.1°C	
up	99996	150430A	97700 @21.2°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Advanced Technology Laboratories, Inc.
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SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105541 **Instrument ID:** pH meter

ASSET #: N018560 **Analyst:** LSR

Date Analyzed: 1/28/2016

Method: SM 150.1_4500H+B

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/4/2016

2nd Level Reviewer 2/11/201 Date:

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

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pH Logbook

Date: 1/27/16 1400
Analyst: LSN CONTD

Standard	Std ID	pH	Comments
Buffer 7	CINV-150828A	7.02 @ 19.4°C	SLOPE: 96.5%
Buffer 4	↓ B	3.96 @ 19.0°C	
Buffer 10	CINV-150708A	10.03 @ 19.0°C	

	Sample ID	Matrix	pH	Comments
1	N018570-003B	Soil	9.91 @ 19.1°C	
2	N018511-013A	↓	8.54 @ 19.1°C	
3	↓ 13A DUP	↓	8.46 @ 19.1°C	
4	↓ 14A	↓	9.13 @ 19.2°C	
5	N018515-001A	↓	6.71 @ 19.0°C	
6	↓ 3A	↓	4.11 @ 20.8°C	
7				
8				
9				
10				
Dup				Accept: 10% water, 20% soil
	Buffer (7) 4, 10 (Circle one)	CINV-150624A	6.95 @ 21.5°C	Accept: +/-0.1 pH units from expected value

Date: 1/28/16 1545
Analyst: LSN

Standard	Std ID	pH	Comments
Buffer 7	CINV-150828A	7.00 @ 22.0°C	SLOPE: 95.7%
Buffer 4	↓ B	4.00 @ 21.8°C	
Buffer 10	CINV-150708A	10.05 @ 21.6°C	

	Sample ID	Matrix	pH	Comments
1	N018560-002D	Water	8.00 @ 19.0°C	
2	2D DUP		8.04 @ 18.8°C	
3	3D		8.11 @ 18.1°C	
4	4D		8.02 @ 17.7°C	
5	5D		7.97 @ 18.0°C	
6	6D		8.14 @ 17.9°C	
7	7D		8.15 @ 18.6°C	
8	8D		8.15 @ 17.9°C	
9	9D		8.16 @ 18.3°C	
10	10D		8.17 @ 18.7°C	
Dup				Accept: 10% water, 20% soil
	Buffer (7) 4, 10 (Circle one)	CINV-150624A	6.97 @ 21.3°C	Accept: +/-0.1 pH units from expected value

Logbook #8

SM 2540D

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56043/56071 **Analyst:** LSR

ASSET #: N018560 **Date Analyzed:** 1/29/16,2/1/16

Method: EPA 160.2

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/4/2016

2nd Level Reviewer Nancy 2/11/201 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018560-002D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4051-1.4048)*1000000}{100}$$
$$= 3 \text{ mg/L}$$

Since reporting limit is 10 mg/L, therefore:

TSS = ND

Julia Ramit 2/4/2016

SAMPLE PREPARATION LOG

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ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/29/2016 8:35:48 A**
Prep End Date: **1/29/2016 2:00:00 P**

Initials/ Date: Lilia Ramit 2/4/2016

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Prep Batch **56043** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56043	Water		100	☐	0	0	100	1.000		
MB-56043	Water		100	☐	0	0	100	1.000		
N018549-003D	Water		100	☐	0	0	100	1.000		
N018549-004D	Water		100	☐	0	0	100	1.000		
N018549-005D	Water		100	☐	0	0	100	1.000		
N018560-002D	Groundwater		100	☐	0	0	100	1.000		
N018560-002D-DU	Groundwater		100	☐	0	0	100	1.000		
N018560-003D	Groundwater		100	☐	0	0	100	1.000		
N018560-004D	Groundwater		100	☐	0	0	100	1.000		
N018560-005D	Groundwater		100	☐	0	0	100	1.000		
N018560-006D	Groundwater		100	☐	0	0	100	1.000		
N018560-007D	Groundwater		100	☐	0	0	100	1.000		
N018560-008D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160108A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/29/2016 8:35:48 A**
Prep End Date:

Initials/ Date: Lilia Ramit 2/4/2016

Prep Batch **56043** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units **mL / mL**

	Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
	LCS-56043	Water	IWST160108A	100	☐	0	0	100	1.000		
	MB-56043	Water		100	☐	0	0	100	1.000		
11	N018549-003D	Water		100	☐	0	0	100	1.000		
12	N018549-004D	Water		100	☐	0	0	100	1.000		
13	N018549-005D	Water		100	☐	0	0	100	1.000		
14	N018560-002D	Groundwater		100	☐	0	0	100	1.000		
15	N018560-002D-DU	Groundwater		100	☐	0	0	100	1.000		
15	N018560-003D	Groundwater		100	☐	0	0	100	1.000		
16	N018560-004D	Groundwater		100	☐	0	0	100	1.000		
17	N018560-005D	Groundwater		100	☐	0	0	100	1.000		
18	N018560-006D	Groundwater		100	☐	0	0	100	1.000		
19	N018560-007D	Groundwater		100	☐	0	0	100	1.000		
20	N018560-008D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #
T50410

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/1/2016 1:20:20 P**
Prep End Date: **2/1/2016 6:10:00 P**

Initials/ Date: Lilia Ramit 2/4/2016

Prep Batch **56071** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56071	Water		100	☐	0	0	100	1.000		
MB-56071	Water		100	☐	0	0	100	1.000		
N018560-009D	Groundwater		100	☐	0	0	100	1.000		
N018560-010D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D-DU	Groundwater		100	☐	0	0	100	1.000		
N018561-005D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160108A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/1/2016 1:20:20 P**

Prep End Date:

Initials/ Date: Lilia Ramit 2/4/2016

Prep Batch **56071** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56071	Water	INST160108A	100	☐	0	0	100	1.000		
MB-56071	Water		100	☐	0	0	100	1.000		
N018560-009D	Groundwater		100	☐	0	0	100	1.000		
N018560-010D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D-DU	Groundwater		100	☐	0	0	100	1.000		
N018561-005D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #:

T60410

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
1/29/16 8:5	MB2 56043	100	1.4283 1.4283	1.4282 1.4284	
	LCS 2 56043	100	1.4052 1.4053	1.5032 1.5030	
11	N018549-0030	100	1.4036 1.4036	1.4040 1.4040	
12	4D	100	1.4069 1.4069	1.4072 1.4071	
13	5D	100	1.4077 1.4078	1.4089 1.4088	
14	N018560-0020	100	1.4050 1.4048	1.4052 1.4051	
15	3D	100	1.4102 1.4101	1.4104 1.4103	
16	4D	100	1.4027 1.4025	1.4078 1.4079	
17	5D	100	1.3957 1.3959	1.4015 1.4014	
18	6D	100	1.4041 1.4040	1.4048 1.4046	

Julia Ramit 2/4/2016

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
1/29/14 1g	N018560-007D	100	1.4054 1.4054	1.4060 1.4058	
2o	8D	100	1.4042 1.4042	1.4045 1.4045	
D2	N018560-002D DUP	100	1.4011 1.4012	1.4017 1.4017 DJL 1/29	

Julia Ramit 2/4/2016

ASSET Laboratories

Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 1/29/16						
MB-56043	100	1.4283	1.4284	1.0000	1.00	1
LCS-56043	100	1.4053	1.5030	977.0000	1.00	977
N018549-003D	100	1.4036	1.404	4.0000	1.00	4
N018549-004D	100	1.4069	1.4071	2.0000	1.00	2
N018549-005D	100	1.4078	1.4088	10.0000	1.00	10
N018560-002D	100	1.4048	1.4051	3.0000	1.00	3
N018560-002D DUP	100	1.4012	1.4017	5.0000	1.00	5
N018560-003D	100	1.4101	1.4103	2.0000	1.00	2
N018560-004D	100	1.4025	1.4079	54.0000	1.00	54
N018560-005D	100	1.3959	1.4014	55.0000	1.00	55
N018560-006D	100	1.404	1.4046	6.0000	1.00	6
N018560-007D	100	1.4054	1.4058	4.0000	1.00	4
N018560-008D	100	1.4042	1.4045	3.0000	1.00	3

Silia Ramit 2/4/2016

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/1/16 1320	MB1 56071	100	2.6190 2.6191	2.6192 2.6191	
	LCS 56071	100	2.6219 2.6221	2.7176 2.7174	
1	N018560-009D	100	2.6231 2.6233	2.6236 2.6235	
2	10D	100	2.5573 2.5575	2.5575 2.5576	
3	N018561-004D	100	2.6184 2.6187	2.6188 2.6188	
4	5 ~~4~~D ~~DSR~~ 2/1/15	100	2.5550 2.5552	2.5554 2.5555	
DUP	4D DUP	100	2.6474 2.6475	2.6478 ~~2.6477~~ 2.6477 KR 2/1/16	
~~DUP~~					

Julia Ramit 2/4/2016

ASSET Laboratories

Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 2/1/16						
MB-56071	100	2.6191	2.6191	0.0000	1.00	0
LCS-56071	100	2.6221	2.7174	953.0000	1.00	953
N018560-009D	100	2.6233	2.6235	2.0000	1.00	2
N018560-010D	100	2.5575	2.5576	1.0000	1.00	1
N018561-004D	100	2.6187	2.6188	1.0000	1.00	1
N018561-004D DUP	100	2.6475	2.6477	2.0000	1.00	2
N018561-005D	100	2.5552	2.5555	3.0000	1.00	3

Silia Ramit 2/4/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 1.0
101515

QC Batch Number: R105644
ASSET #: N018560

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/1/2016

Method:

[ ] EPA 300.0
[ ] EPA 7199

[X] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM, GMP, ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 2/11/2016 Date: —

2nd Level Reviewer Nancy 2/11/201 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018560-002A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.067 * 1

= 0.067

Since PQL is 0.20 µg/L,

Cr^{+6}, µg/L = ND

ANALYSIS RUN LOG

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	01/05/16 12:47 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/05/16 12:56 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	01/05/16 1:06 PM	Reported
13	MB-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:15 PM	Reported
14	LCS-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:24 PM	Reported
15	N018212-001A	SAMP	1	Hexavalent Chromium	01/05/16 1:35 PM	Reported
16	N018212-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 1:46 PM	Reported
17	N018212-001AMS	MS	1	Hexavalent Chromium	01/05/16 1:59 PM	Reported
18	N018212-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 2:10 PM	Reported
19	N018212-002A	SAMP	1	Hexavalent Chromium	01/05/16 2:30 PM	Reported
20	N018212-002AMS	MS	1	Hexavalent Chromium	01/05/16 2:41 PM	Reported
21	N018212-003A	SAMP	1	Hexavalent Chromium	01/05/16 2:50 PM	Reported
22	N018212-003AMS	MS	1	Hexavalent Chromium	01/05/16 3:00 PM	Reported
23	CCV-1	CCV	1	Hexavalent Chromium	01/05/16 3:09 PM	Reported
24	CCB-1	CCB	1	Hexavalent Chromium	01/05/16 3:19 PM	Reported
25	N018212-004A	SAMP	1	Hexavalent Chromium	01/05/16 3:28 PM	Reported
26	N018212-004AMS	MS	1	Hexavalent Chromium	01/05/16 3:38 PM	Reported
27	N018212-005A	SAMP	1	Hexavalent Chromium	01/05/16 3:47 PM	Reported
28	N018212-005AMS	MS	1	Hexavalent Chromium	01/05/16 3:57 PM	Reported
29	N018212-006A	SAMP	1	Hexavalent Chromium	01/05/16 4:06 PM	Reported
30	N018212-006AMS	MS	1	Hexavalent Chromium	01/05/16 4:16 PM	Reported
31	N018212-007A	SAMP	1	Hexavalent Chromium	01/05/16 4:25 PM	Reported
32	N018212-007AMS	MS	1	Hexavalent Chromium	01/05/16 4:35 PM	Reported
33	N018213-001A	SAMP	1	Hexavalent Chromium	01/05/16 4:44 PM	Reported
34	N018213-002A	SAMP	1	Hexavalent Chromium	01/05/16 4:54 PM	Reported
35	CCV-2	CCV	1	Hexavalent Chromium	01/05/16 5:03 PM	Reported
36	CCB-2	CCB	1	Hexavalent Chromium	01/05/16 5:12 PM	Reported
37	N018213-003A	SAMP	1	Hexavalent Chromium	01/05/16 5:22 PM	Reported
38	N018213-004A	SAMP	1	Hexavalent Chromium	01/05/16 5:31 PM	Reported
39	N018213-005A	SAMP	1	Hexavalent Chromium	01/05/16 5:41 PM	Reported
40	N018213-006A	SAMP	1	Hexavalent Chromium	01/05/16 5:50 PM	Reported
41	N018213-007A	SAMP	1	Hexavalent Chromium	01/05/16 6:00 PM	Reported
42	N018213-008A	SAMP	1	Hexavalent Chromium	01/05/16 6:11 PM	Reported

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018213-009A	SAMP	1	Hexavalent Chromium	01/05/16 6:21 PM	Reported
44	N018213-010A	SAMP	1	Hexavalent Chromium	01/05/16 6:30 PM	Reported
45	N018213-011A	SAMP	1	Hexavalent Chromium	01/05/16 6:39 PM	Reported
46	N018213-012A	SAMP	1	Hexavalent Chromium	01/05/16 6:49 PM	Reported
47	CCV-3	CCV	1	Hexavalent Chromium	01/05/16 6:58 PM	Reported
48	CCB-3	CCB	1	Hexavalent Chromium	01/05/16 7:08 PM	Reported
49	MB-R105090	MBLK	1	Hexavalent Chromium	01/05/16 7:17 PM	Reported
50	LCS-R105090	LCS	1	Hexavalent Chromium	01/05/16 7:27 PM	Reported
51	N018214-001A	SAMP	1	Hexavalent Chromium	01/05/16 7:36 PM	Reported
52	N018214-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 7:46 PM	Reported
53	N018214-001AMS	MS	1	Hexavalent Chromium	01/05/16 7:55 PM	Reported
54	N018214-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 8:05 PM	Reported
55	N018214-002A	SAMP	1	Hexavalent Chromium	01/05/16 8:14 PM	Reported
56	N018214-003A	SAMP	1	Hexavalent Chromium	01/05/16 8:24 PM	Reported
57	N018214-004A	SAMP	1	Hexavalent Chromium	01/05/16 8:33 PM	Reported
58	N018214-005A	SAMP	1	Hexavalent Chromium	01/05/16 8:43 PM	Reported
59	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 8:52 PM	Not Reported
60	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 10:51 PM	Reported
61	CCB-4	CCB	1	Hexavalent Chromium	01/05/16 11:02 PM	Reported
62	N018214-006A	SAMP	1	Hexavalent Chromium	01/05/16 11:12 PM	Reported
63	N018214-007A	SAMP	1	Hexavalent Chromium	01/05/16 11:21 PM	Reported
64	N018214-008A	SAMP	1	Hexavalent Chromium	01/05/16 11:30 PM	Reported
65	N018214-009A	SAMP	1	Hexavalent Chromium	01/05/16 11:40 PM	Reported
66	N018214-010A	SAMP	1	Hexavalent Chromium	01/05/16 11:49 PM	Reported
67	N018214-011A	SAMP	1	Hexavalent Chromium	01/05/16 11:59 PM	Reported
68	N018214-012A	SAMP	1	Hexavalent Chromium	01/06/16 12:08 AM	Reported
69	N018214-013A	SAMP	1	Hexavalent Chromium	01/06/16 12:18 AM	Reported
70	N018214-014A	SAMP	1	Hexavalent Chromium	01/06/16 12:27 AM	Reported
71	N018214-015A	SAMP	1	Hexavalent Chromium	01/06/16 12:37 AM	Reported
72	CCV-5	CCV	1	Hexavalent Chromium	01/06/16 12:46 AM	Reported
73	CCB-5	CCB	1	Hexavalent Chromium	01/06/16 12:56 AM	Reported
74	N018223-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:05 AM	Reported
75	N018224-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:15 AM	Reported
76	CCV-6	CCV	1	Hexavalent Chromium	01/06/16 1:24 AM	Reported
77	CCB-6	CCB	1	Hexavalent Chromium	01/06/16 1:33 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160105A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Jan/16 10:48:03**
No. of Injections:	**80**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	ICV,ICV,1,	10	1000	Unknown		01/05/2016 12:47	Finished	ICV @ 5ppb, IWST 160105B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		01/05/2016 12:56	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		01/05/2016 13:06	Finished	ICB R151228A
13	MB-H2O,MBLK,1	13	1000	Unknown		01/05/2016 13:15	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		01/05/2016 13:24	Finished	LCS @ 5ppb, IWST-160105D
15	N018212-001A,SAMF	15	1000	Unknown		01/05/2016 13:35	Finished	SAMP, 10mL
16	N018212-001ADUP,D	16	1000	Unknown		01/05/2016 13:46	Finished	DUP, 10mL
17	N018212-001AMS,MS	17	1000	Unknown		01/05/2016 13:59	Finished	MS(1ppb), IWST-160105D, 10r
18	N018212-001AMSD,M	18	1000	Unknown		01/05/2016 14:10	Finished	MSD(1ppb), IWST-160105D, 1
19	N018212-002A,SAMF	19	1000	Unknown		01/05/2016 14:30	Finished	SAMP, 10mL
20	N018212-002AMS,MS	20	1000	Unknown		01/05/2016 14:41	Finished	MS(1ppb), IWST-160105D, 10r
21	N018212-003A,SAMF	21	1000	Unknown		01/05/2016 14:50	Finished	SAMP, 10mL
22	N018212-003AMS,MS	22	1000	Unknown		01/05/2016 15:00	Finished	MS(1ppb), IWST-160105D, 10r
23	CCV-1,CCV,1	23	1000	Unknown		01/05/2016 15:09	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-1,CCB,1	24	1000	Unknown		01/05/2016 15:19	Finished	CCB
25	N018212-004A,SAMF	25	1000	Unknown		01/05/2016 15:28	Finished	SAMP, 10mL
26	N018212-004AMS,MS	26	1000	Unknown		01/05/2016 15:38	Finished	MS(1ppb), IWST-160105D, 10r
27	N018212-005A,SAMF	27	1000	Unknown		01/05/2016 15:47	Finished	SAMP, 10mL
28	N018212-005AMS,MS	28	1000	Unknown		01/05/2016 15:57	Finished	MS(1ppb), IWST-160105D, 10r
29	N018212-006A,SAMF	29	1000	Unknown		01/05/2016 16:06	Finished	SAMP, 10mL
30	N018212-006AMS,MS	30	1000	Unknown		01/05/2016 16:16	Finished	MS(1ppb), IWST-160105D, 10r
31	N018212-007A,SAMF	31	1000	Unknown		01/05/2016 16:25	Finished	SAMP, 10mL
32	N018212-007AMS,MS	32	1000	Unknown		01/05/2016 16:35	Finished	MS(1ppb), IWST-160105D, 10r
33	N018213-001A,SAMF	33	1000	Unknown		01/05/2016 16:44	Finished	SAMP, 10mL
34	N018213-002A,SAMF	34	1000	Unknown		01/05/2016 16:54	Finished	SAMP, 10mL
35	CCV-2,CCV,1	35	1000	Unknown		01/05/2016 17:03	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-2,CCB,1	36	1000	Unknown		01/05/2016 17:12	Finished	CCB
37	N018213-003A,SAMF	37	1000	Unknown		01/05/2016 17:22	Finished	SAMP, 10mL
38	N018213-004A,SAMF	38	1000	Unknown		01/05/2016 17:31	Finished	SAMP, 10mL
39	N018213-005A,SAMF	39	1000	Unknown		01/05/2016 17:41	Finished	SAMP, 10mL
40	N018213-006A,SAMF	40	1000	Unknown		01/05/2016 17:50	Finished	SAMP, 10mL
41	N018213-007A,SAMF	1	1000	Unknown		01/05/2016 18:00	Finished	SAMP, 10mL
42	N018213-008A,SAMF	2	1000	Unknown		01/05/2016 18:11	Finished	SAMP, 10mL
43	N018213-009A,SAMF	3	1000	Unknown		01/05/2016 18:21	Finished	SAMP, 10mL
44	N018213-010A,SAMF	4	1000	Unknown		01/05/2016 18:30	Finished	SAMP, 10mL
45	N018213-011A,SAMF	5	1000	Unknown		01/05/2016 18:39	Finished	SAMP, 10mL
46	N018213-012A,SAMF	6	1000	Unknown		01/05/2016 18:49	Finished	SAMP, 10mL
47	CCV-3,CCV,1	7	1000	Unknown		01/05/2016 18:58	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-3,CCB,1	8	1000	Unknown		01/05/2016 19:08	Finished	CCB
49	MB-H2O-2,MBLK,1	9	1000	Unknown		01/05/2016 19:17	Finished	MB
50	LCS-H2O-2,LCS,1	10	1000	Unknown		01/05/2016 19:27	Finished	LCS @ 5ppb, IWST-151103D
51	N018214-001A,SAMF	11	1000	Unknown		01/05/2016 19:36	Finished	SAMP, 10mL
52	N018214-001ADUP,D	12	1000	Unknown		01/05/2016 19:46	Finished	DUP, 10mL
53	N018214-001AMS,MS	13	1000	Unknown		01/05/2016 19:55	Finished	MS(5ppb), IWST-160105D, 10r
54	N018214-001AMSD,M	14	1000	Unknown		01/05/2016 20:05	Finished	MSD(5ppb), IWST-160105D, 1
55	N018214-002A,SAMF	15	1000	Unknown		01/05/2016 20:14	Finished	SAMP, 10mL
56	N018214-003A,SAMF	16	1000	Unknown		01/05/2016 20:24	Finished	SAMP, 10mL
57	N018214-004A,SAMF	17	1000	Unknown		01/05/2016 20:33	Finished	SAMP, 10mL
58	N018214-005A,SAMF	18	1000	Unknown		01/05/2016 20:43	Finished	SAMP, 10mL
59	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 20:52	Interrupted	CCV @ 5ppb, IWST-160105C
60	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 22:51	Finished	CCV @ 5ppb, IWST-160105C

61	CCB-4,CCB,1	20	1000	Unknown		01/05/2016 23:02	Finished	CCB
62	N018214-006A,SAMF	21	1000	Unknown		01/05/2016 23:12	Finished	SAMP, 10mL
63	N018214-007A,SAMF	22	1000	Unknown		01/05/2016 23:21	Finished	SAMP, 10mL
64	N018214-008A,SAMF	23	1000	Unknown		01/05/2016 23:30	Finished	SAMP, 10mL
65	N018214-009A,SAMF	24	1000	Unknown		01/05/2016 23:40	Finished	SAMP, 10mL
66	N018214-010A,SAMF	25	1000	Unknown		01/05/2016 23:49	Finished	SAMP, 10mL
67	N018214-011A,SAMF	26	1000	Unknown		01/05/2016 23:59	Finished	SAMP, 10mL
68	N018214-012A,SAMF	27	1000	Unknown		01/06/2016 00:08	Finished	SAMP, 10mL
69	N018214-013A,SAMF	28	1000	Unknown		01/06/2016 00:18	Finished	SAMP, 10mL
70	N018214-014A,SAMF	29	1000	Unknown		01/06/2016 00:27	Finished	SAMP, 10mL
71	N018214-015A,SAMF	30	1000	Unknown		01/06/2016 00:37	Finished	SAMP, 10mL
72	CCV-5,CCV,1	31	1000	Unknown		01/06/2016 00:46	Finished	CCV @ 10ppb, IWST-160105C
73	CCB-5,CCB,1	32	1000	Unknown		01/06/2016 00:56	Finished	CCB
74	N018223-001A,SAMF	33	1000	Unknown		01/06/2016 01:05	Finished	SAMP, 10mL
75	N018224-001A,SAMF	34	1000	Unknown		01/06/2016 01:15	Finished	SAMP, 10mL
76	CCV-6,CCV,1	35	1000	Unknown		01/06/2016 01:24	Finished	CCV @ 5ppb, IWST-160105C
77	CCB-6,CCB,1	36	1000	Unknown		01/06/2016 01:33	Finished	CCB
78	SHUTDOWN	37	1000	Unknown		01/06/2016 01:43	Finished	BLANK
79	Eluent: R160105A	38	1000	Unknown		n.a.	Finished	Eluent
80	PCR: R160105B	39	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:37 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:48 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	02/01/16 11:57 AM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/01/16 12:07 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/01/16 12:16 PM	Reported
15	MB-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:26 PM	Reported
16	LCS-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:35 PM	Reported
17	N018560-002A	SAMP	1	Hexavalent Chromium	02/01/16 12:53 PM	Reported
18	N018560-002A-DUP	DUP	1	Hexavalent Chromium	02/01/16 1:04 PM	Reported
19	N018560-002A-MS	MS	1	Hexavalent Chromium	02/01/16 1:13 PM	Reported
20	N018560-002A-MSD	MSD	1	Hexavalent Chromium	02/01/16 1:23 PM	Reported
21	N018560-003A	SAMP	1	Hexavalent Chromium	02/01/16 1:32 PM	Reported
22	N018560-003A-MS	MS	1	Hexavalent Chromium	02/01/16 1:42 PM	Reported
23	N018560-004A	SAMP	1	Hexavalent Chromium	02/01/16 1:51 PM	Reported
24	N018560-004A-MS	MS	1	Hexavalent Chromium	02/01/16 2:01 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/01/16 2:10 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/01/16 2:20 PM	Reported
27	N018560-005A	SAMP	1	Hexavalent Chromium	02/01/16 2:39 PM	Reported
28	N018560-005A-MS	MS	1	Hexavalent Chromium	02/01/16 2:50 PM	Reported
29	N018560-006A	SAMP	1	Hexavalent Chromium	02/01/16 3:00 PM	Reported
30	N018560-006A-MS	MS	1	Hexavalent Chromium	02/01/16 3:09 PM	Reported
31	N018560-007A	SAMP	1	Hexavalent Chromium	02/01/16 3:19 PM	Reported
32	N018560-007A-MS	MS	1	Hexavalent Chromium	02/01/16 3:28 PM	Reported
33	N018560-008A	SAMP	1	Hexavalent Chromium	02/01/16 3:38 PM	Reported
34	N018560-008A-MS	MS	1	Hexavalent Chromium	02/01/16 3:47 PM	Reported
35	N018560-009A	SAMP	1	Hexavalent Chromium	02/01/16 3:57 PM	Reported
36	N018560-009A-MS	MS	1	Hexavalent Chromium	02/01/16 4:06 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/01/16 4:15 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/01/16 4:25 PM	Reported
39	N018560-010A	SAMP	1	Hexavalent Chromium	02/01/16 4:34 PM	Reported
40	N018560-010A-MS	MS	1	Hexavalent Chromium	02/01/16 4:44 PM	Reported
41	N018561-001A	SAMP	1	Hexavalent Chromium	02/01/16 4:53 PM	Not Reported
42	N018561-001A-MS	MS	1	Hexavalent Chromium	02/01/16 5:03 PM	Not Reported

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018561-002A	SAMP	1	Hexavalent Chromium	02/01/16 5:12 PM	Reported
44	N018561-002A-MS	MS	1	Hexavalent Chromium	02/01/16 5:22 PM	Reported
45	N018561-003A	SAMP	1	Hexavalent Chromium	02/01/16 5:31 PM	Reported
46	N018561-003A-MS	MS	1	Hexavalent Chromium	02/01/16 5:41 PM	Reported
47	N018561-004A	SAMP	1	Hexavalent Chromium	02/01/16 5:50 PM	Reported
48	N018561-004A-MS	MS	1	Hexavalent Chromium	02/01/16 6:00 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/01/16 6:09 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/01/16 6:18 PM	Reported
51	N018561-005A	SAMP	1	Hexavalent Chromium	02/01/16 6:28 PM	Reported
52	N018561-005A-MS	MS	1	Hexavalent Chromium	02/01/16 6:37 PM	Reported
53	CCV-5	CCV	1	Hexavalent Chromium	02/01/16 6:47 PM	Reported
54	CCB-5	CCB	1	Hexavalent Chromium	02/01/16 6:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160201A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Feb/16 15:41:58**
No. of Injections:	**57**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	BLANK	1	1000	Unknown		02/01/2016 11:37	Finished	BLANK
11	BLANK	2	1000	Unknown		02/01/2016 11:48	Finished	BLANK
12	CCV-1,CCV,1,	3	1000	Unknown		02/01/2016 11:57	Finished	CCV @ 5ppb, IWST 160105C
13	PQL@0.2ppb,CCV2,1	4	1000	Unknown		02/01/2016 12:07	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	5	1000	Unknown		02/01/2016 12:16	Finished	CCB R160110A
15	MB-H2O,MBLK,1	6	1000	Unknown		02/01/2016 12:26	Finished	MB
16	LCS-H2O,LCS,1	7	1000	Unknown		02/01/2016 12:35	Finished	LCS @ 5ppb, IWST-160107A
17	N018560-002A,SAMP	8	1000	Unknown		02/01/2016 12:53	Finished	SAMP, 10mL
18	N018560-002A-DUP,I	9	1000	Unknown		02/01/2016 13:04	Finished	DUP, 10mL
19	N018560-002A-MS,M	10	1000	Unknown		02/01/2016 13:13	Finished	MS(1ppb), IWST-160107A, 10r
20	N018560-002A-MSD,	11	1000	Unknown		02/01/2016 13:23	Finished	MSD(5ppb), IWST-160107A, 1
21	N018560-003A,SAMP	12	1000	Unknown		02/01/2016 13:32	Finished	SAMP, 10mL
22	N018560-003A-MS,M	13	1000	Unknown		02/01/2016 13:42	Finished	MS(1ppb), IWST-160107A, 10r
23	N018560-004A,SAMP	14	1000	Unknown		02/01/2016 13:51	Finished	SAMP, 10mL
24	N018560-004A-MS,M	15	1000	Unknown		02/01/2016 14:01	Finished	MS(1ppb), IWST-160107A, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/01/2016 14:10	Finished	CCV @ 10ppb, IWST-160105C
26	CCB-2,CCB,1	17	1000	Unknown		02/01/2016 14:20	Finished	CCB
27	N018560-005A,SAMP	18	1000	Unknown		02/01/2016 14:39	Finished	SAMP, 10mL
28	N018560-005A-MS,M	19	1000	Unknown		02/01/2016 14:50	Finished	MS(1ppb), IWST-160107A, 10r
29	N018560-006A,SAMP	20	1000	Unknown		02/01/2016 15:00	Finished	SAMP, 10mL
30	N018560-006A-MS,M	21	1000	Unknown		02/01/2016 15:09	Finished	MS(1ppb), IWST-160107A, 10r
31	N018560-007A,SAMP	22	1000	Unknown		02/01/2016 15:19	Finished	SAMP, 10mL
32	N018560-007A-MS,M	23	1000	Unknown		02/01/2016 15:28	Finished	MS(1ppb), IWST-160107A, 10r
33	N018560-008A,SAMP	24	1000	Unknown		02/01/2016 15:38	Finished	SAMP, 10mL
34	N018560-008A-MS,M	25	1000	Unknown		02/01/2016 15:47	Finished	MS(1ppb), IWST-160107A, 10r
35	N018560-009A,SAMP	26	1000	Unknown		02/01/2016 15:57	Finished	SAMP, 10mL
36	N018560-009A-MS,M	27	1000	Unknown		02/01/2016 16:06	Finished	MS(1ppb), IWST-160107A, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/01/2016 16:15	Finished	CCV @ 5ppb, IWST-160105C
38	CCB-3,CCB,1	29	1000	Unknown		02/01/2016 16:25	Finished	CCB
39	N018560-010A,SAMP	30	1000	Unknown		02/01/2016 16:34	Finished	SAMP, 10mL
40	N018560-010A-MS,M	31	1000	Unknown		02/01/2016 16:44	Finished	MS(1ppb), IWST-160107A, 10r
41	N018561-001A,SAMP	32	1000	Unknown		02/01/2016 16:53	Finished	SAMP, 10mL
42	N018561-001A-MS,M	33	1000	Unknown		02/01/2016 17:03	Finished	MS(1ppb), IWST-160107A, 10r
43	N018561-002A,SAMP	34	1000	Unknown		02/01/2016 17:12	Finished	SAMP, 10mL
44	N018561-002A-MS,M	35	1000	Unknown		02/01/2016 17:22	Finished	MS(1ppb), IWST-160107A, 10r
45	N018561-003A,SAMP	36	1000	Unknown		02/01/2016 17:31	Finished	SAMP, 10mL
46	N018561-003A-MS,M	37	1000	Unknown		02/01/2016 17:41	Finished	MS(1ppb), IWST-160107A, 10r
47	N018561-004A,SAMP	38	1000	Unknown		02/01/2016 17:50	Finished	SAMP, 10mL
48	N018561-004A-MS,M	39	1000	Unknown		02/01/2016 18:00	Finished	MS(1ppb), IWST-160107A, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/01/2016 18:09	Finished	CCV @ 10ppb, IWST-160105C
50	CCB-4,CCB,1	41	1000	Unknown		02/01/2016 18:18	Finished	CCB
51	N018561-005A,SAMP	42	1000	Unknown		02/01/2016 18:28	Finished	SAMP, 10mL
52	N018561-005A-MS,M	43	1000	Unknown		02/01/2016 18:37	Finished	MS(1ppb), IWST-160107A, 10r
53	CCV-5,CCV,1	44	1000	Unknown		02/01/2016 18:47	Finished	CCV @ 5ppb, IWST-160105C
54	CCB-5,CCB,1	45	1000	Unknown		02/01/2016 18:57	Finished	CCB
55	SHUTDOWN	46	1000	Unknown		02/01/2016 19:06	Finished	BLANK
56	Eluent: R160129B	47	1000	Unknown		n.a.	Finished	Eluent
57	PCR: R160127C	48	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 1/27/16
Time Prepared: 4:00pm
Prepared By: MEB

Reagent ID:
Sulfuric Acid: C1M-151130D
Diphenylcarbazide: C1M-151130F
NH4OH + NH4SO4 eluent: R160127D
NH4OH + NH4SO4 buffer: R160110A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018549-003A1	9.51	–	–	–	–	R160110A
2)	A2	9.51	–	–	–	–	
3)	A3	9.49	–	–	–	–	
4)	4A1	9.51	–	–	–	–	
5)	A2	9.51	–	–	–	–	
6)	A3	9.52	–	–	–	–	
7)	5A1	9.51	–	–	–	–	
8)	A2	9.52	–	–	–	–	
9)	A3	9.48	–	–	–	–	
10)							
11)							
12)							
13)							
14)							
15)							

Sample Preparation

Date Prepared: 01/28/16
Time Prepared: 12:00 pm
Prepared By: MEB

SURE: 98.2%
pH 4 – 4.01
7 – 7.00
10 – 10.05
LCS – 7.01

Reagent ID:
Sulfuric Acid: C1M-151130D
Diphenylcarbazide: C1M-151130F
NH4OH + NH4SO4 eluent: R160129B
NH4OH + NH4SO4 buffer: R160110A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018560-002A1	9.52	–	–	–	–	R160110A
2)	A2	9.52	–	–	–	–	
3)	A3	9.55	–	–	–	–	
4)	003 A1	9.54	–	–	–	–	
5)	A2	9.55	–	–	–	–	
6)	A3	9.51	–	–	–	–	
7)	4A1	9.54	–	–	–	–	
8)	A2	9.52	–	–	–	–	
9)	A3	9.53	–	–	–	–	
10)	5A1	9.49	–	–	–	–	
11)	A2	9.55	–	–	–	–	
12)	A3	9.50	–	–	–	–	
13)	6A1	9.53	–	–	–	–	
14)	A2	9.54	–	–	–	–	
15)	A3	9.54	–	–	–	–	

Logbook No. 10

Reb 2/11/2016

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 01/28/16
Time Prepared: 12:00PM
Prepared By: MSB

Reagent ID:
Sulfuric Acid: CIM-1511300
Diphenylcarbazide: CIM-1511300P
NH4OH + NH4SO4 eluent: R160129B
NH4OH + NH4SO4 buffer: R160110A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018560-007A1	9.53	—	—	—	—	R160110A
2)	A2	9.55	—	—	—	—	
3)	A3	9.52	—	—	—	—	
4)	8A1	9.53	—	—	—	—	
5)	A2	9.52	—	—	—	—	
6)	A3	9.54	—	—	—	—	
7)	9A1	9.55	—	—	—	—	
8)	A2	9.54	—	—	—	—	
9)	A3	9.53	—	—	—	—	
10)	10A1	9.52	—	—	—		
11)	A2	9.52	—	—	—	—	
12)	A3	9.54	—	—	—	—	
13)	N018561-001A1	9.52	—	—	—	—	
14)	A2	9.47	—	—	—	—	
15)	A3	9.45		—	—	—	

Sample Preparation

Date Prepared: 01/28/16
Time Prepared: 12:00PM
Prepared By: MSB

Reagent ID:
Sulfuric Acid: CIM-1511300 ~~R160129B~~ MSB 2/10/16
Diphenylcarbazide: CIM-1511300P
NH4OH + NH4SO4 eluent: R160129B
NH4OH + NH4SO4 buffer: R160110A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018561-002A1	9.49	—	—	—	—	R160110A
2)	A2	9.49	—	—	—	—	
3)	A3	9.46	—	—	—	—	
4)	3A1	9.48	—	—	—	—	
5)	A2	9.50	—	—	—	—	
6)	A3	9.50	—	—	—		
7)	4A1	9.48	—	—	—	—	
8)	A2	9.49	—	—	—	—	
9)	A3	9.52	—	—	—	—	
10)	5A1	9.49	—	—	—	—	
11)	A2	9.49	—	—	—	—	
12)	A3	9.48	—	—	—	—	
13)							
14)							
15)							

Logbook No. 10

Reb 2/11/2016

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INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 1/5/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0526	0.2524	1.2092	2.3780	3.6489	4.8150	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160105C

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ICV** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2217294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.046	0.20	5.000	0	101	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2217295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.227	0.20	0.2000	0	114	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCV** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.206	0.20	0.2000	0	103	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCV** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.846	0.20	10.00	0	98.5	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCV-3	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	CCV	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217322

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.052	0.20	5.000	0	101	95	105				

Sample ID	CCV-4	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	CCV	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217334

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.052	0.20	10.00	0	101	95	105				

Sample ID	CCV-5	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	CCV	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217338

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.896	0.20	5.000	0	97.9	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ICB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2217296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.013	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/1/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.048	
CCV-2	5.056	
CCV-3	5.048	
CCV-4	5.048	
CCV-5	5.056	
Average	5.051	
Actual RT Window	4.971 - 5.131	
Applied RT Window	4.851 - 5.251	
MB-R105644	N.A.	N.A.
LCS-R105644	5.048	PASS
N018560-002A	5.056	PASS
N018560-002A-DUP	5.040	PASS
N018560-002A-MS	5.048	PASS
N018560-002A-MSD	5.040	PASS
N018560-003A	5.040	PASS
N018560-003A-MS	5.048	PASS
N018560-004A	5.048	PASS
N018560-004A-MS	5.048	PASS
N018560-005A	5.031	PASS
N018560-005A-MS	5.048	PASS
N018560-006A	5.031	PASS
N018560-006A-MS	5.040	PASS
N018560-007A	5.048	PASS
N018560-007A-MS	5.040	PASS
N018560-008A	5.040	PASS
N018560-008A-MS	5.048	PASS
N018560-009A	5.056	PASS
N018560-009A-MS	5.048	PASS
N018560-010A	5.031	PASS
N018560-010A-MS	5.040	PASS
N018561-001A	5.031	PASS
N018561-001A-MS	5.048	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/1/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.048	
CCV-2	5.056	
CCV-3	5.048	
CCV-4	5.048	
CCV-5	5.056	
Average	5.051	
Actual RT Window	4.971 - 5.131	
Applied RT Window	4.851 - 5.251	
N018561-002A	5.048	PASS
N018561-002A-MS	5.048	PASS
N018561-003A	5.056	PASS
N018561-003A-MS	5.048	PASS
N018561-004A	5.056	PASS
N018561-004A-MS	5.048	PASS
N018561-005A	5.048	PASS
N018561-005A-MS	5.040	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	01/05/16 12:47 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/05/16 12:56 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	01/05/16 1:06 PM	Reported
13	MB-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:15 PM	Reported
14	LCS-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:24 PM	Reported
15	N018212-001A	SAMP	1	Hexavalent Chromium	01/05/16 1:35 PM	Reported
16	N018212-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 1:46 PM	Reported
17	N018212-001AMS	MS	1	Hexavalent Chromium	01/05/16 1:59 PM	Reported
18	N018212-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 2:10 PM	Reported
19	N018212-002A	SAMP	1	Hexavalent Chromium	01/05/16 2:30 PM	Reported
20	N018212-002AMS	MS	1	Hexavalent Chromium	01/05/16 2:41 PM	Reported
21	N018212-003A	SAMP	1	Hexavalent Chromium	01/05/16 2:50 PM	Reported
22	N018212-003AMS	MS	1	Hexavalent Chromium	01/05/16 3:00 PM	Reported
23	CCV-1	CCV	1	Hexavalent Chromium	01/05/16 3:09 PM	Reported
24	CCB-1	CCB	1	Hexavalent Chromium	01/05/16 3:19 PM	Reported
25	N018212-004A	SAMP	1	Hexavalent Chromium	01/05/16 3:28 PM	Reported
26	N018212-004AMS	MS	1	Hexavalent Chromium	01/05/16 3:38 PM	Reported
27	N018212-005A	SAMP	1	Hexavalent Chromium	01/05/16 3:47 PM	Reported
28	N018212-005AMS	MS	1	Hexavalent Chromium	01/05/16 3:57 PM	Reported
29	N018212-006A	SAMP	1	Hexavalent Chromium	01/05/16 4:06 PM	Reported
30	N018212-006AMS	MS	1	Hexavalent Chromium	01/05/16 4:16 PM	Reported
31	N018212-007A	SAMP	1	Hexavalent Chromium	01/05/16 4:25 PM	Reported
32	N018212-007AMS	MS	1	Hexavalent Chromium	01/05/16 4:35 PM	Reported
33	N018213-001A	SAMP	1	Hexavalent Chromium	01/05/16 4:44 PM	Reported
34	N018213-002A	SAMP	1	Hexavalent Chromium	01/05/16 4:54 PM	Reported
35	CCV-2	CCV	1	Hexavalent Chromium	01/05/16 5:03 PM	Reported
36	CCB-2	CCB	1	Hexavalent Chromium	01/05/16 5:12 PM	Reported
37	N018213-003A	SAMP	1	Hexavalent Chromium	01/05/16 5:22 PM	Reported
38	N018213-004A	SAMP	1	Hexavalent Chromium	01/05/16 5:31 PM	Reported
39	N018213-005A	SAMP	1	Hexavalent Chromium	01/05/16 5:41 PM	Reported
40	N018213-006A	SAMP	1	Hexavalent Chromium	01/05/16 5:50 PM	Reported
41	N018213-007A	SAMP	1	Hexavalent Chromium	01/05/16 6:00 PM	Reported
42	N018213-008A	SAMP	1	Hexavalent Chromium	01/05/16 6:11 PM	Reported

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018213-009A	SAMP	1	Hexavalent Chromium	01/05/16 6:21 PM	Reported
44	N018213-010A	SAMP	1	Hexavalent Chromium	01/05/16 6:30 PM	Reported
45	N018213-011A	SAMP	1	Hexavalent Chromium	01/05/16 6:39 PM	Reported
46	N018213-012A	SAMP	1	Hexavalent Chromium	01/05/16 6:49 PM	Reported
47	CCV-3	CCV	1	Hexavalent Chromium	01/05/16 6:58 PM	Reported
48	CCB-3	CCB	1	Hexavalent Chromium	01/05/16 7:08 PM	Reported
49	MB-R105090	MBLK	1	Hexavalent Chromium	01/05/16 7:17 PM	Reported
50	LCS-R105090	LCS	1	Hexavalent Chromium	01/05/16 7:27 PM	Reported
51	N018214-001A	SAMP	1	Hexavalent Chromium	01/05/16 7:36 PM	Reported
52	N018214-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 7:46 PM	Reported
53	N018214-001AMS	MS	1	Hexavalent Chromium	01/05/16 7:55 PM	Reported
54	N018214-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 8:05 PM	Reported
55	N018214-002A	SAMP	1	Hexavalent Chromium	01/05/16 8:14 PM	Reported
56	N018214-003A	SAMP	1	Hexavalent Chromium	01/05/16 8:24 PM	Reported
57	N018214-004A	SAMP	1	Hexavalent Chromium	01/05/16 8:33 PM	Reported
58	N018214-005A	SAMP	1	Hexavalent Chromium	01/05/16 8:43 PM	Reported
59	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 8:52 PM	Not Reported
60	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 10:51 PM	Reported
61	CCB-4	CCB	1	Hexavalent Chromium	01/05/16 11:02 PM	Reported
62	N018214-006A	SAMP	1	Hexavalent Chromium	01/05/16 11:12 PM	Reported
63	N018214-007A	SAMP	1	Hexavalent Chromium	01/05/16 11:21 PM	Reported
64	N018214-008A	SAMP	1	Hexavalent Chromium	01/05/16 11:30 PM	Reported
65	N018214-009A	SAMP	1	Hexavalent Chromium	01/05/16 11:40 PM	Reported
66	N018214-010A	SAMP	1	Hexavalent Chromium	01/05/16 11:49 PM	Reported
67	N018214-011A	SAMP	1	Hexavalent Chromium	01/05/16 11:59 PM	Reported
68	N018214-012A	SAMP	1	Hexavalent Chromium	01/06/16 12:08 AM	Reported
69	N018214-013A	SAMP	1	Hexavalent Chromium	01/06/16 12:18 AM	Reported
70	N018214-014A	SAMP	1	Hexavalent Chromium	01/06/16 12:27 AM	Reported
71	N018214-015A	SAMP	1	Hexavalent Chromium	01/06/16 12:37 AM	Reported
72	CCV-5	CCV	1	Hexavalent Chromium	01/06/16 12:46 AM	Reported
73	CCB-5	CCB	1	Hexavalent Chromium	01/06/16 12:56 AM	Reported
74	N018223-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:05 AM	Reported
75	N018224-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:15 AM	Reported
76	CCV-6	CCV	1	Hexavalent Chromium	01/06/16 1:24 AM	Reported
77	CCB-6	CCB	1	Hexavalent Chromium	01/06/16 1:33 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160105A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Jan/16 10:48:03**
No. of Injections:	**80**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	ICV,ICV,1,	10	1000	Unknown		01/05/2016 12:47	Finished	ICV @ 5ppb, IWST 160105B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		01/05/2016 12:56	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		01/05/2016 13:06	Finished	ICB R151228A
13	MB-H2O,MBLK,1	13	1000	Unknown		01/05/2016 13:15	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		01/05/2016 13:24	Finished	LCS @ 5ppb, IWST-160105D
15	N018212-001A,SAMF	15	1000	Unknown		01/05/2016 13:35	Finished	SAMP, 10mL
16	N018212-001ADUP,D	16	1000	Unknown		01/05/2016 13:46	Finished	DUP, 10mL
17	N018212-001AMS,MS	17	1000	Unknown		01/05/2016 13:59	Finished	MS(1ppb), IWST-160105D, 10r
18	N018212-001AMSD,M	18	1000	Unknown		01/05/2016 14:10	Finished	MSD(1ppb), IWST-160105D, 1
19	N018212-002A,SAMF	19	1000	Unknown		01/05/2016 14:30	Finished	SAMP, 10mL
20	N018212-002AMS,MS	20	1000	Unknown		01/05/2016 14:41	Finished	MS(1ppb), IWST-160105D, 10r
21	N018212-003A,SAMF	21	1000	Unknown		01/05/2016 14:50	Finished	SAMP, 10mL
22	N018212-003AMS,MS	22	1000	Unknown		01/05/2016 15:00	Finished	MS(1ppb), IWST-160105D, 10r
23	CCV-1,CCV,1	23	1000	Unknown		01/05/2016 15:09	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-1,CCB,1	24	1000	Unknown		01/05/2016 15:19	Finished	CCB
25	N018212-004A,SAMF	25	1000	Unknown		01/05/2016 15:28	Finished	SAMP, 10mL
26	N018212-004AMS,MS	26	1000	Unknown		01/05/2016 15:38	Finished	MS(1ppb), IWST-160105D, 10r
27	N018212-005A,SAMF	27	1000	Unknown		01/05/2016 15:47	Finished	SAMP, 10mL
28	N018212-005AMS,MS	28	1000	Unknown		01/05/2016 15:57	Finished	MS(1ppb), IWST-160105D, 10r
29	N018212-006A,SAMF	29	1000	Unknown		01/05/2016 16:06	Finished	SAMP, 10mL
30	N018212-006AMS,MS	30	1000	Unknown		01/05/2016 16:16	Finished	MS(1ppb), IWST-160105D, 10r
31	N018212-007A,SAMF	31	1000	Unknown		01/05/2016 16:25	Finished	SAMP, 10mL
32	N018212-007AMS,MS	32	1000	Unknown		01/05/2016 16:35	Finished	MS(1ppb), IWST-160105D, 10r
33	N018213-001A,SAMF	33	1000	Unknown		01/05/2016 16:44	Finished	SAMP, 10mL
34	N018213-002A,SAMF	34	1000	Unknown		01/05/2016 16:54	Finished	SAMP, 10mL
35	CCV-2,CCV,1	35	1000	Unknown		01/05/2016 17:03	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-2,CCB,1	36	1000	Unknown		01/05/2016 17:12	Finished	CCB
37	N018213-003A,SAMF	37	1000	Unknown		01/05/2016 17:22	Finished	SAMP, 10mL
38	N018213-004A,SAMF	38	1000	Unknown		01/05/2016 17:31	Finished	SAMP, 10mL
39	N018213-005A,SAMF	39	1000	Unknown		01/05/2016 17:41	Finished	SAMP, 10mL
40	N018213-006A,SAMF	40	1000	Unknown		01/05/2016 17:50	Finished	SAMP, 10mL
41	N018213-007A,SAMF	1	1000	Unknown		01/05/2016 18:00	Finished	SAMP, 10mL
42	N018213-008A,SAMF	2	1000	Unknown		01/05/2016 18:11	Finished	SAMP, 10mL
43	N018213-009A,SAMF	3	1000	Unknown		01/05/2016 18:21	Finished	SAMP, 10mL
44	N018213-010A,SAMF	4	1000	Unknown		01/05/2016 18:30	Finished	SAMP, 10mL
45	N018213-011A,SAMF	5	1000	Unknown		01/05/2016 18:39	Finished	SAMP, 10mL
46	N018213-012A,SAMF	6	1000	Unknown		01/05/2016 18:49	Finished	SAMP, 10mL
47	CCV-3,CCV,1	7	1000	Unknown		01/05/2016 18:58	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-3,CCB,1	8	1000	Unknown		01/05/2016 19:08	Finished	CCB
49	MB-H2O-2,MBLK,1	9	1000	Unknown		01/05/2016 19:17	Finished	MB
50	LCS-H2O-2,LCS,1	10	1000	Unknown		01/05/2016 19:27	Finished	LCS @ 5ppb, IWST-151103D
51	N018214-001A,SAMF	11	1000	Unknown		01/05/2016 19:36	Finished	SAMP, 10mL
52	N018214-001ADUP,D	12	1000	Unknown		01/05/2016 19:46	Finished	DUP, 10mL
53	N018214-001AMS,MS	13	1000	Unknown		01/05/2016 19:55	Finished	MS(5ppb), IWST-160105D, 10r
54	N018214-001AMSD,M	14	1000	Unknown		01/05/2016 20:05	Finished	MSD(5ppb), IWST-160105D, 1
55	N018214-002A,SAMF	15	1000	Unknown		01/05/2016 20:14	Finished	SAMP, 10mL
56	N018214-003A,SAMF	16	1000	Unknown		01/05/2016 20:24	Finished	SAMP, 10mL
57	N018214-004A,SAMF	17	1000	Unknown		01/05/2016 20:33	Finished	SAMP, 10mL
58	N018214-005A,SAMF	18	1000	Unknown		01/05/2016 20:43	Finished	SAMP, 10mL
59	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 20:52	Interrupted	CCV @ 5ppb, IWST-160105C
60	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 22:51	Finished	CCV @ 5ppb, IWST-160105C

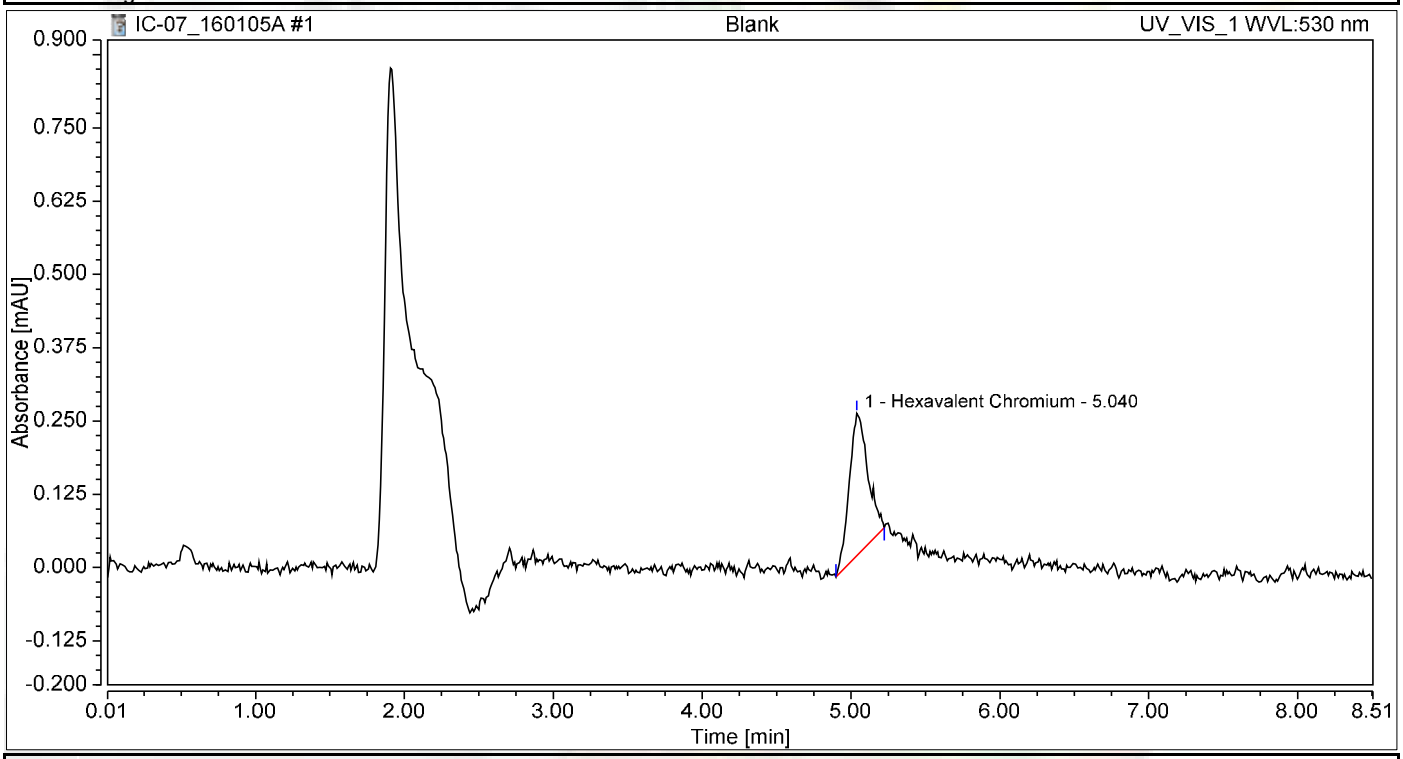
61	CCB-4,CCB,1	20	1000	Unknown		01/05/2016 23:02	Finished	CCB
62	N018214-006A,SAMF	21	1000	Unknown		01/05/2016 23:12	Finished	SAMP, 10mL
63	N018214-007A,SAMF	22	1000	Unknown		01/05/2016 23:21	Finished	SAMP, 10mL
64	N018214-008A,SAMF	23	1000	Unknown		01/05/2016 23:30	Finished	SAMP, 10mL
65	N018214-009A,SAMF	24	1000	Unknown		01/05/2016 23:40	Finished	SAMP, 10mL
66	N018214-010A,SAMF	25	1000	Unknown		01/05/2016 23:49	Finished	SAMP, 10mL
67	N018214-011A,SAMF	26	1000	Unknown		01/05/2016 23:59	Finished	SAMP, 10mL
68	N018214-012A,SAMF	27	1000	Unknown		01/06/2016 00:08	Finished	SAMP, 10mL
69	N018214-013A,SAMF	28	1000	Unknown		01/06/2016 00:18	Finished	SAMP, 10mL
70	N018214-014A,SAMF	29	1000	Unknown		01/06/2016 00:27	Finished	SAMP, 10mL
71	N018214-015A,SAMF	30	1000	Unknown		01/06/2016 00:37	Finished	SAMP, 10mL
72	CCV-5,CCV,1	31	1000	Unknown		01/06/2016 00:46	Finished	CCV @ 10ppb, IWST-160105C
73	CCB-5,CCB,1	32	1000	Unknown		01/06/2016 00:56	Finished	CCB
74	N018223-001A,SAMF	33	1000	Unknown		01/06/2016 01:05	Finished	SAMP, 10mL
75	N018224-001A,SAMF	34	1000	Unknown		01/06/2016 01:15	Finished	SAMP, 10mL
76	CCV-6,CCV,1	35	1000	Unknown		01/06/2016 01:24	Finished	CCV @ 5ppb, IWST-160105C
77	CCB-6,CCB,1	36	1000	Unknown		01/06/2016 01:33	Finished	CCB
78	SHUTDOWN	37	1000	Unknown		01/06/2016 01:43	Finished	BLANK
79	Eluent: R160105A	38	1000	Unknown		n.a.	Finished	Eluent
80	PCR: R160105B	39	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.035	0.243	100.00	100.00	0.1432
Total:			**0.035**	**0.243**	**100.00**	**100.00**	

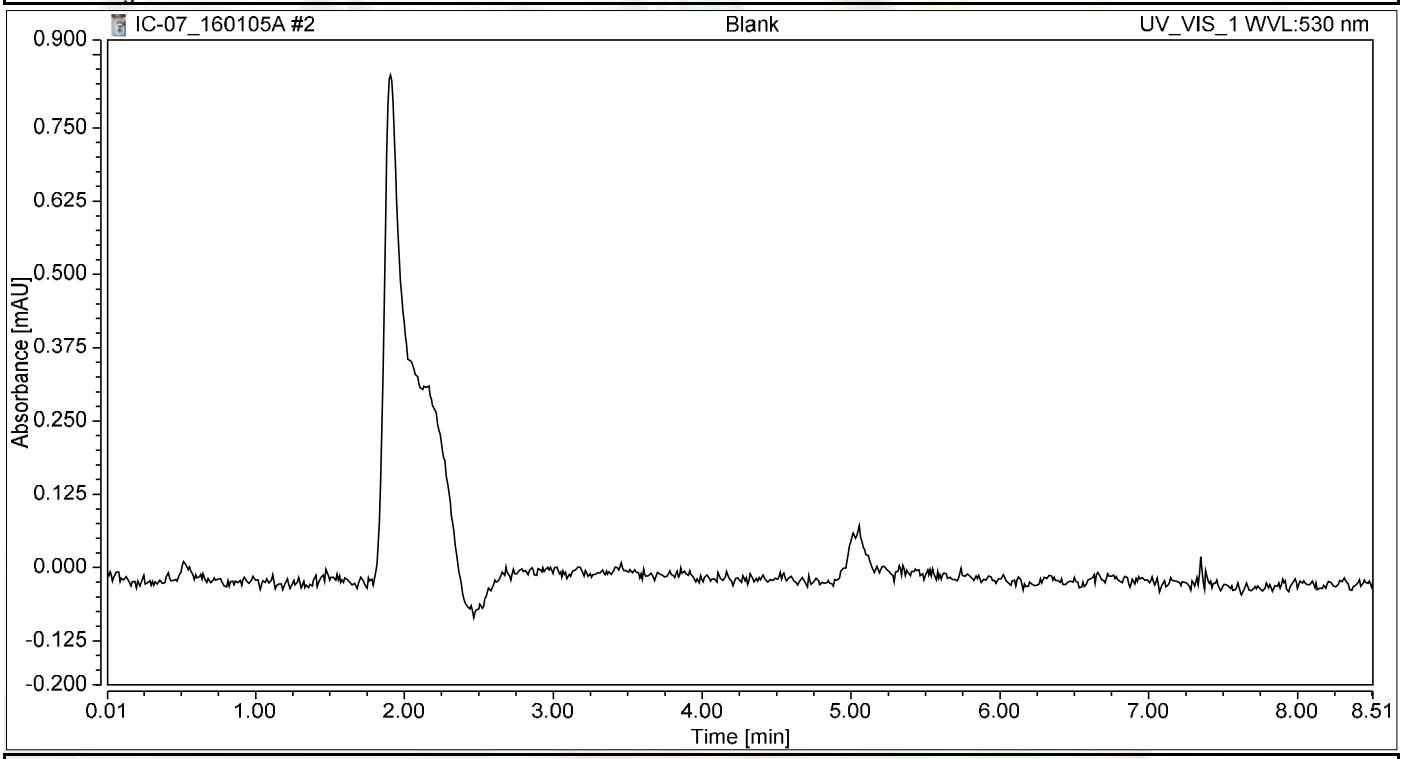
not reported

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

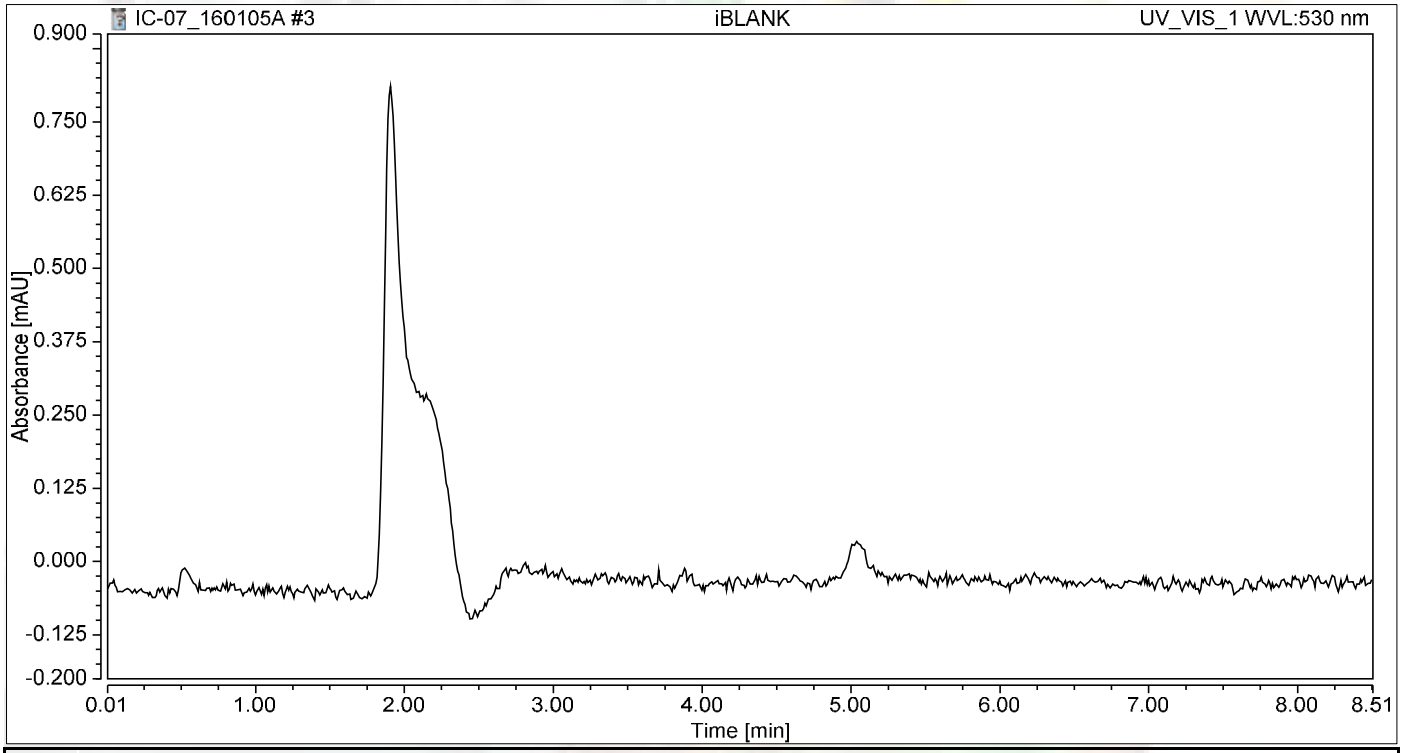
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

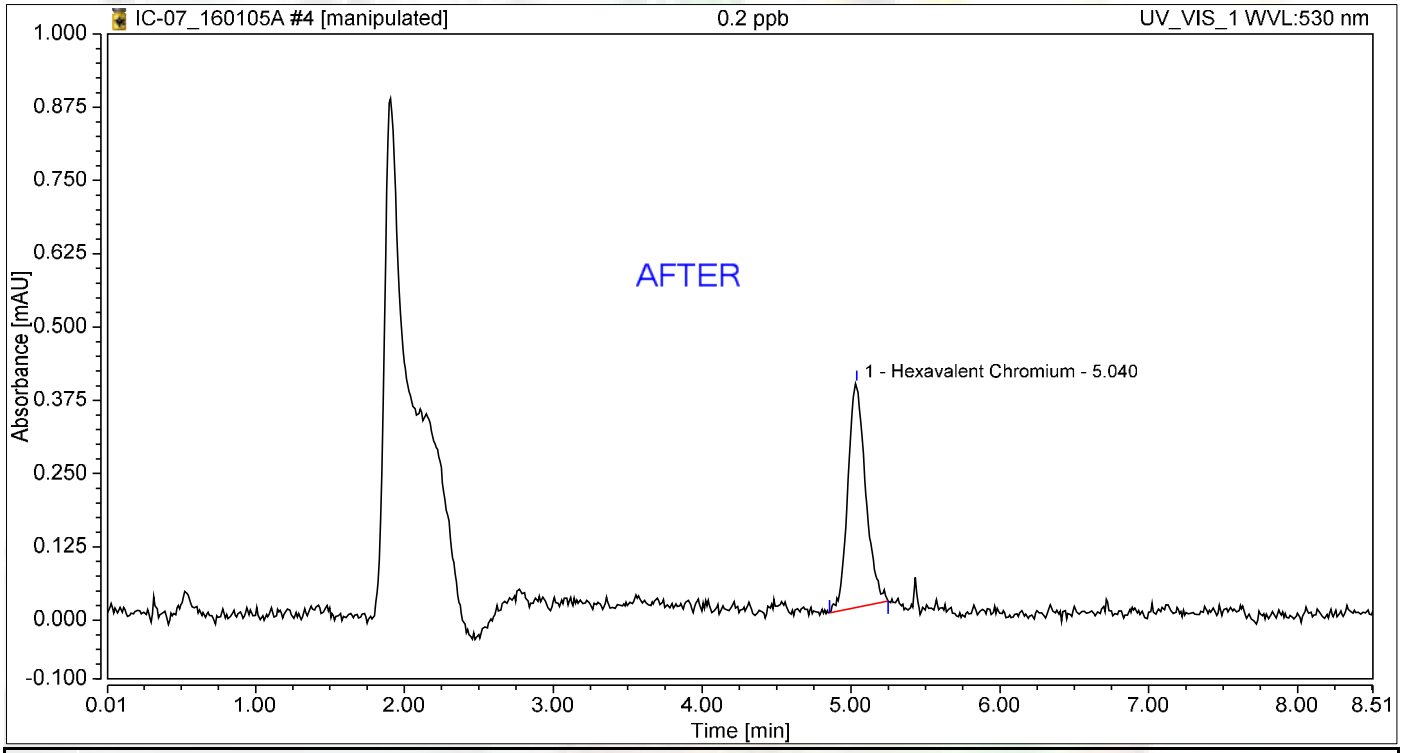
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.053	0.382	100.00	100.00	0.2182
Total:			**0.053**	**0.382**	**100.00**	**100.00**	

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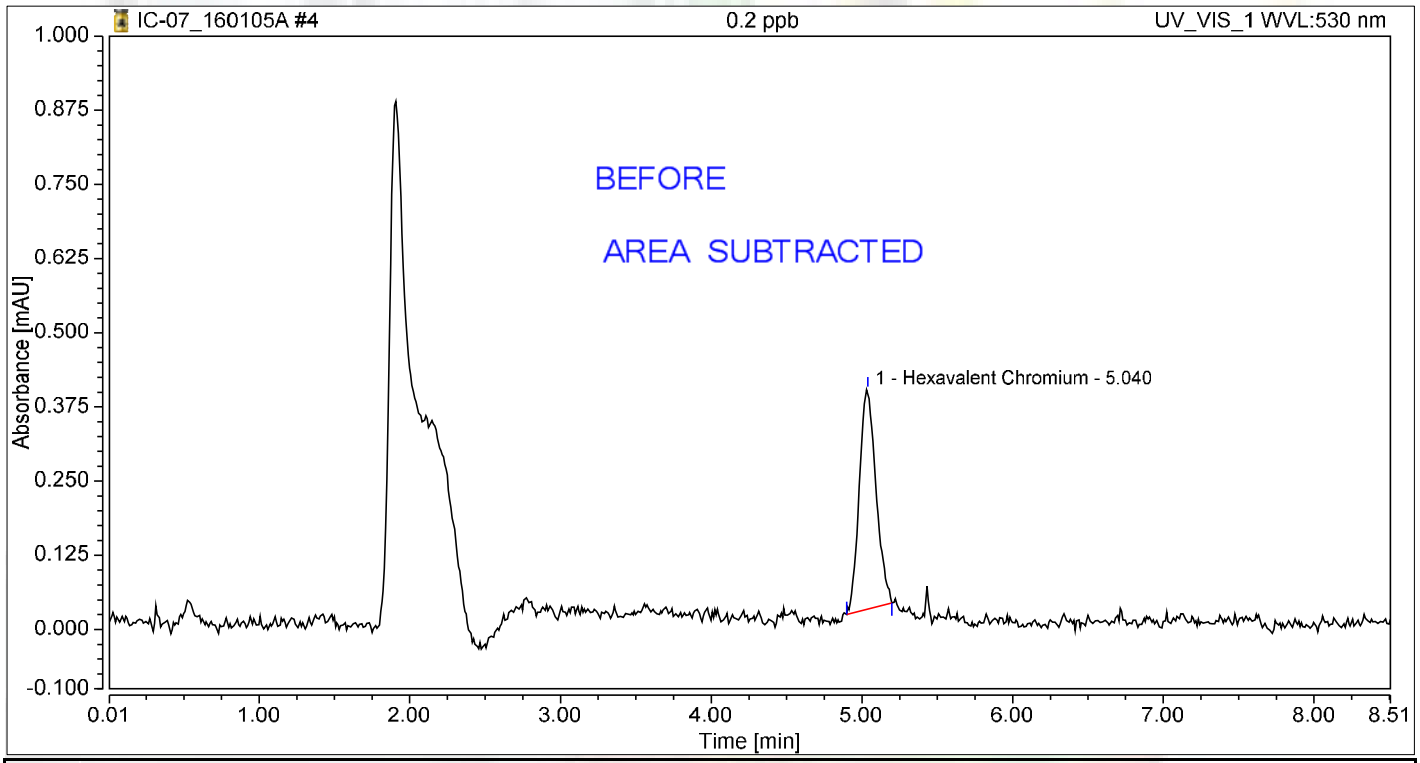
1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.048	0.369	100.00	100.00	0.1983
Total:			**0.048**	**0.369**	**100.00**	**100.00**	

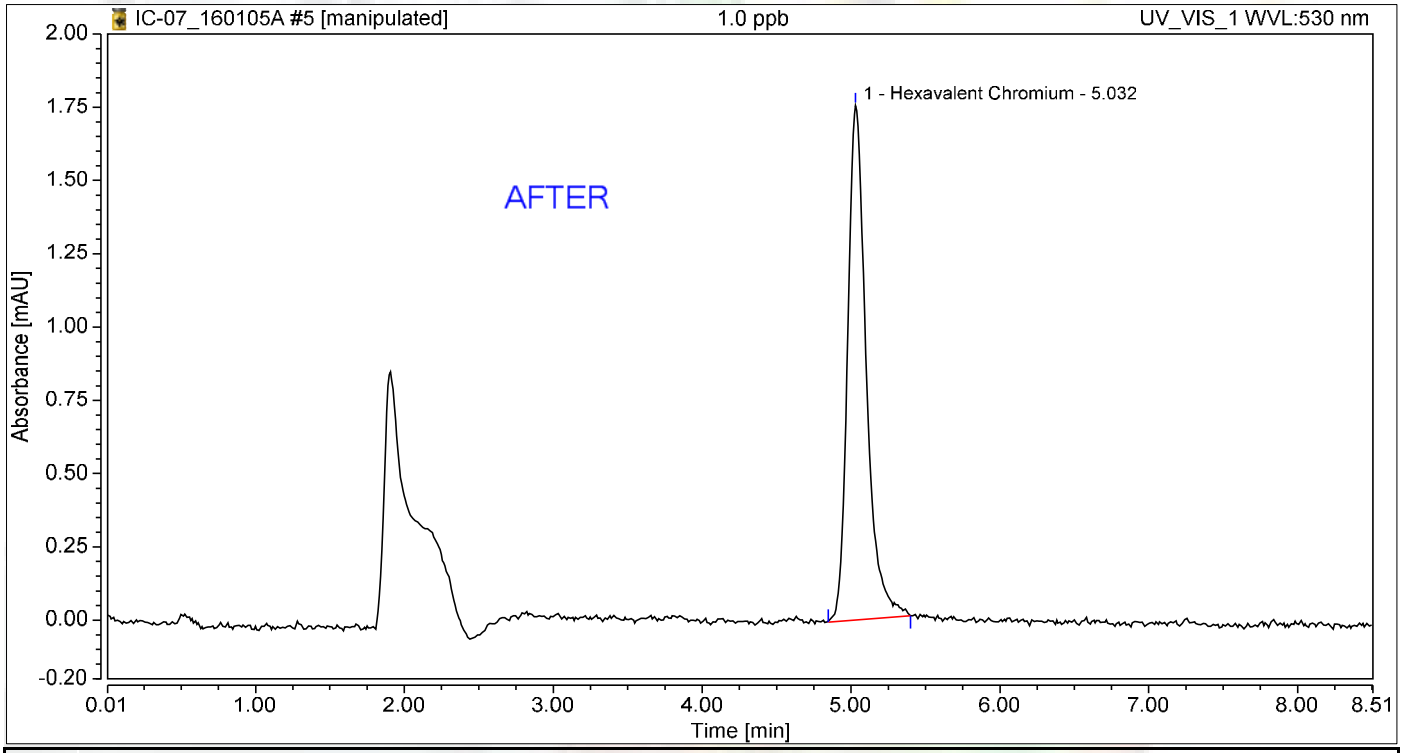
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.252	1.755	100.00	100.00	1.0465
Total:			**0.252**	**1.755**	**100.00**	**100.00**	

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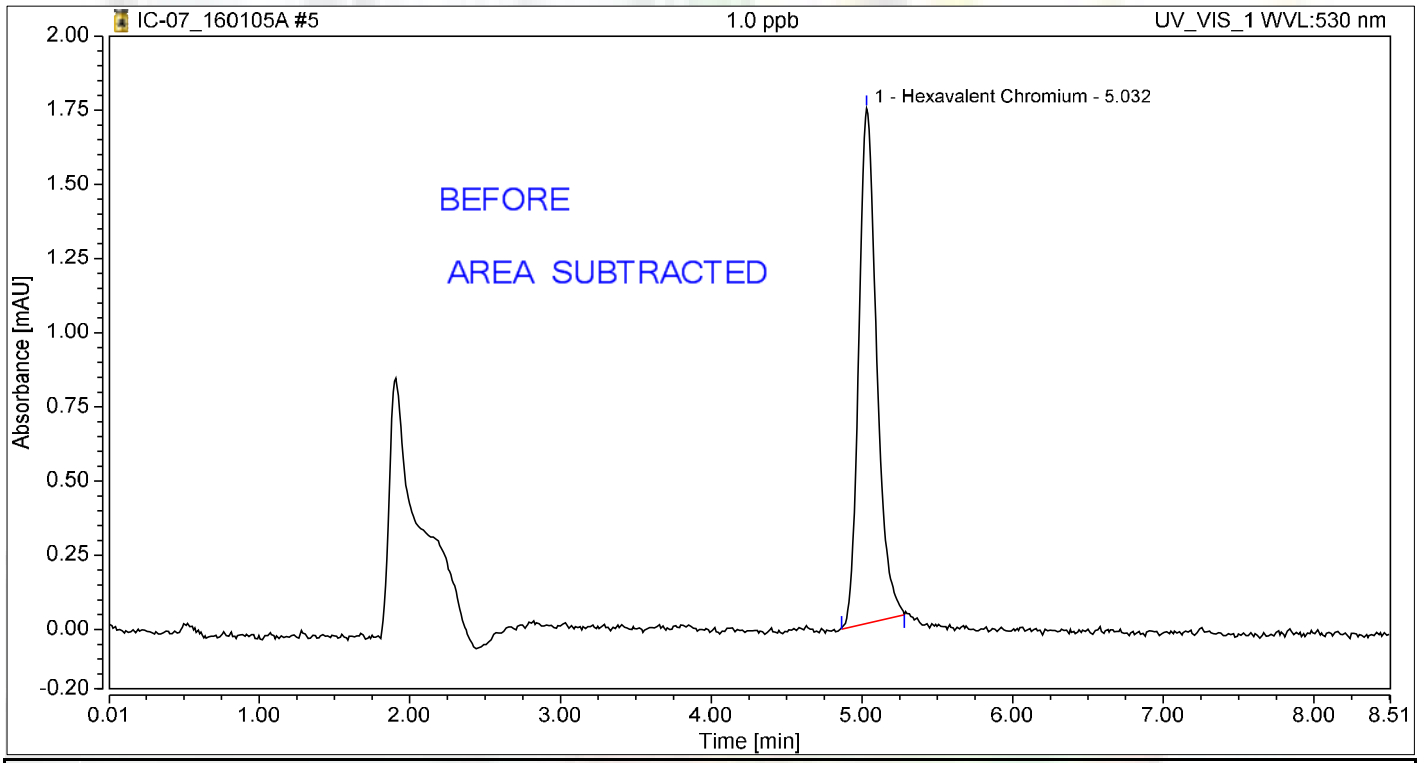
1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.240	1.735	100.00	100.00	0.9940
Total:			**0.240**	**1.735**	**100.00**	**100.00**	

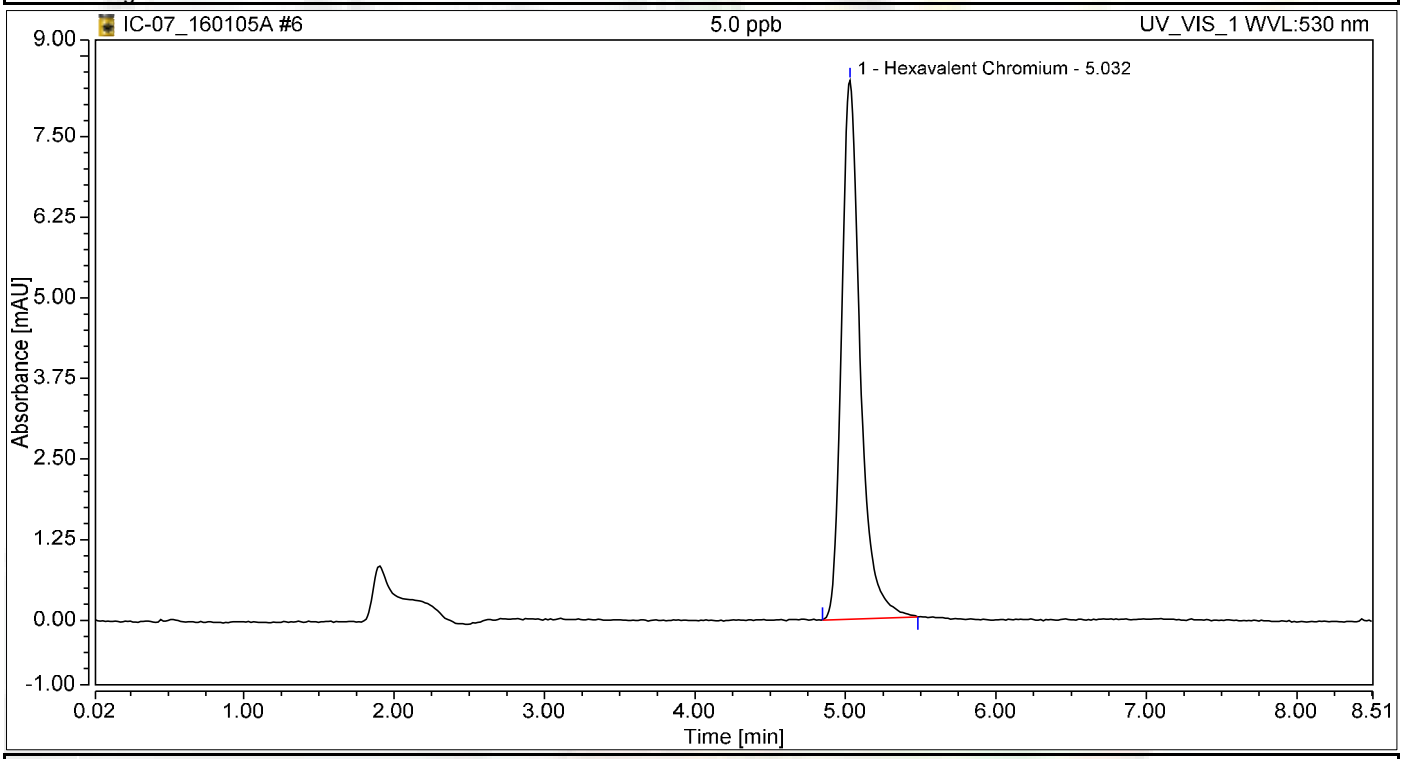
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

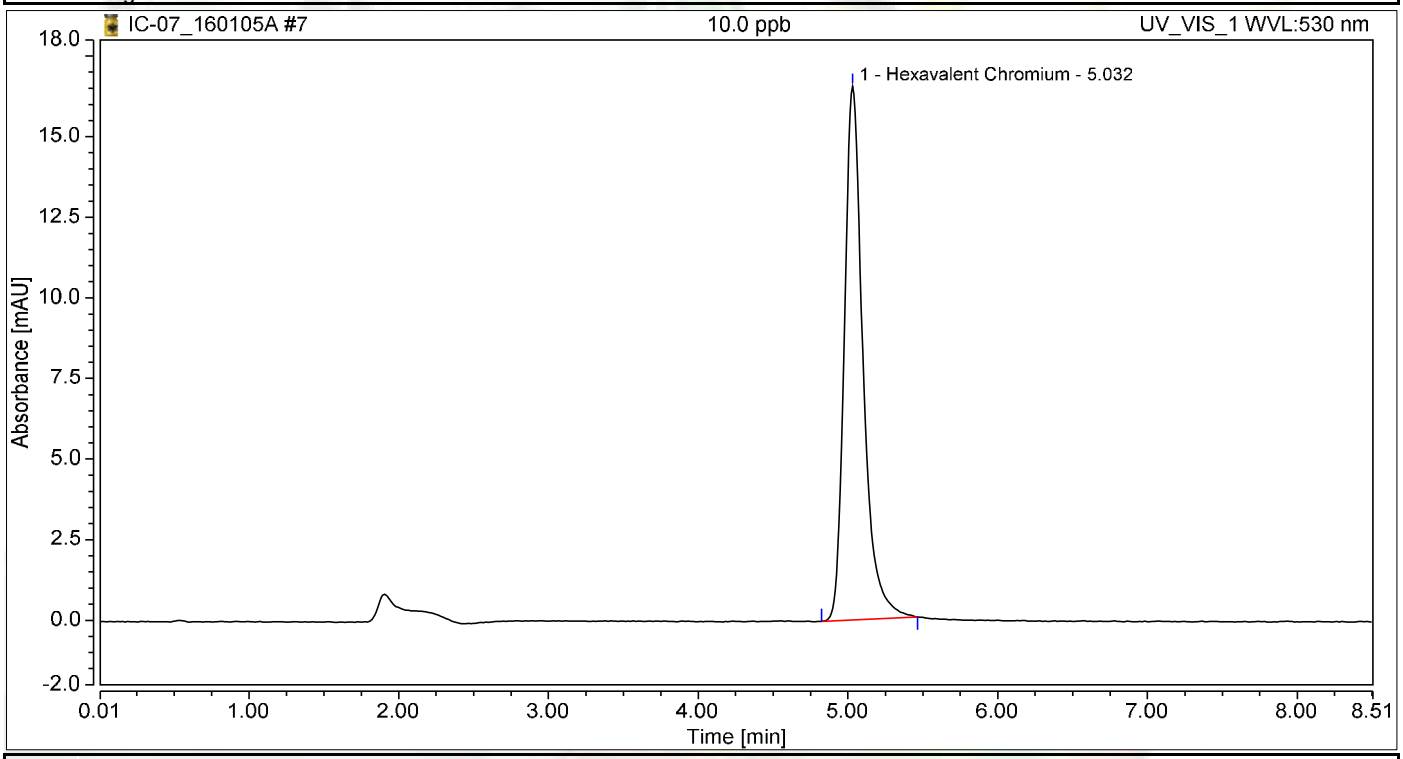
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.209	8.350	100.00	100.00	5.0139
Total:			**1.209**	**8.350**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

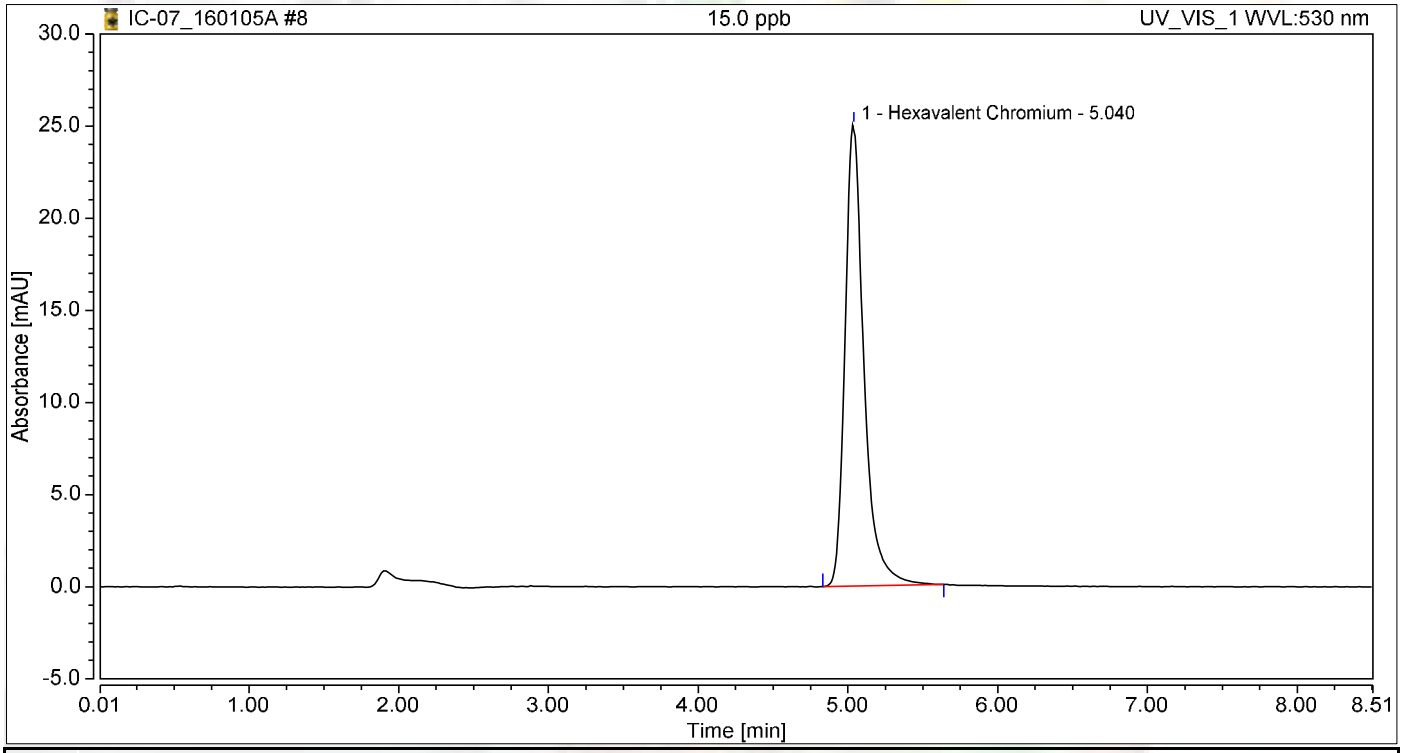
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	2.378	16.545	100.00	100.00	9.8607
Total:			**2.378**	**16.545**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

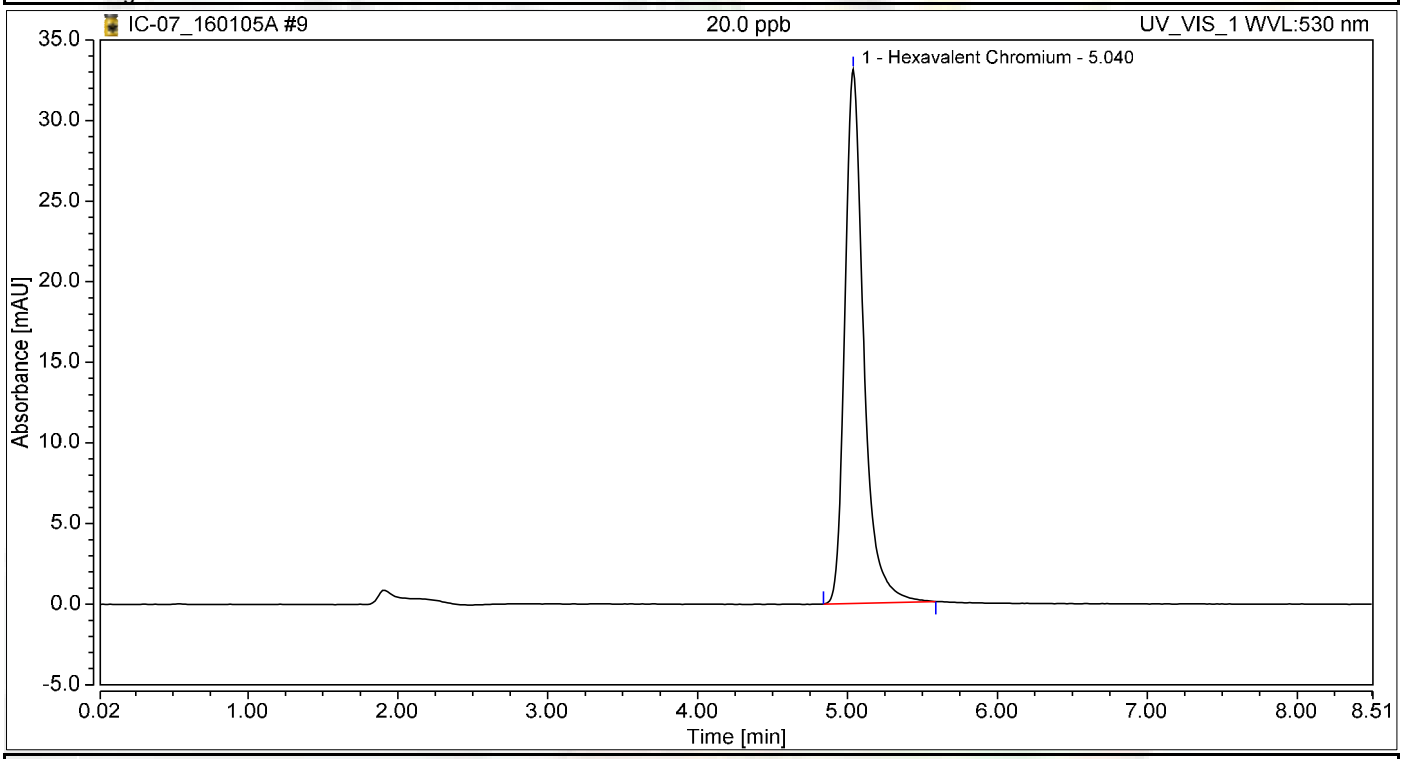
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.649	25.036	100.00	100.00	15.1303
Total:			**3.649**	**25.036**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:37**	*Sample Weight:*	**1.0000**

Chromatogram



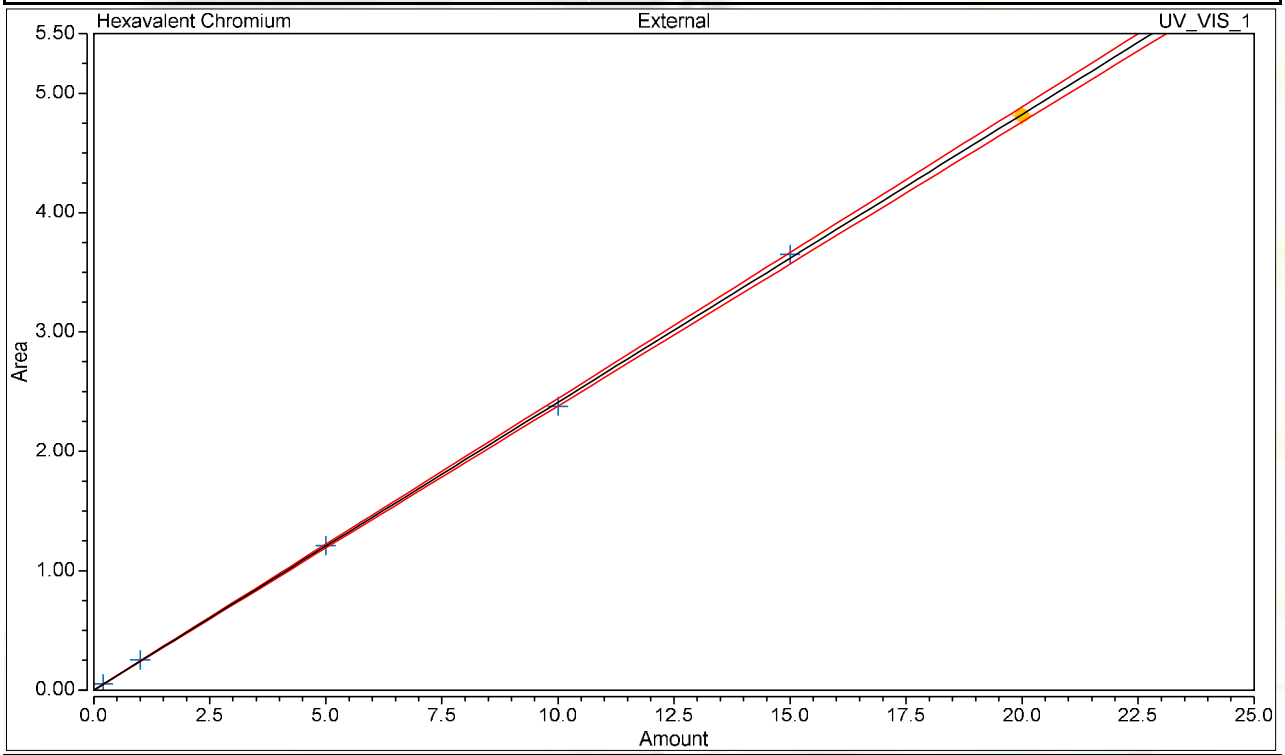
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.815	33.121	100.00	100.00	19.9659
Total:			**4.815**	**33.121**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99987

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

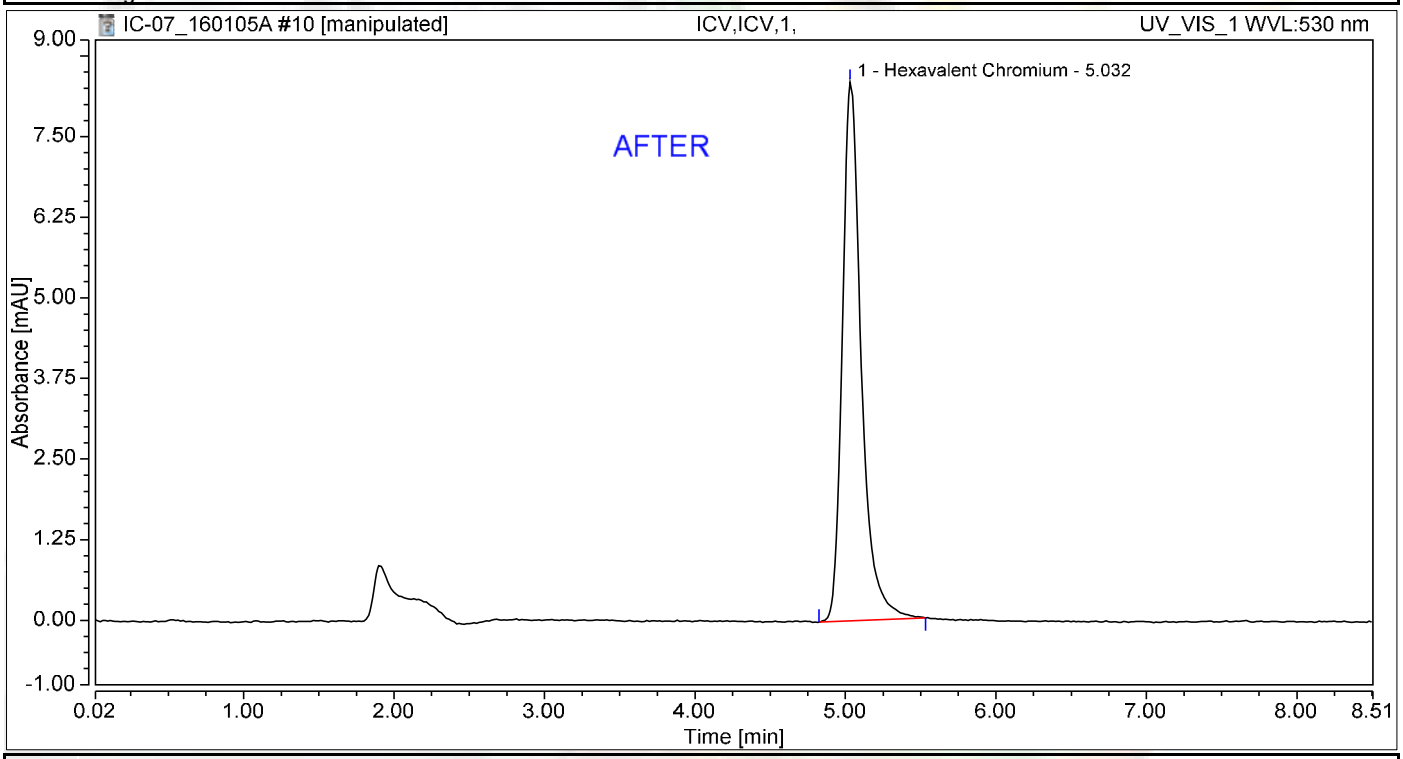
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
	Hexavalent Chromium		UV_VIS_1	VIS_1	UV_VIS_1	
4	0.2 ppb	01	0.2000	0.0526	0.053	0.382
5	1.0 ppb	02	1.0000	0.2524	0.252	1.755
6	5.0 ppb	03	5.0000	1.2092	1.209	8.350
7	10.0 ppb	04	10.0000	2.3780	2.378	16.545
8	15.0 ppb	05	15.0000	3.6489	3.649	25.036
9	20.0 ppb	06	20.0000	4.8150	4.815	33.121

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.217	8.351	100.00	100.00	5.0460
Total:			**1.217**	**8.351**	**100.00**	**100.00**	

REB 1/11/2016

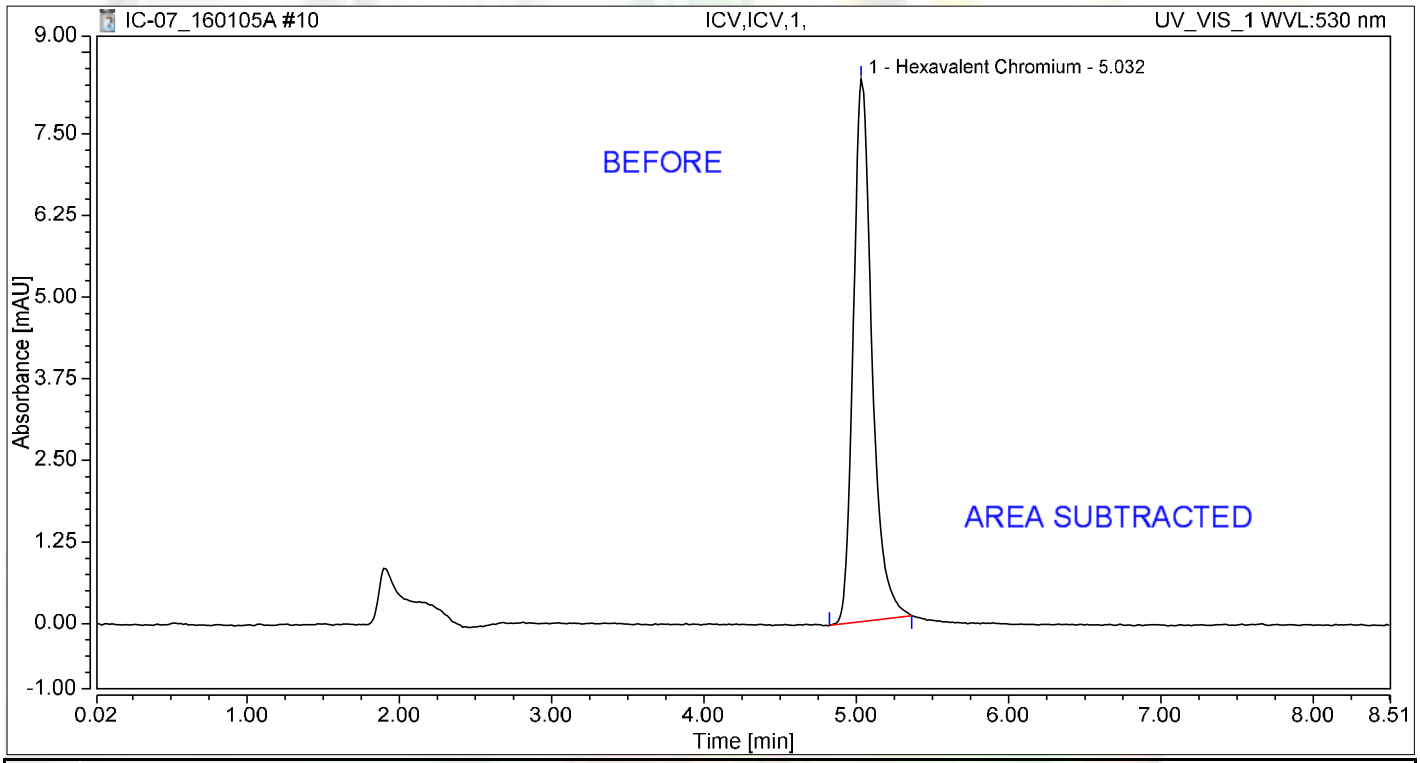
Nancy 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.184	8.314	100.00	100.00	4.9110
Total:			**1.184**	**8.314**	**100.00**	**100.00**	

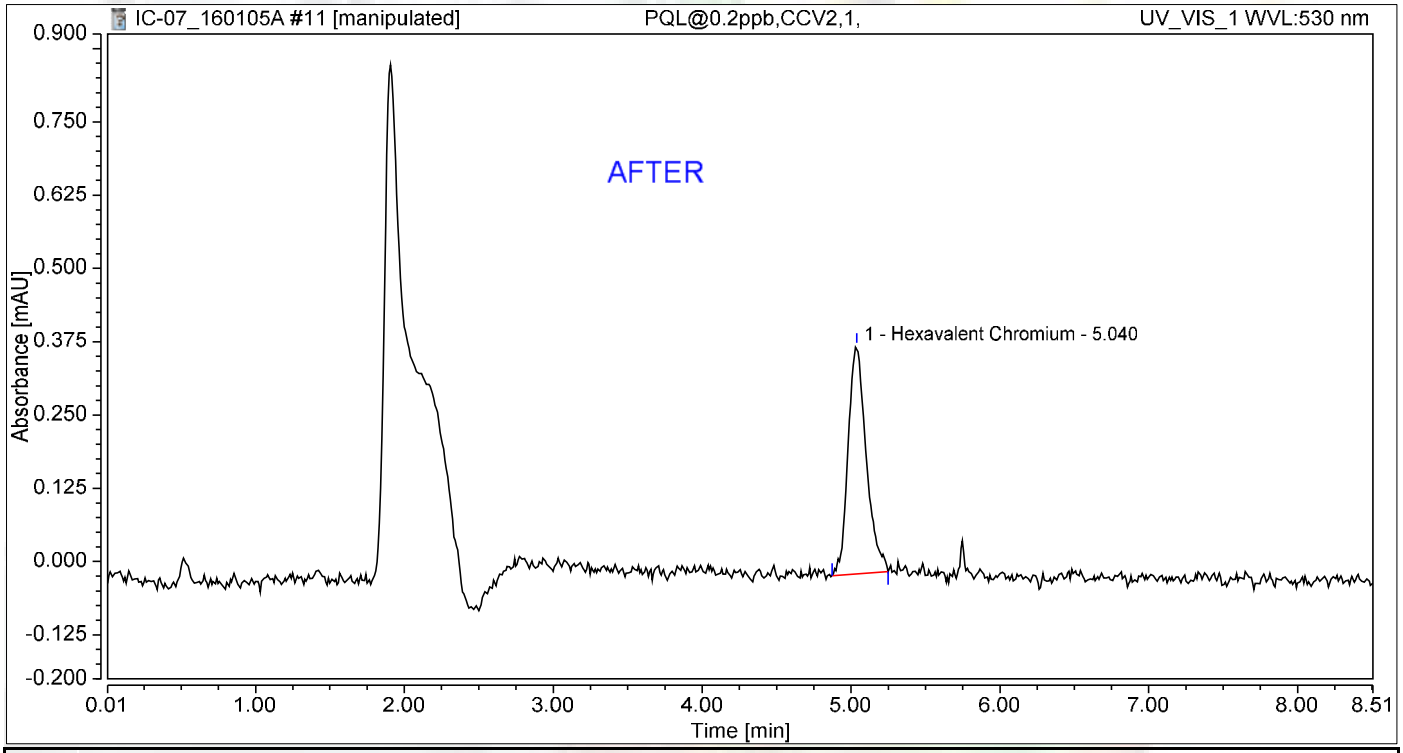
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.055	0.389	100.00	100.00	0.2270
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

REB 1/11/2016

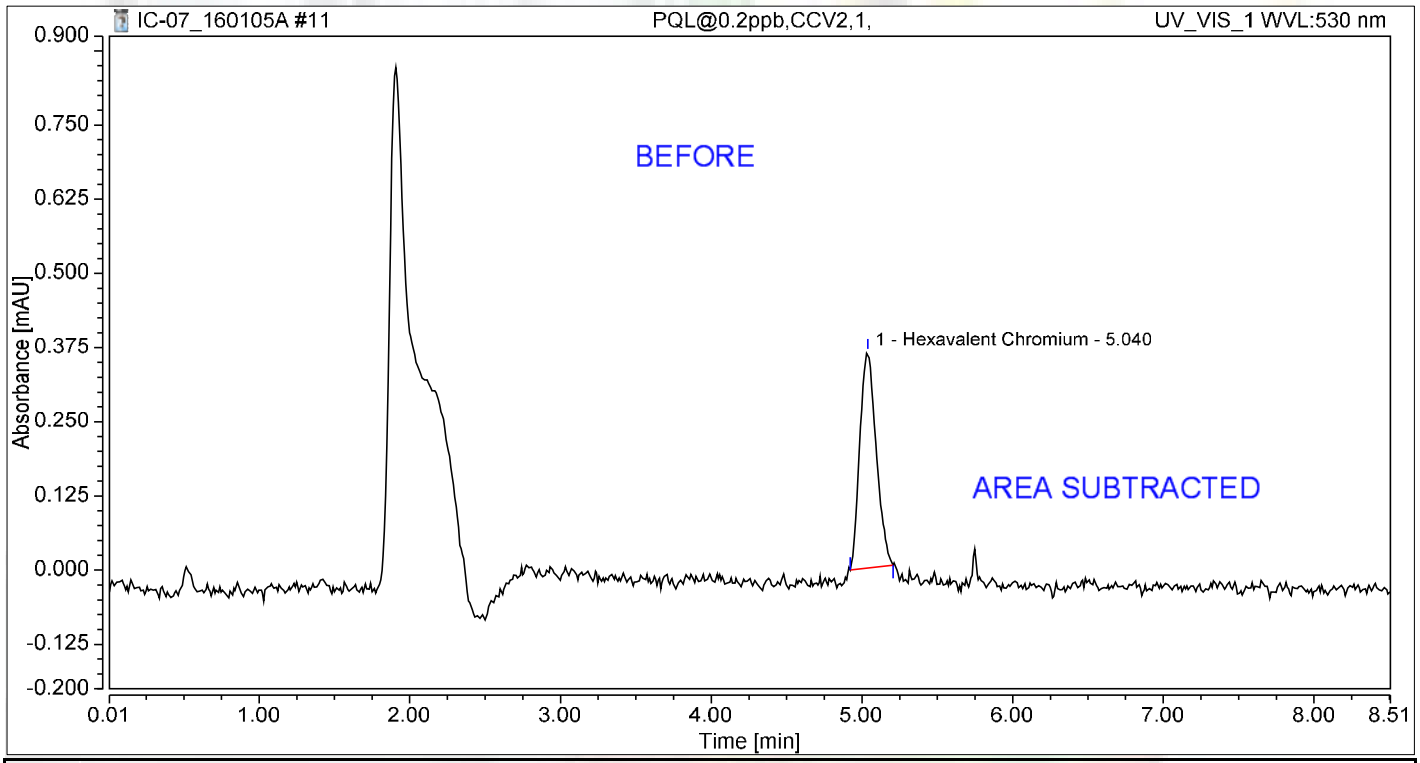
1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.046	0.364	100.00	100.00	0.1910
Total:			**0.046**	**0.364**	**100.00**	**100.00**	

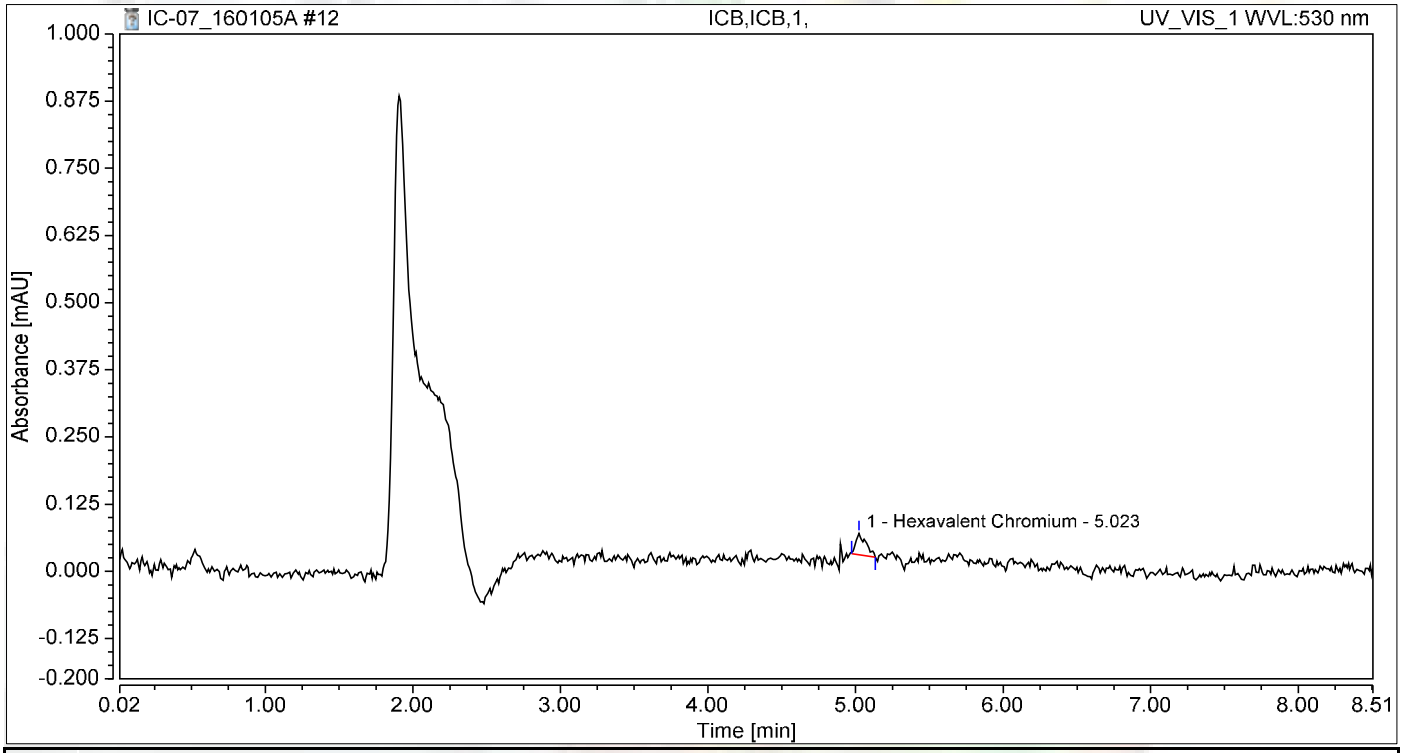
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 13:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.003	0.040	100.00	100.00	0.0126
Total:			**0.003**	**0.040**	**100.00**	**100.00**	

RAW DATA

Reb 2/11/2016

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:37 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:48 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	02/01/16 11:57 AM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/01/16 12:07 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/01/16 12:16 PM	Reported
15	MB-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:26 PM	Reported
16	LCS-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:35 PM	Reported
17	N018560-002A	SAMP	1	Hexavalent Chromium	02/01/16 12:53 PM	Reported
18	N018560-002A-DUP	DUP	1	Hexavalent Chromium	02/01/16 1:04 PM	Reported
19	N018560-002A-MS	MS	1	Hexavalent Chromium	02/01/16 1:13 PM	Reported
20	N018560-002A-MSD	MSD	1	Hexavalent Chromium	02/01/16 1:23 PM	Reported
21	N018560-003A	SAMP	1	Hexavalent Chromium	02/01/16 1:32 PM	Reported
22	N018560-003A-MS	MS	1	Hexavalent Chromium	02/01/16 1:42 PM	Reported
23	N018560-004A	SAMP	1	Hexavalent Chromium	02/01/16 1:51 PM	Reported
24	N018560-004A-MS	MS	1	Hexavalent Chromium	02/01/16 2:01 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/01/16 2:10 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/01/16 2:20 PM	Reported
27	N018560-005A	SAMP	1	Hexavalent Chromium	02/01/16 2:39 PM	Reported
28	N018560-005A-MS	MS	1	Hexavalent Chromium	02/01/16 2:50 PM	Reported
29	N018560-006A	SAMP	1	Hexavalent Chromium	02/01/16 3:00 PM	Reported
30	N018560-006A-MS	MS	1	Hexavalent Chromium	02/01/16 3:09 PM	Reported
31	N018560-007A	SAMP	1	Hexavalent Chromium	02/01/16 3:19 PM	Reported
32	N018560-007A-MS	MS	1	Hexavalent Chromium	02/01/16 3:28 PM	Reported
33	N018560-008A	SAMP	1	Hexavalent Chromium	02/01/16 3:38 PM	Reported
34	N018560-008A-MS	MS	1	Hexavalent Chromium	02/01/16 3:47 PM	Reported
35	N018560-009A	SAMP	1	Hexavalent Chromium	02/01/16 3:57 PM	Reported
36	N018560-009A-MS	MS	1	Hexavalent Chromium	02/01/16 4:06 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/01/16 4:15 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/01/16 4:25 PM	Reported
39	N018560-010A	SAMP	1	Hexavalent Chromium	02/01/16 4:34 PM	Reported
40	N018560-010A-MS	MS	1	Hexavalent Chromium	02/01/16 4:44 PM	Reported
41	N018561-001A	SAMP	1	Hexavalent Chromium	02/01/16 4:53 PM	Not Reported
42	N018561-001A-MS	MS	1	Hexavalent Chromium	02/01/16 5:03 PM	Not Reported

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018561-002A	SAMP	1	Hexavalent Chromium	02/01/16 5:12 PM	Reported
44	N018561-002A-MS	MS	1	Hexavalent Chromium	02/01/16 5:22 PM	Reported
45	N018561-003A	SAMP	1	Hexavalent Chromium	02/01/16 5:31 PM	Reported
46	N018561-003A-MS	MS	1	Hexavalent Chromium	02/01/16 5:41 PM	Reported
47	N018561-004A	SAMP	1	Hexavalent Chromium	02/01/16 5:50 PM	Reported
48	N018561-004A-MS	MS	1	Hexavalent Chromium	02/01/16 6:00 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/01/16 6:09 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/01/16 6:18 PM	Reported
51	N018561-005A	SAMP	1	Hexavalent Chromium	02/01/16 6:28 PM	Reported
52	N018561-005A-MS	MS	1	Hexavalent Chromium	02/01/16 6:37 PM	Reported
53	CCV-5	CCV	1	Hexavalent Chromium	02/01/16 6:47 PM	Reported
54	CCB-5	CCB	1	Hexavalent Chromium	02/01/16 6:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160201A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Feb/16 15:41:58**
No. of Injections:	**57**	*Updated By:*	**ics 5000**

Injection Details

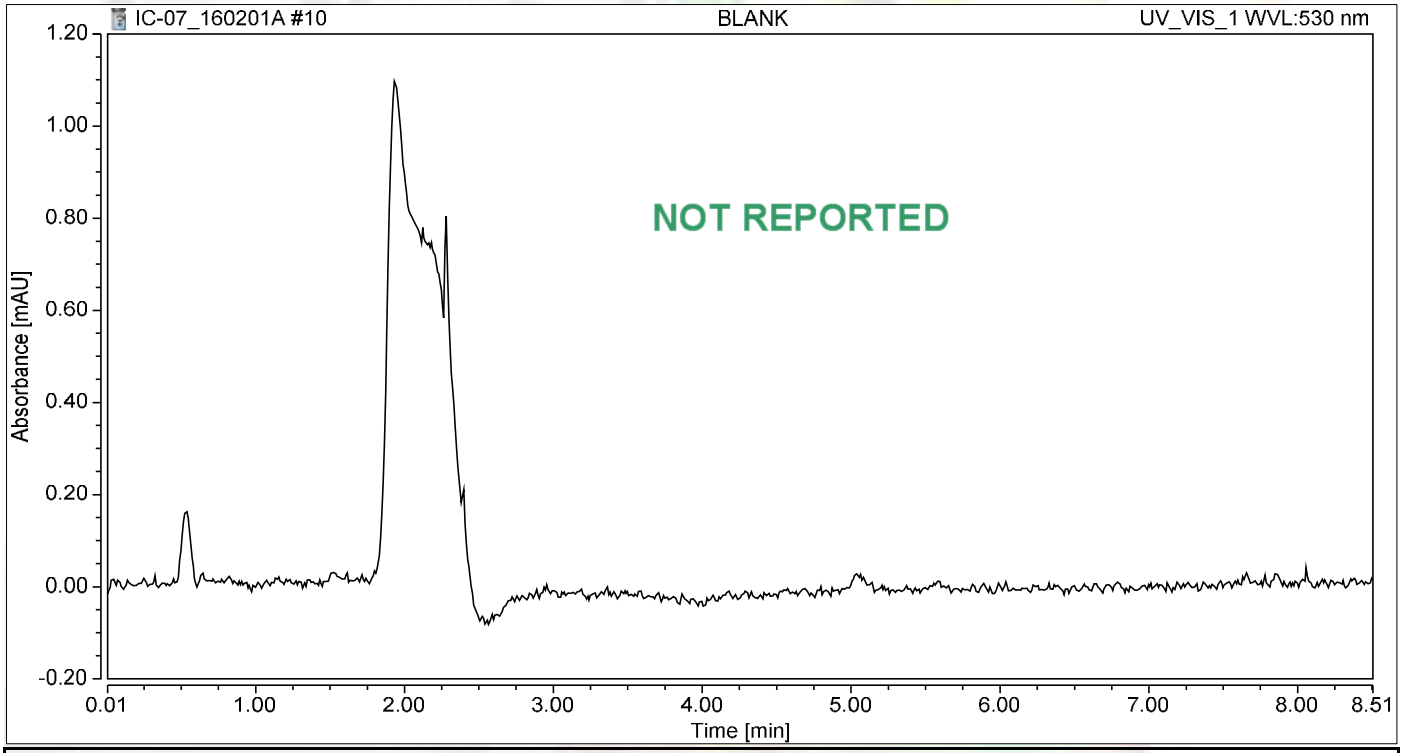
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	BLANK	1	1000	Unknown		02/01/2016 11:37	Finished	BLANK
11	BLANK	2	1000	Unknown		02/01/2016 11:48	Finished	BLANK
12	CCV-1,CCV,1,	3	1000	Unknown		02/01/2016 11:57	Finished	CCV @ 5ppb, IWST 160105C
13	PQL@0.2ppb,CCV2,1	4	1000	Unknown		02/01/2016 12:07	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	5	1000	Unknown		02/01/2016 12:16	Finished	CCB R160110A
15	MB-H2O,MBLK,1	6	1000	Unknown		02/01/2016 12:26	Finished	MB
16	LCS-H2O,LCS,1	7	1000	Unknown		02/01/2016 12:35	Finished	LCS @ 5ppb, IWST-160107A
17	N018560-002A,SAMP	8	1000	Unknown		02/01/2016 12:53	Finished	SAMP, 10mL
18	N018560-002A-DUP,I	9	1000	Unknown		02/01/2016 13:04	Finished	DUP, 10mL
19	N018560-002A-MS,M	10	1000	Unknown		02/01/2016 13:13	Finished	MS(1ppb), IWST-160107A, 10r
20	N018560-002A-MSD,	11	1000	Unknown		02/01/2016 13:23	Finished	MSD(5ppb), IWST-160107A, 1
21	N018560-003A,SAMP	12	1000	Unknown		02/01/2016 13:32	Finished	SAMP, 10mL
22	N018560-003A-MS,M	13	1000	Unknown		02/01/2016 13:42	Finished	MS(1ppb), IWST-160107A, 10r
23	N018560-004A,SAMP	14	1000	Unknown		02/01/2016 13:51	Finished	SAMP, 10mL
24	N018560-004A-MS,M	15	1000	Unknown		02/01/2016 14:01	Finished	MS(1ppb), IWST-160107A, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/01/2016 14:10	Finished	CCV @ 10ppb, IWST-160105C
26	CCB-2,CCB,1	17	1000	Unknown		02/01/2016 14:20	Finished	CCB
27	N018560-005A,SAMP	18	1000	Unknown		02/01/2016 14:39	Finished	SAMP, 10mL
28	N018560-005A-MS,M	19	1000	Unknown		02/01/2016 14:50	Finished	MS(1ppb), IWST-160107A, 10r
29	N018560-006A,SAMP	20	1000	Unknown		02/01/2016 15:00	Finished	SAMP, 10mL
30	N018560-006A-MS,M	21	1000	Unknown		02/01/2016 15:09	Finished	MS(1ppb), IWST-160107A, 10r
31	N018560-007A,SAMP	22	1000	Unknown		02/01/2016 15:19	Finished	SAMP, 10mL
32	N018560-007A-MS,M	23	1000	Unknown		02/01/2016 15:28	Finished	MS(1ppb), IWST-160107A, 10r
33	N018560-008A,SAMP	24	1000	Unknown		02/01/2016 15:38	Finished	SAMP, 10mL
34	N018560-008A-MS,M	25	1000	Unknown		02/01/2016 15:47	Finished	MS(1ppb), IWST-160107A, 10r
35	N018560-009A,SAMP	26	1000	Unknown		02/01/2016 15:57	Finished	SAMP, 10mL
36	N018560-009A-MS,M	27	1000	Unknown		02/01/2016 16:06	Finished	MS(1ppb), IWST-160107A, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/01/2016 16:15	Finished	CCV @ 5ppb, IWST-160105C
38	CCB-3,CCB,1	29	1000	Unknown		02/01/2016 16:25	Finished	CCB
39	N018560-010A,SAMP	30	1000	Unknown		02/01/2016 16:34	Finished	SAMP, 10mL
40	N018560-010A-MS,M	31	1000	Unknown		02/01/2016 16:44	Finished	MS(1ppb), IWST-160107A, 10r
41	N018561-001A,SAMP	32	1000	Unknown		02/01/2016 16:53	Finished	SAMP, 10mL
42	N018561-001A-MS,M	33	1000	Unknown		02/01/2016 17:03	Finished	MS(1ppb), IWST-160107A, 10r
43	N018561-002A,SAMP	34	1000	Unknown		02/01/2016 17:12	Finished	SAMP, 10mL
44	N018561-002A-MS,M	35	1000	Unknown		02/01/2016 17:22	Finished	MS(1ppb), IWST-160107A, 10r
45	N018561-003A,SAMP	36	1000	Unknown		02/01/2016 17:31	Finished	SAMP, 10mL
46	N018561-003A-MS,M	37	1000	Unknown		02/01/2016 17:41	Finished	MS(1ppb), IWST-160107A, 10r
47	N018561-004A,SAMP	38	1000	Unknown		02/01/2016 17:50	Finished	SAMP, 10mL
48	N018561-004A-MS,M	39	1000	Unknown		02/01/2016 18:00	Finished	MS(1ppb), IWST-160107A, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/01/2016 18:09	Finished	CCV @ 10ppb, IWST-160105C
50	CCB-4,CCB,1	41	1000	Unknown		02/01/2016 18:18	Finished	CCB
51	N018561-005A,SAMP	42	1000	Unknown		02/01/2016 18:28	Finished	SAMP, 10mL
52	N018561-005A-MS,M	43	1000	Unknown		02/01/2016 18:37	Finished	MS(1ppb), IWST-160107A, 10r
53	CCV-5,CCV,1	44	1000	Unknown		02/01/2016 18:47	Finished	CCV @ 5ppb, IWST-160105C
54	CCB-5,CCB,1	45	1000	Unknown		02/01/2016 18:57	Finished	CCB
55	SHUTDOWN	46	1000	Unknown		02/01/2016 19:06	Finished	BLANK
56	Eluent: R160129B	47	1000	Unknown		n.a.	Finished	Eluent
57	PCR: R160127C	48	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 11:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

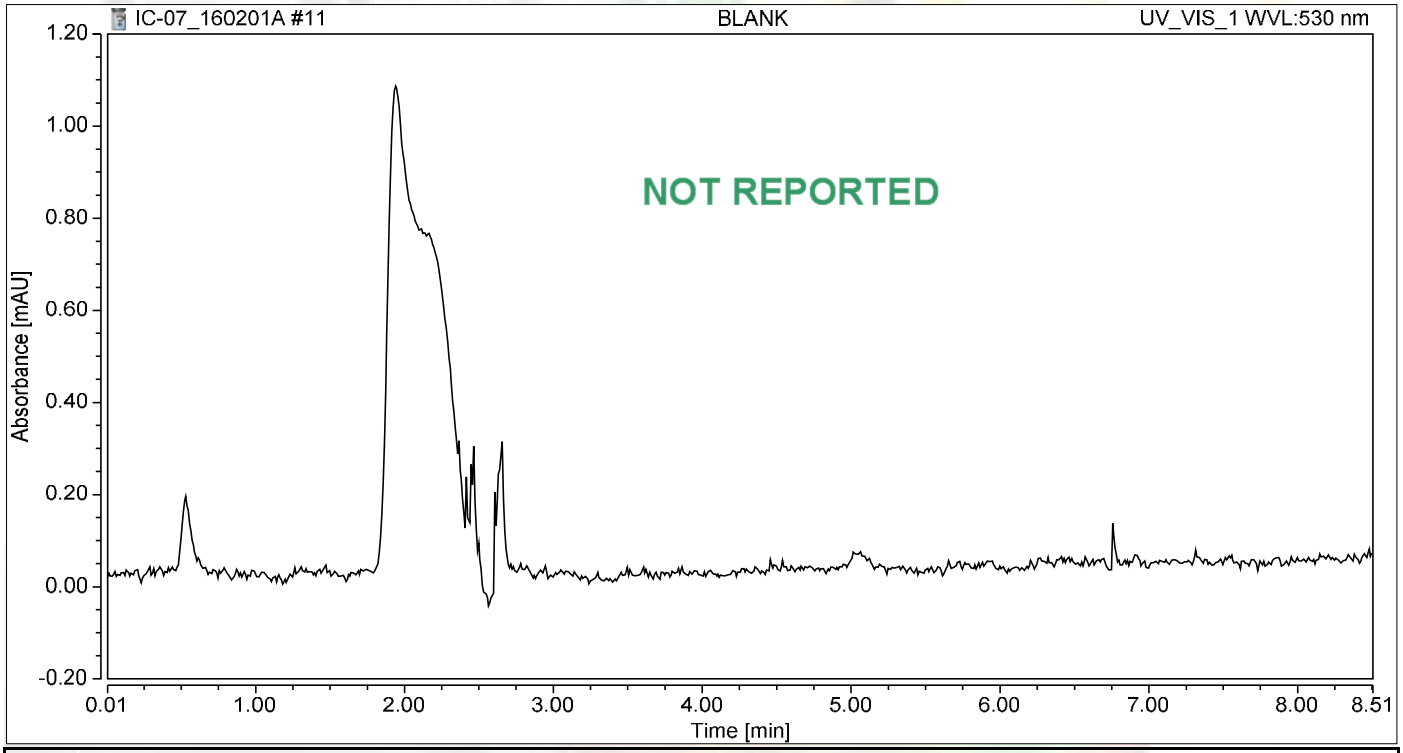
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

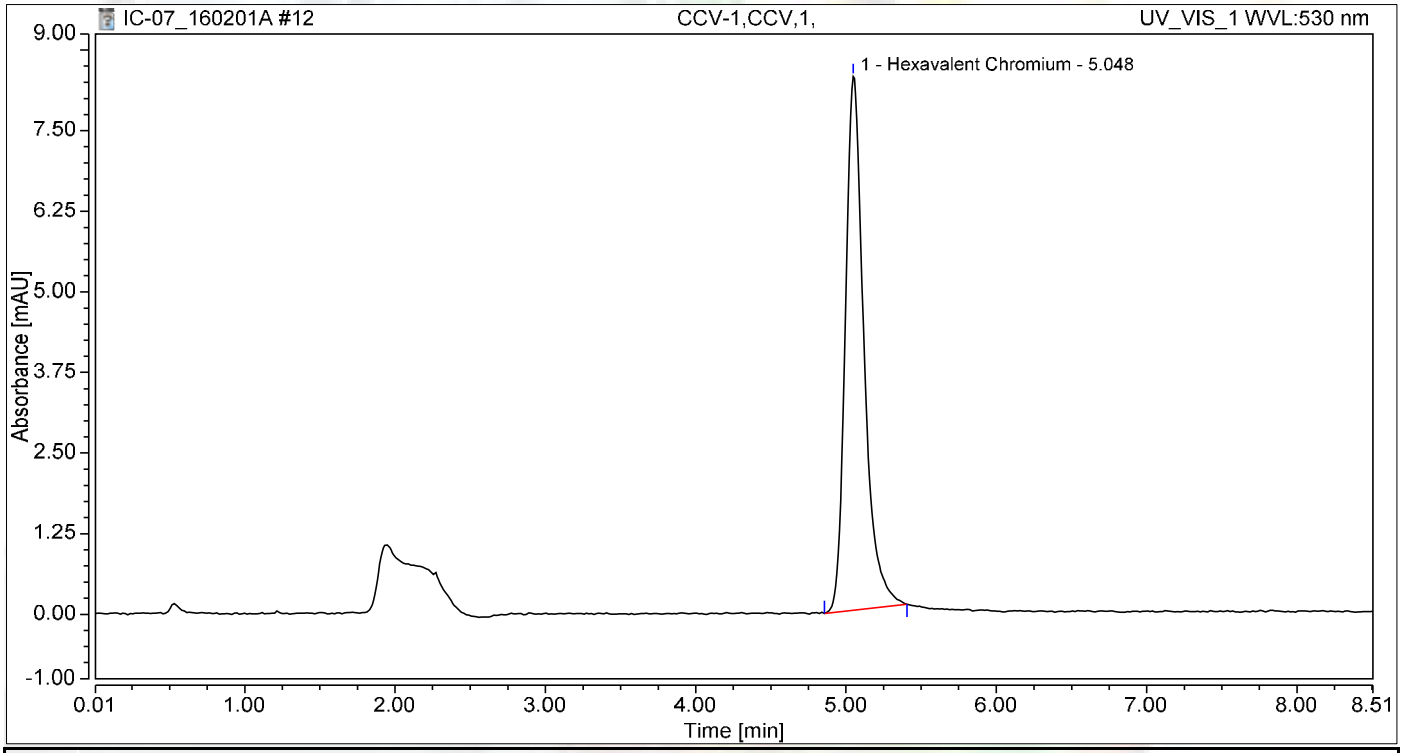
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

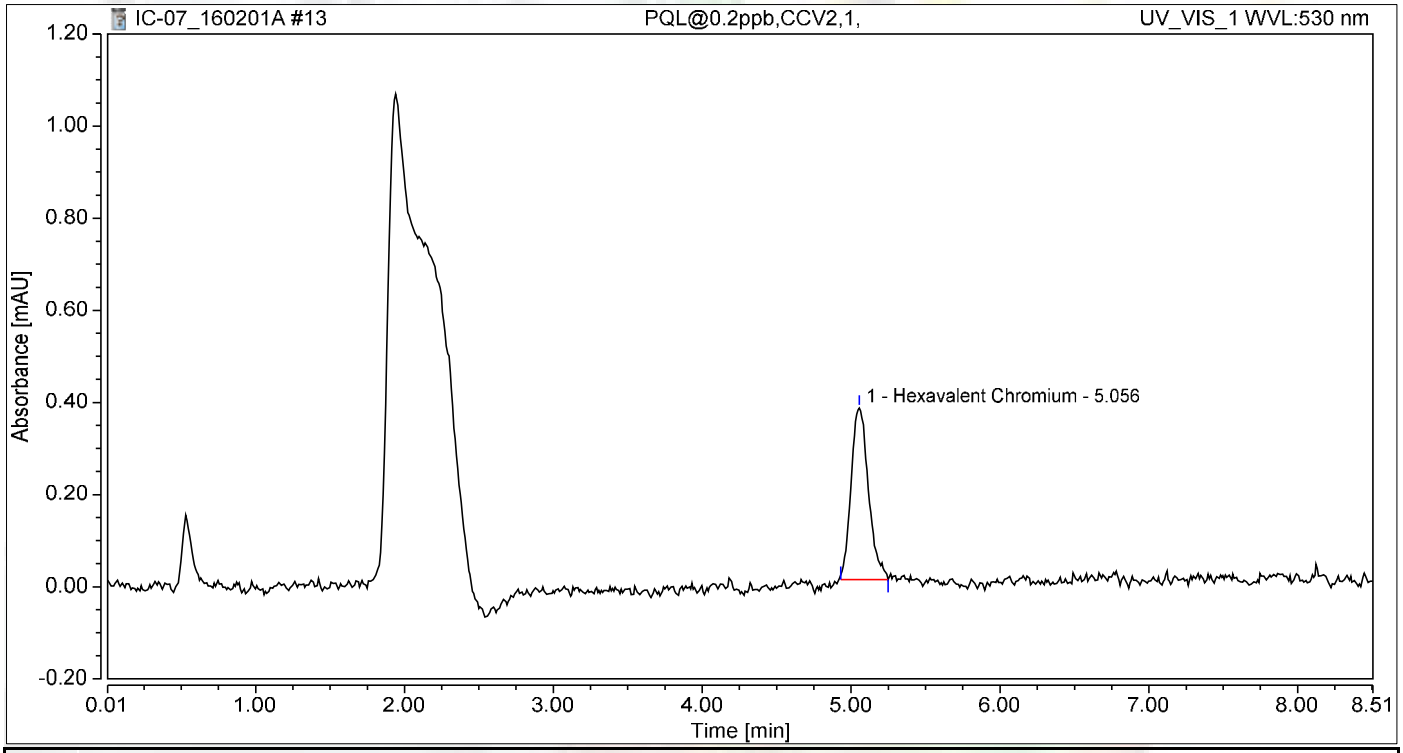
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.181	8.274	100.00	100.00	4.8973
Total:			**1.181**	**8.274**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

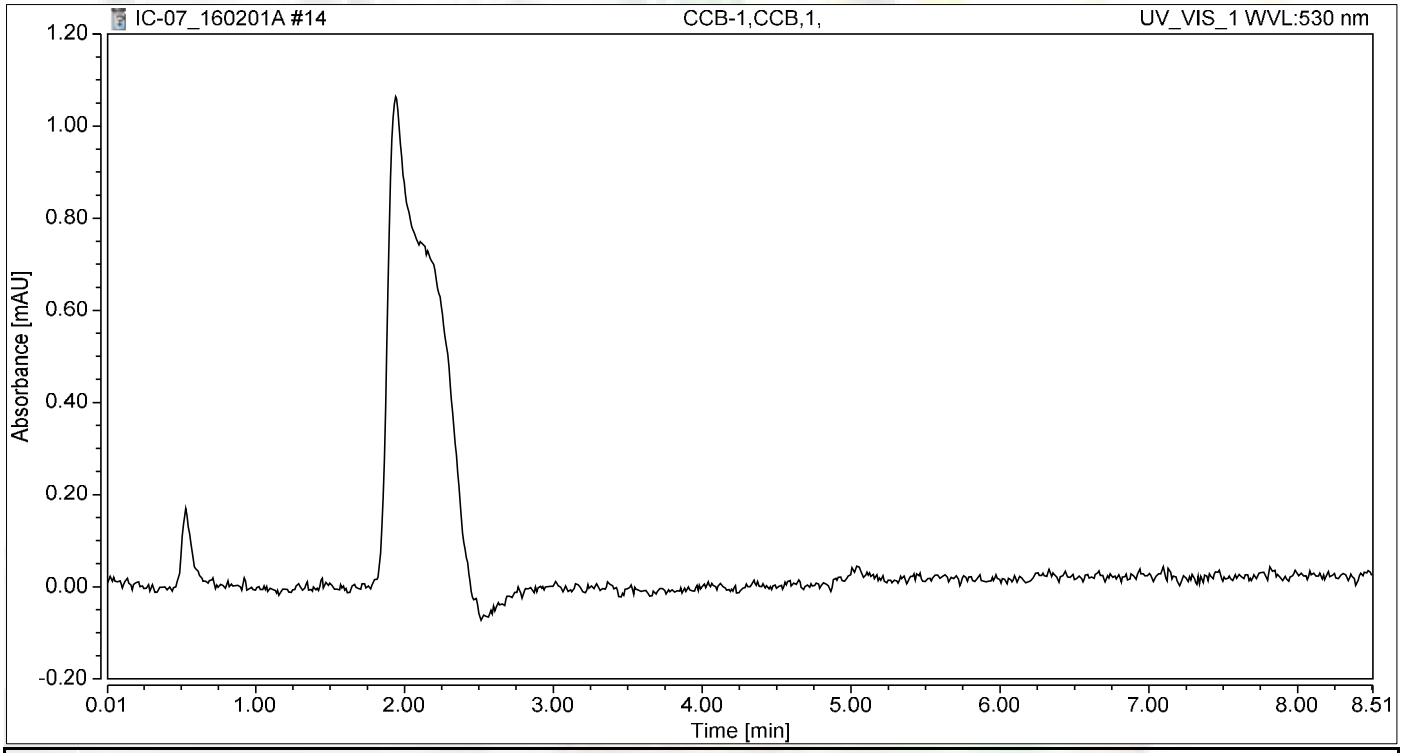
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.050	0.372	100.00	100.00	0.2063
Total:			**0.050**	**0.372**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

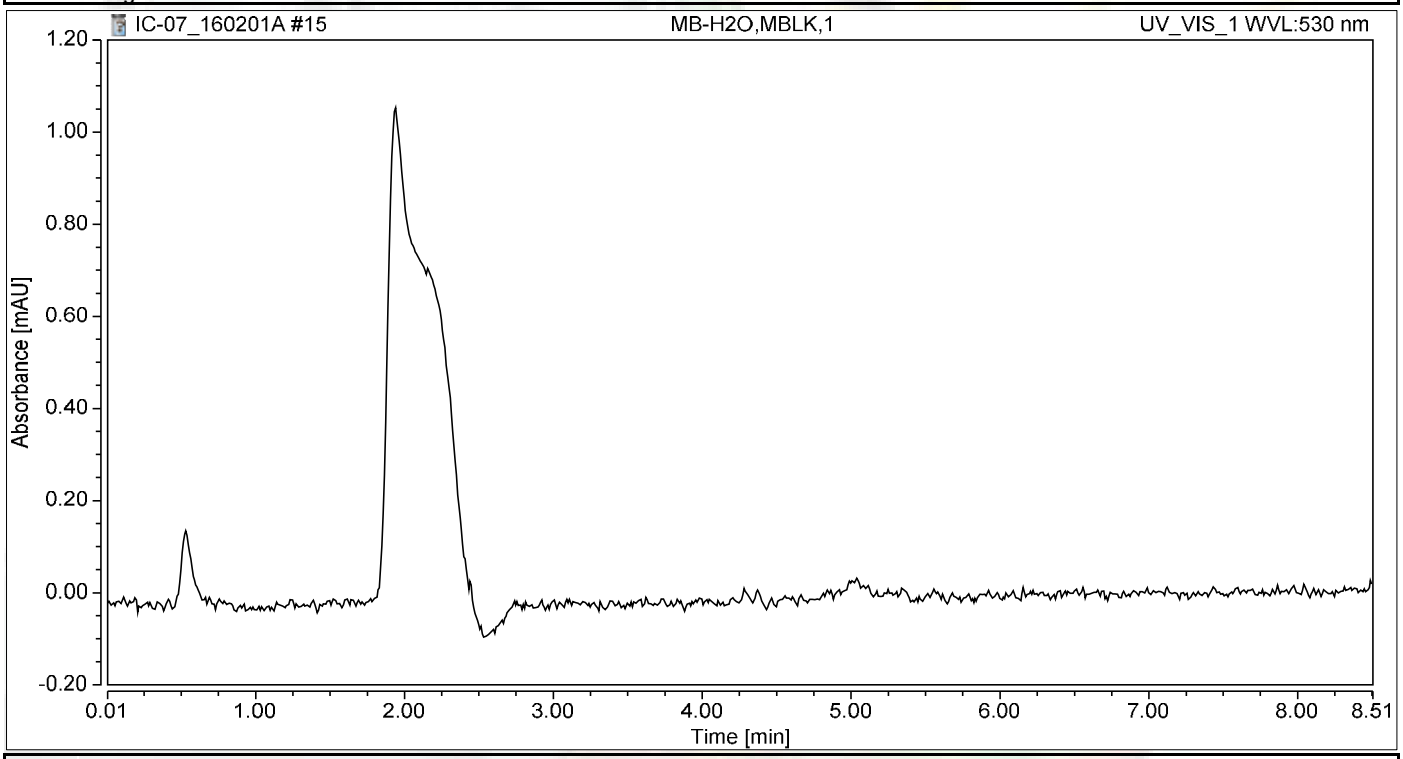
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

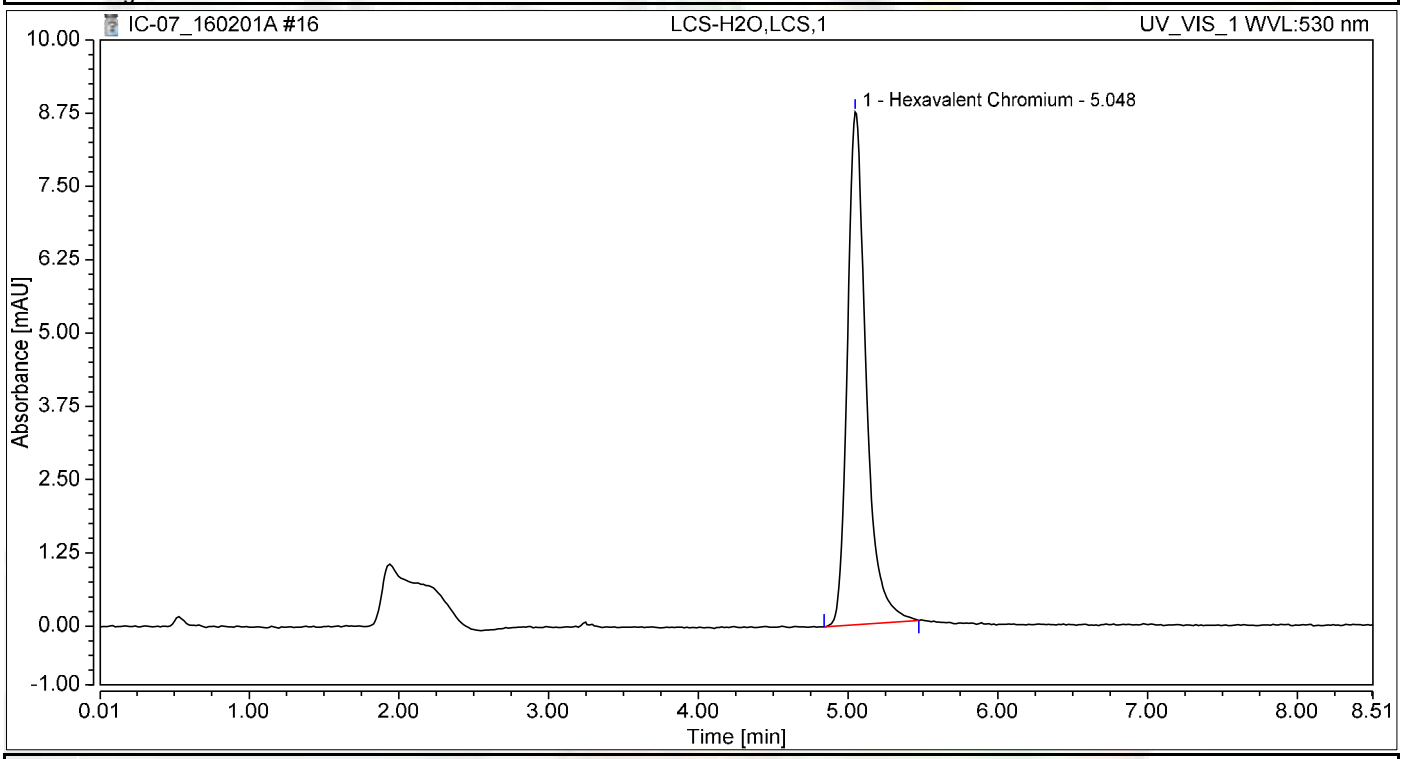
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

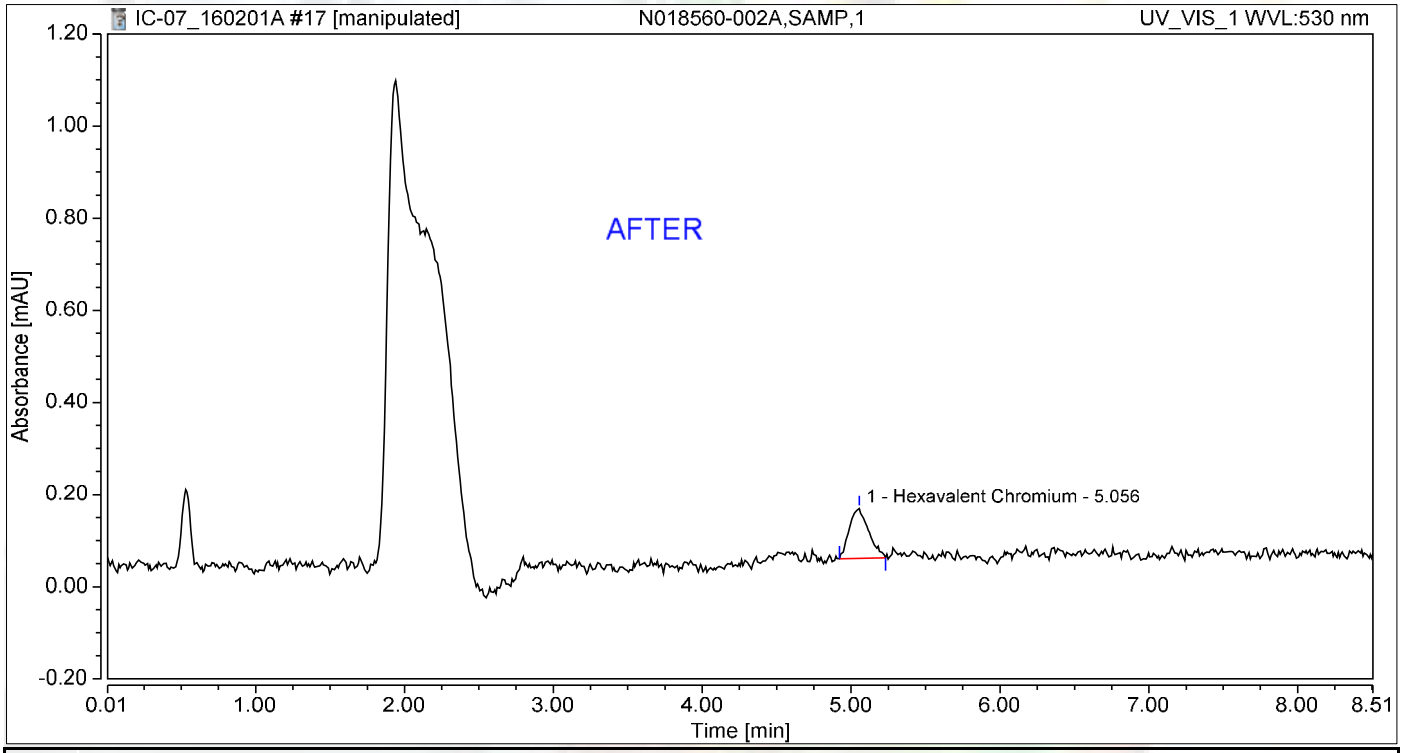
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.261	8.749	100.00	100.00	5.2302
Total:			**1.261**	**8.749**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.016	0.109	100.00	100.00	0.0670
Total:			**0.016**	**0.109**	**100.00**	**100.00**	

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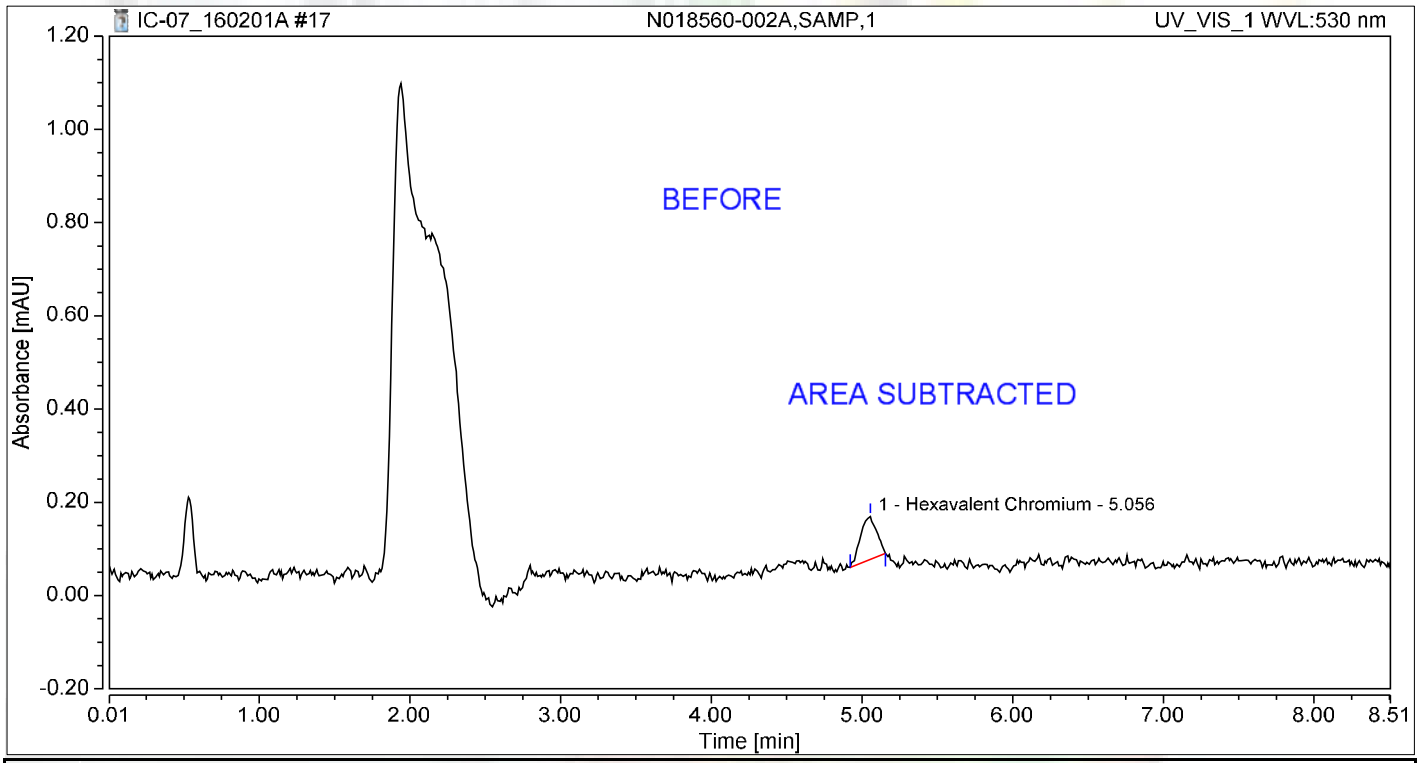
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.012	0.093	100.00	100.00	0.0484
Total:			**0.012**	**0.093**	**100.00**	**100.00**	

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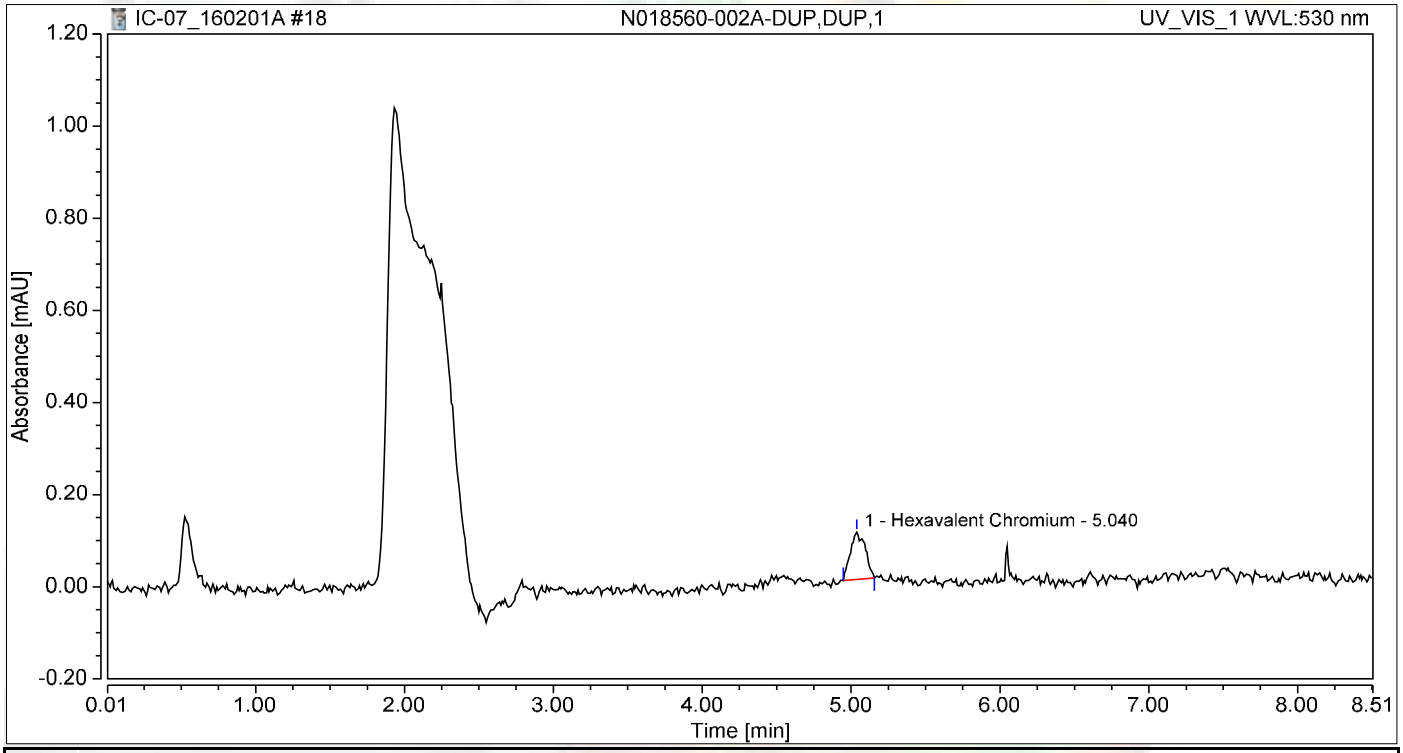
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-DUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

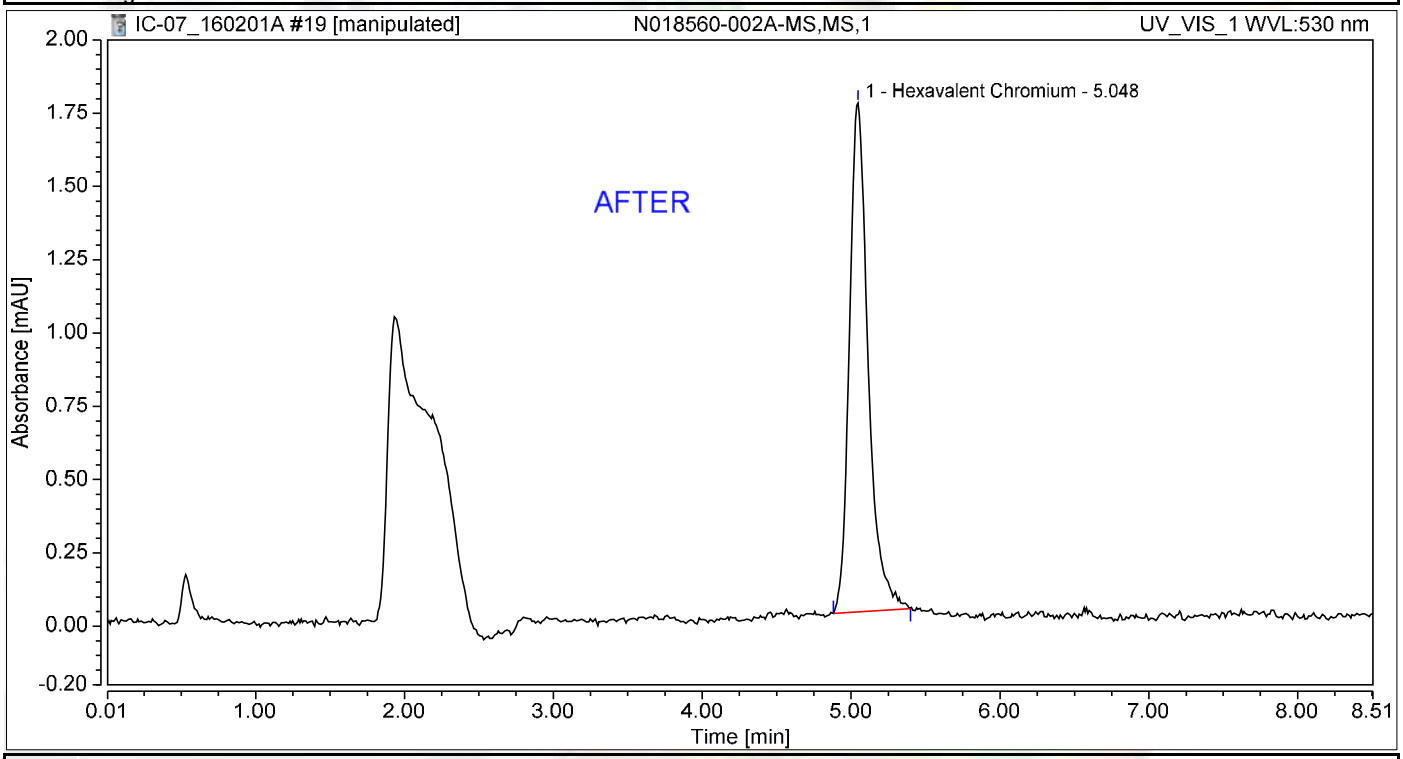
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.012	0.102	100.00	100.00	0.0480
Total:			**0.012**	**0.102**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.251	1.736	100.00	100.00	1.0420
Total:			**0.251**	**1.736**	**100.00**	**100.00**	

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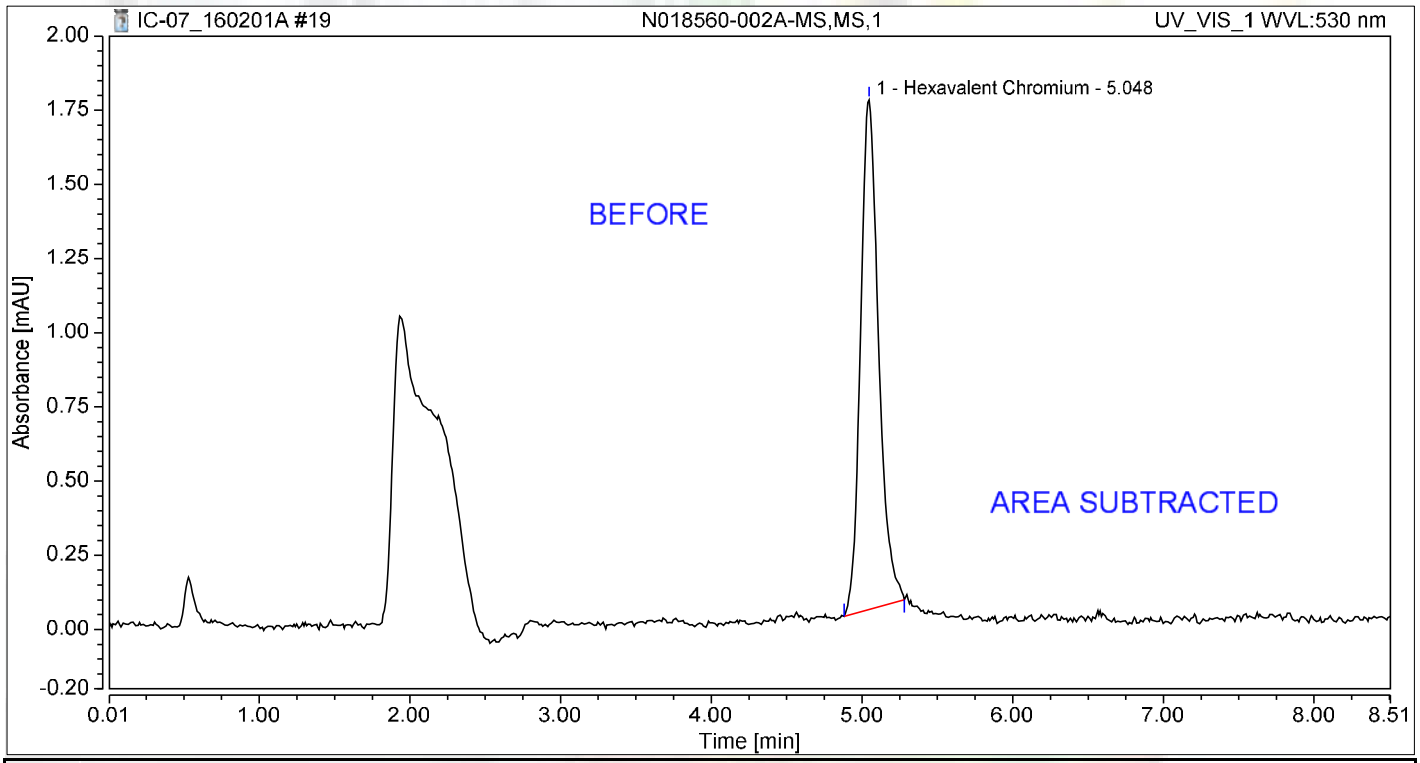
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.239	1.717	100.00	100.00	0.9920
Total:			**0.239**	**1.717**	**100.00**	**100.00**	

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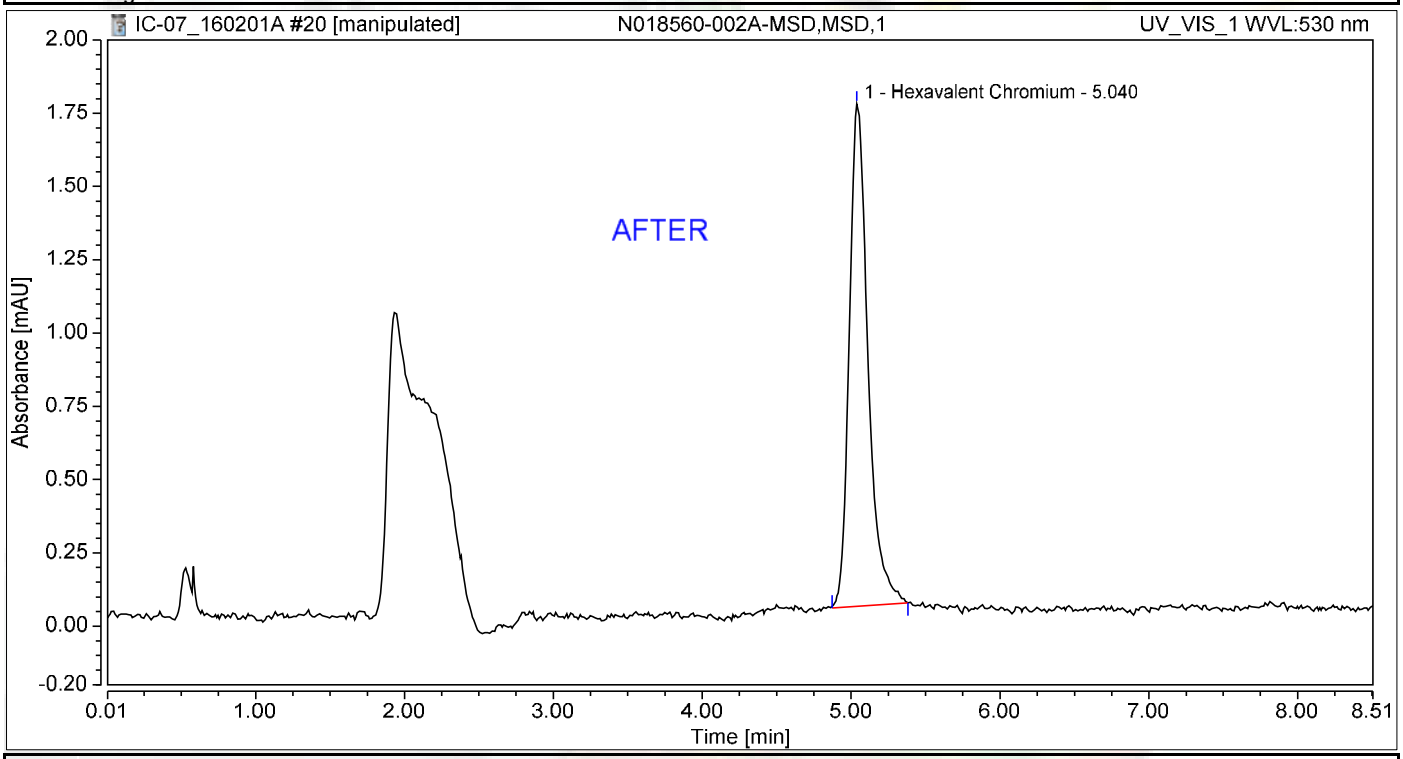
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.247	1.714	100.00	100.00	1.0261
Total:			**0.247**	**1.714**	**100.00**	**100.00**	

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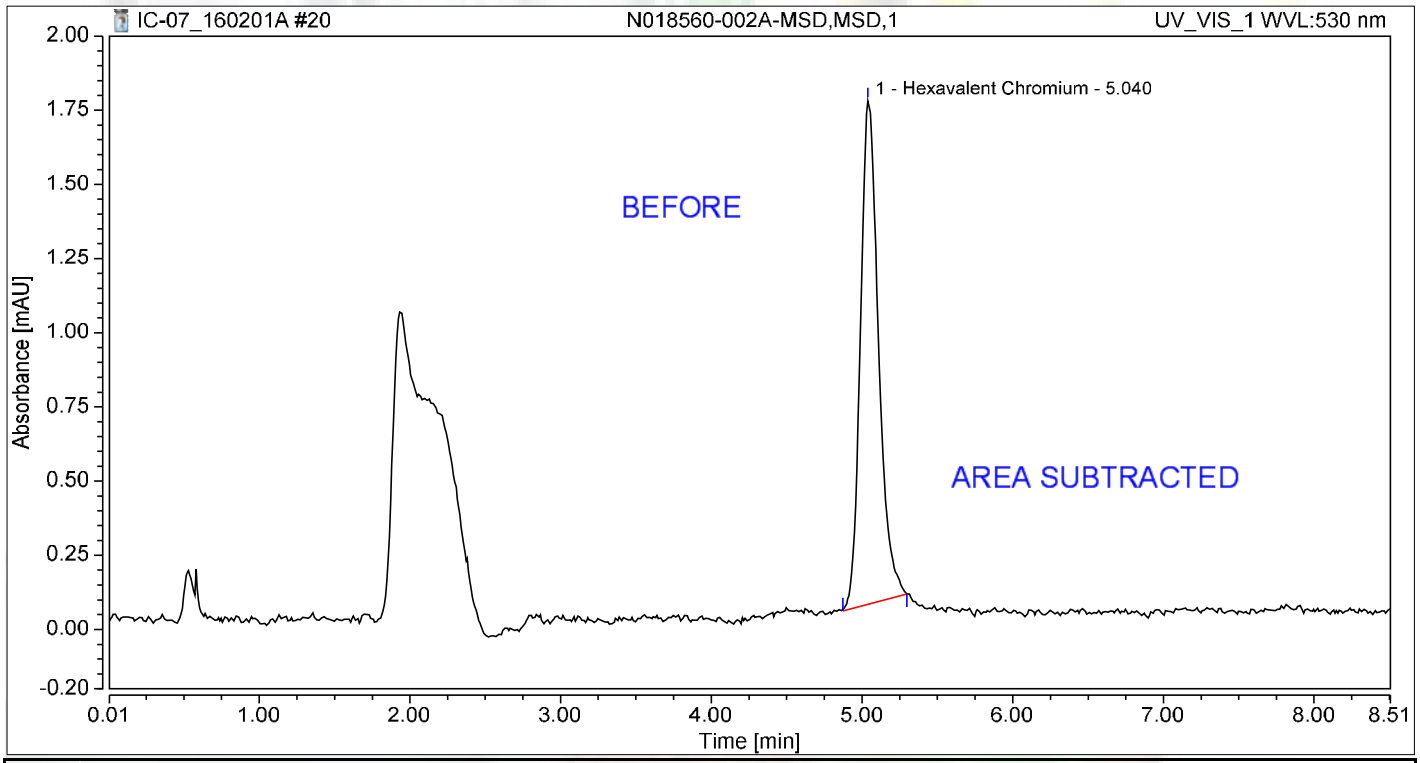
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.237	1.698	100.00	100.00	0.9813
Total:			**0.237**	**1.698**	**100.00**	**100.00**	

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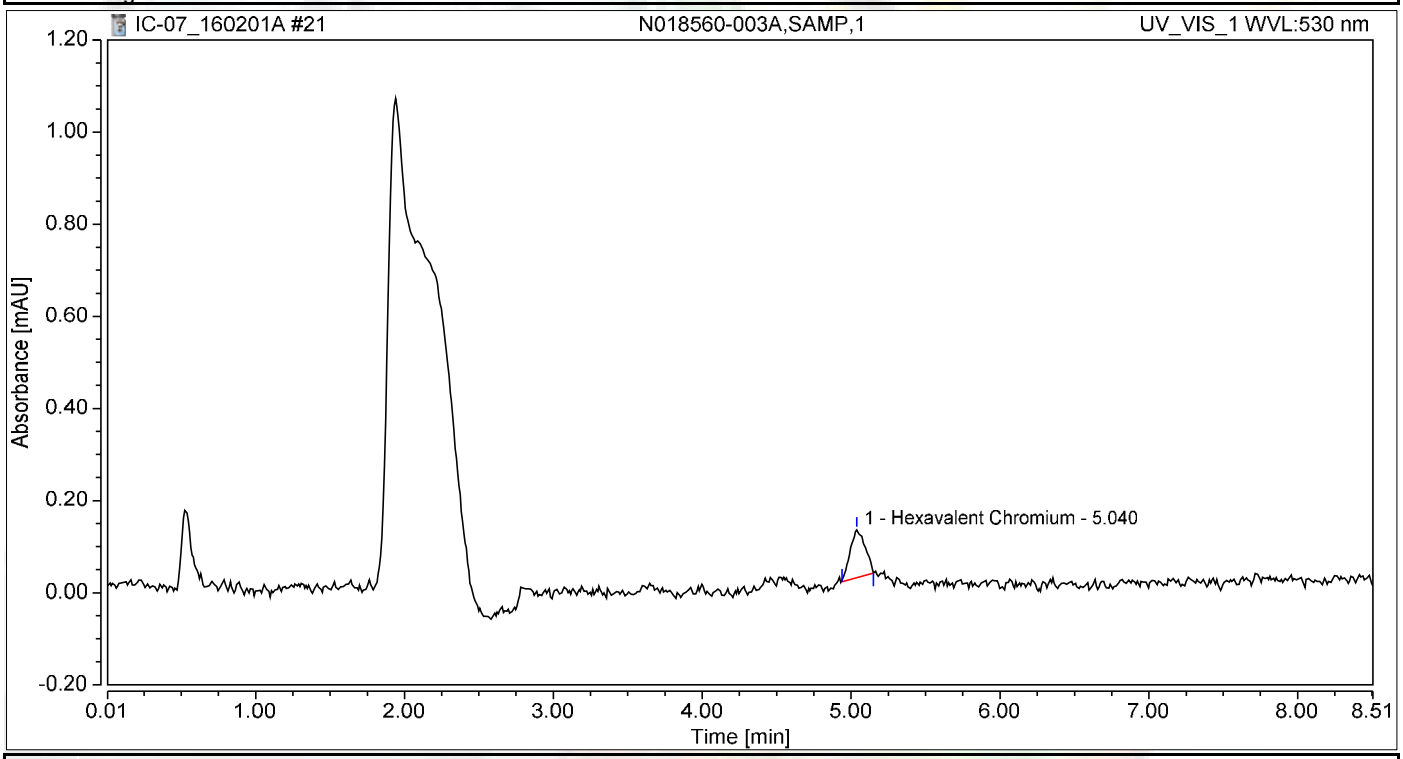
Chromatogram and Results

Injection Details

Injection Name:	**N018560-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

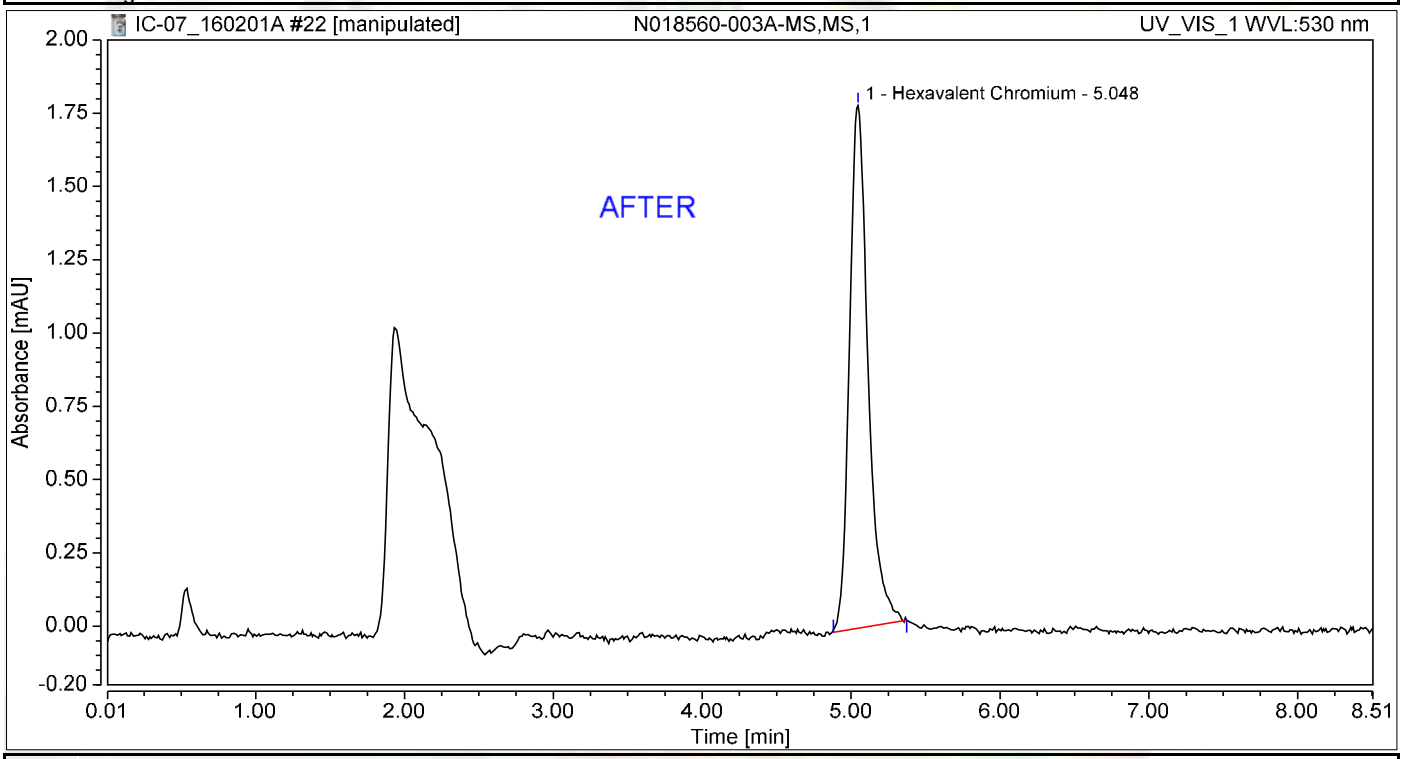
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.012	0.104	100.00	100.00	0.0496
Total:			**0.012**	**0.104**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-003A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.256	1.783	100.00	100.00	1.0622
Total:			**0.256**	**1.783**	**100.00**	**100.00**	

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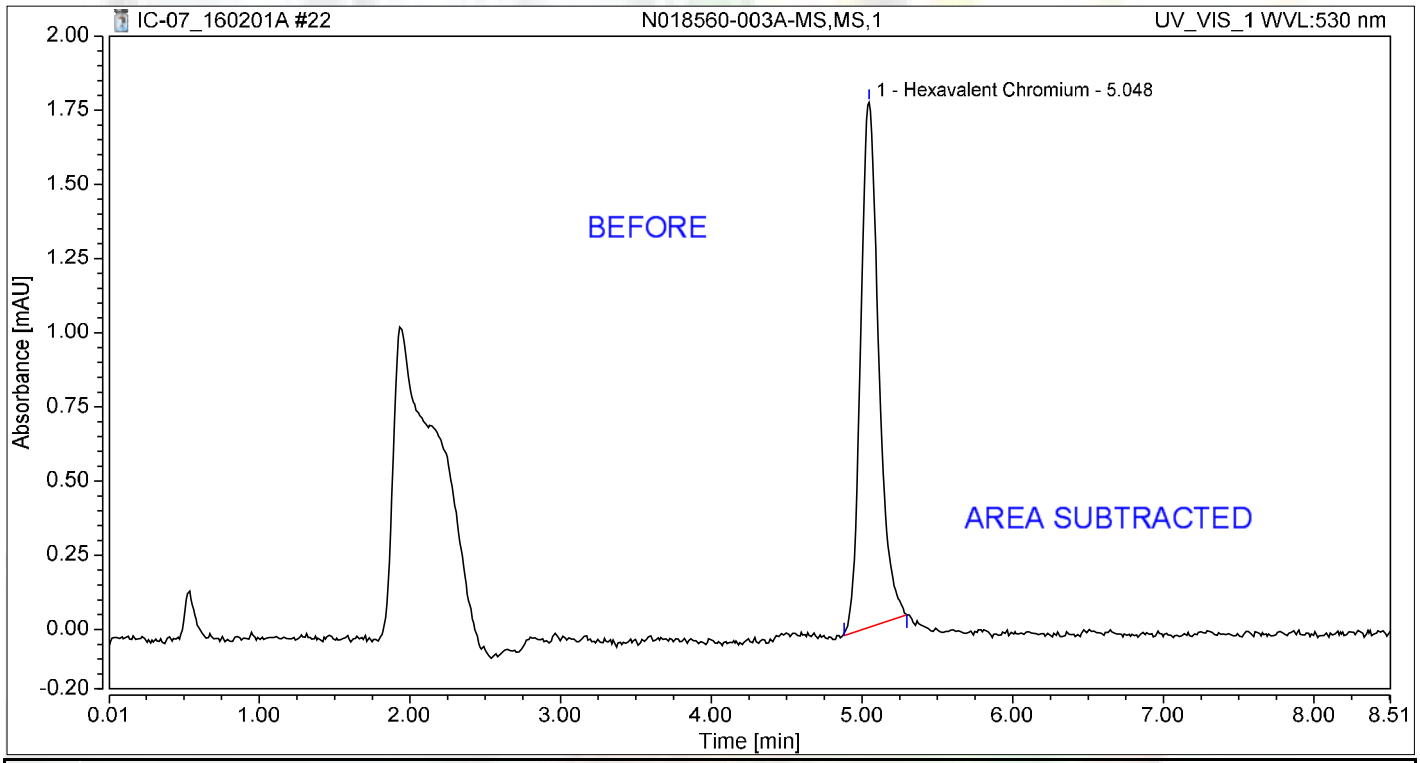
Chromatogram and Results

Injection Details

Injection Name:	**N018560-003A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.769	100.00	100.00	1.0271
Total:			**0.248**	**1.769**	**100.00**	**100.00**	

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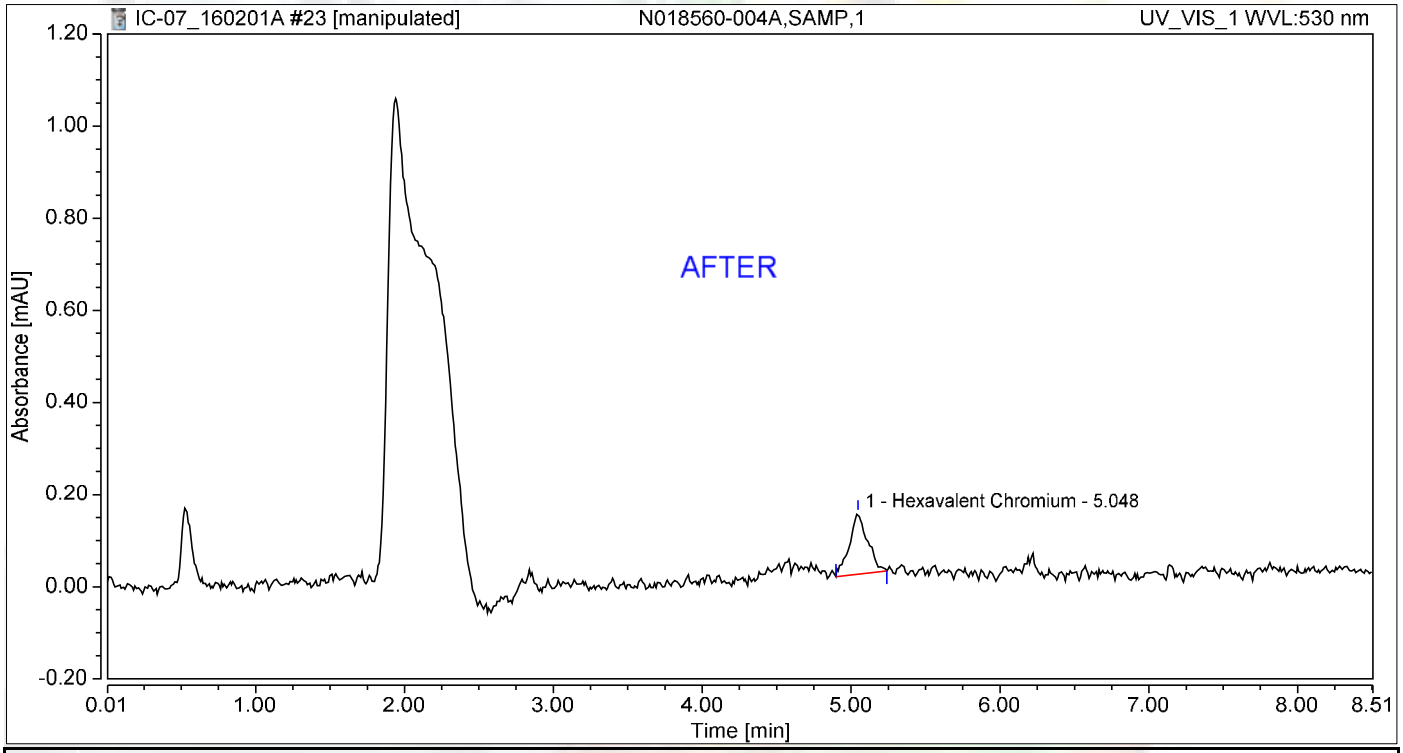
Chromatogram and Results

Injection Details

Injection Name:	**N018560-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.019	0.133	100.00	100.00	0.0777
Total:			**0.019**	**0.133**	**100.00**	**100.00**	

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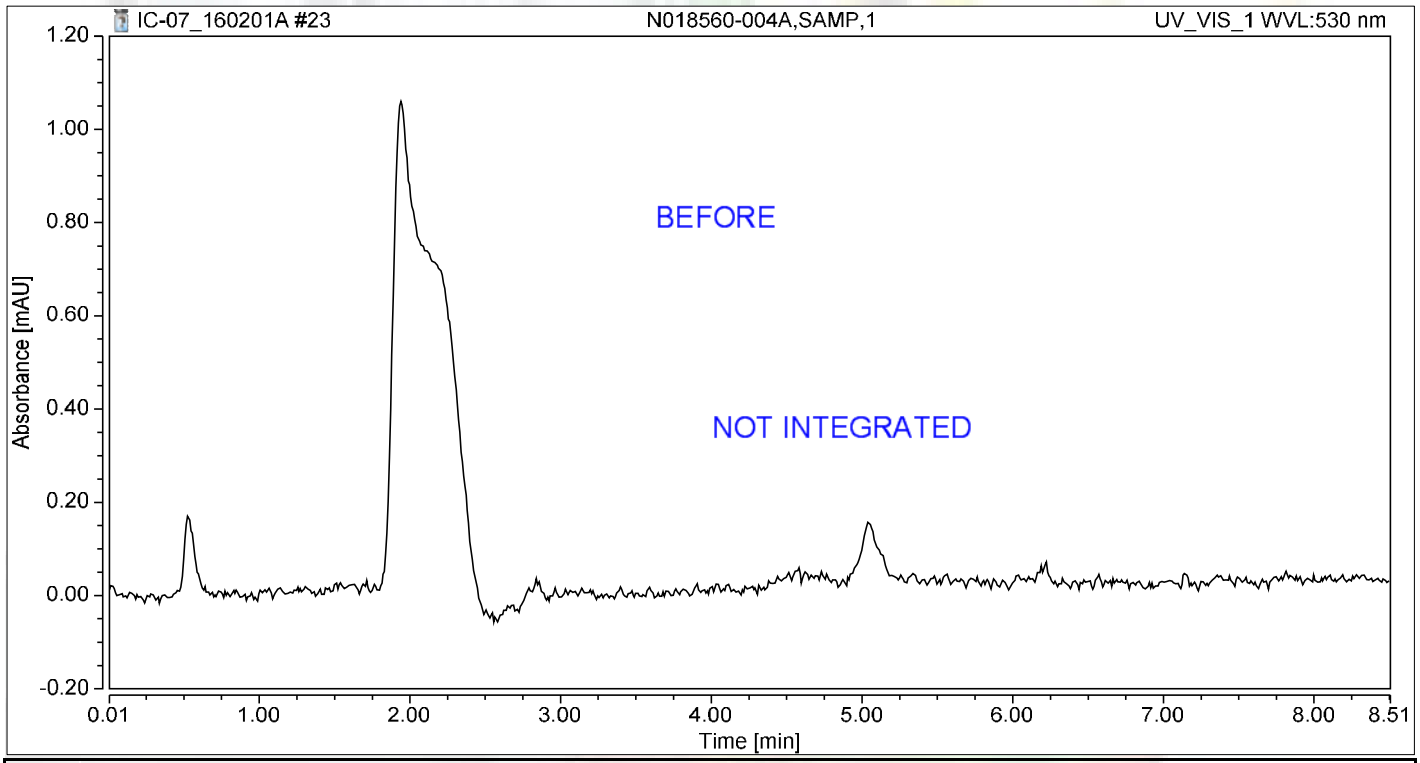
Chromatogram and Results

Injection Details

Injection Name:	**N018560-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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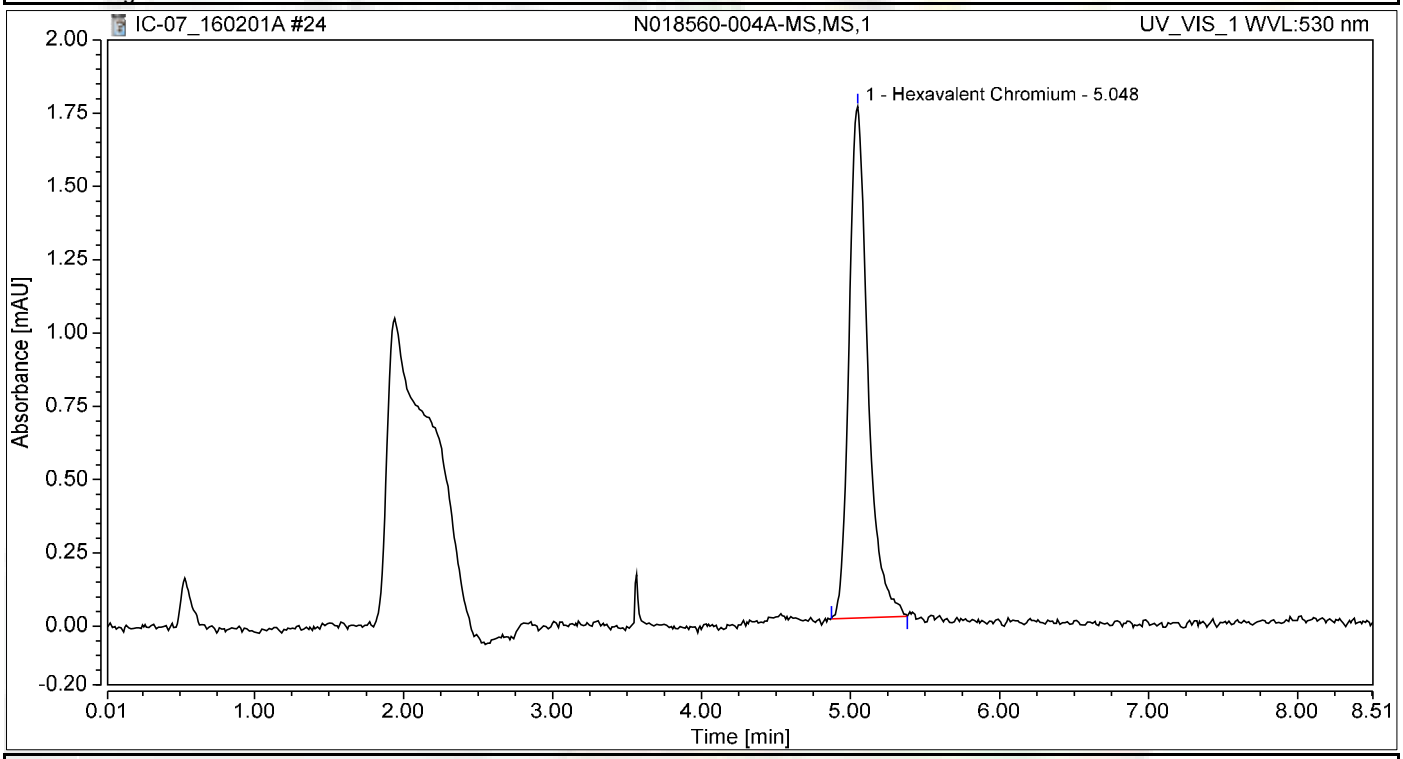
Chromatogram and Results

Injection Details

Injection Name:	**N018560-004A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

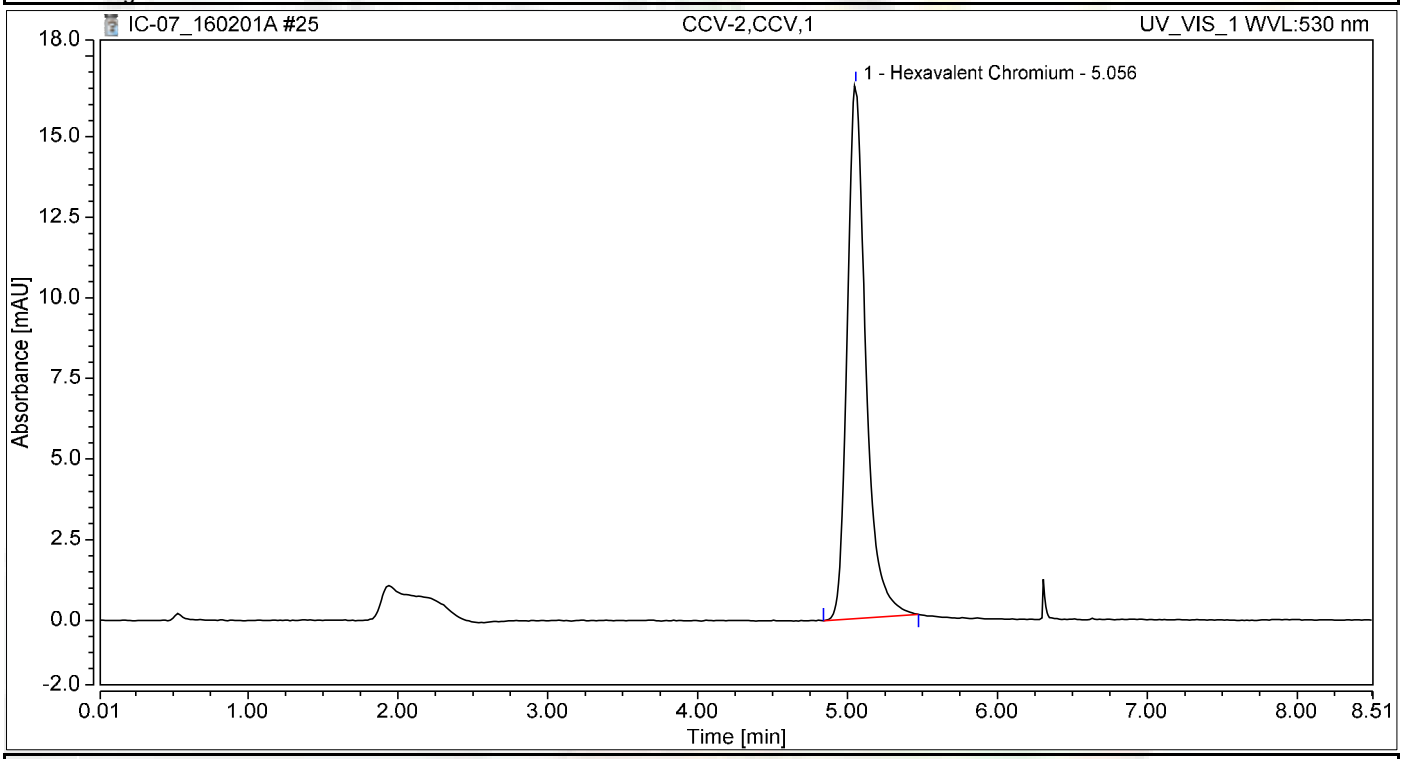
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.254	1.745	100.00	100.00	1.0526
Total:			**0.254**	**1.745**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

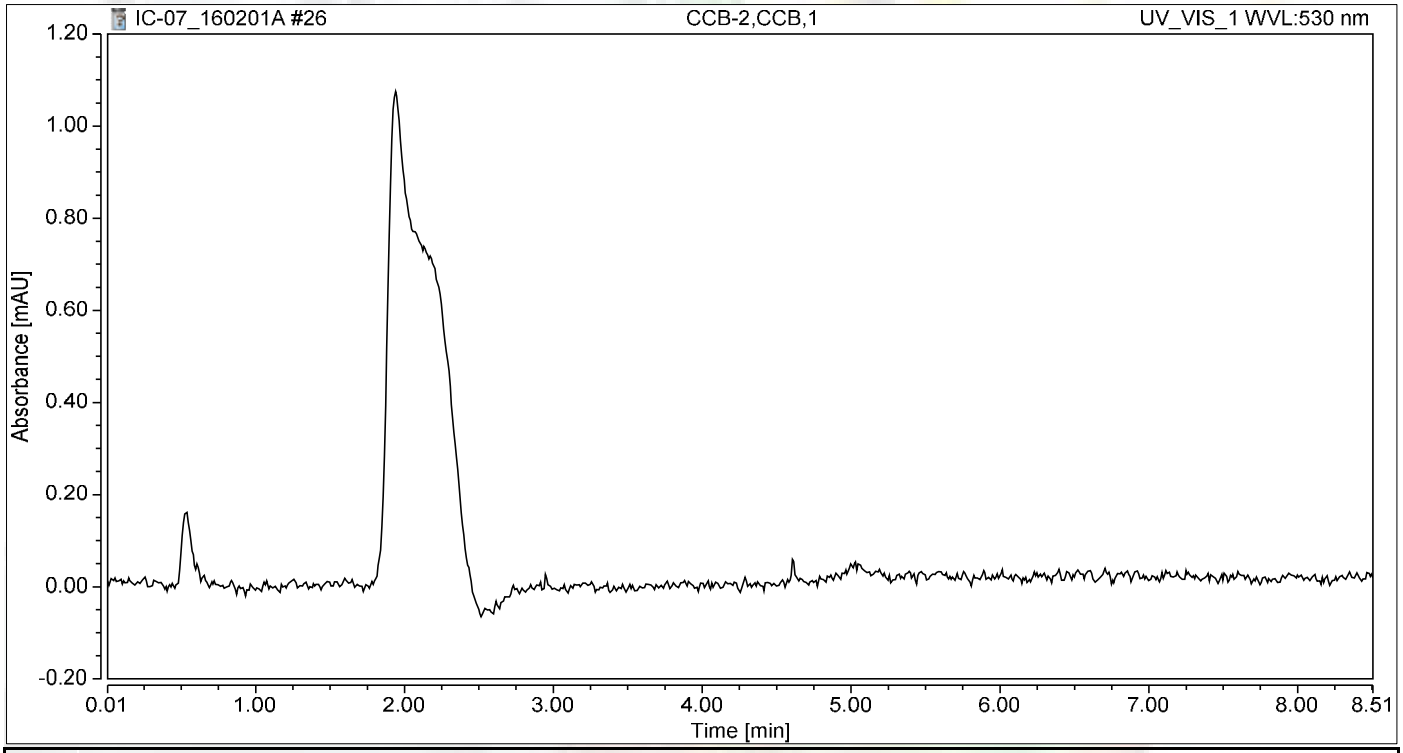
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.374	16.558	100.00	100.00	9.8458
Total:			**2.374**	**16.558**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

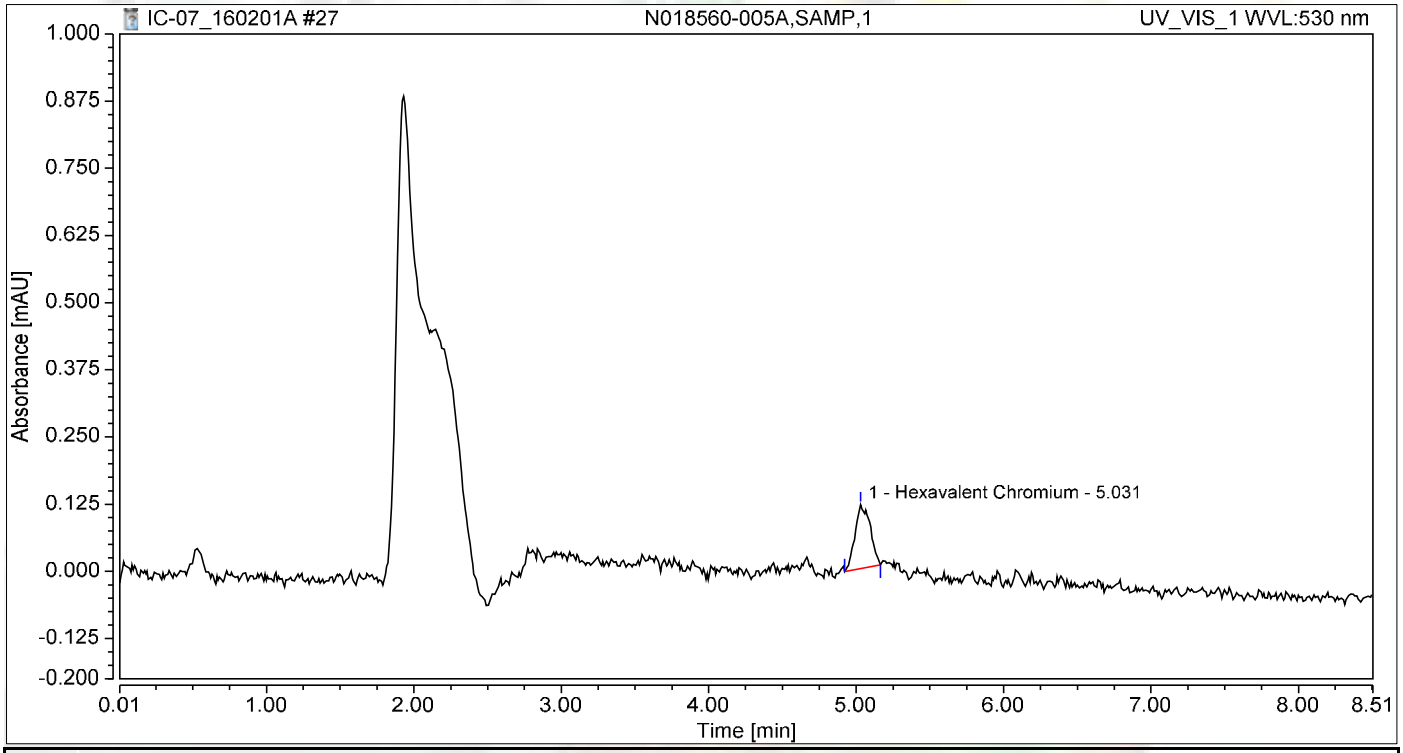
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

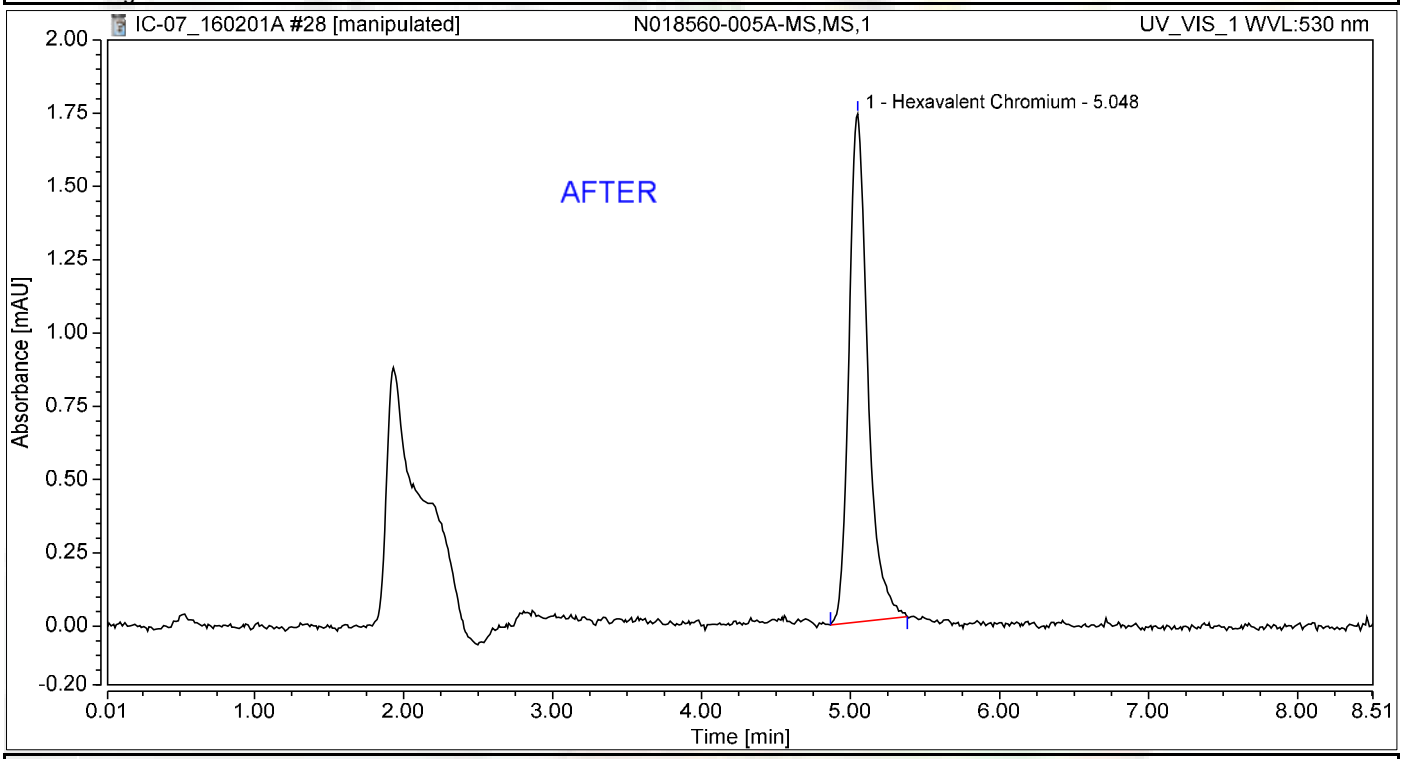
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.014	0.119	100.00	100.00	0.0582
Total:			**0.014**	**0.119**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-005A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.252	1.734	100.00	100.00	1.0445
Total:			**0.252**	**1.734**	**100.00**	**100.00**	

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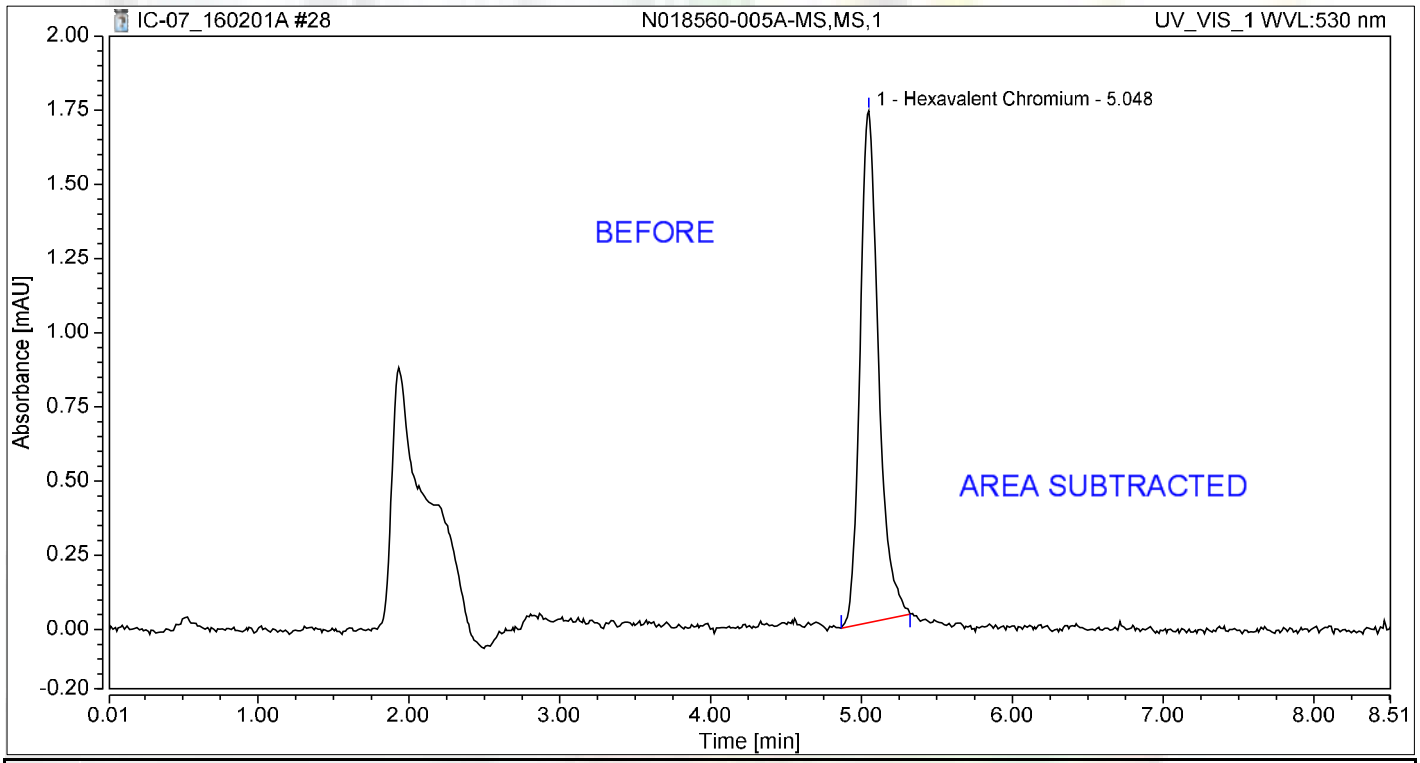
Chromatogram and Results

Injection Details

Injection Name:	**N018560-005A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.246	1.725	100.00	100.00	1.0206
Total:			**0.246**	**1.725**	**100.00**	**100.00**	

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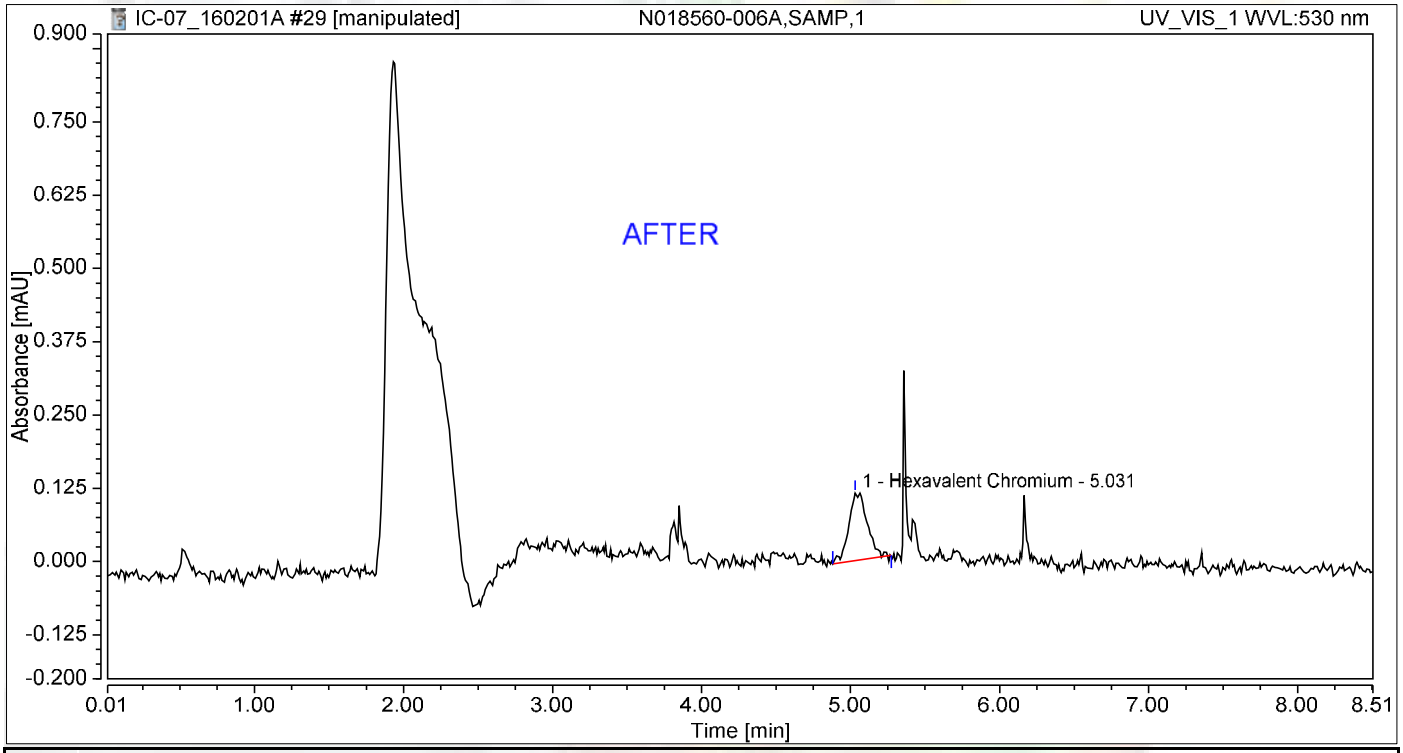
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.115	100.00	100.00	0.0678
Total:			**0.016**	**0.115**	**100.00**	**100.00**	

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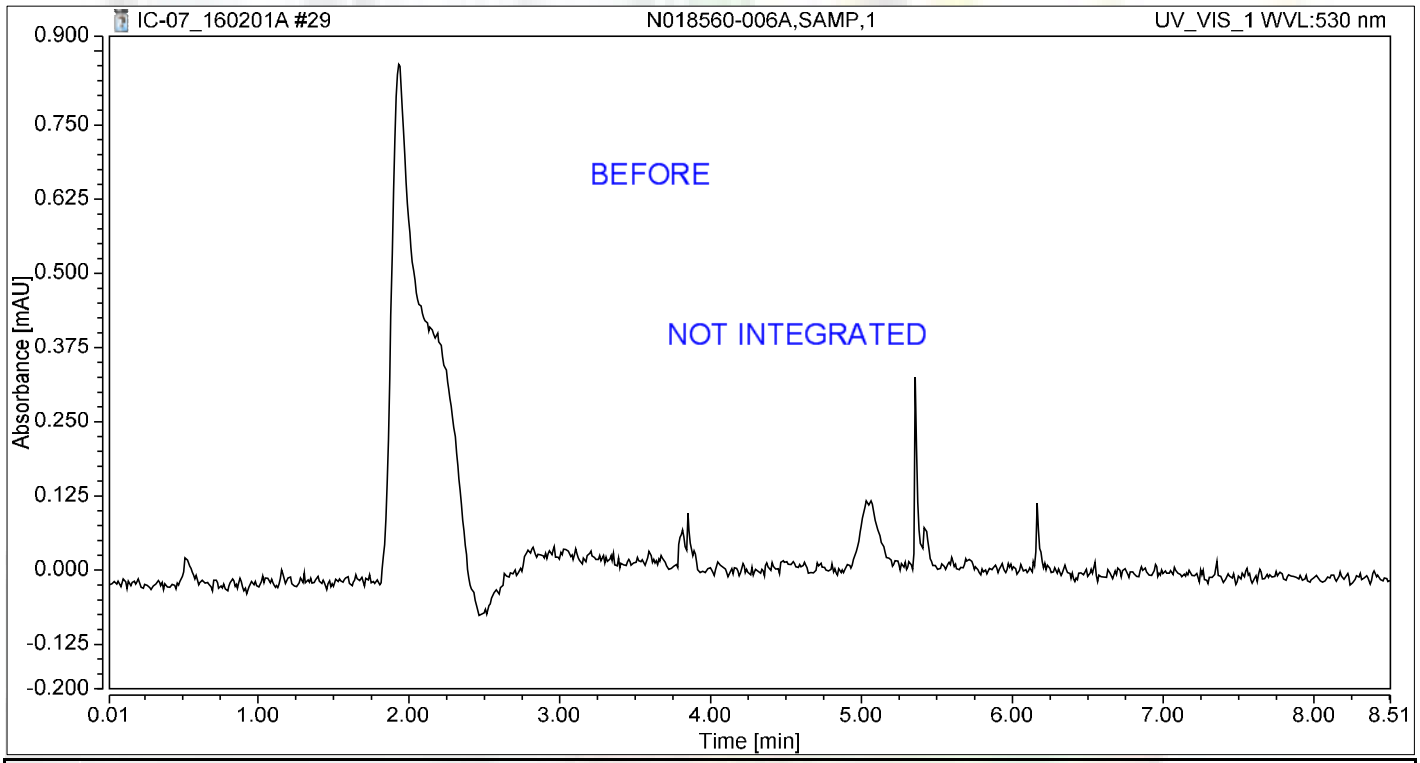
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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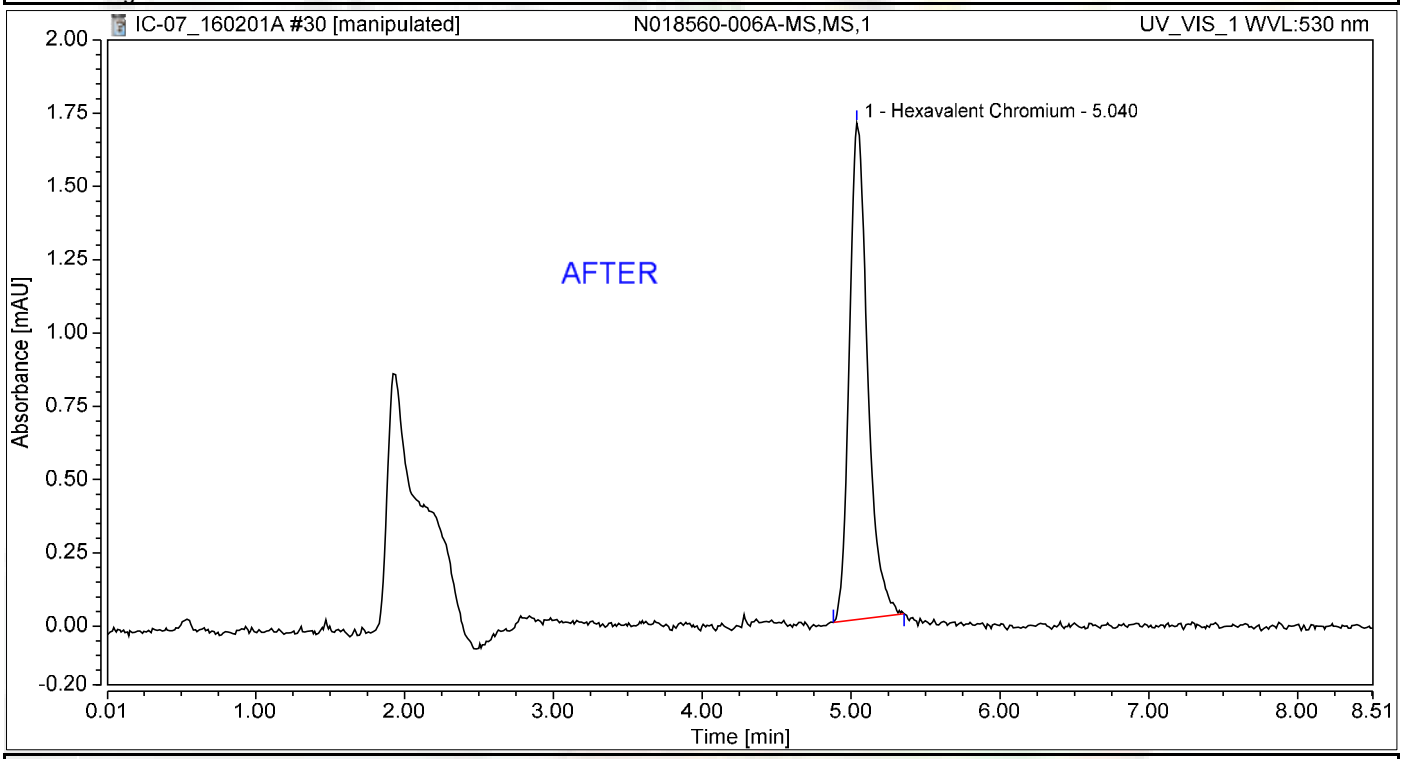
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.240	1.693	100.00	100.00	0.9947
Total:			**0.240**	**1.693**	**100.00**	**100.00**	

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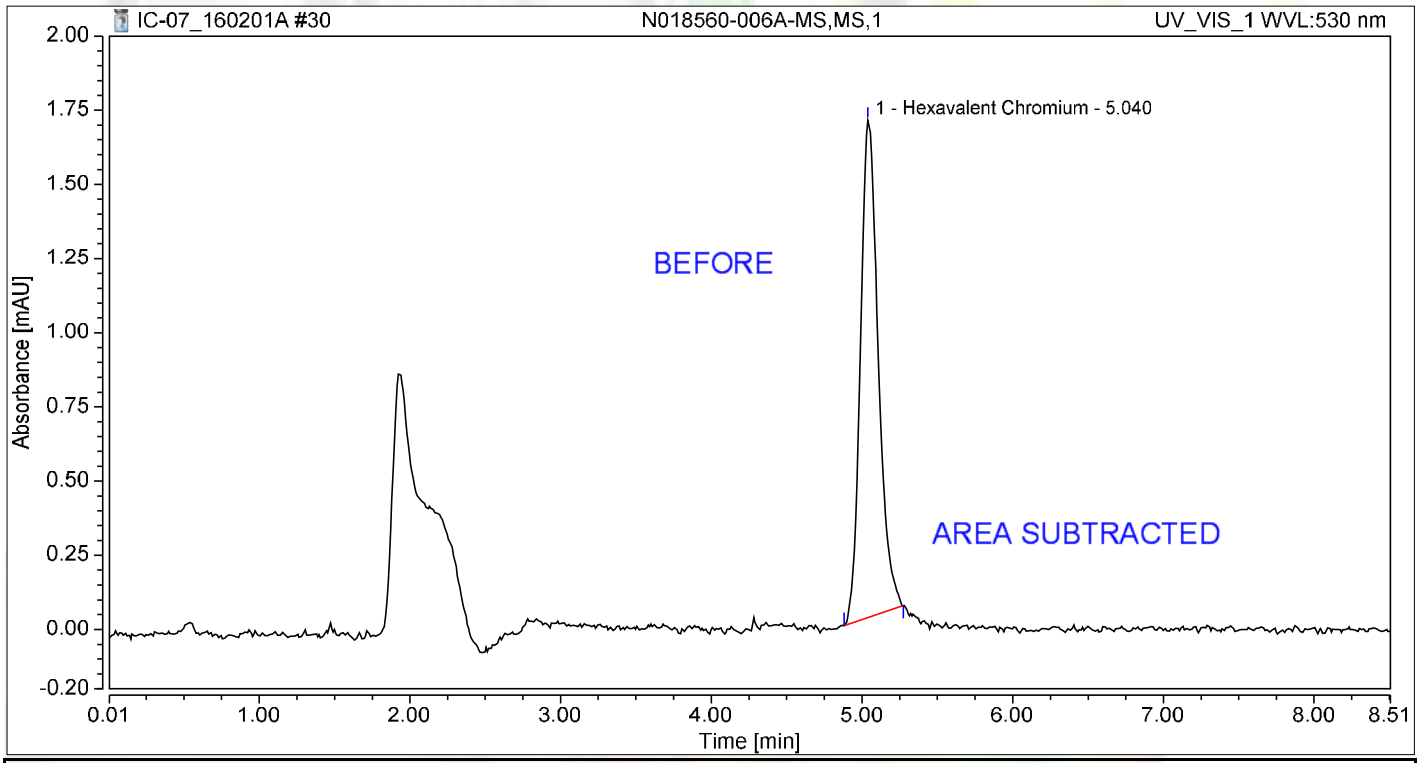
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.230	1.676	100.00	100.00	0.9535
Total:			**0.230**	**1.676**	**100.00**	**100.00**	

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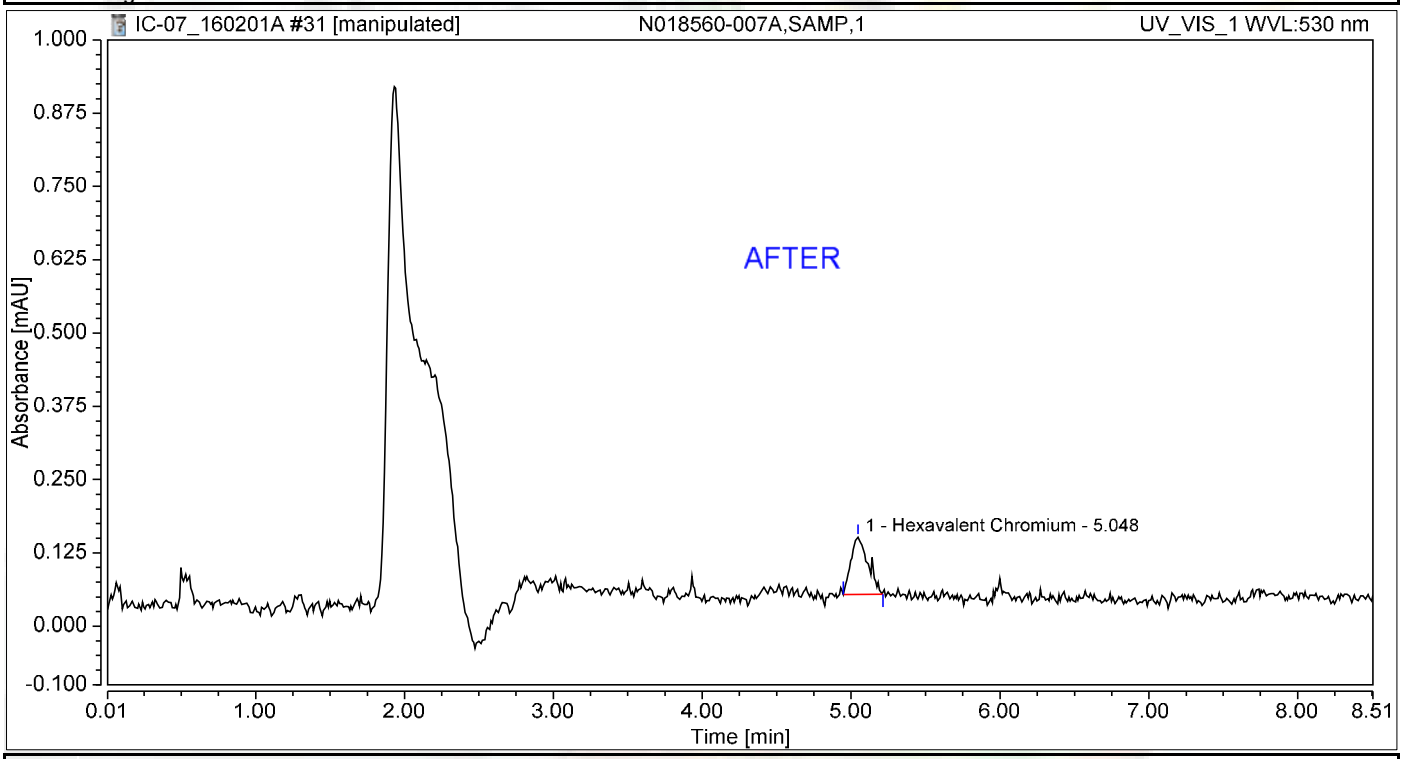
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.013	0.098	100.00	100.00	0.0536
Total:			**0.013**	**0.098**	**100.00**	**100.00**	

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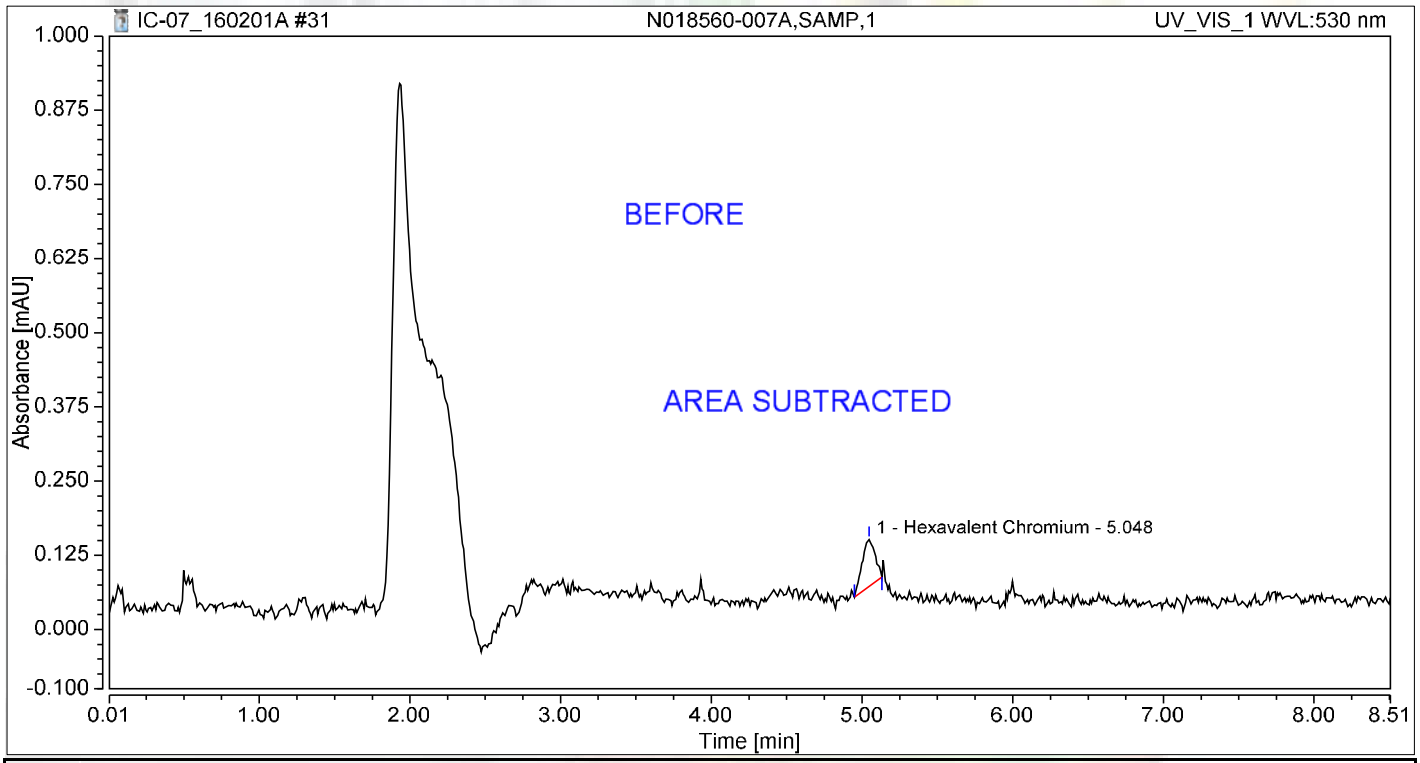
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.008	0.079	100.00	100.00	0.0333
Total:			**0.008**	**0.079**	**100.00**	**100.00**	

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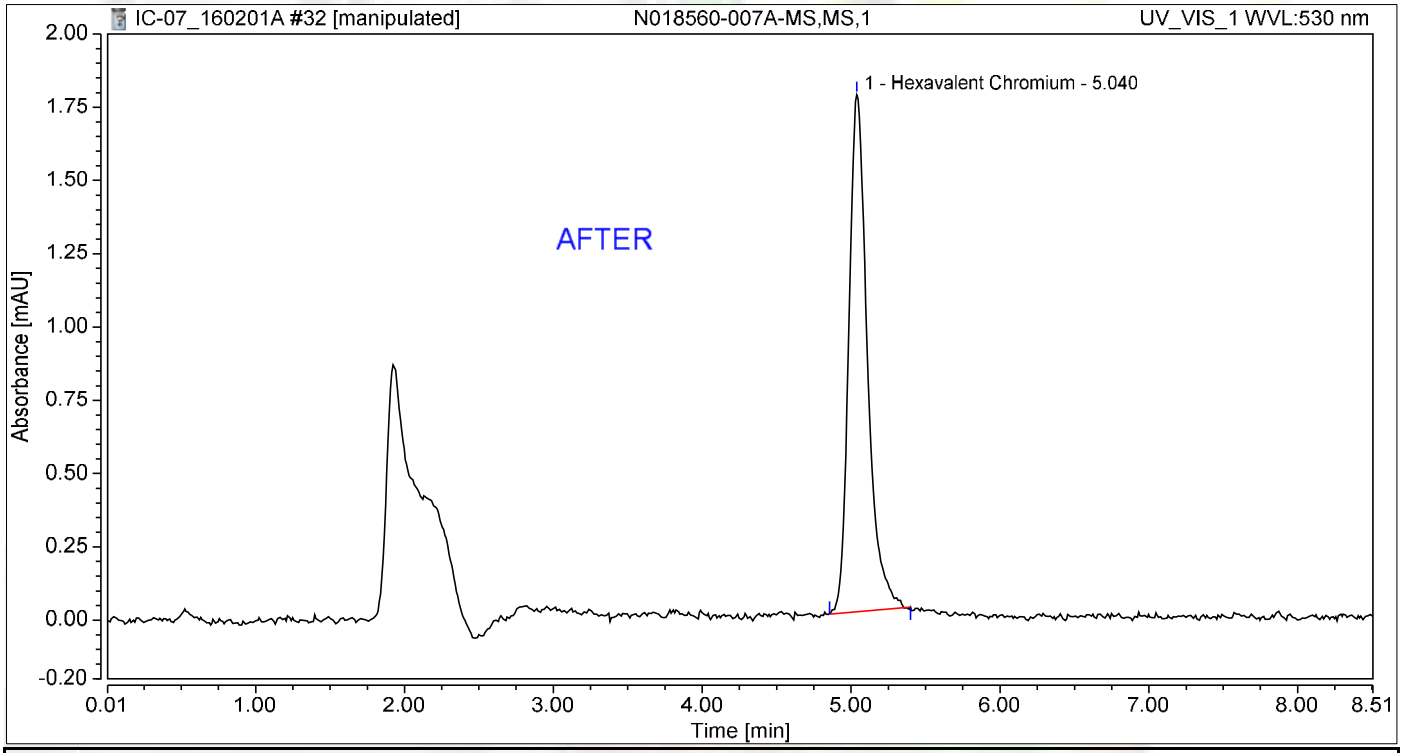
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.253	1.765	100.00	100.00	1.0479
Total:			**0.253**	**1.765**	**100.00**	**100.00**	

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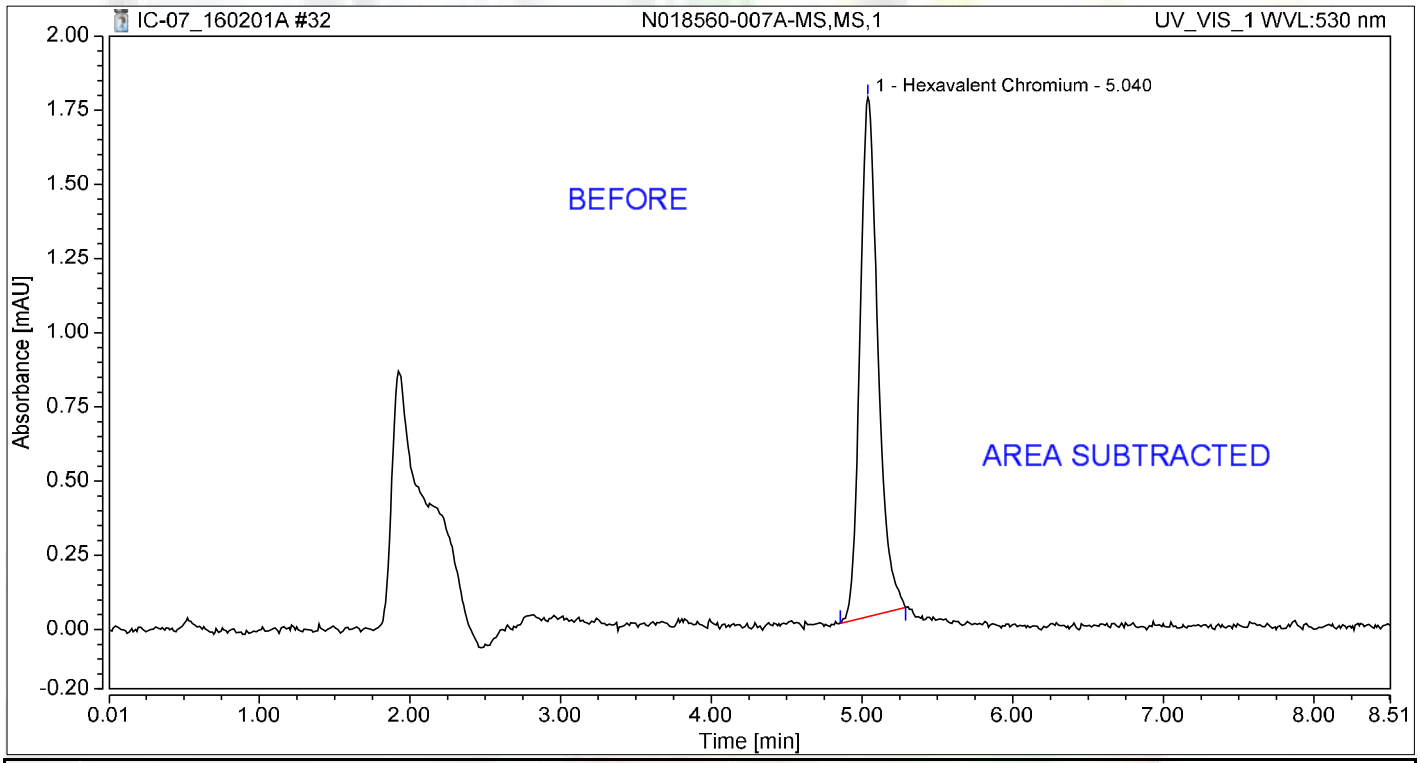
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.244	1.750	100.00	100.00	1.0108
Total:			**0.244**	**1.750**	**100.00**	**100.00**	

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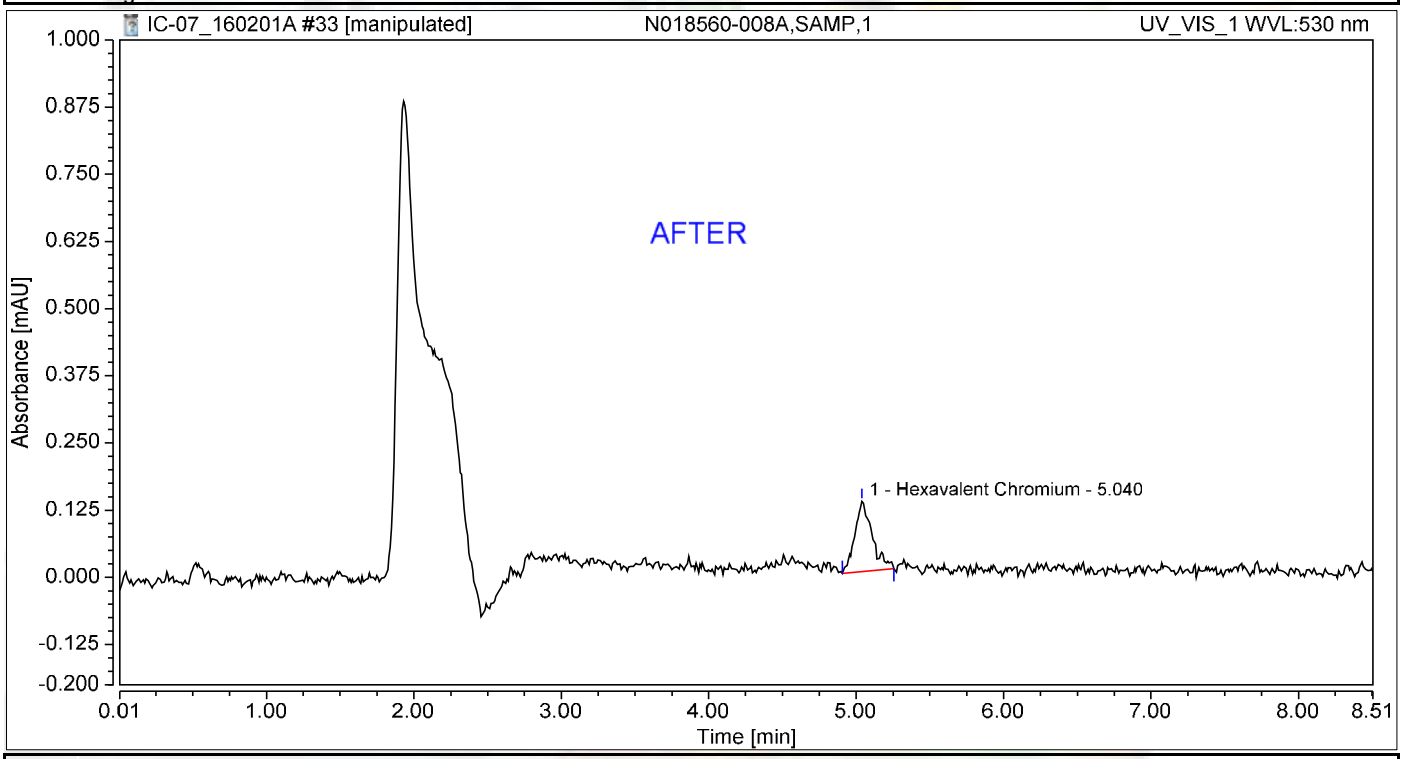
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.018	0.131	100.00	100.00	0.0730
Total:			**0.018**	**0.131**	**100.00**	**100.00**	

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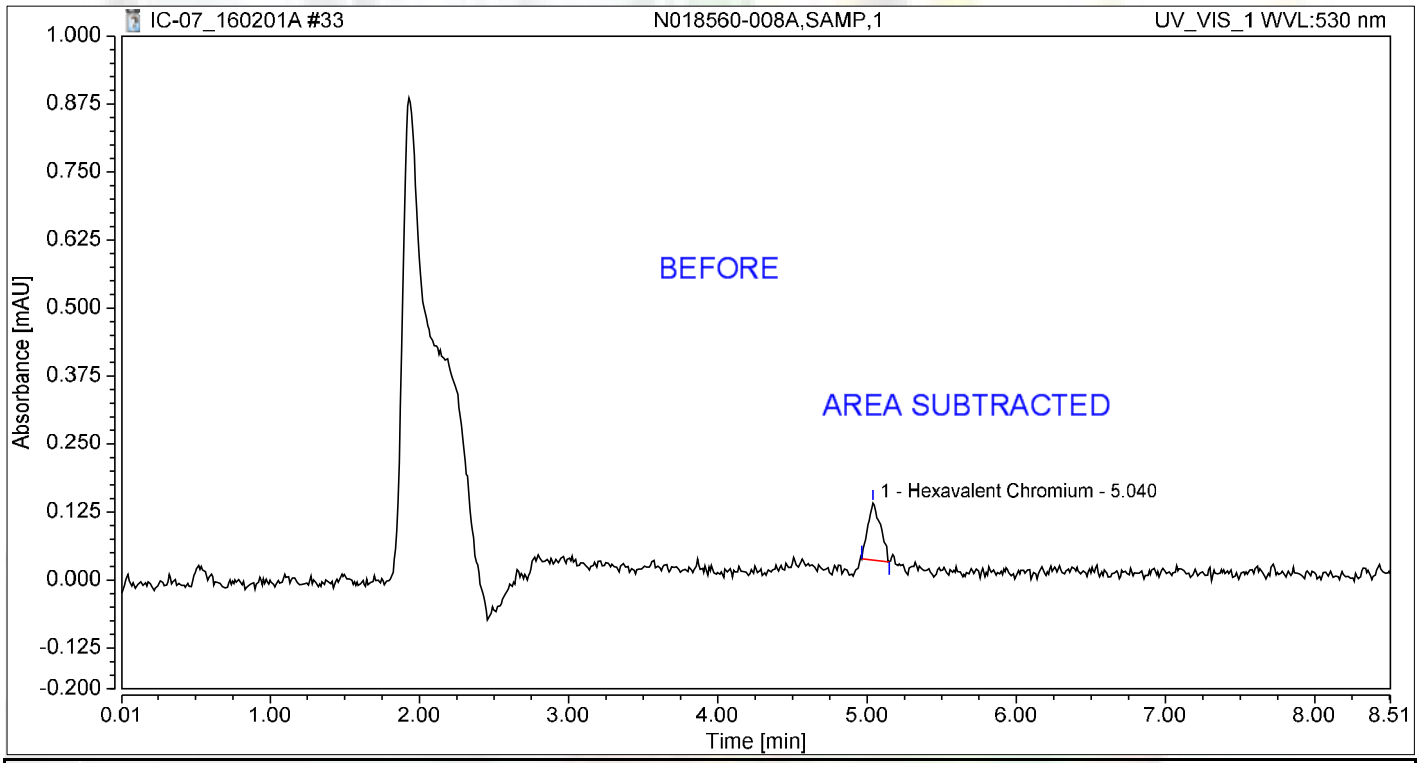
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.010	0.105	100.00	100.00	0.0427
Total:			**0.010**	**0.105**	**100.00**	**100.00**	

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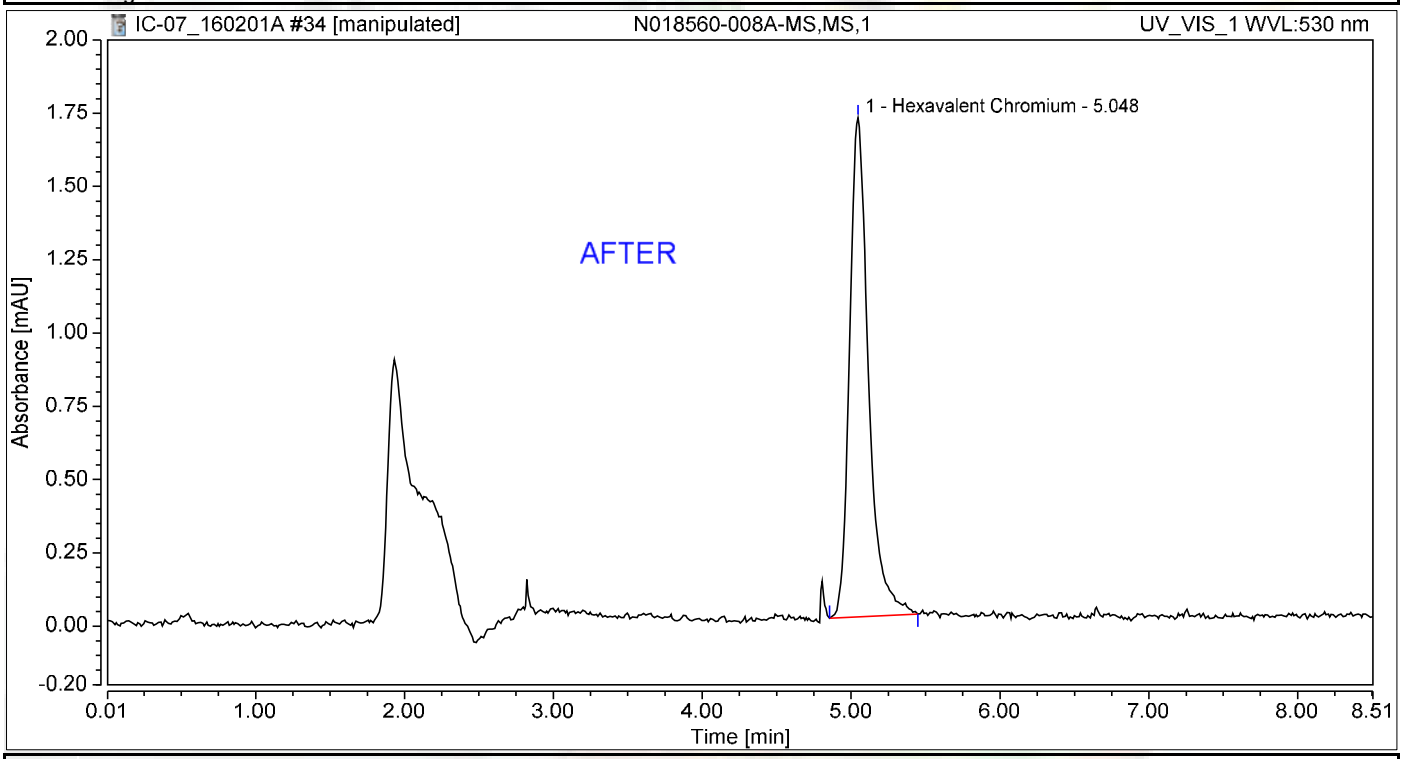
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.249	1.703	100.00	100.00	1.0327
Total:			**0.249**	**1.703**	**100.00**	**100.00**	

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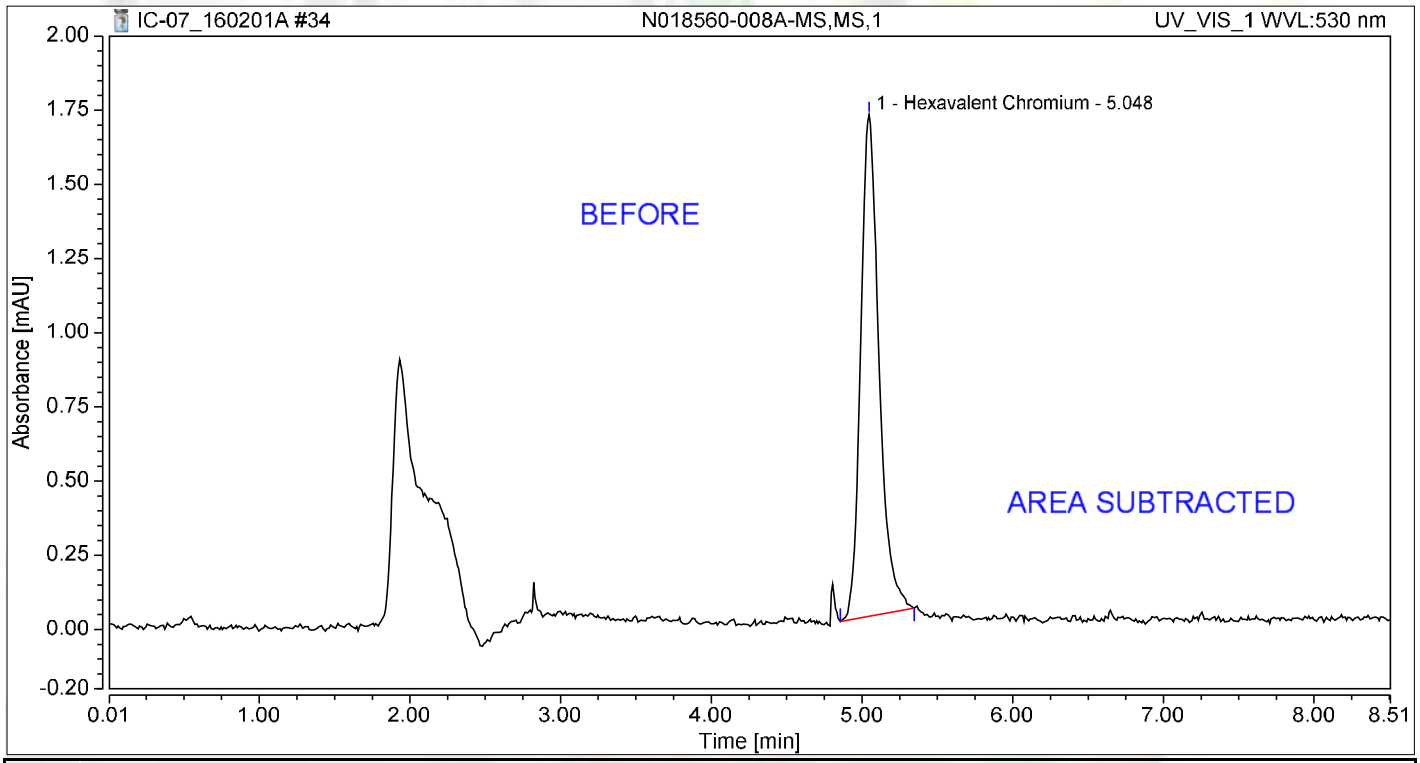
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.239	1.690	100.00	100.00	0.9917
Total:			**0.239**	**1.690**	**100.00**	**100.00**	

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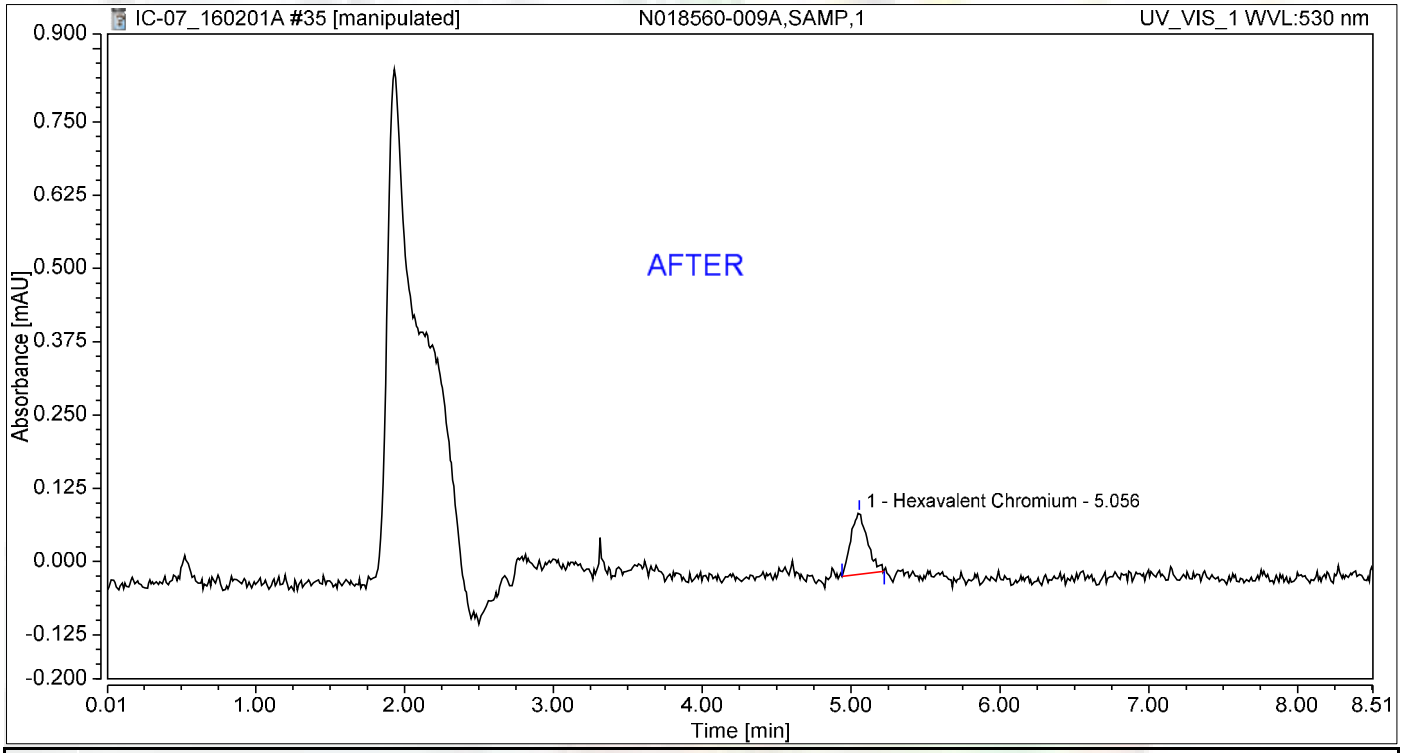
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.013	0.105	100.00	100.00	0.0556
Total:			**0.013**	**0.105**	**100.00**	**100.00**	

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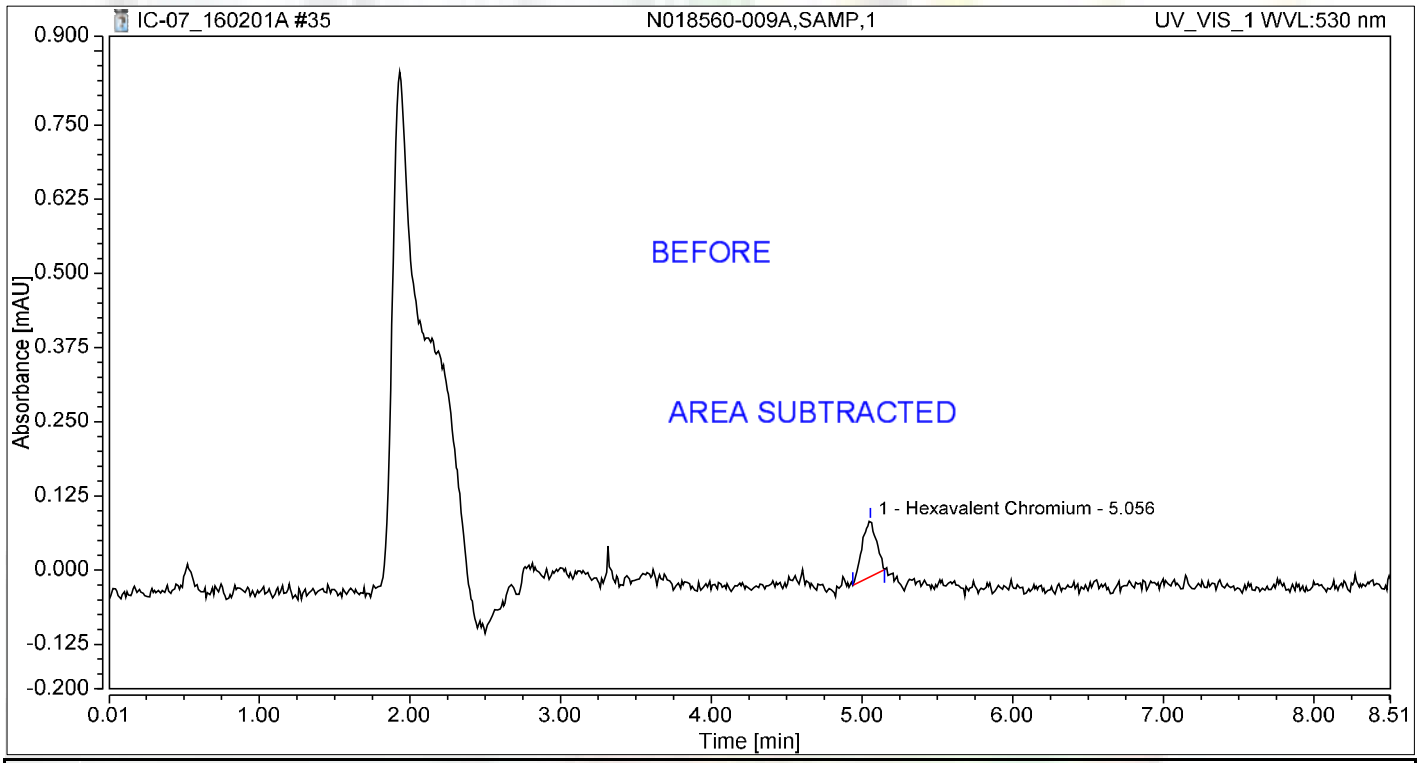
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.010	0.094	100.00	100.00	0.0435
Total:			**0.010**	**0.094**	**100.00**	**100.00**	

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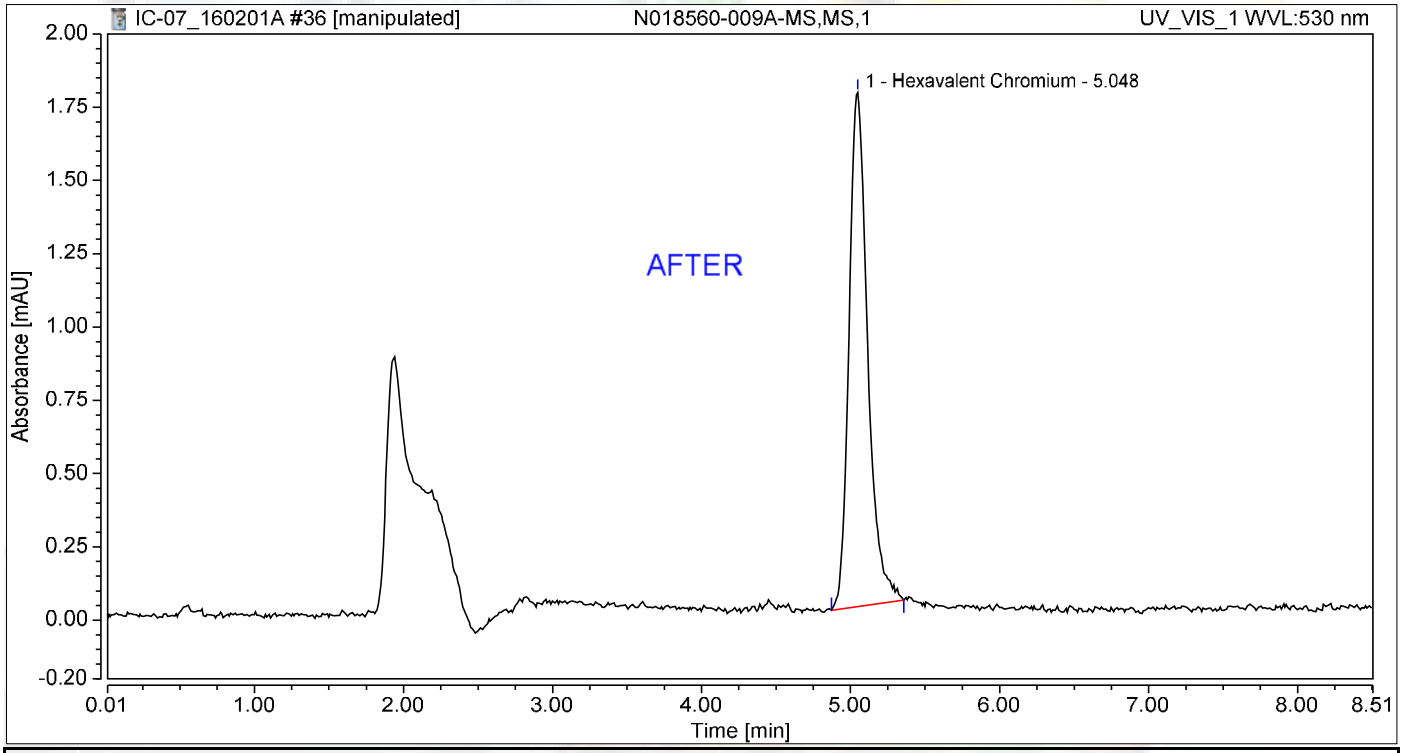
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.253	1.754	100.00	100.00	1.0480
Total:			**0.253**	**1.754**	**100.00**	**100.00**	

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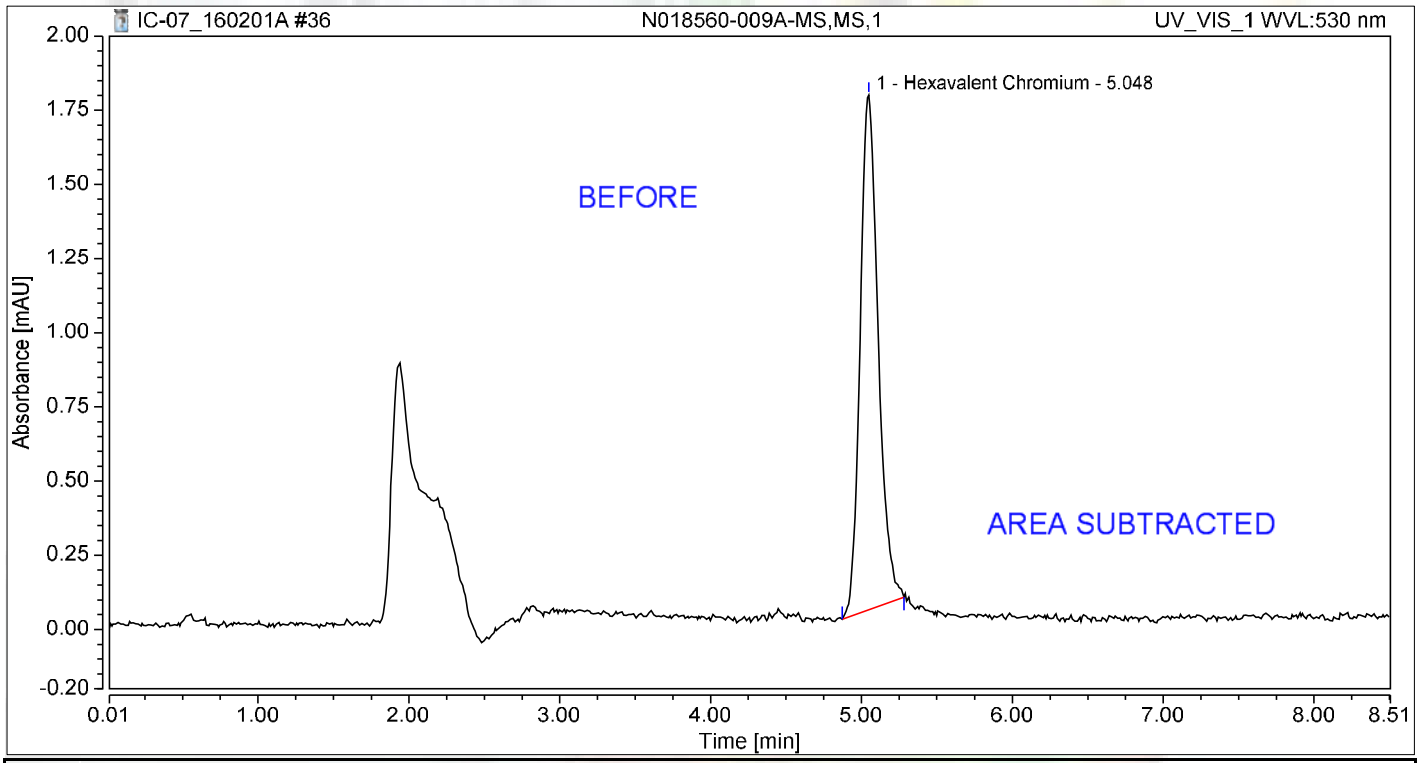
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.241	1.735	100.00	100.00	1.0003
Total:			**0.241**	**1.735**	**100.00**	**100.00**	

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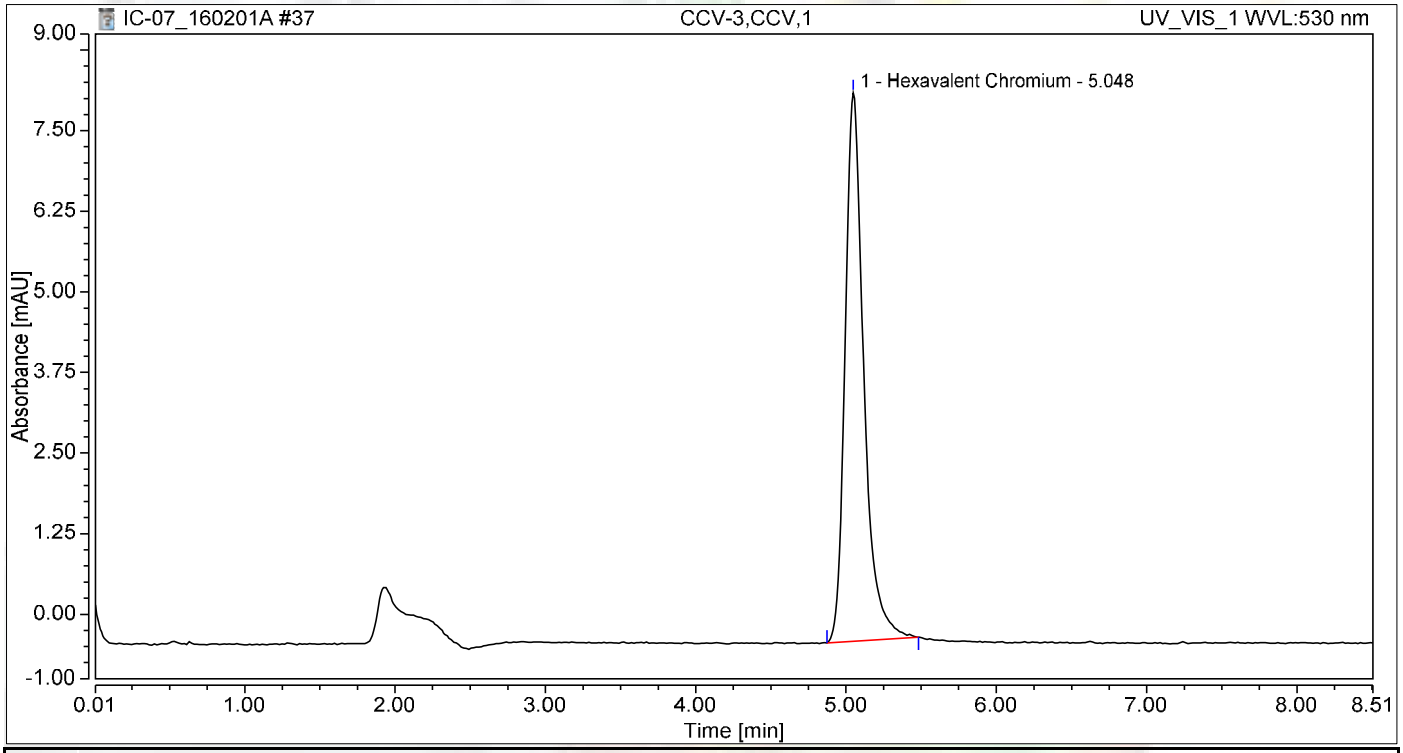
Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

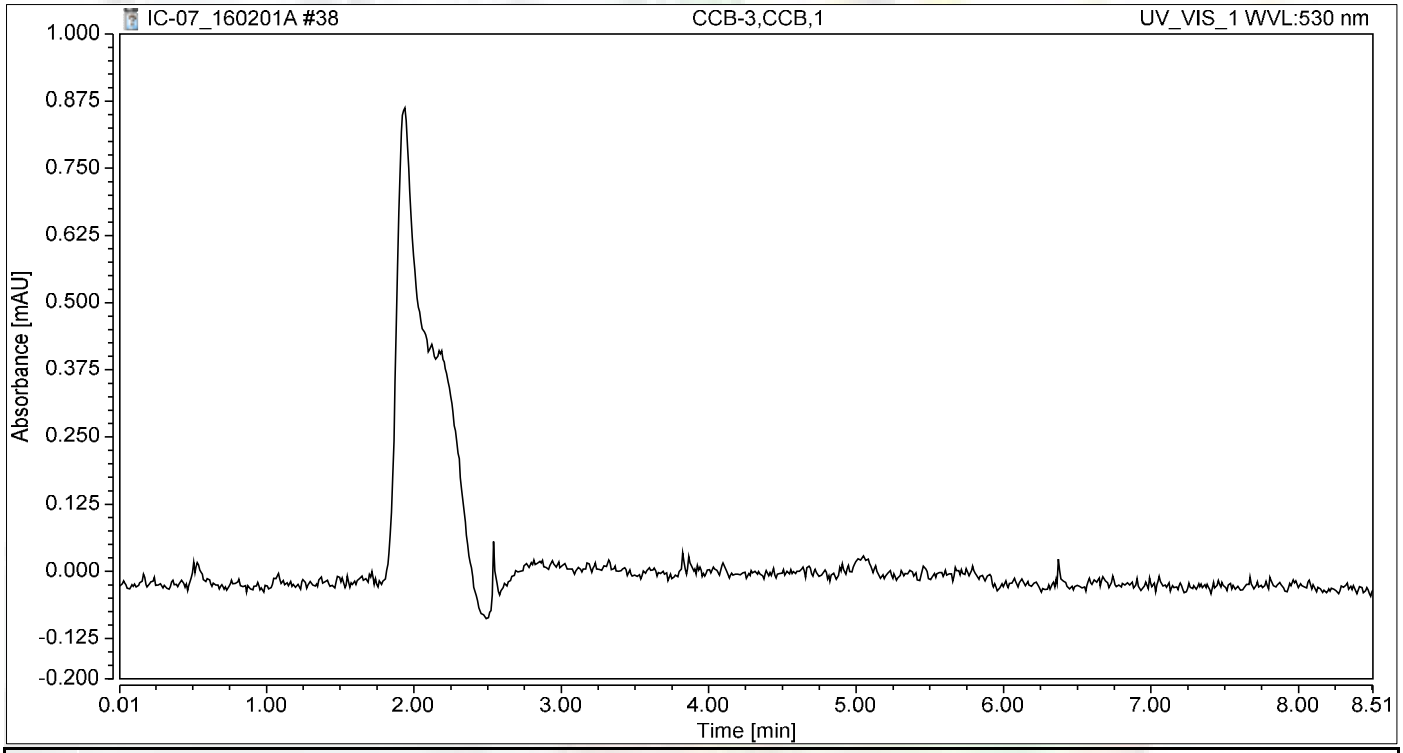
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.218	8.507	100.00	100.00	5.0517
Total:			**1.218**	**8.507**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

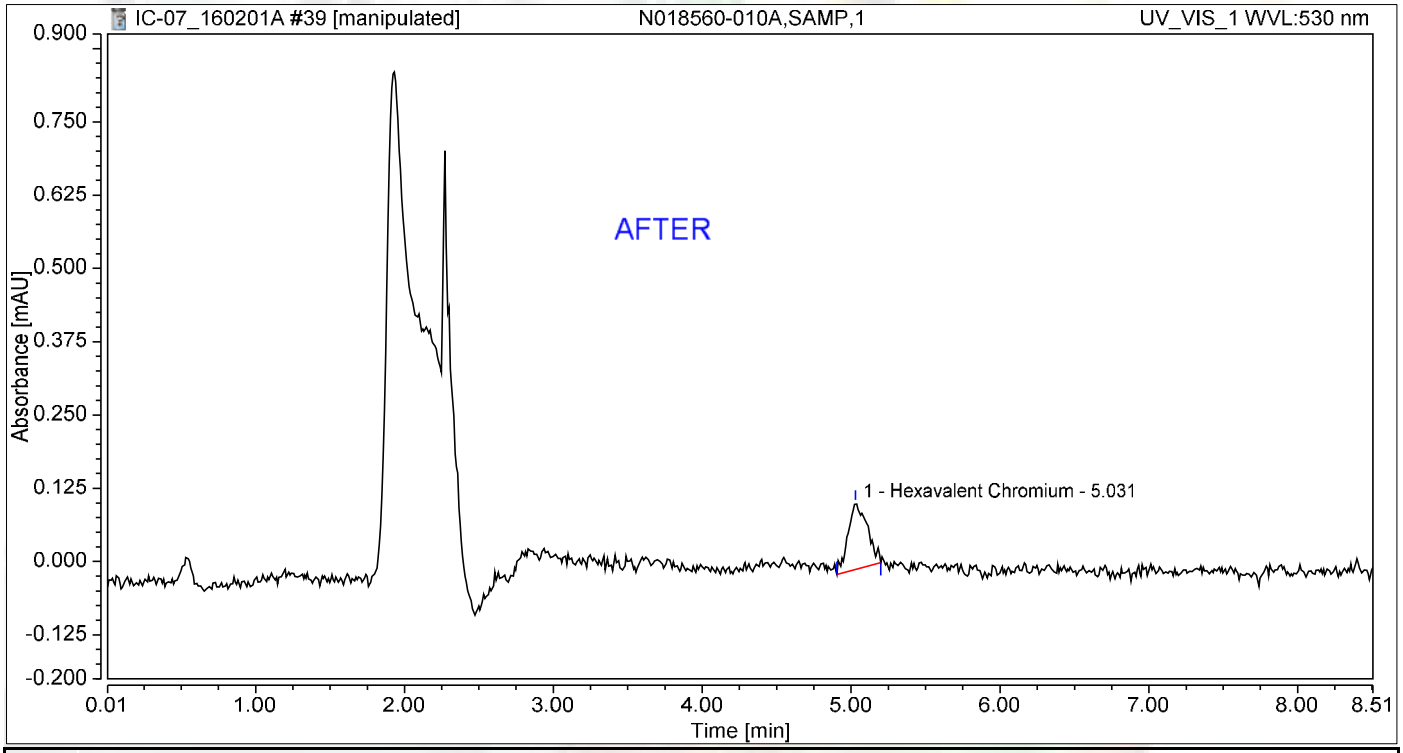
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.017	0.114	100.00	100.00	0.0699
Total:			**0.017**	**0.114**	**100.00**	**100.00**	

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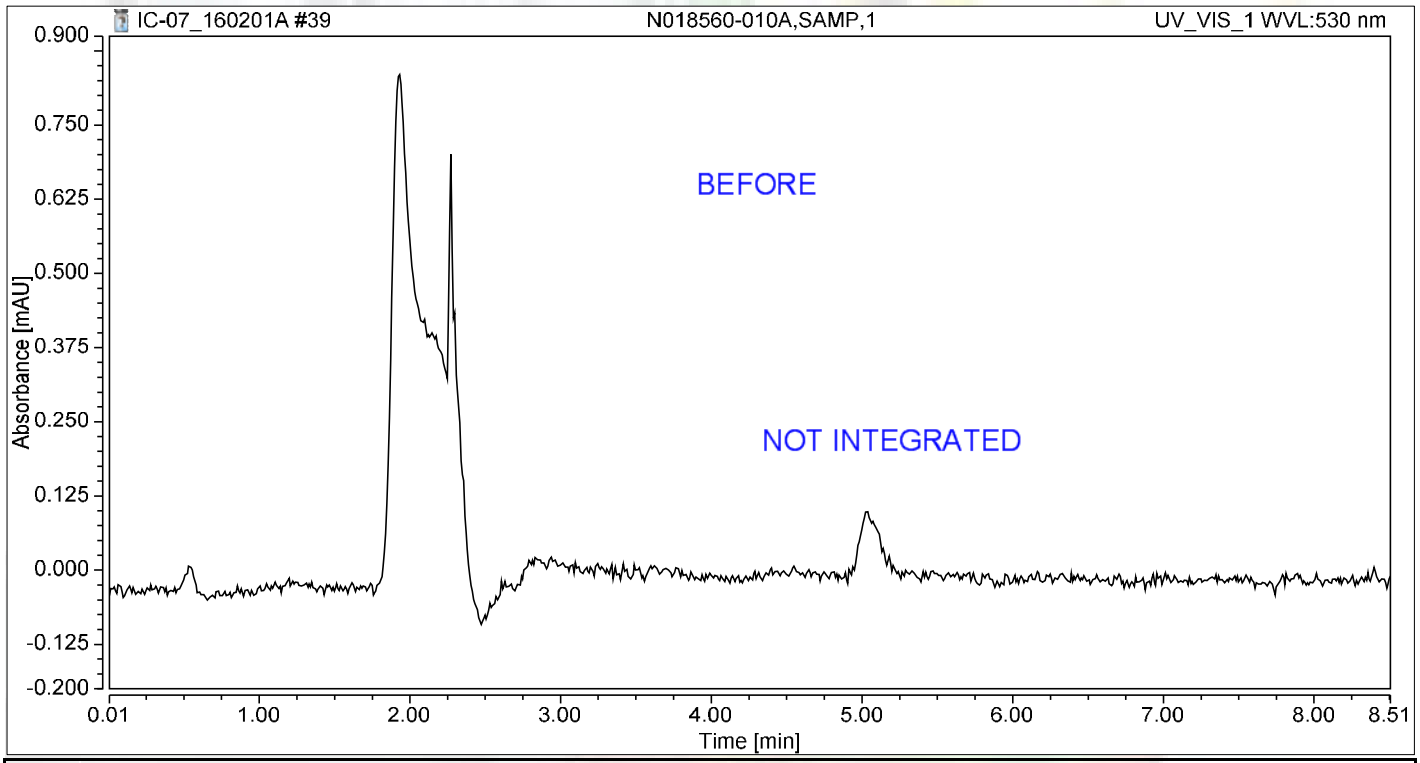
Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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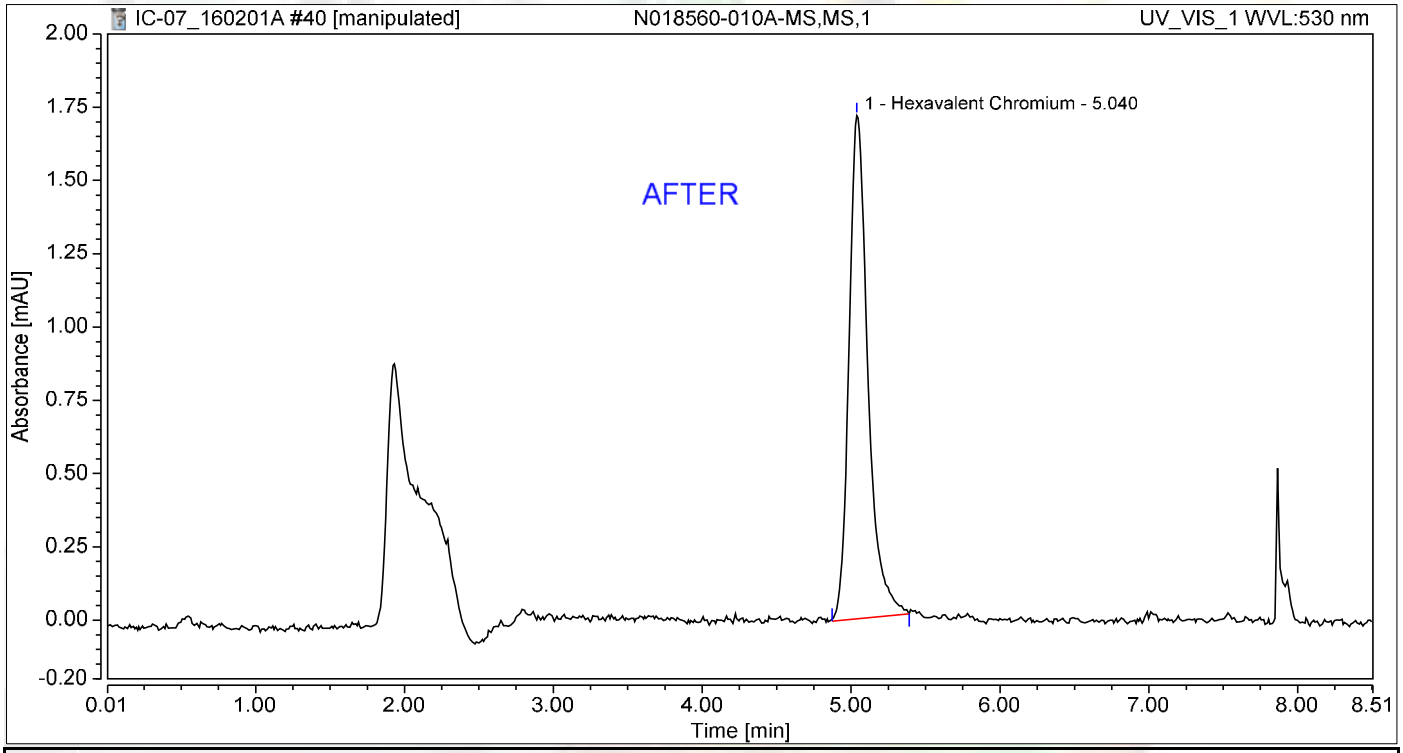
Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.251	1.717	100.00	100.00	1.0395
Total:			**0.251**	**1.717**	**100.00**	**100.00**	

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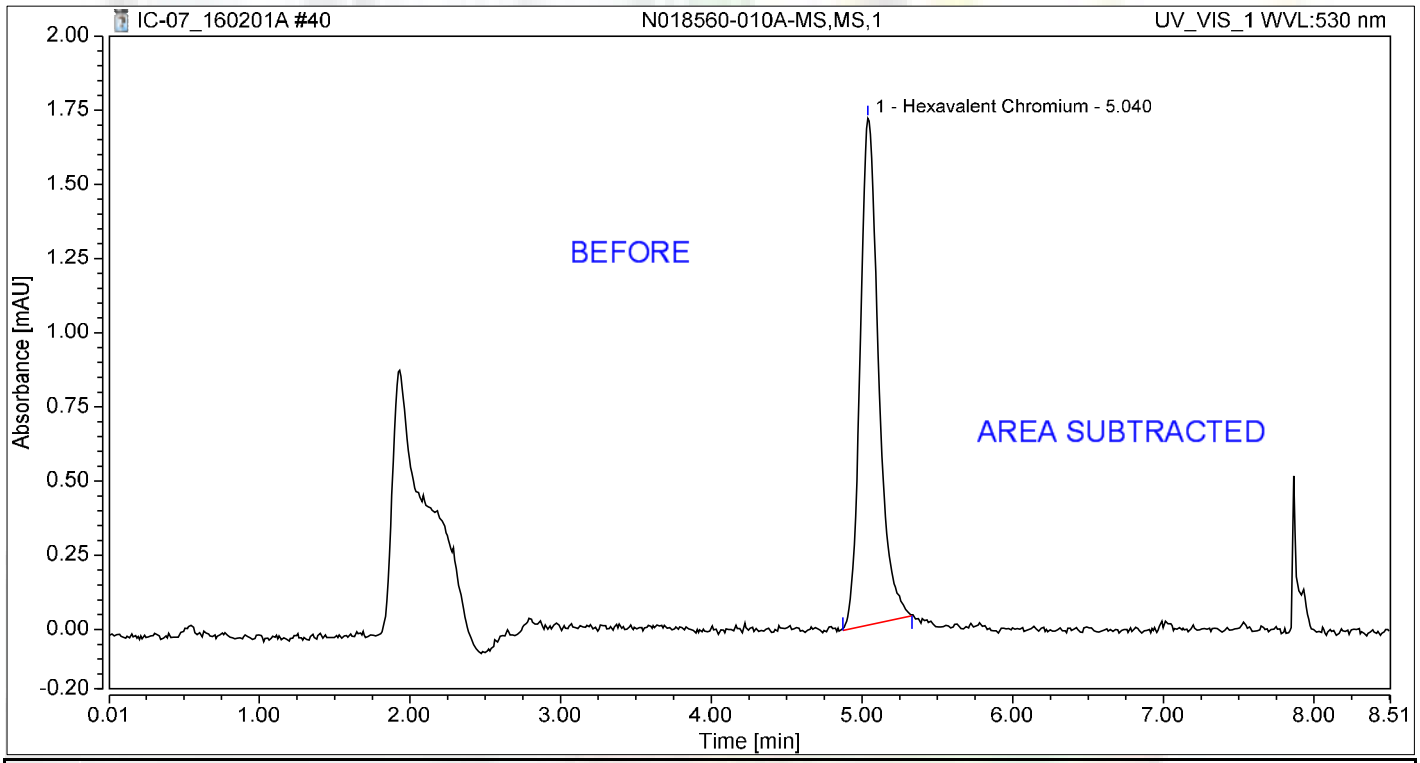
Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.243	1.707	100.00	100.00	1.0097
Total:			**0.243**	**1.707**	**100.00**	**100.00**	

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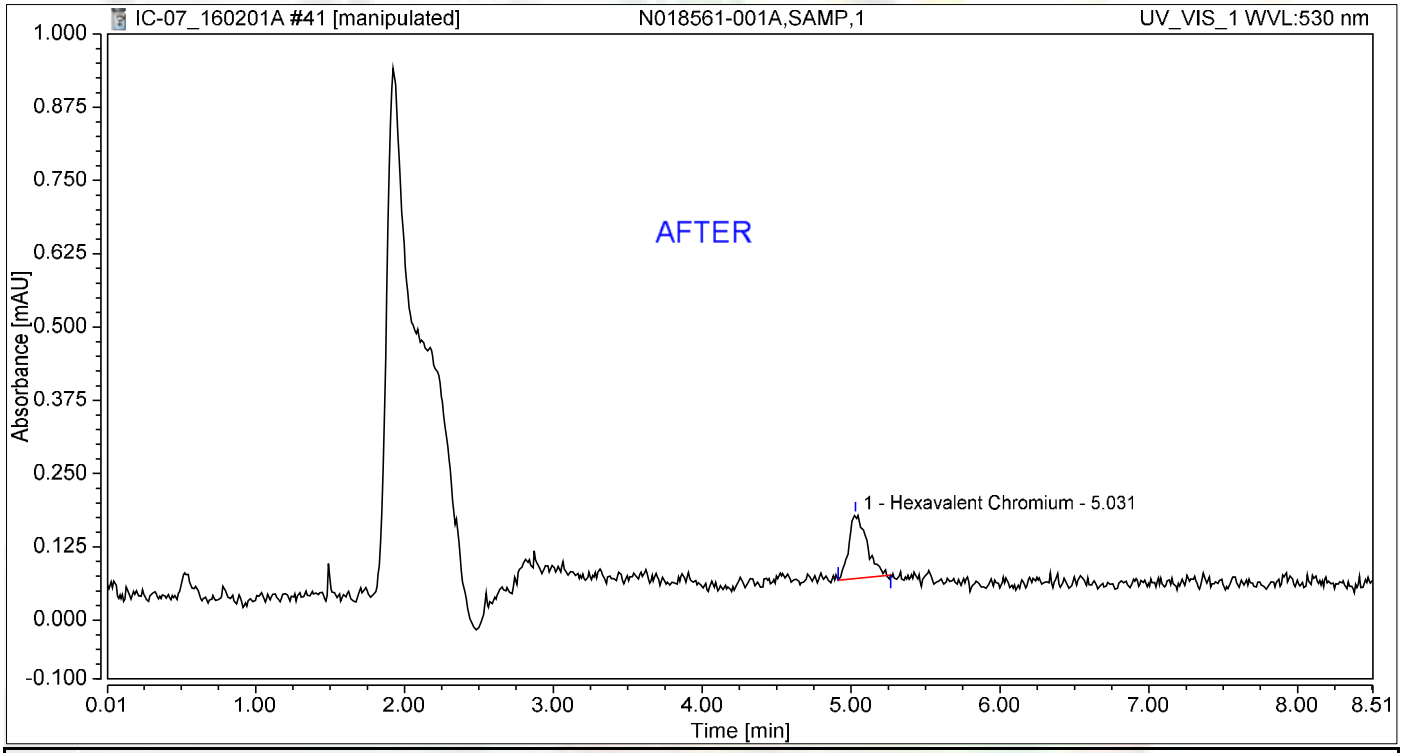
Chromatogram and Results

Injection Details

Injection Name:	**N018561-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.015	0.109	100.00	100.00	0.0630
Total:			**0.015**	**0.109**	**100.00**	**100.00**	

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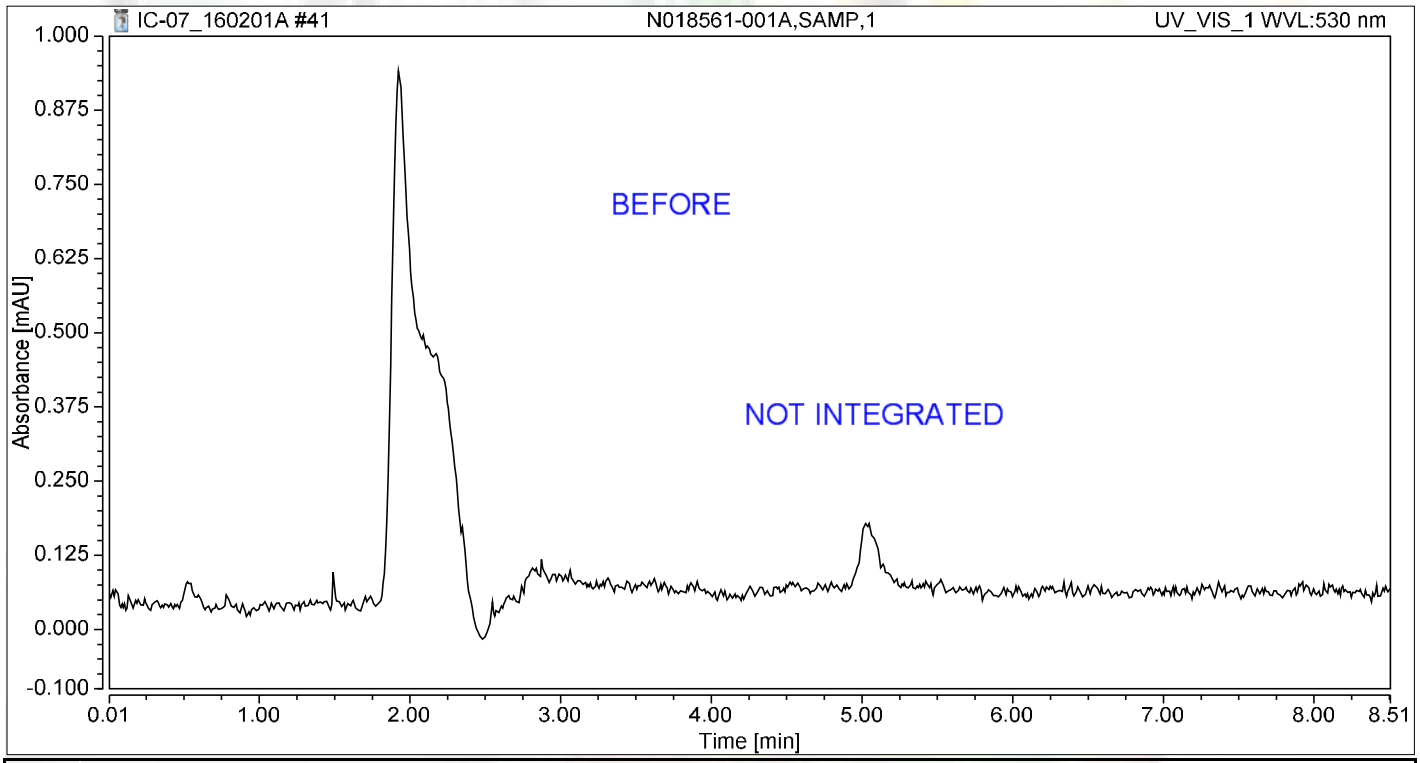
Chromatogram and Results

Injection Details

Injection Name:	**N018561-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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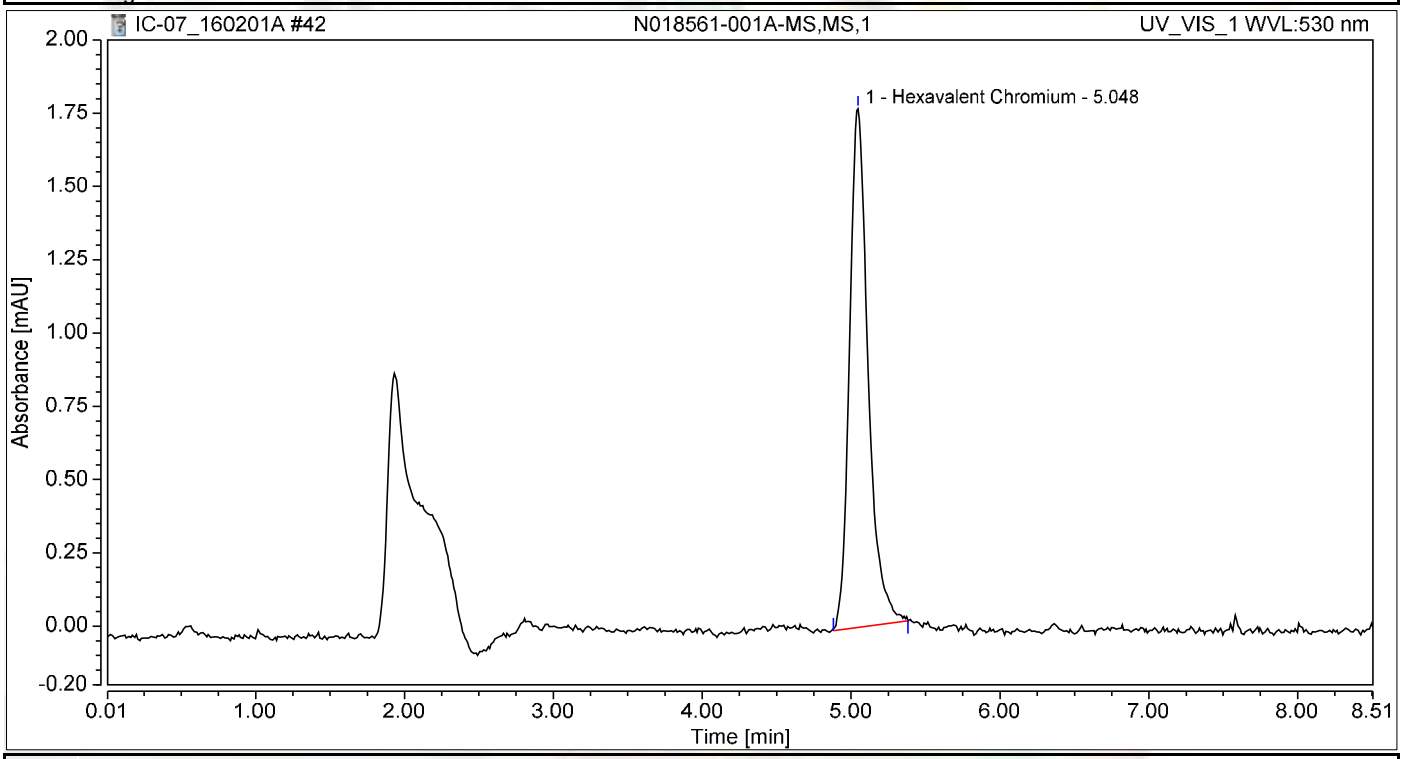
Chromatogram and Results

Injection Details

Injection Name:	**N018561-001A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

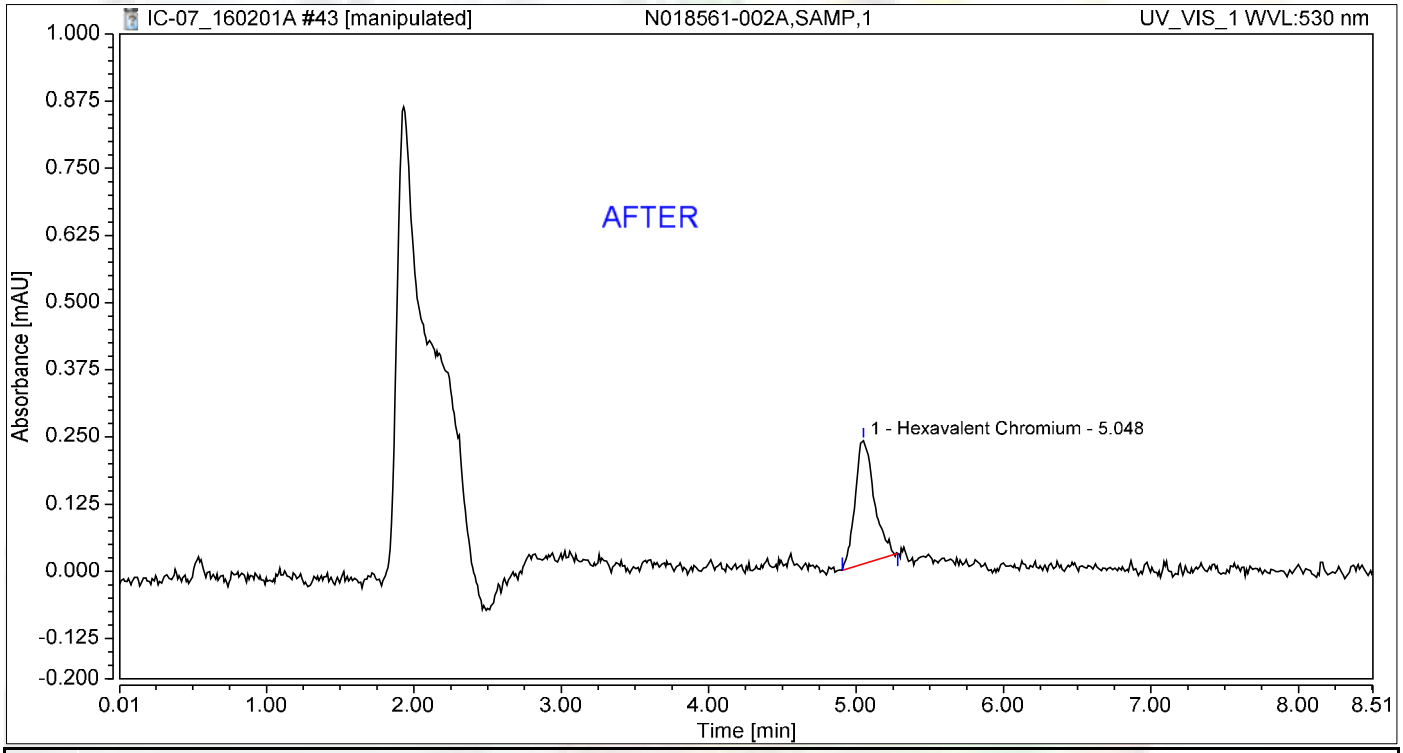
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.255	1.770	100.00	100.00	1.0557
Total:			**0.255**	**1.770**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.034	0.230	100.00	100.00	0.1426
Total:			**0.034**	**0.230**	**100.00**	**100.00**	

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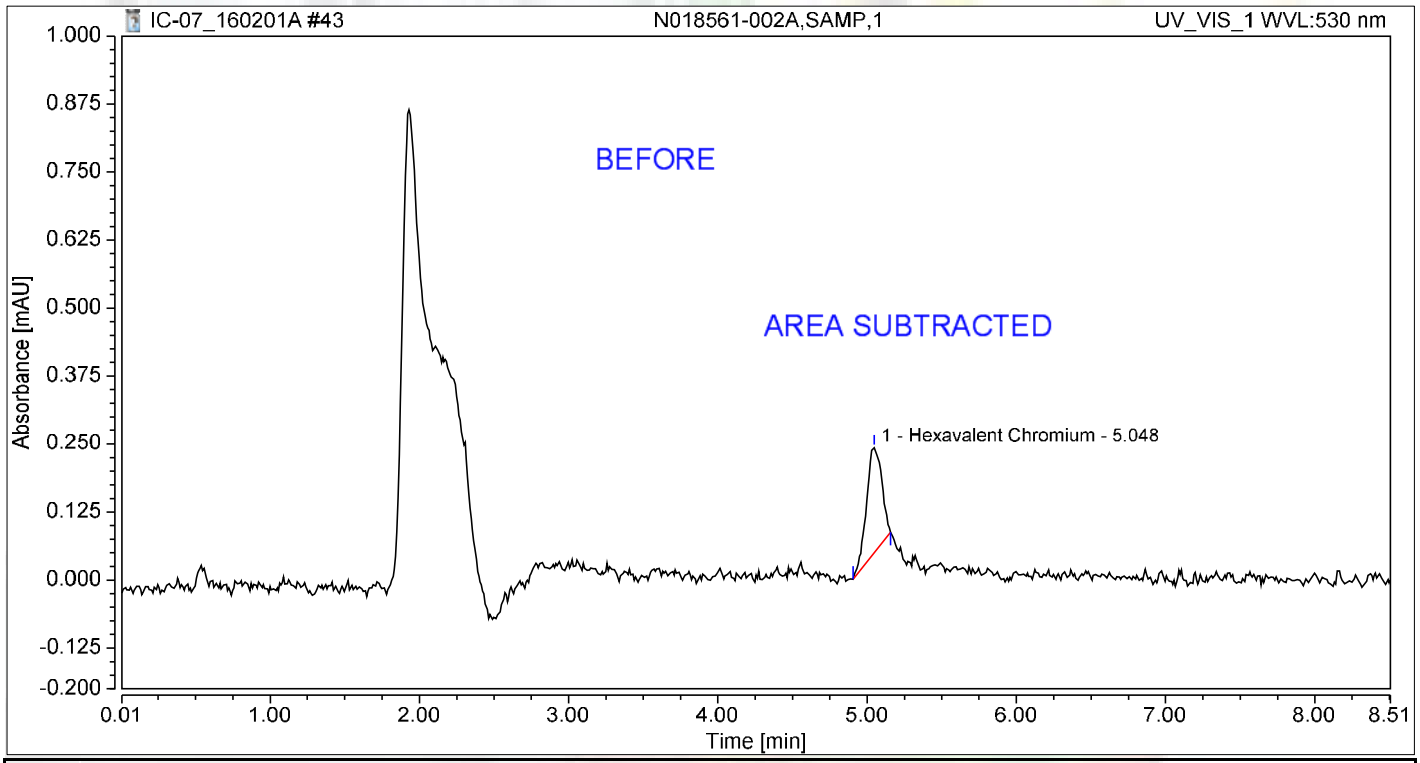
Chromatogram and Results

Injection Details

Injection Name:	**N018561-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.023	0.193	100.00	100.00	0.0952
Total:			**0.023**	**0.193**	**100.00**	**100.00**	

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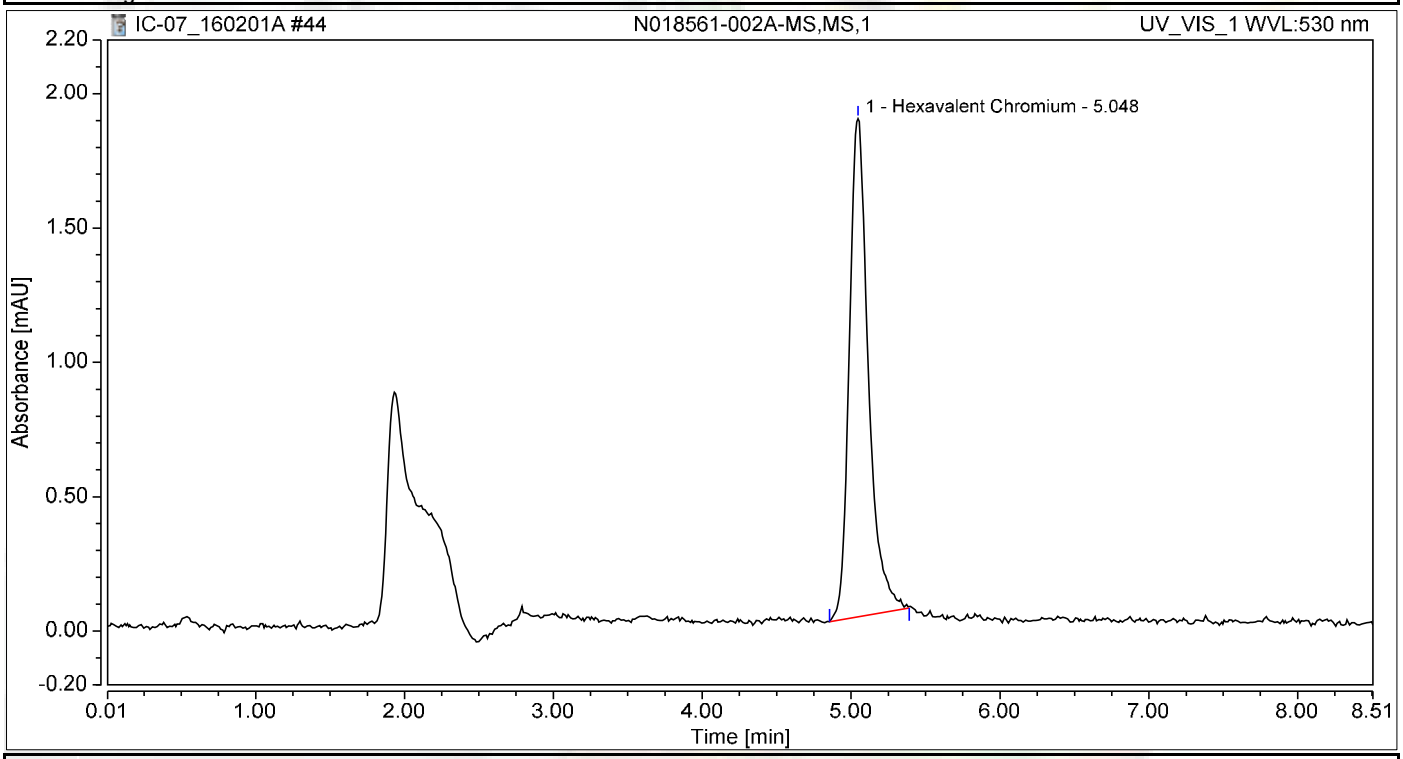
Chromatogram and Results

Injection Details

Injection Name:	**N018561-002A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

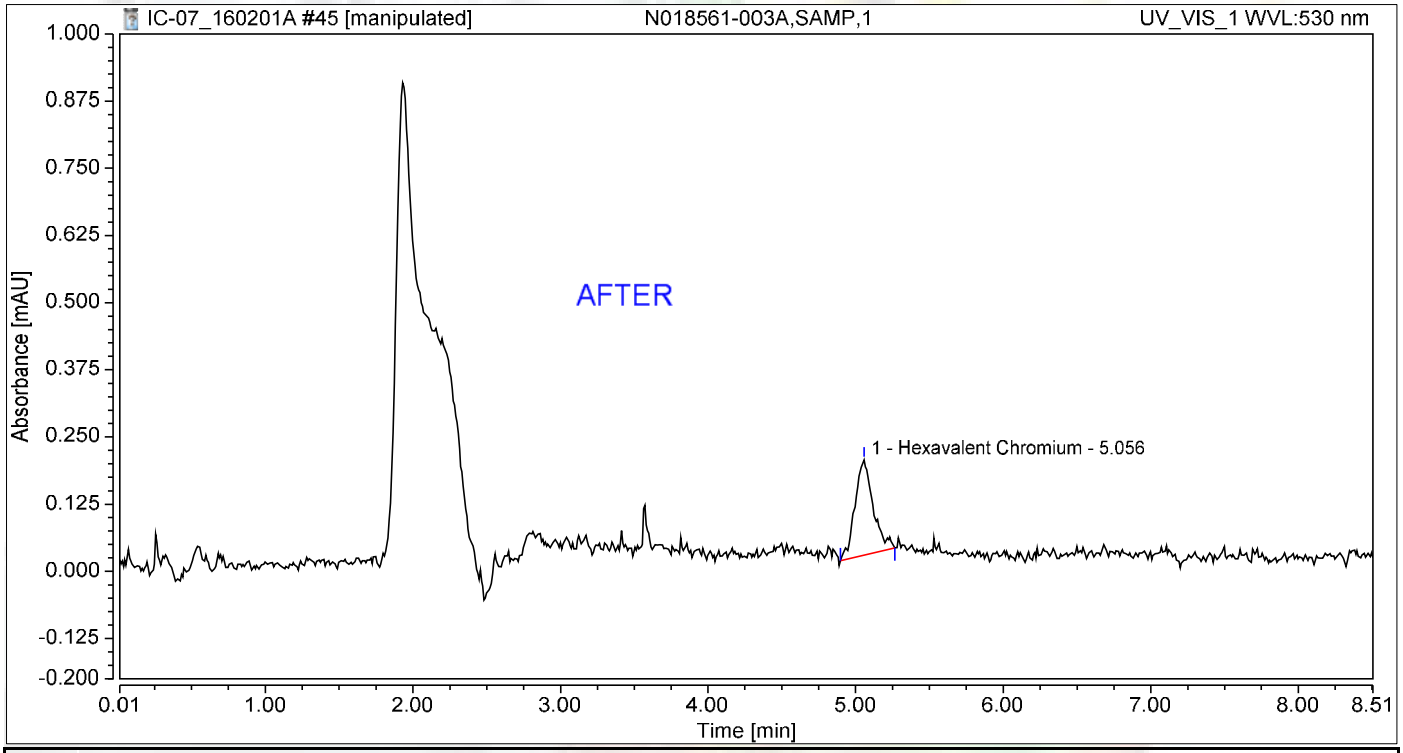
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.273	1.855	100.00	100.00	1.1326
Total:			**0.273**	**1.855**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.025	0.178	100.00	100.00	0.1041
Total:			**0.025**	**0.178**	**100.00**	**100.00**	

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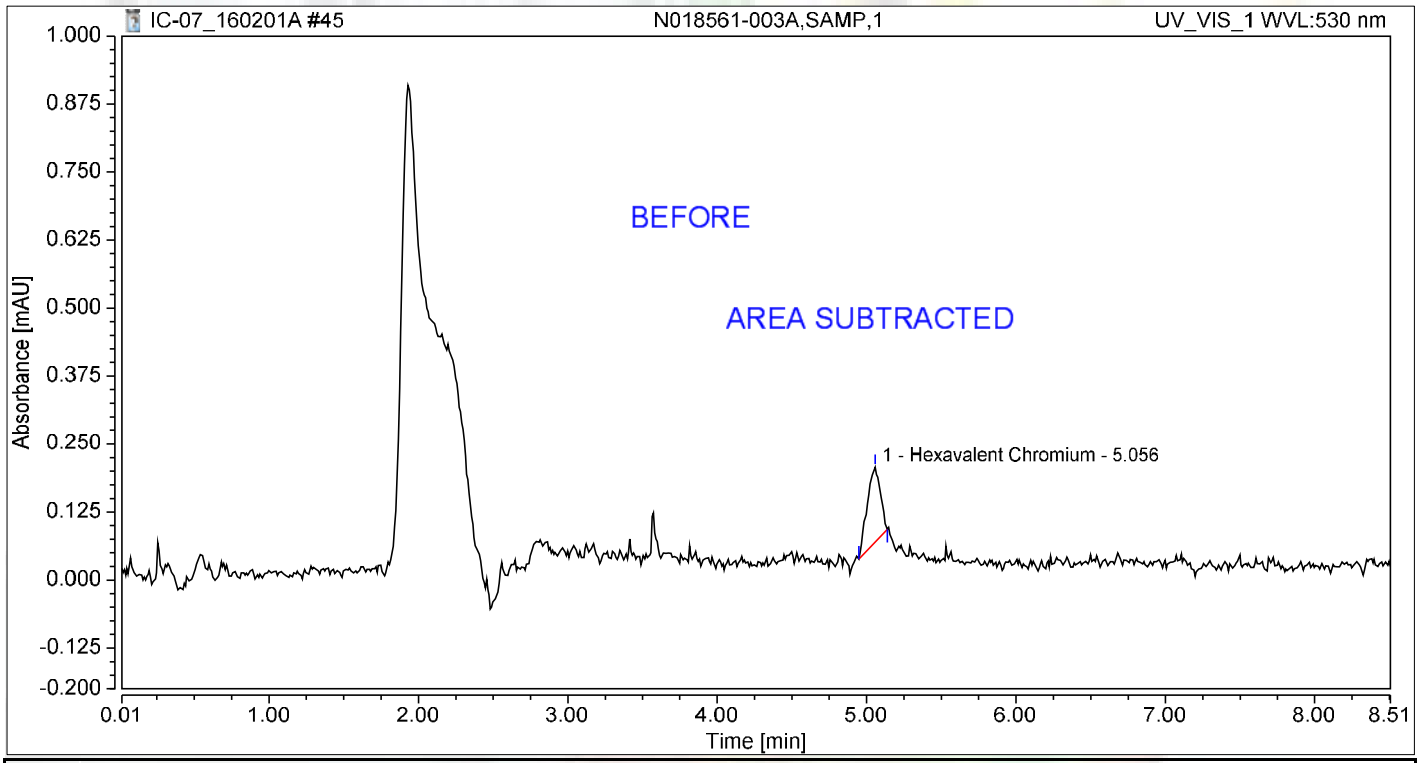
Chromatogram and Results

Injection Details

Injection Name:	**N018561-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.014	0.138	100.00	100.00	0.0584
Total:			**0.014**	**0.138**	**100.00**	**100.00**	

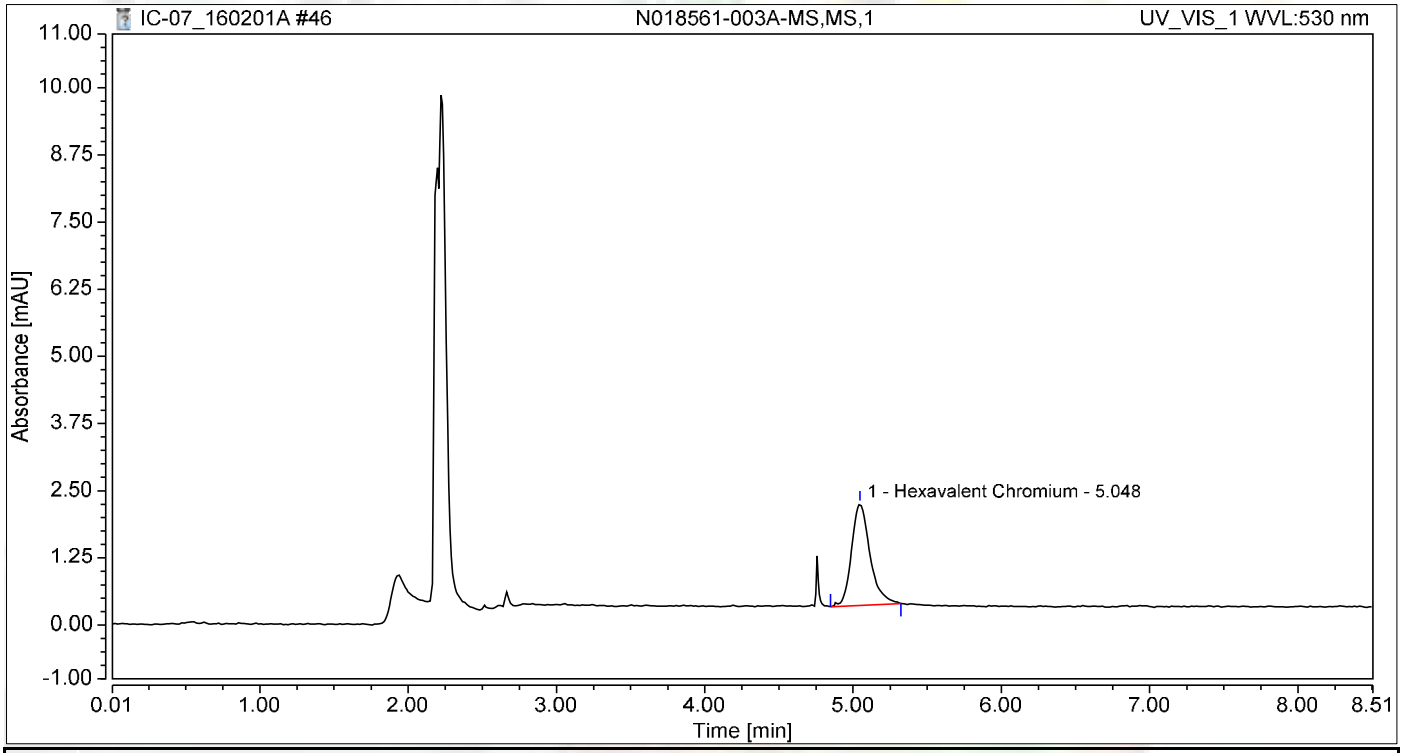
Reb 2/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018561-003A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

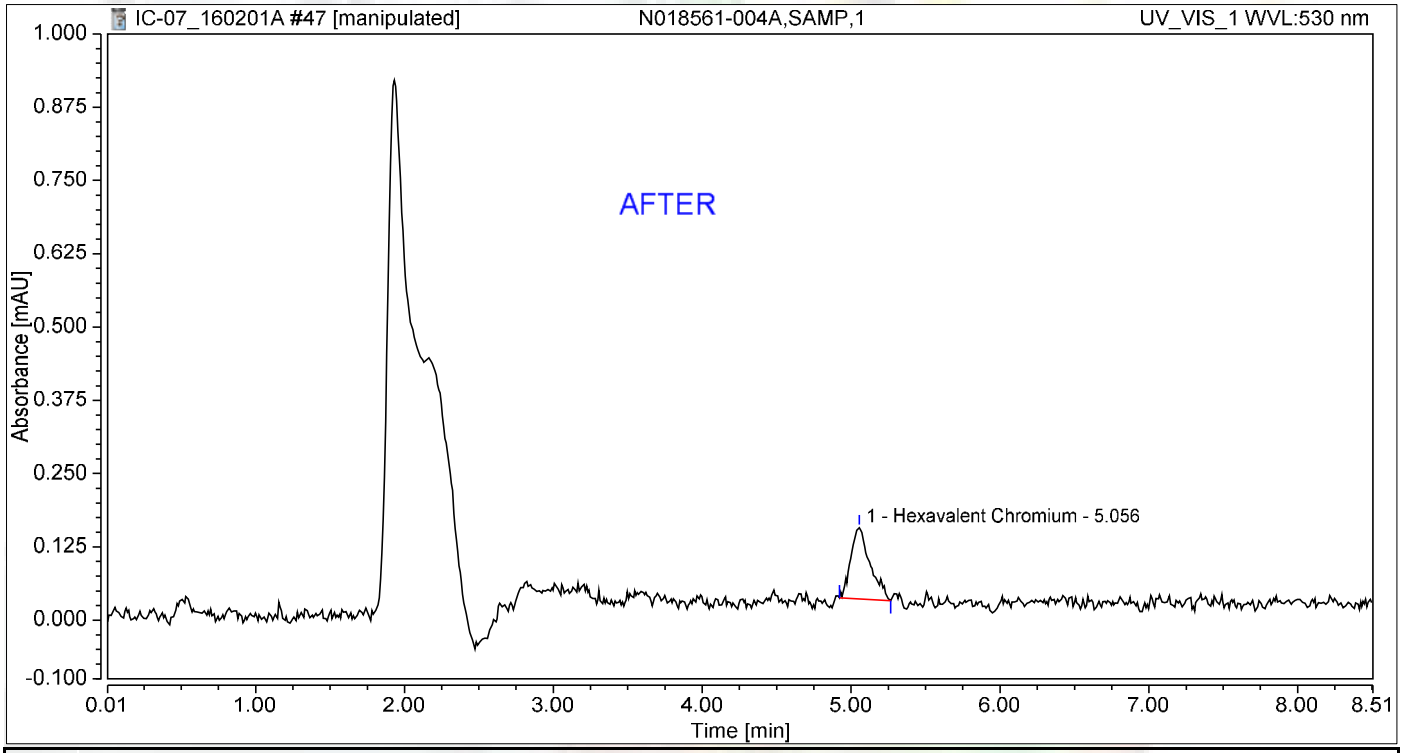
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.270	1.890	100.00	100.00	1.1190
Total:			**0.270**	**1.890**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.018	0.121	100.00	100.00	0.0746
Total:			**0.018**	**0.121**	**100.00**	**100.00**	

Nancy 2/11/201

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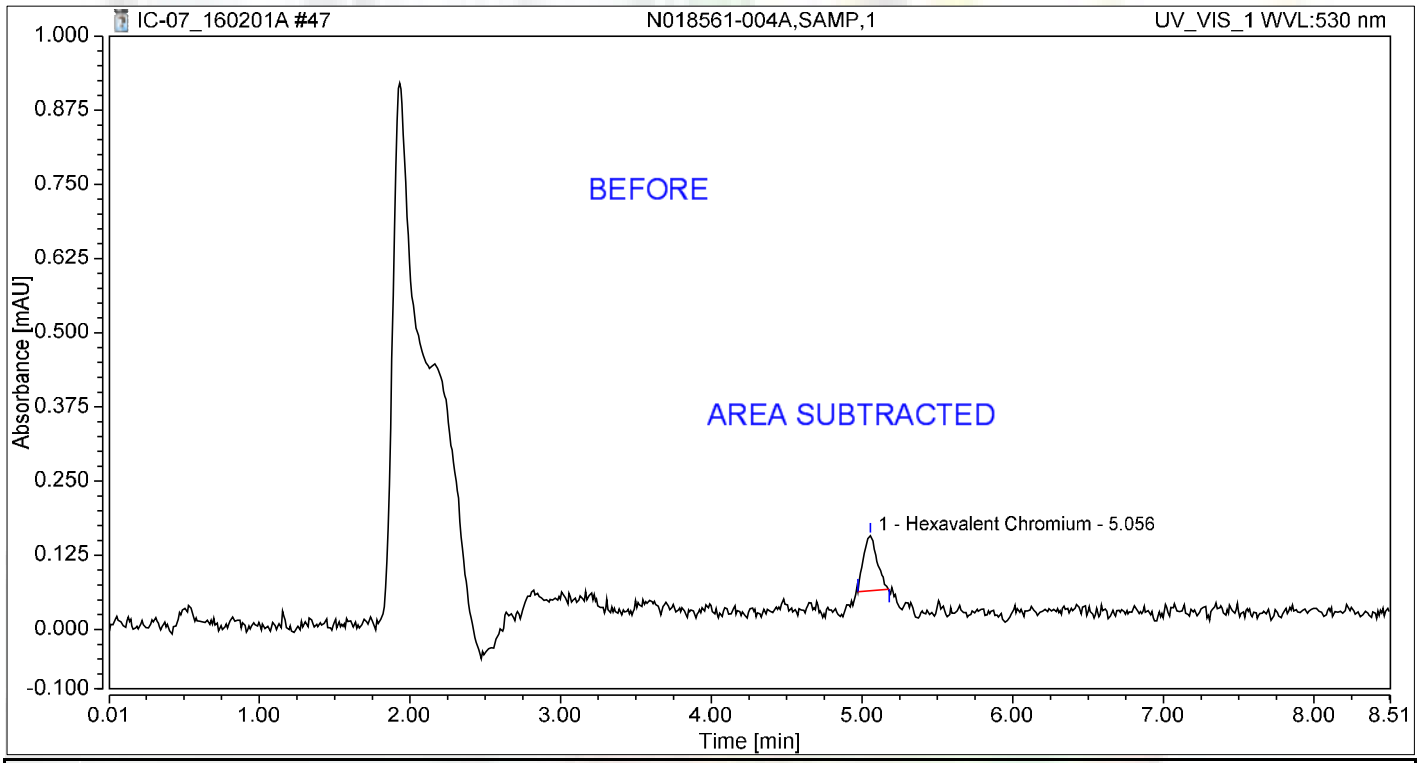
Chromatogram and Results

Injection Details

Injection Name:	**N018561-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.010	0.092	100.00	100.00	0.0400
Total:			**0.010**	**0.092**	**100.00**	**100.00**	

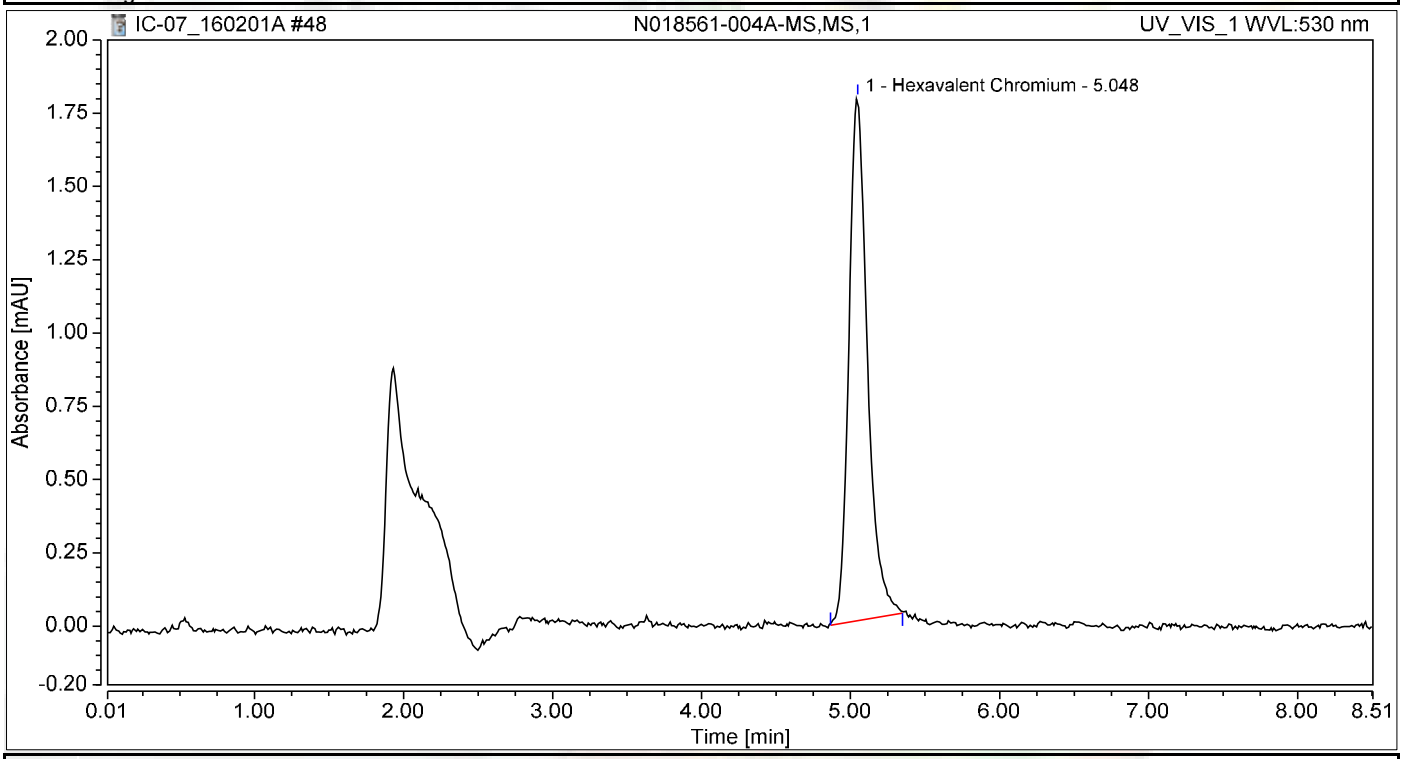
Reb 2/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018561-004A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

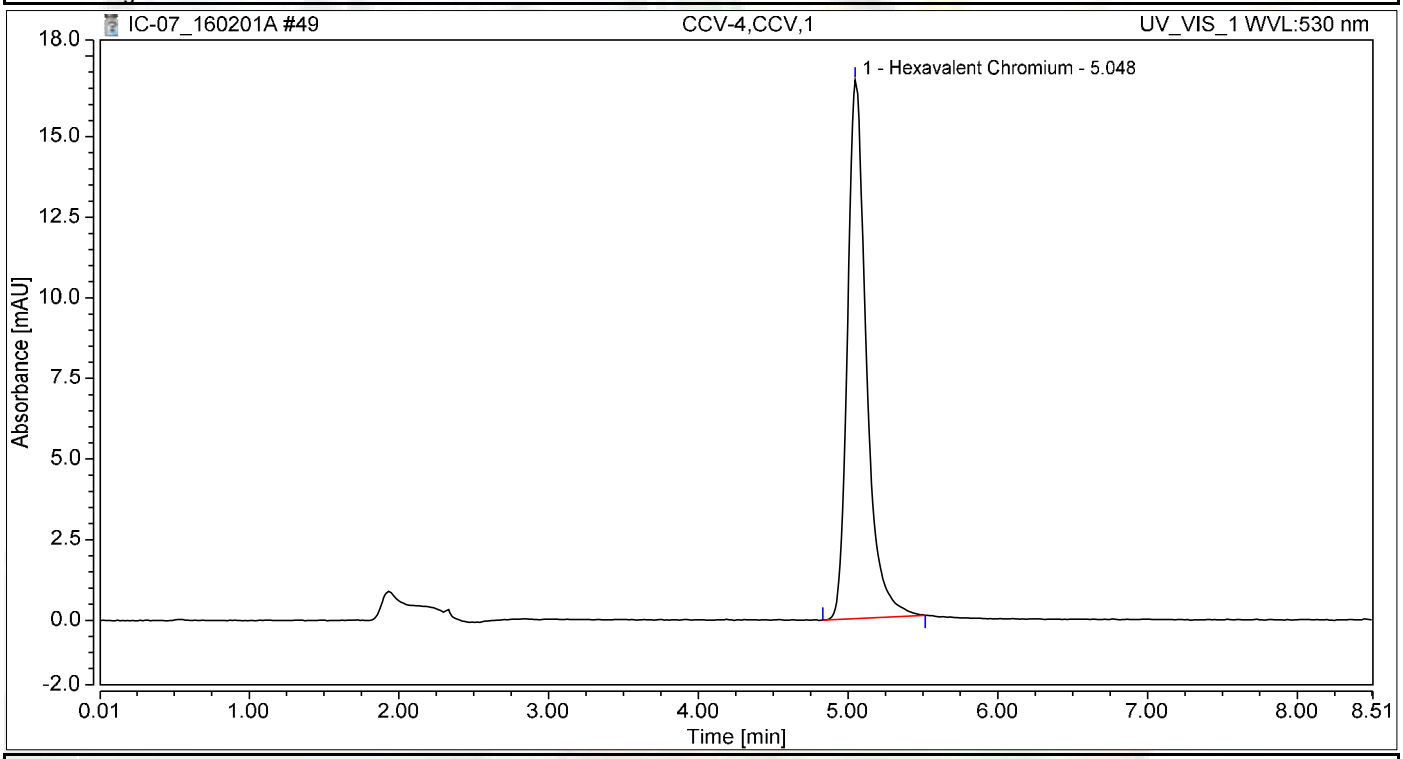
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.256	1.785	100.00	100.00	1.0604
Total:			**0.256**	**1.785**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

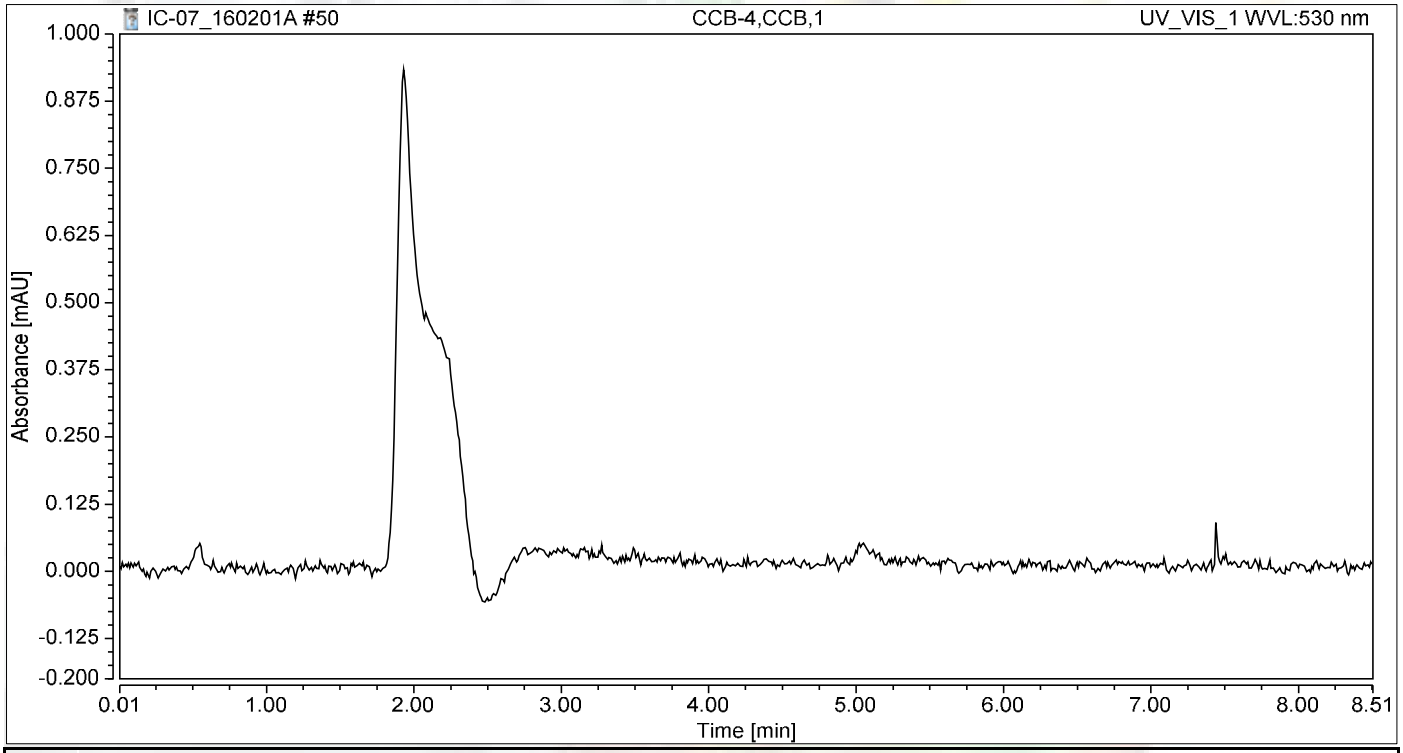
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	2.424	16.704	100.00	100.00	10.0521
Total:			**2.424**	**16.704**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

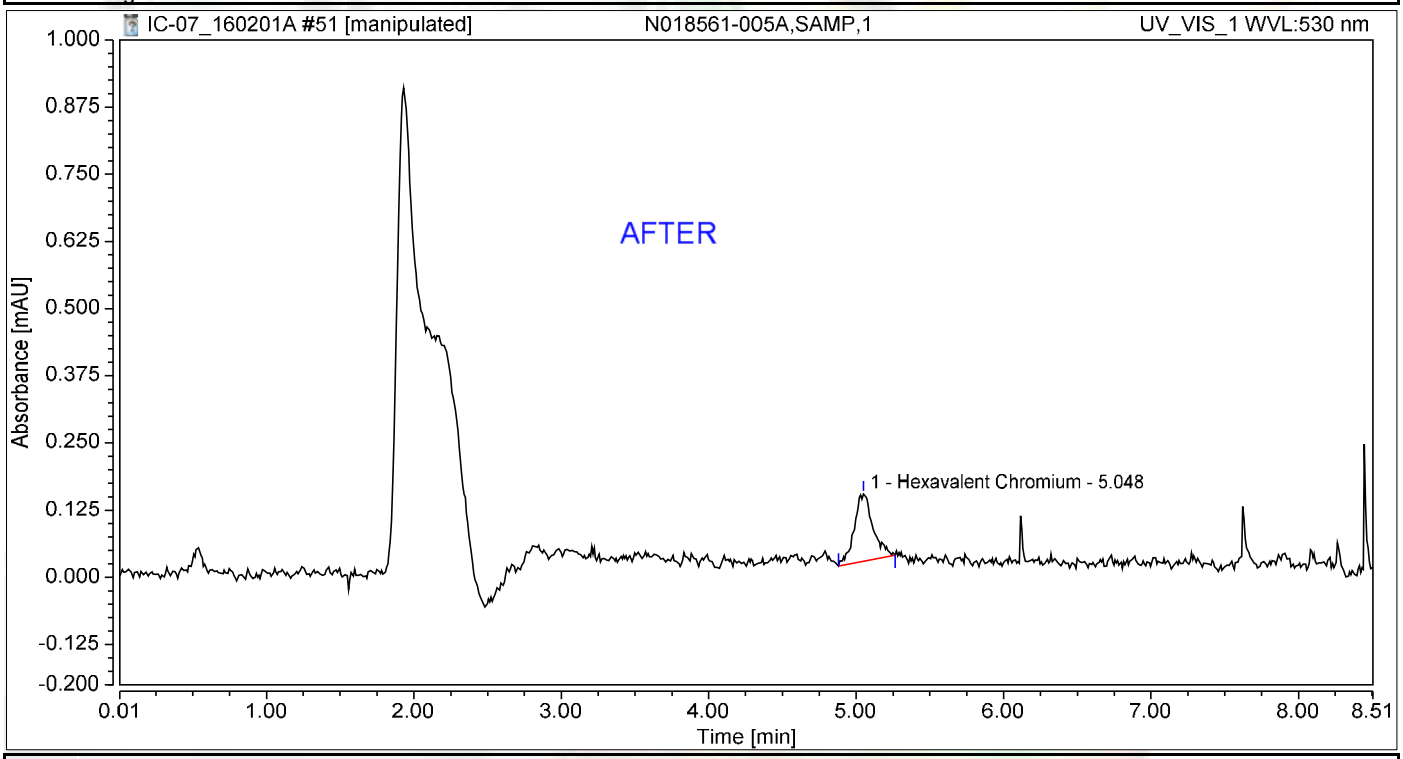
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.018	0.125	100.00	100.00	0.0760
Total:			**0.018**	**0.125**	**100.00**	**100.00**	

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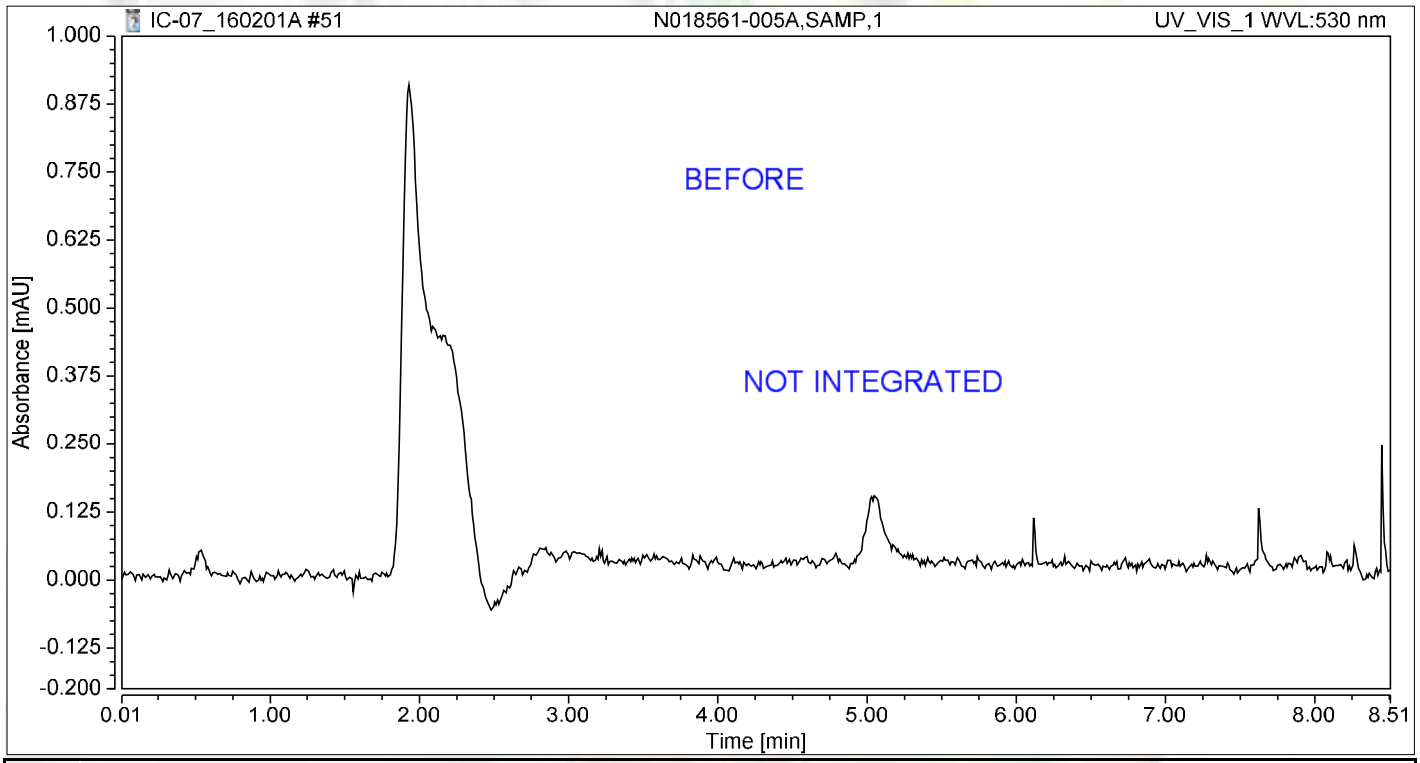
Chromatogram and Results

Injection Details

Injection Name:	**N018561-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

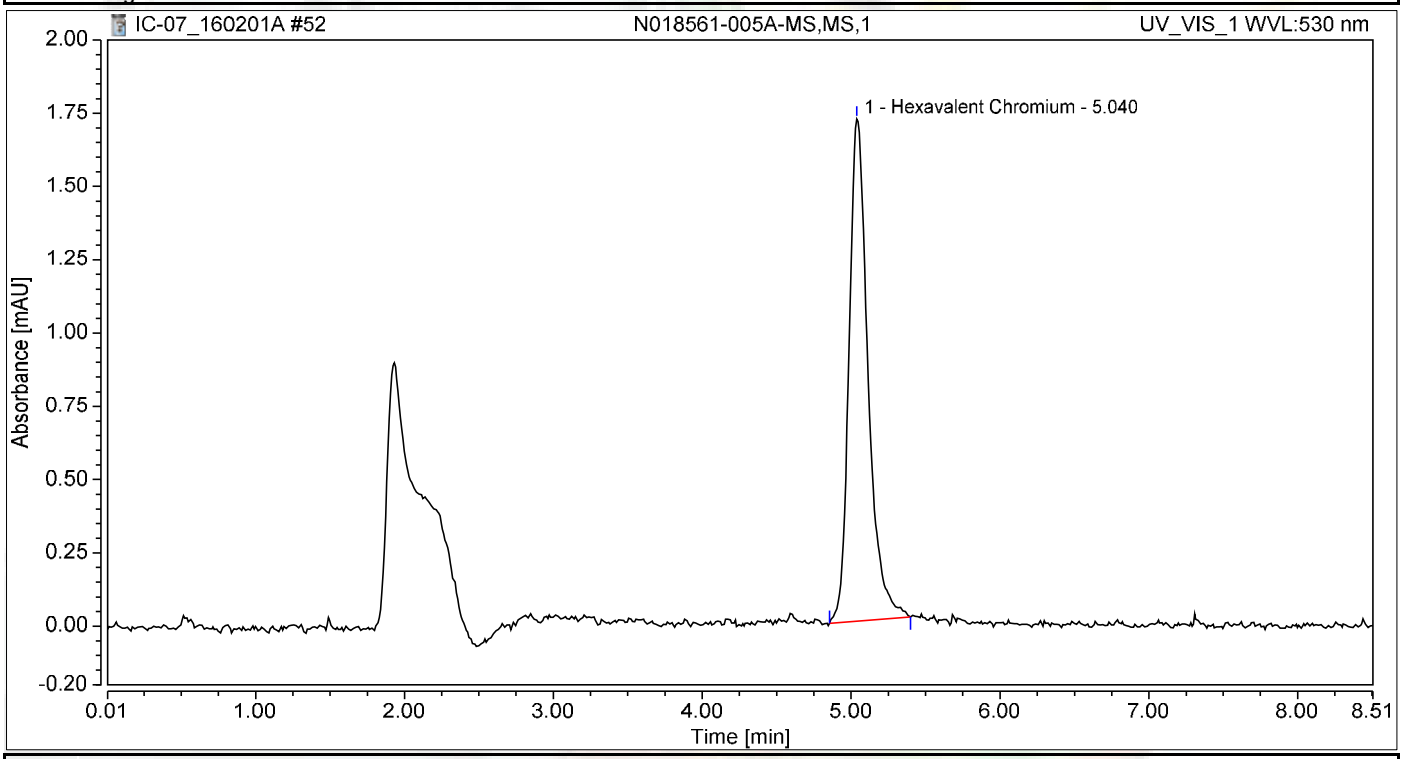
Reb 2/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018561-005A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

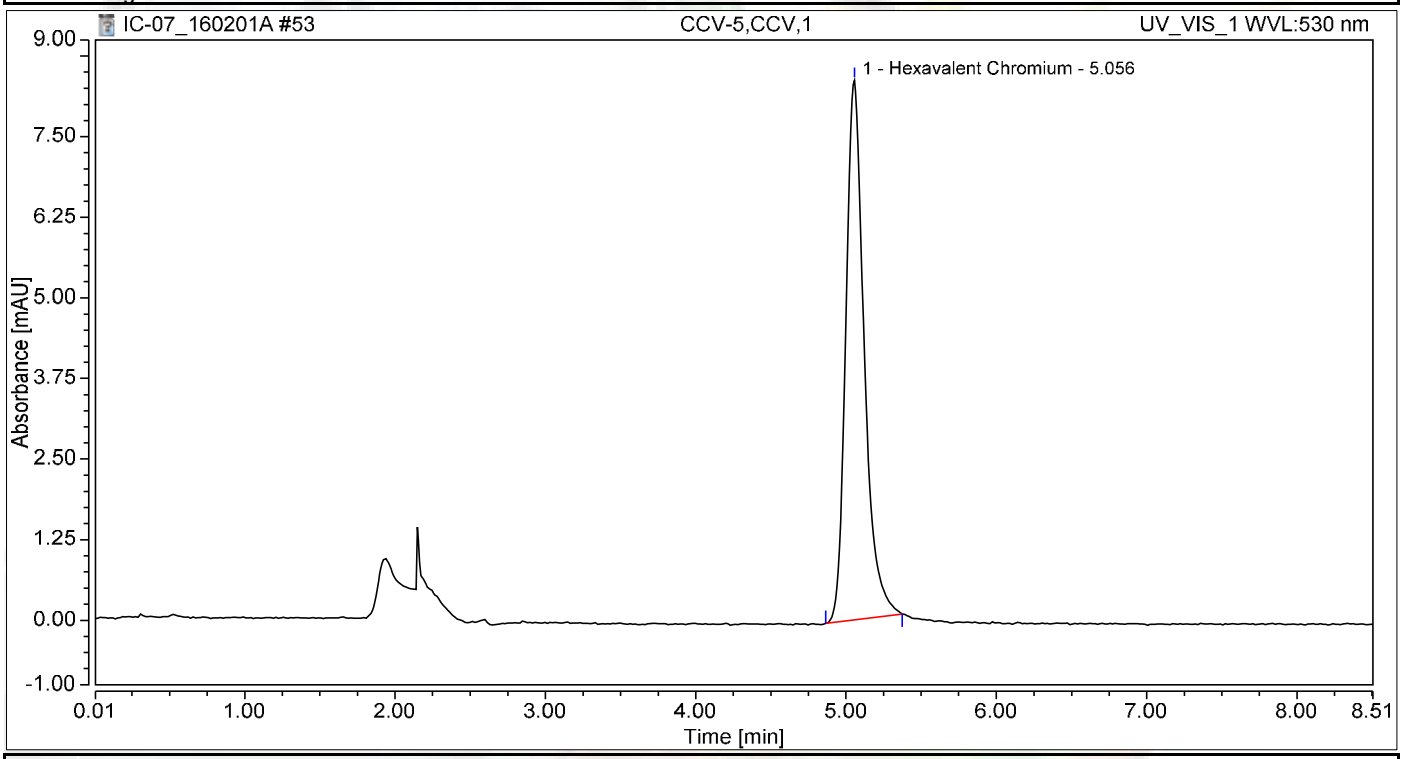
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.714	100.00	100.00	1.0446
Total:			**0.252**	**1.714**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

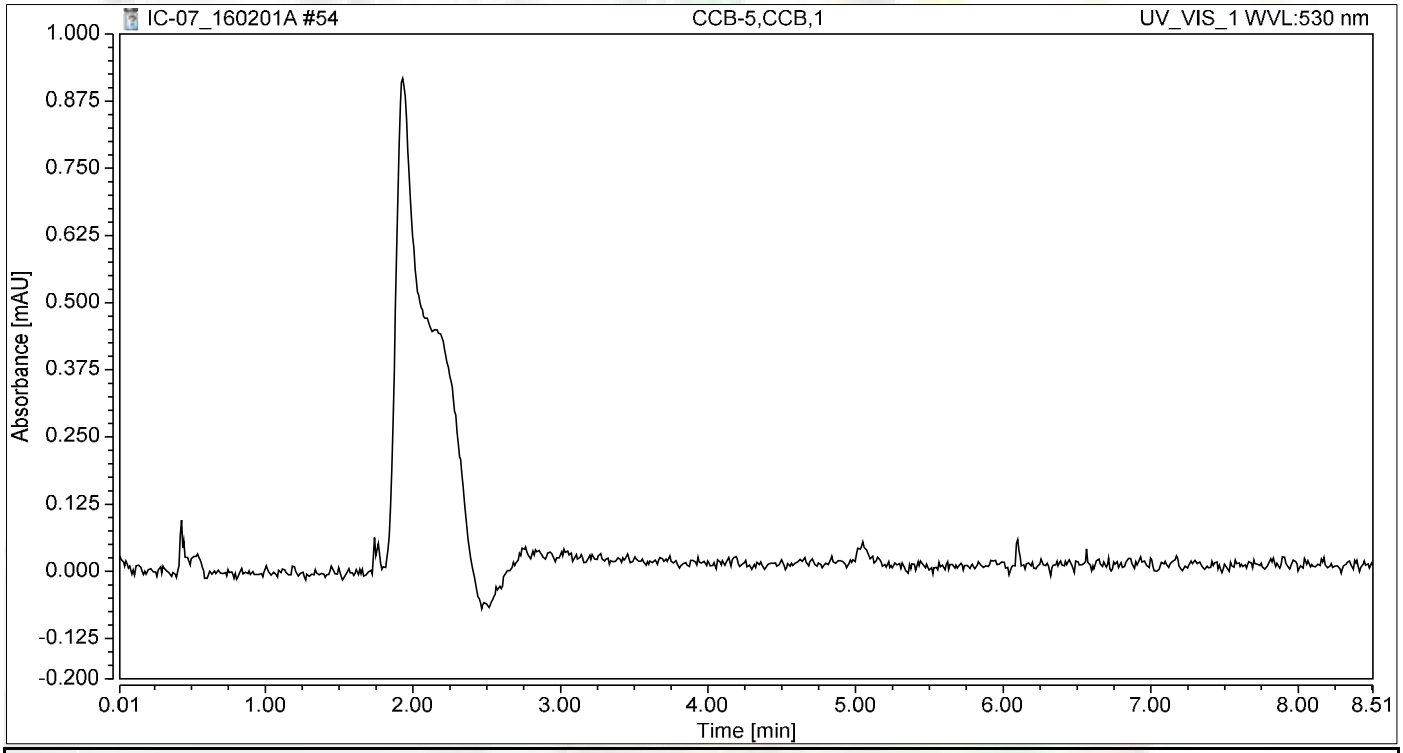
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.181	8.363	100.00	100.00	4.8960
Total:			**1.181**	**8.363**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105800 **Analyst:** REB

ASSET #: N018560 **Date Analyzed:** 2/10/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	**No**	**N/A**
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 2/11/2016 Date:

2nd Level Reviewer Nancy 2/11/201 Date:

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018560-002E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.4790*1

= 0.4790 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 0.48 mg/L

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

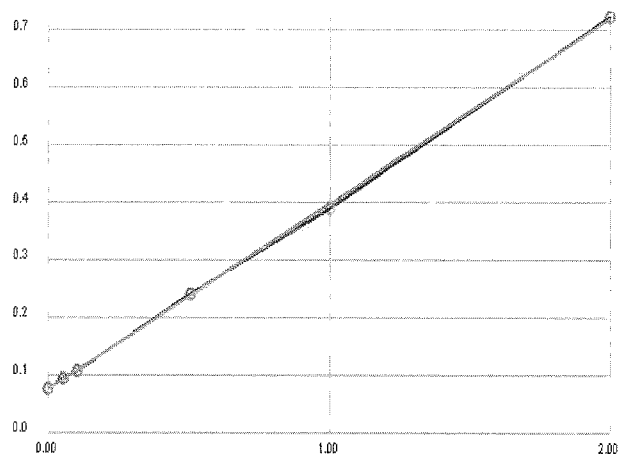
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3216x + 0.0764
Correlation	.99985



Calibrant	Energy	Set	Conc
1	0.0775	0.0000	0.0035
2	0.0933	0.0500	0.0527
3	0.1082	0.1000	0.0990
4	0.2405	0.5000	0.5104
5	0.3896	1.0000	0.9740
6	0.7229	2.0000	2.0104

Notes:

R1 Buffer - R160112D
2% CuSO4 - R160112C
R2 Colorimetric Rg7 - R160205C
1° ISST - 150204D
2° ISST - 150730E

Reb 2/11/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ICV** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.544	0.050	0.5000	0	109	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCV** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.502	0.050	0.5000	0	100	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCV** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.466	0.050	0.5000	0	93.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ICB** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCB** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCB** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 02-10-2016 18:09
Time end: 02-10-2016 20:22

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	19:52:44	-0.0021		0.0757
2	<BLANK>	19:53:39	-0.0014		0.0759
3	<CAL1>	19:54:39	0.0035	[0]	0.0775
4	<CAL2>	19:55:34	0.0527	[0.05]	0.0933
5	<CAL3>	19:56:35	0.0990	[0.1]	0.1082
6	<CAL4>	19:57:31	0.5104	[0.5]	0.2405
7	<CAL5>	19:58:31	0.9740	[1]	0.3896
8	<CAL6>	19:59:26	2.0104	[2]	0.7229
9	,BLANK,BLANK,1,	20:00:22	0.0539		0.0937
10	,ICV,ICV,1,	20:01:21	0.5443		0.2514
11	,ICB,ICB,1,	20:02:17	0.0210		0.0831
12	,MB-H2O,MBLK,1,	20:03:18	0.0135		0.0807
13	,LCS-H2O,LCS,1,	20:04:14	0.5157		0.2422
14	,N018560-002E,SAMP,1,	20:05:14	0.4790		0.2304
15	,N018560-002EDUP,DUP,1,	20:06:09	0.4815		0.2312
16	,N018560-002EMS,MS,1,	20:06:53	0.9756		0.3901
17	,N018560-002EMSD,MSD,1,	20:07:41	0.9687		0.3879
18	,N018560-003E,SAMP,1,	20:08:24	0.4812		0.2311
19	,N018560-004E,SAMP,1,	20:09:12	0.4488		0.2207
20	,N018560-005E,SAMP,1,	20:09:55	0.4575		0.2235
21	,BLANK,BLANK,1	20:10:45	0.0225		0.0836
22	,CCV-1,CCV,1,	20:11:27	0.5023		0.2379
23	,CCB-1,CCB,1,	20:12:10	0.0095		0.0794
24	,N018560-006E,SAMP,1,	20:12:58	0.4498		0.2210
25	,N018560-007E,SAMP,5, Not reported	20:13:41	0.1009		0.1088
26	,N018560-008E,SAMP,1,	20:14:23	0.5732		0.2607

Reb 2/11/2016

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
27	,N018560-009E,SAMP,1,	20:15:13	0.4665		0.2264
28	,N018560-010E,SAMP,1,	20:15:55	0.4631		0.2253
29	,N018561-004E,SAMP,1,	20:16:38	0.4715		0.2280
30	,N018561-005E,SAMP,1,	20:17:27	0.4463		0.2199
31	,N018560-007E,SAMP,1,	20:18:09	0.4669		0.2265
32	,BLANK,BLANK,1	20:18:53	-0.0011		0.0760
33	,CCV-2,CCV,1,	20:19:40	0.4659		0.2262
34	,CCB-2,CCB,1,	20:20:24	0.0051		0.0780

Rab 2/11/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 02/10/2016
Time Analyzed: 08:22 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160112D
Color reagent: R160205C
2% Copper Sulfate: R160112C
Ammonium Hydroxide: CINV-151130B

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018560-002E		8.06						
2)	N018560-003E		8.58						
3)	N018560-004E		8.30						
4)	N018560-005E		8.85						
5)	N018560-006E		8.50						
6)	N018560-007E		7.91						
7)	N018560-008E		8.47						
8)	N018560-009E		8.42						
9)	N018560-010E		7.93						
10)	N018561-004E		8.70						
11)	N018561-005E		8.96						
12)									
13)									
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 2/11/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56017 & 56092 **Instrument ID:** ICP-02
ASSET #: N018560 **Analyst:** CEI
Method: **Date Analyzed:** 2/5/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

Batch 56017

For N018560-002B to 008B only.

% Rec of Fe in N018548-002B MS/MSD & N018549-003B MS failed. However LCS passed criteria.

Batch 56092

For N018560-009 & 0110B only.

% Rec of Fe in N018616-001B PS/MS/MSD failed. However LCS passed citeria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/09/2016 Date:

2nd Level Reviewer 2/11/201 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018560-004B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.08566 * 1 * (25/25) * 1000

Iron , ug/L = 85.66

Reporting results in two significant figures,

Iron , ug/L = 86

% RSD SUMMARY

RSD SUMMARY: 160205C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	7.2	15	PASS
Standard1	ICAL	1	Fe	0.02	2.23	15	PASS
Standard2	ICAL	1	Fe	0.05	0.52	15	PASS
Standard3	ICAL	1	Fe	2	0.24	15	PASS
Standard4	ICAL	1	Fe	5	0.31	15	PASS
Standard5	ICAL	1	Fe	7.5	0.74	15	PASS
Standard6	ICAL	1	Fe	10	0.18	15	PASS
Standard7	ICAL	1	Fe	20	0.12	15	PASS
ICV	ICV	1	Fe	10.053	0.042	15	PASS
LLCCV1	CCV1	1	Fe	0.023	0.4	20	PASS
ICB	ICB	1	Fe	0.00007	660.26	15	<PQL
ICSA1	ICSA	1	Fe	184.35	0.095	15	PASS
ICSAB1	ICSAB	1	Fe	187.04	0.26	15	PASS
CCV1	CCV	1	Fe	9.76	0.047	15	PASS
CCB1	CCB	1	Fe	-0.00023	62.19	15	<PQL
CCV2	CCV	1	Fe	9.71	0.11	15	PASS
CCB2	CCB	1	Fe	-0.00028	76.85	15	<PQL
MB-56017	MBLK	1	Fe	-0.00032	56.06	15	<PQL
LCS-56017	LCS	1	Fe	0.098	0.16	15	PASS
N018548-002B	SAMP	1	Fe	0.02	2.43	15	PASS
N018548-002B	SAMP	5	Fe	0.0046	6.85	15	PASS
CCV3	CCV	1	Fe	9.68	0.16	15	PASS
CCB3	CCB	1	Fe	-0.00024	148.13	15	<PQL
N018548-002B-PS	PS	1	Fe	0.11	0.47	15	PASS
N018548-002B-MS	MS	1	Fe	0.16	0.48	15	PASS
N018548-002B-MSD	MSD	1	Fe	0.16	0.52	15	PASS
N018548-003B	SAMP	1	Fe	0.027	3.4	15	PASS
N018548-004B	SAMP	1	Fe	0.029	0.94	15	PASS
N018548-005B	SAMP	1	Fe	0.033	2.079	15	PASS
N018548-006B	SAMP	1	Fe	0.0068	5.9	15	PASS
N018548-007B	SAMP	1	Fe	0.023	0.26	15	PASS
N018548-008B	SAMP	1	Fe	0.0081	1.58	15	PASS
N018548-009B	SAMP	1	Fe	0.014	2.11	15	PASS
CCV4	CCV	1	Fe	9.65	0.16	15	PASS
CCB4	CCB	1	Fe	-0.00018	308.46	15	<PQL
N018548-010B	SAMP	1	Fe	0.036	0.75	15	PASS
N018549-002B	SAMP	1	Fe	0.014	2.5	15	PASS
N018549-003B	SAMP	1	Fe	0.0076	5.32	15	PASS
N018549-003B-MS	MS	1	Fe	0.15	0.83	15	PASS
N018549-004B	SAMP	1	Fe	0.025	1.58	15	PASS
N018549-005B	SAMP	1	Fe	0.032	2.083	15	PASS
N018560-002B	SAMP	1	Fe	0.019	1.69	15	PASS

RSD SUMMARY: 160205C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018560-003B	SAMP	1	Fe	0.013	3.33	15	PASS
N018560-004B	SAMP	1	Fe	0.086	0.94	15	PASS
N018560-005B	SAMP	1	Fe	0.019	1.27	15	PASS
CCV5	CCV	1	Fe	9.53	0.14	15	PASS
LLCCV2	CCV2	1	Fe	0.022	1.59	20	PASS
CCB5	CCB	1	Fe	-0.00026	26.25	15	<PQL
ICSA2	ICSA	1	Fe	175.49	0.18	15	PASS
ICSAB2	ICSAB	1	Fe	178.76	0.16	15	PASS
N018560-006B	SAMP	1	Fe	0.011	3.17	15	PASS
N018560-007B	SAMP	1	Fe	0.0089	3.88	15	PASS
N018560-008B	SAMP	1	Fe	0.017	2.5	15	PASS
MB-56092	MBLK	1	Fe	0.00082	32.9	15	<PQL
LCS-56092	LCS	1	Fe	0.096	0.22	15	PASS
N018616-001B	SAMP	1	Fe	0.21	0.54	15	PASS
N018616-001B	SAMP	5	Fe	0.046	0.81	15	PASS
N018616-001B-PS	PS	1	Fe	0.23	0.11	15	PASS
N018616-001B-MS	MS	1	Fe	0.24	0.92	15	PASS
N018616-001B-MSD	MSD	1	Fe	0.24	0.61	15	PASS
CCV6	CCV	1	Fe	9.42	0.11	15	PASS
CCB6	CCB	1	Fe	-0.00008	342.024	15	<PQL
N018560-009B	SAMP	1	Fe	0.0076	6.075	15	PASS
N018560-010B	SAMP	1	Fe	0.01	1.66	15	PASS
N018616-002B	SAMP	1	Fe	0.0076	3.91	15	PASS
N018616-003B	SAMP	1	Fe	0.03	1.43	15	PASS
N018616-004B	SAMP	1	Fe	0.01	2.055	15	PASS
N018616-005B	SAMP	1	Fe	0.012	2.18	15	PASS
N018616-006B	SAMP	1	Fe	0.011	5.37	15	PASS
N018616-007B	SAMP	1	Fe	0.0064	27.13	15	<PQL
N018616-008B	SAMP	1	Fe	0.0052	10.22	15	PASS
N018616-010B	SAMP	1	Fe	0.16	0.77	15	PASS
CCV7	CCV	1	Fe	9.41	0.13	15	PASS
CCB7	CCB	1	Fe	0.00006	861.084	15	<PQL
N018616-010B-MS	MS	1	Fe	0.28	0.29	15	PASS
N018616-012B	SAMP	1	Fe	1.18	0.5	15	PASS
N018617-001B	SAMP	1	Fe	1.12	0.29	15	PASS
N018617-003B	SAMP	1	Fe	0.013	1.83	15	PASS
N018617-004B	SAMP	1	Fe	0.0089	4.37	15	PASS
N018617-005B	SAMP	1	Fe	0.018	1.3	15	PASS
N018617-007B	SAMP	1	Fe	0.008	1.31	15	PASS
N018617-008B	SAMP	1	Fe	0.0048	5.31	15	PASS
N018617-009B	SAMP	1	Fe	0.0069	6.82	15	PASS
N018617-010B	SAMP	1	Fe	0.0054	1.35	15	PASS

RSD SUMMARY: 160205C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV8	CCV	1	Fe	9.37	0.22	15	PASS
LLCCV3	CCV2	1	Fe	0.022	0.98	20	PASS
CCB8	CCB	1	Fe	-0.00007	383.021	15	<PQL
ICSA3	ICSA	1	Fe	172.88	0.1	15	PASS
ICSAB3	ICSAB	1	Fe	176.1	0.12	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160205C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/05/2016	05:50:31 PM
2	Standard1	ICAL	1	02/05/2016	05:54:52 PM
3	Standard2	ICAL	1	02/05/2016	05:59:10 PM
4	Standard3	ICAL	1	02/05/2016	06:04:01 PM
5	Standard4	ICAL	1	02/05/2016	06:08:52 PM
6	Standard5	ICAL	1	02/05/2016	06:13:45 PM
7	Standard6	ICAL	1	02/05/2016	06:18:36 PM
8	Standard7	ICAL	1	02/05/2016	06:22:57 PM
9	ICV	ICV	1	02/05/2016	06:26:11 PM
2	LLCCV1	CCV1	1	02/05/2016	06:31:35 PM
1	ICB	ICB	1	02/05/2016	06:35:53 PM
4	ICSA1	ICSA	1	02/05/2016	06:40:11 PM
5	ICSAB1	ICSAB	1	02/05/2016	06:46:06 PM
38	MB-56098	MBLK	1	02/05/2016	07:11:05 PM
39	LCS1-56098	LCS	1	02/05/2016	07:15:24 PM
40	N018527-001C	SAMP	1	02/05/2016	07:20:13 PM
41	N018527-001C	SAMP	5	02/05/2016	07:25:04 PM
42	N018527-001C-PS	PS	1	02/05/2016	07:29:53 PM
43	N018527-001C-MS1	MS	1	02/05/2016	07:34:44 PM
44	N018527-001C-MSD1	MSD	1	02/05/2016	07:39:35 PM
45	N018527-002C	SAMP	1	02/05/2016	07:44:25 PM
46	N018527-003C	SAMP	1	02/05/2016	07:49:15 PM
47	N018527-004C	SAMP	1	02/05/2016	07:54:07 PM
7	CCV1	CCV	1	02/05/2016	07:59:58 PM
1	CCB1	CCB	1	02/05/2016	08:04:21 PM
48	N018527-005C	SAMP	1	02/05/2016	08:08:39 PM
49	N018574-001C	SAMP	1	02/05/2016	08:14:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
50	N018574-002C	SAMP	1	02/05/2016	08:19:22 PM
51	N018574-003C	SAMP	1	02/05/2016	08:25:12 PM
52	N018574-004C	SAMP	1	02/05/2016	08:30:03 PM
53	N018574-005C	SAMP	1	02/05/2016	08:35:23 PM
54	N018574-006C	SAMP	1	02/05/2016	08:41:13 PM
55	N018574-007C	SAMP	1	02/05/2016	08:46:34 PM
56	N018574-007C-MS1	MS	1	02/05/2016	08:51:24 PM
57	N018574-008C	SAMP	1	02/05/2016	08:57:15 PM
7	CCV2	CCV	1	02/05/2016	09:02:06 PM
1	CCB2	CCB	1	02/05/2016	09:06:28 PM
58	N018574-009C	SAMP	1	02/05/2016	09:10:45 PM
59	N018574-010C	SAMP	1	02/05/2016	09:16:09 PM
60	N018574-011C	SAMP	1	02/05/2016	09:22:02 PM
61	N018574-012C	SAMP	1	02/05/2016	09:27:17 PM
132	N018574-009C	SAMP	5	02/05/2016	09:31:37 PM
133	N018574-011C	SAMP	5	02/05/2016	09:36:00 PM
62	MB-56017	MBLK	1	02/05/2016	09:41:22 PM
63	LCS-56017	LCS	1	02/05/2016	09:45:42 PM
64	N018548-002B	SAMP	1	02/05/2016	09:50:32 PM
65	N018548-002B	SAMP	5	02/05/2016	09:55:24 PM
7	CCV3	CCV	1	02/05/2016	10:00:15 PM
1	CCB3	CCB	1	02/05/2016	10:04:37 PM
66	N018548-002B-PS	PS	1	02/05/2016	10:08:55 PM
67	N018548-002B-MS	MS	1	02/05/2016	10:13:44 PM
68	N018548-002B-MSD	MSD	1	02/05/2016	10:18:34 PM
69	N018548-003B	SAMP	1	02/05/2016	10:23:24 PM
70	N018548-004B	SAMP	1	02/05/2016	10:28:14 PM
71	N018548-005B	SAMP	1	02/05/2016	10:33:04 PM
72	N018548-006B	SAMP	1	02/05/2016	10:37:55 PM
73	N018548-007B	SAMP	1	02/05/2016	10:42:46 PM
74	N018548-008B	SAMP	1	02/05/2016	10:47:36 PM
75	N018548-009B	SAMP	1	02/05/2016	10:52:26 PM
7	CCV4	CCV	1	02/05/2016	10:57:16 PM
1	CCB4	CCB	1	02/05/2016	11:01:38 PM
76	N018548-010B	SAMP	1	02/05/2016	11:05:54 PM
77	N018549-002B	SAMP	1	02/05/2016	11:10:45 PM
78	N018549-003B	SAMP	1	02/05/2016	11:15:35 PM
79	N018549-003B-MS	MS	1	02/05/2016	11:20:25 PM
80	N018549-004B	SAMP	1	02/05/2016	11:25:16 PM
81	N018549-005B	SAMP	1	02/05/2016	11:30:07 PM
82	N018560-002B	SAMP	1	02/05/2016	11:34:58 PM
83	N018560-003B	SAMP	1	02/05/2016	11:39:48 PM
84	N018560-004B	SAMP	1	02/05/2016	11:44:38 PM
85	N018560-005B	SAMP	1	02/05/2016	11:49:28 PM
7	CCV5	CCV	1	02/05/2016	11:54:19 PM
2	LLCCV2	CCV2	1	02/05/2016	11:58:42 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB5	CCB	1	02/06/2016	12:03:00 AM
4	ICSA2	ICSA	1	02/06/2016	12:07:17 AM
5	ICSAB2	ICSAB	1	02/06/2016	12:13:13 AM
86	N018560-006B	SAMP	1	02/06/2016	12:19:09 AM
87	N018560-007B	SAMP	1	02/06/2016	12:23:59 AM
88	N018560-008B	SAMP	1	02/06/2016	12:28:50 AM
98	MB-56092	MBLK	1	02/06/2016	12:34:42 AM
99	LCS-56092	LCS	1	02/06/2016	12:39:33 AM
100	N018616-001B	SAMP	1	02/06/2016	12:44:24 AM
101	N018616-001B	SAMP	5	02/06/2016	12:50:15 AM
102	N018616-001B-PS	PS	1	02/06/2016	12:55:06 AM
103	N018616-001B-MS	MS	1	02/06/2016	01:00:58 AM
104	N018616-001B-MSD	MSD	1	02/06/2016	01:06:50 AM
7	CCV6	CCV	1	02/06/2016	01:12:42 AM
1	CCB6	CCB	1	02/06/2016	01:17:05 AM
105	N018560-009B	SAMP	1	02/06/2016	01:21:53 AM
106	N018560-010B	SAMP	1	02/06/2016	01:26:44 AM
107	N018616-002B	SAMP	1	02/06/2016	01:31:35 AM
108	N018616-003B	SAMP	1	02/06/2016	01:36:26 AM
109	N018616-004B	SAMP	1	02/06/2016	01:42:18 AM
110	N018616-005B	SAMP	1	02/06/2016	01:48:08 AM
111	N018616-006B	SAMP	1	02/06/2016	01:54:00 AM
112	N018616-007B	SAMP	1	02/06/2016	01:59:21 AM
113	N018616-008B	SAMP	1	02/06/2016	02:05:11 AM
114	N018616-010B	SAMP	1	02/06/2016	02:10:02 AM
7	CCV7	CCV	1	02/06/2016	02:15:53 AM
1	CCB7	CCB	1	02/06/2016	02:20:16 AM
115	N018616-010B-MS	MS	1	02/06/2016	02:25:04 AM
116	N018616-012B	SAMP	1	02/06/2016	02:30:56 AM
117	N018617-001B	SAMP	1	02/06/2016	02:36:48 AM
118	N018617-003B	SAMP	1	02/06/2016	02:42:10 AM
119	N018617-004B	SAMP	1	02/06/2016	02:47:32 AM
120	N018617-005B	SAMP	1	02/06/2016	02:52:22 AM
121	N018617-007B	SAMP	1	02/06/2016	02:58:14 AM
122	N018617-008B	SAMP	1	02/06/2016	03:02:35 AM
123	N018617-009B	SAMP	1	02/06/2016	03:08:27 AM
124	N018617-010B	SAMP	1	02/06/2016	03:13:48 AM
7	CCV8	CCV	1	02/06/2016	03:18:40 AM
2	LLCCV3	CCV2	1	02/06/2016	03:23:02 AM
1	CCB8	CCB	1	02/06/2016	03:27:50 AM
4	ICSA3	ICSA	1	02/06/2016	03:32:36 AM
5	ICSAB3	ICSAB	1	02/06/2016	03:38:34 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/28/2016 8:12:28 A**
Prep End Date: **1/28/2016 12:30:00**

For: Initials/ Date: 02/09/2016

Prep Batch **56017** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units: **mL / mL** Temp. (°C): **24.7** Location: **01-1**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56017	Aqueous		25	☐	0	0	25	1.000		
MB-56017	Aqueous		25	☐	0	0	25	1.000		
N018548-002B	Water	<2	25	☐	0	0	25	1.000		
N018548-002B-MS	Water	<2	25	☐	0	0	25	1.000		
N018548-002B-MS	Water	<2	25	☐	0	0	25	1.000		
N018548-003B	Water	<2	25	☐	0	0	25	1.000		
N018548-004B	Water	<2	25	☐	0	0	25	1.000		
N018548-005B	Water	<2	25	☐	0	0	25	1.000		
N018548-006B	Water	<2	25	☐	0	0	25	1.000		
N018548-007B	Water	<2	25	☐	0	0	25	1.000		
N018548-008B	Water	<2	25	☐	0	0	25	1.000		
N018548-009B	Water	<2	25	☐	0	0	25	1.000		
N018548-010B	Water	<2	25	☐	0	0	25	1.000		
N018549-002B	Water	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8267	NITRIC ACID
8271	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/28/2016 8:12:28 A**
Prep End Date: **1/28/2016 12:30:00**

For: 02/09/2016
Initials/ Date: _____

Prep Batch **56017** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**24.7**	**01-1**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018549-003B	Water	<2	25	☐	0	0	25	1.000		
N018549-003B-MS	Water	<2	25	☐	0	0	25	1.000		
N018549-004B	Water	<2	25	☐	0	0	25	1.000		
N018549-005B	Water	<2	25	☐	0	0	25	1.000		
N018560-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-008B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8267	NITRIC ACID
8271	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/2/2016 2:44:05 P**
Prep End Date: **2/2/2016 7:00:00 P**

For: 02/09/2016
Initials/ Date: _____

Prep Batch **56092** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**01-24**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56092	Aqueous		25	☐	0	0	25	1.000		
MB-56092	Aqueous		25	☐	0	0	25	1.000		
N018560-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-008B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8267	NITRIC ACID
8271	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/2/2016 2:44:05 P**
Prep End Date: **2/2/2016 7:00:00 P**

For: 02/09/2016
Initials/ Date: _____

Prep Batch **56092** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**01-24**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018616-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018616-012B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8267	NITRIC ACID
8271	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160205C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	02/05/2016	05:50:31 PM	Fe	273.953	-122	0.00	mg/L	
Standard1	02/05/2016	05:54:52 PM	Fe	273.953	433	0.0200	mg/L	
Standard2	02/05/2016	05:59:10 PM	Fe	273.953	1041	0.050	mg/L	
Standard3	02/05/2016	06:04:01 PM	Fe	273.953	39450	2.000	mg/L	
Standard4	02/05/2016	06:08:52 PM	Fe	273.953	101782	5.000	mg/L	
Standard5	02/05/2016	06:13:45 PM	Fe	273.953	151588	7.500	mg/L	
Standard6	02/05/2016	06:18:36 PM	Fe	273.953	194812	10.000	mg/L	
Standard7	02/05/2016	06:22:57 PM	Fe	273.953	379483	20.000	mg/L	0.9997

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICV** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10053.131	20	10000	0	101	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ZZZZZZ** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22.722	20	20.00	0	114	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCV** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9762.684	20	10000	0	97.6	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCV** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9708.181	20	10000	0	97.1	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCV** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9684.762	20	10000	0	96.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	CCV4	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCV	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/5/2016	SeqNo:	2221479

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9648.073	20	10000	0	96.5	90	110				

Sample ID	CCV5	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCV	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/5/2016	SeqNo:	2221491

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9527.391	20	10000	0	95.3	90	110				

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	ZZZZZZ	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/5/2016	SeqNo:	2221492

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22.010	20	20.00	0	110	70	130				

Sample ID	CCV6	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCV	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221506

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9415.791	20	10000	0	94.2	90	110				

Sample ID	CCV7	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCV	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221518

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9414.912	20	10000	0	94.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	CCV8	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCV	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221530

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9369.426	20	10000	0	93.7	90	110				

Sample ID	LLCCV3	SampType:	CCV2	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	ZZZZZZ	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	21.930	20	20.00	0	110	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221430**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.071	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.225913	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.281199	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.235287	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **CCB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.175711	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	CCB5	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCB	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221493

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.25614	20									

Sample ID	CCB6	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCB	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221507

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.079	20									

Sample ID	CCB7	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCB	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221519

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.063	20									

Sample ID	CCB8	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	CCB	Batch ID:	R105703	TestNo:	EPA 6010B			Analysis Date:	2/6/2016	SeqNo:	2221532

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.0667	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSA** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	525953.160	50	500000	0	105	80	120				
Calcium	528753.874	500	500000	0	106	80	120				
Iron	184351.758	20	200000	0	92.2	80	120				
Magnesium	509725.178	100	500000	0	102	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSAB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/5/2016** SeqNo: **2221432**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	534790.735	50	500000	0	107	80	120				
Calcium	525276.894	500	500000	0	105	80	120				
Iron	187041.869	20	200000	0	93.5	80	120				
Magnesium	514411.318	100	500000	0	103	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSA** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/6/2016** SeqNo: **2221494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	518728.405	50	500000	0	104	80	120				
Calcium	510162.491	500	500000	0	102	80	120				
Iron	175488.846	20	200000	0	87.7	80	120				
Magnesium	508526.601	100	500000	0	102	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSAB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/6/2016** SeqNo: **2221495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	527281.602	50	500000	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSAB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/6/2016** SeqNo: **2221495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	511235.832	500	500000	0	102	80	120				
Iron	178756.768	20	200000	0	89.4	80	120				
Magnesium	511934.490	100	500000	0	102	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSA** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/6/2016** SeqNo: **2221533**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513400.490	50	500000	0	103	80	120				
Calcium	505955.631	500	500000	0	101	80	120				
Iron	172879.991	20	200000	0	86.4	80	120				
Magnesium	501320.204	100	500000	0	100	80	120				

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105703**
Client ID: **ICSAB** Batch ID: **R105703** TestNo: **EPA 6010B** Analysis Date: **2/6/2016** SeqNo: **2221534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522299.205	50	500000	0	104	80	120				
Calcium	506940.722	500	500000	0	101	80	120				
Iron	176097.183	20	200000	0	88.0	80	120				
Magnesium	506465.885	100	500000	0	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160205C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.62	65-125	PASS
Standard2	ICAL	1	1.037	103.68	65-125	PASS
Standard3	ICAL	1	1.14	114.11	65-125	PASS
Standard4	ICAL	1	0.98	98.47	65-125	PASS
Standard5	ICAL	1	0.99	98.51	65-125	PASS
Standard6	ICAL	1	0.98	98.17	65-125	PASS
Standard7	ICAL	1	0.97	96.59	65-125	PASS
ICV	ICV	1	0.98	98.49	65-125	PASS
LLCCV1	CCV1	1	1	99.76	65-125	PASS
ICB	ICB	1	0.99	99.002	65-125	PASS
ICSA1	ICSA	1	0.88	87.93	65-125	PASS
ICSAB1	ICSAB	1	0.84	83.9	65-125	PASS
CCV1	CCV	1	0.99	98.87	65-125	PASS
CCB1	CCB	1	1.028	102.78	65-125	PASS
CCV2	CCV	1	0.99	99.46	65-125	PASS
CCB2	CCB	1	1.0059	100.59	65-125	PASS
MB-56017	MBLK	1	1.0013	100.13	65-125	PASS
LCS-56017	LCS	1	0.93	92.84	65-125	PASS
N018548-002B	SAMP	1	1.019	101.87	65-125	PASS
N018548-002B	SAMP	5	0.99	99.32	65-125	PASS
CCV3	CCV	1	0.99	98.92	65-125	PASS
CCB3	CCB	1	1.0066	100.66	65-125	PASS
N018548-002B-PS	PS	1	1.048	104.82	65-125	PASS
N018548-002B-MS	MS	1	1.025	102.54	65-125	PASS
N018548-002B-MSD	MSD	1	1.024	102.4	65-125	PASS
N018548-003B	SAMP	1	1.01	101.01	65-125	PASS
N018548-004B	SAMP	1	1.026	102.6	65-125	PASS
N018548-005B	SAMP	1	1.022	102.19	65-125	PASS
N018548-006B	SAMP	1	1.011	101.07	65-125	PASS
N018548-007B	SAMP	1	1.033	103.32	65-125	PASS
N018548-008B	SAMP	1	1.026	102.57	65-125	PASS
N018548-009B	SAMP	1	1.021	102.12	65-125	PASS
CCV4	CCV	1	1	99.83	65-125	PASS
CCB4	CCB	1	1.0079	100.79	65-125	PASS
N018548-010B	SAMP	1	1.0031	100.31	65-125	PASS
N018549-002B	SAMP	1	0.99	99.44	65-125	PASS
N018549-003B	SAMP	1	1.0065	100.65	65-125	PASS
N018549-003B-MS	MS	1	1	100	65-125	PASS
N018549-004B	SAMP	1	1.036	103.55	65-125	PASS
N018549-005B	SAMP	1	1.018	101.81	65-125	PASS

INTERNAL STANDARD: 160205C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018560-002B	SAMP	1	1	99.86	65-125	PASS
N018560-003B	SAMP	1	1.028	102.75	65-125	PASS
N018560-004B	SAMP	1	1.044	104.39	65-125	PASS
N018560-005B	SAMP	1	1	99.53	65-125	PASS
CCV5	CCV	1	1	100	65-125	PASS
LLCCV2	CCV2	1	1.015	101.54	65-125	PASS
CCB5	CCB	1	1.0095	100.95	65-125	PASS
ICSA2	ICSA	1	0.9	90.14	65-125	PASS
ICSAB2	ICSAB	1	0.84	83.69	65-125	PASS
N018560-006B	SAMP	1	1.018	101.79	65-125	PASS
N018560-007B	SAMP	1	1.037	103.72	65-125	PASS
N018560-008B	SAMP	1	1.039	103.94	65-125	PASS
MB-56092	MBLK	1	1.0031	100.31	65-125	PASS
LCS-56092	LCS	1	0.93	93.002	65-125	PASS
N018616-001B	SAMP	1	0.96	96.14	65-125	PASS
N018616-001B	SAMP	5	0.97	97.3	65-125	PASS
N018616-001B-PS	PS	1	0.94	93.74	65-125	PASS
N018616-001B-MS	MS	1	0.95	95.21	65-125	PASS
N018616-001B-MSD	MSD	1	0.96	95.67	65-125	PASS
CCV6	CCV	1	1.0069	100.69	65-125	PASS
CCB6	CCB	1	1.012	101.21	65-125	PASS
N018560-009B	SAMP	1	1	99.57	65-125	PASS
N018560-010B	SAMP	1	0.99	98.52	65-125	PASS
N018616-002B	SAMP	1	0.99	99.44	65-125	PASS
N018616-003B	SAMP	1	0.99	99.34	65-125	PASS
N018616-004B	SAMP	1	0.98	98.17	65-125	PASS
N018616-005B	SAMP	1	0.99	99.05	65-125	PASS
N018616-006B	SAMP	1	1	99.52	65-125	PASS
N018616-007B	SAMP	1	0.96	95.87	65-125	PASS
N018616-008B	SAMP	1	1	99.67	65-125	PASS
N018616-010B	SAMP	1	0.97	97.38	65-125	PASS
CCV7	CCV	1	1.013	101.33	65-125	PASS
CCB7	CCB	1	1.027	102.7	65-125	PASS
N018616-010B-MS	MS	1	0.98	98.032	65-125	PASS
N018616-012B	SAMP	1	0.97	96.52	65-125	PASS
N018617-001B	SAMP	1	1.0018	100.18	65-125	PASS
N018617-003B	SAMP	1	1	99.76	65-125	PASS
N018617-004B	SAMP	1	0.96	95.91	65-125	PASS
N018617-005B	SAMP	1	0.97	96.74	65-125	PASS
N018617-007B	SAMP	1	0.99	99.14	65-125	PASS
N018617-008B	SAMP	1	0.95	94.66	65-125	PASS

INTERNAL STANDARD: 160205C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018617-009B	SAMP	1	0.99	99.31	65-125	PASS
N018617-010B	SAMP	1	0.97	97.31	65-125	PASS
CCV8	CCV	1	1.0082	100.82	65-125	PASS
LLCCV3	CCV2	1	1.028	102.75	65-125	PASS
CCB8	CCB	1	1.02	101.97	65-125	PASS
ICSA3	ICSA	1	0.91	91.5	65-125	PASS
ICSAB3	ICSAB	1	0.85	85.069	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018560
Test Method: EPA 6010B
Analysis Date: 02/05/16

Matrix: Groundwater
Batch No.: 56017

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018548-002B-DT 5X	Iron	ug/L	0	NA	19.90277	100.00%	10

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018560
Test Method: EPA 6010B
Analysis Date: 02/05/16

Matrix: Groundwater
Batch No.: 56092

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018616-001B-DT 5X	Iron	ug/L	230	NA	213.86980	7.65%	10

Note: NA - Not Applicable

ASSET Laboratories

Date: *07-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N018548-002B-PS**	SampType:	**PS**	TestCode:	**6010_WDPG**	Units:	**ug/L**	Prep Date:		RunNo:	**105703**
Client ID:	**ZZZZZZ**	Batch ID:	**56017**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**2/5/2016**	SeqNo:	**2221469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.820	20	100.0	19.90	87.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	N018616-001B-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105703
Client ID:	ZZZZZZ	Batch ID:	56092	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/6/2016	SeqNo:	2221503

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	234.167	20	100.0	213.9	20.3	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6010B

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56083 **Instrument ID:** ICP-02
ASSET #: N018560 **Analyst:** CEI
Method: **Date Analyzed:** 2/7/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018560-002C to 008C only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/10/2016 Date: —
2nd Level Reviewer 2/11/201 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56157 **Instrument ID:** ICP-02
ASSET #: N018560 **Analyst:** CEI
Method: **Date Analyzed:** 2/9/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018560-009C & 010C only.
% Rec of Fe in N018560-009C MS/MSD failed. However, LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/10/2016 Date: _____
2nd Level Reviewer 2/11/201 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018560-002C** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.13060 * 1 * (25/25) * 1000

Iron , ug/L = 130.60

Reporting results in two significant figures,

Iron , ug/L = 130

% RSD SUMMARY

RSD SUMMARY: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.8	15	PASS
Standard1	ICAL	1	Fe	0.02	1.29	15	PASS
Standard2	ICAL	1	Fe	0.05	0.18	15	PASS
Standard3	ICAL	1	Fe	2	0.73	15	PASS
Standard4	ICAL	1	Fe	5	0.17	15	PASS
Standard5	ICAL	1	Fe	7.5	0.16	15	PASS
Standard6	ICAL	1	Fe	10	0.16	15	PASS
Standard7	ICAL	1	Fe	20	0.038	15	PASS
ICV	ICV	1	Fe	10.19	0.046	15	PASS
ICB	ICB	1	Fe	0.00017	115.92	15	<PQL
ICB	ICB	1	Fe	0.00044	47.63	15	<PQL
LLCCV1	CCV1	1	Fe	0.024	0.21	20	PASS
LLCCV1	CCV1	1	Fe	0.022	0.97	20	PASS
ICSA1	ICSA	1	Fe	174.06	0.17	15	PASS
ICSAB1	ICSAB	1	Fe	181.46	0.5	15	PASS
CCV1	CCV	1	Fe	10.24	0.25	15	PASS
CCB1	CCB	1	Fe	0.0001	369.58	15	<PQL
MB-56083	MBLK	1	Fe	0.0007	78.59	15	<PQL
LCS-56083	LCS	1	Fe	0.11	0.39	15	PASS
N018548-002C	SAMP	1	Fe	0.093	0.86	15	PASS
N018548-002C	SAMP	5	Fe	0.021	2.4	15	PASS
N018548-002C-PS	PS	1	Fe	0.19	1.54	15	PASS
N018548-002C-MS	MS	1	Fe	0.18	0.76	15	PASS
N018548-002C-MSD	MSD	1	Fe	0.18	0.63	15	PASS
N018548-003C	SAMP	1	Fe	0.17	1.057	15	PASS
CCV2	CCV	1	Fe	10.29	0.13	15	PASS
CCB2	CCB	1	Fe	0.00037	357.42	15	<PQL
N018548-004C	SAMP	1	Fe	0.1	0.47	15	PASS
N018548-005C	SAMP	1	Fe	0.16	0.82	15	PASS
N018548-006C	SAMP	1	Fe	0.11	0.44	15	PASS
N018548-007C	SAMP	1	Fe	0.079	0.71	15	PASS
N018548-008C	SAMP	1	Fe	0.093	1.52	15	PASS
N018548-009C	SAMP	1	Fe	0.094	0.83	15	PASS
N018548-010C	SAMP	1	Fe	0.083	0.59	15	PASS
N018549-002C	SAMP	1	Fe	0.12	1.27	15	PASS
N018549-003C	SAMP	1	Fe	0.12	0.32	15	PASS
N018549-003C-MS	MS	1	Fe	0.21	0.56	15	PASS
CCV3	CCV	1	Fe	10.22	0.15	15	PASS
CCB3	CCB	1	Fe	0.00063	73.76	15	<PQL
N018549-004C	SAMP	1	Fe	0.067	1.052	15	PASS
N018549-005C	SAMP	1	Fe	0.31	0.95	15	PASS
N018560-002C	SAMP	1	Fe	0.13	0.85	15	PASS

RSD SUMMARY: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018560-003C	SAMP	1	Fe	0.067	0.2	15	PASS
N018560-004C	SAMP	1	Fe	1.24	0.44	15	PASS
N018560-005C	SAMP	1	Fe	0.78	0.37	15	PASS
N018560-006C	SAMP	1	Fe	0.099	1.086	15	PASS
N018560-007C	SAMP	1	Fe	0.074	1.19	15	PASS
N018560-008C	SAMP	1	Fe	0.086	0.68	15	PASS
CCV4	CCV	1	Fe	10.16	0.093	15	PASS
CCB4	CCB	1	Fe	0.00051	84.94	15	<PQL
CCV5	CCV	1	Fe	10.1	0.23	15	PASS
CCB5	CCB	1	Fe	-0.00024	149.36	15	<PQL
LLCCV2	CCV2	1	Fe	0.021	2.78	20	PASS
ICSA2	ICSA	1	Fe	171.95	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.76	0.16	15	PASS
CCV6	CCV	1	Fe	10.068	0.18	15	PASS
CCB6	CCB	1	Fe	0.00054	113.87	15	<PQL
CCV7	CCV	1	Fe	10.051	0.23	15	PASS
CCB7	CCB	1	Fe	0.00061	33.49	15	<PQL
LLCCV3	CCV2	1	Fe	0.022	2.6	20	PASS
ICSA3	ICSA	1	Fe	171.35	0.088	15	PASS
ICSAB3	ICSAB	1	Fe	184.16	0.18	15	PASS

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	15.023	15	<PQL
Standard1	ICAL	1	Fe	0.02	10.089	15	PASS
Standard2	ICAL	1	Fe	0.05	1.078	15	PASS
Standard3	ICAL	1	Fe	2	0.72	15	PASS
Standard4	ICAL	1	Fe	5	0.94	15	PASS
Standard5	ICAL	1	Fe	7.5	0.55	15	PASS
Standard6	ICAL	1	Fe	10	0.59	15	PASS
Standard7	ICAL	1	Fe	20	0.095	15	PASS
ICV	ICV	1	Fe	10.31	0.63	15	PASS
ICB	ICB	1	Fe	0.00033	34.9	15	<PQL
LLCCV1	CCV1	1	Fe	0.022	1.92	20	PASS
ICSA1	ICSA	1	Fe	161.49	0.2	15	PASS
ICSAB1	ICSAB	1	Fe	181.85	0.089	15	PASS
MB-56157	MBLK	1	Fe	0.0027	3.86	15	PASS
LCS-56157	LCS	1	Fe	0.11	1.054	15	PASS
N018560-009C	SAMP	1	Fe	0.17	1.4	15	PASS
N018560-009C	SAMP	5	Fe	0.038	0.59	15	PASS
N018560-009C-PS	PS	1	Fe	0.27	0.52	15	PASS
N018560-009C-MS	MS	1	Fe	0.2	0.32	15	PASS
N018560-009C-MSD	MSD	1	Fe	0.2	0.27	15	PASS
N018560-010C	SAMP	1	Fe	0.094	0.36	15	PASS
N018561-004C	SAMP	1	Fe	0.094	0.31	15	PASS
N018561-005C	SAMP	1	Fe	0.12	1.44	15	PASS
CCV1	CCV	1	Fe	10.34	0.43	15	PASS
CCB1	CCB	1	Fe	0.00055	63.94	15	<PQL
CCV2	CCV	1	Fe	10.27	0.89	15	PASS
CCB2	CCB	1	Fe	0.00007	552.77	15	<PQL
CCV3	CCV	1	Fe	10.29	0.19	15	PASS
CCB3	CCB	1	Fe	-0.0002	359.8	15	<PQL
LLCCV2	CCV2	1	Fe	0.023	1.31	20	PASS
ICSA2	ICSA	1	Fe	160.62	0.14	15	PASS
ICSAB2	ICSAB	1	Fe	180.31	0.072	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160207B

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/07/2016	01:40:12 PM
2	Standard1	ICAL	1	02/07/2016	01:45:02 PM
3	Standard2	ICAL	1	02/07/2016	01:49:20 PM
4	Standard3	ICAL	1	02/07/2016	01:54:09 PM
5	Standard4	ICAL	1	02/07/2016	01:59:01 PM
6	Standard5	ICAL	1	02/07/2016	02:04:53 PM
7	Standard6	ICAL	1	02/07/2016	02:10:15 PM
8	Standard7	ICAL	1	02/07/2016	02:15:40 PM
9	ICV	ICV	1	02/07/2016	02:19:39 PM
1	ICB	ICB	1	02/07/2016	02:25:05 PM
1	ICB	ICB	1	02/07/2016	02:30:05 PM
2	LLCCV1	CCV1	1	02/07/2016	02:41:35 PM
2	LLCCV1	CCV1	1	02/07/2016	02:45:41 PM
4	ICSA1	ICSA	1	02/07/2016	02:52:35 PM
5	ICSAB1	ICSAB	1	02/07/2016	02:58:31 PM
38	MB-56131	MBLK	1	02/07/2016	03:04:05 PM
39	LCS1-56131	LCS	1	02/07/2016	03:08:26 PM
43	N018644-001B	SAMP	1	02/07/2016	03:20:46 PM
44	N018644-002B	SAMP	1	02/07/2016	03:25:36 PM
45	N018645-002E	SAMP	1	02/07/2016	03:31:29 PM
46	N018644-001B	SAMP	5	02/07/2016	03:36:20 PM
47	N018644-001B-PS	PS	1	02/07/2016	03:42:11 PM
48	N018644-001B-MS	MS	1	02/07/2016	03:48:03 PM
49	N018644-001B-MSD	MSD	1	02/07/2016	03:53:55 PM
40	N018599-001I	SAMP	1	02/07/2016	03:59:48 PM
7	CCV1	CCV	1	02/07/2016	04:05:38 PM
1	CCB1	CCB	1	02/07/2016	04:18:23 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
41	N018599-002I	SAMP	1	02/07/2016	04:22:41 PM
42	N018636-001C	SAMP	1	02/07/2016	04:28:04 PM
50	MB-56083	MBLK	1	02/07/2016	04:32:54 PM
51	LCS-56083	LCS	1	02/07/2016	04:37:14 PM
52	N018548-002C	SAMP	1	02/07/2016	04:43:07 PM
53	N018548-002C	SAMP	5	02/07/2016	04:47:59 PM
54	N018548-002C-PS	PS	1	02/07/2016	04:52:49 PM
55	N018548-002C-MS	MS	1	02/07/2016	04:58:13 PM
56	N018548-002C-MSD	MSD	1	02/07/2016	05:04:05 PM
57	N018548-003C	SAMP	1	02/07/2016	05:09:58 PM
7	CCV2	CCV	1	02/07/2016	05:14:48 PM
1	CCB2	CCB	1	02/07/2016	05:20:13 PM
58	N018548-004C	SAMP	1	02/07/2016	05:24:31 PM
59	N018548-005C	SAMP	1	02/07/2016	05:29:23 PM
60	N018548-006C	SAMP	1	02/07/2016	05:34:14 PM
61	N018548-007C	SAMP	1	02/07/2016	05:39:06 PM
62	N018548-008C	SAMP	1	02/07/2016	05:43:58 PM
63	N018548-009C	SAMP	1	02/07/2016	05:48:50 PM
64	N018548-010C	SAMP	1	02/07/2016	05:53:41 PM
65	N018549-002C	SAMP	1	02/07/2016	05:58:32 PM
66	N018549-003C	SAMP	1	02/07/2016	06:03:23 PM
67	N018549-003C-MS	MS	1	02/07/2016	06:08:14 PM
7	CCV3	CCV	1	02/07/2016	06:14:06 PM
1	CCB3	CCB	1	02/07/2016	06:19:30 PM
68	N018549-004C	SAMP	1	02/07/2016	06:23:49 PM
69	N018549-005C	SAMP	1	02/07/2016	06:28:40 PM
70	N018560-002C	SAMP	1	02/07/2016	06:33:31 PM
71	N018560-003C	SAMP	1	02/07/2016	06:38:22 PM
72	N018560-004C	SAMP	1	02/07/2016	06:43:13 PM
73	N018560-005C	SAMP	1	02/07/2016	06:48:04 PM
74	N018560-006C	SAMP	1	02/07/2016	06:52:55 PM
75	N018560-007C	SAMP	1	02/07/2016	06:57:47 PM
76	N018560-008C	SAMP	1	02/07/2016	07:02:39 PM
98	MB-56137	MBLK	1	02/07/2016	07:07:31 PM
7	CCV4	CCV	1	02/07/2016	07:11:52 PM
1	CCB4	CCB	1	02/07/2016	07:17:17 PM
99	LCS-56137	LCS	1	02/07/2016	07:22:06 PM
100	N018561-004B	SAMP	1	02/07/2016	07:27:59 PM
101	N018561-004B	SAMP	5	02/07/2016	07:32:52 PM
102	N018561-004B-PS	PS	1	02/07/2016	07:37:43 PM
103	N018561-004B-MS	MS	1	02/07/2016	07:43:35 PM
104	N018561-004B-MSD	MSD	1	02/07/2016	07:49:30 PM
105	N018561-005B	SAMP	1	02/07/2016	07:55:24 PM
106	N018632-011B	SAMP	1	02/07/2016	08:00:17 PM
107	N018632-012B	SAMP	1	02/07/2016	08:05:08 PM
108	N018633-001B	SAMP	1	02/07/2016	08:10:00 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
7	CCV5	CCV	1	02/07/2016	08:15:52 PM
1	CCB5	CCB	1	02/07/2016	08:21:17 PM
2	LLCCV2	CCV2	1	02/07/2016	08:26:06 PM
4	ICSA2	ICSA	1	02/07/2016	08:30:55 PM
5	ICSAB2	ICSAB	1	02/07/2016	08:36:52 PM
109	N018633-002B	SAMP	1	02/07/2016	08:41:58 PM
110	N018633-003B	SAMP	1	02/07/2016	08:47:50 PM
111	N018633-004B	SAMP	1	02/07/2016	08:53:42 PM
112	N018633-005B	SAMP	1	02/07/2016	08:59:36 PM
113	N018633-006B	SAMP	1	02/07/2016	09:05:29 PM
114	N018633-007B	SAMP	1	02/07/2016	09:11:21 PM
115	N018633-007B-MS	MS	1	02/07/2016	09:17:12 PM
116	N018633-008B	SAMP	1	02/07/2016	09:23:07 PM
117	N018633-009B	SAMP	1	02/07/2016	09:28:58 PM
118	N018633-010B	SAMP	1	02/07/2016	09:34:52 PM
7	CCV6	CCV	1	02/07/2016	09:39:43 PM
1	CCB6	CCB	1	02/07/2016	09:45:09 PM
119	N018633-011B	SAMP	1	02/07/2016	09:49:58 PM
120	N018633-012B	SAMP	1	02/07/2016	09:54:51 PM
121	N018634-001B	SAMP	1	02/07/2016	10:00:43 PM
122	N018634-002B	SAMP	1	02/07/2016	10:05:34 PM
123	N018634-003B	SAMP	1	02/07/2016	10:11:28 PM
124	N018634-004B	SAMP	1	02/07/2016	10:16:21 PM
7	CCV7	CCV	1	02/07/2016	10:21:14 PM
1	CCB7	CCB	1	02/07/2016	10:26:38 PM
2	LLCCV3	CCV2	1	02/07/2016	10:30:57 PM
4	ICSA3	ICSA	1	02/07/2016	10:35:47 PM
5	ICSAB3	ICSAB	1	02/07/2016	10:41:44 PM

INJECTION LOG: 160209A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/09/2016	09:15:07 AM
2	Standard1	ICAL	1	02/09/2016	09:19:29 AM
3	Standard2	ICAL	1	02/09/2016	09:24:18 AM
4	Standard3	ICAL	1	02/09/2016	09:29:08 AM
5	Standard4	ICAL	1	02/09/2016	09:34:01 AM
6	Standard5	ICAL	1	02/09/2016	09:39:53 AM
7	Standard6	ICAL	1	02/09/2016	09:47:05 AM
8	Standard7	ICAL	1	02/09/2016	09:53:11 AM
9	ICV	ICV	1	02/09/2016	09:59:37 AM
1	ICB	ICB	1	02/09/2016	10:05:28 AM
2	LLCCV1	CCV1	1	02/09/2016	10:09:46 AM
4	ICSA1	ICSA	1	02/09/2016	10:14:35 AM
5	ICSAB1	ICSAB	1	02/09/2016	10:20:32 AM
38	MB-56157	MBLK	1	02/09/2016	10:26:30 AM
39	LCS-56157	LCS	1	02/09/2016	10:30:50 AM
40	N018560-009C	SAMP	1	02/09/2016	10:36:42 AM
41	N018560-009C	SAMP	5	02/09/2016	10:41:32 AM
42	N018560-009C-PS	PS	1	02/09/2016	10:46:21 AM
43	N018560-009C-MS	MS	1	02/09/2016	10:52:11 AM
44	N018560-009C-MSD	MSD	1	02/09/2016	10:58:01 AM
45	N018560-010C	SAMP	1	02/09/2016	11:03:52 AM
46	N018561-004C	SAMP	1	02/09/2016	11:08:43 AM
47	N018561-005C	SAMP	1	02/09/2016	11:13:35 AM
7	CCV1	CCV	1	02/09/2016	11:18:25 AM
1	CCB1	CCB	1	02/09/2016	11:24:15 AM
50	MB-56126	MBLK	1	02/09/2016	11:28:32 AM
51	LCS1-56126	LCS	1	02/09/2016	11:32:52 AM
52	N018617-011B	SAMP	1	02/09/2016	11:38:44 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
53	N018617-011B	SAMP	5	02/09/2016	11:44:34 AM
54	N018617-011B-PS	PS	1	02/09/2016	11:49:23 AM
55	N018617-011B-MS	MS	1	02/09/2016	11:55:14 AM
56	N018617-011B-MSD	MSD	1	02/09/2016	12:01:07 PM
57	N018617-012B	SAMP	1	02/09/2016	12:06:59 PM
58	N018618-001B	SAMP	1	02/09/2016	12:11:47 PM
59	N018618-002B	SAMP	1	02/09/2016	12:17:38 PM
7	CCV2	CCV	1	02/09/2016	12:22:29 PM
1	CCB2	CCB	1	02/09/2016	12:28:19 PM
60	N018618-003B	SAMP	1	02/09/2016	12:32:36 PM
61	N018618-004B	SAMP	1	02/09/2016	12:38:28 PM
62	N018618-005B	SAMP	1	02/09/2016	12:43:19 PM
63	N018618-006B	SAMP	1	02/09/2016	12:48:09 PM
64	N018628-001B	SAMP	1	02/09/2016	12:52:59 PM
65	N018628-002B	SAMP	1	02/09/2016	12:58:50 PM
66	N018632-001B	SAMP	1	02/09/2016	01:04:42 PM
67	N018632-001B-MS	MS	1	02/09/2016	01:09:32 PM
68	N018632-002B	SAMP	1	02/09/2016	01:15:23 PM
69	N018632-003B	SAMP	1	02/09/2016	01:21:13 PM
7	CCV3	CCV	1	02/09/2016	01:27:04 PM
1	CCB3	CCB	1	02/09/2016	01:32:54 PM
2	LLCCV2	CCV2	1	02/09/2016	01:37:12 PM
4	ICSA2	ICSA	1	02/09/2016	01:42:01 PM
5	ICSAB2	ICSAB	1	02/09/2016	01:47:58 PM
70	N018632-004B	SAMP	1	02/09/2016	01:53:55 PM
71	N018632-005B	SAMP	1	02/09/2016	01:59:47 PM
72	N018632-006B	SAMP	1	02/09/2016	02:05:40 PM
73	N018632-007B	SAMP	1	02/09/2016	02:11:32 PM
74	N018632-008B	SAMP	1	02/09/2016	02:17:23 PM
75	N018632-009B	SAMP	1	02/09/2016	02:23:14 PM
76	N018632-010B	SAMP	1	02/09/2016	02:29:04 PM
77	MB-56125	MBLK	1	02/09/2016	02:34:55 PM
78	LCS-56125	LCS	1	02/09/2016	02:39:15 PM
79	N018629-001A	SAMP	5	02/09/2016	02:45:06 PM
7	CCV4	CCV	1	02/09/2016	02:49:56 PM
1	CCB4	CCB	1	02/09/2016	02:55:47 PM
80	N018629-002A	SAMP	5	02/09/2016	03:00:06 PM
81	N018629-002A	SAMP	25	02/09/2016	03:05:56 PM
82	N018629-002A-PS	PS	5	02/09/2016	03:10:46 PM
83	N018629-002A-MS	MS	5	02/09/2016	03:16:37 PM
84	N018629-002A-MSD	MSD	5	02/09/2016	03:22:28 PM
85	N018629-003A	SAMP	5	02/09/2016	03:28:18 PM
86	N018629-004A	SAMP	5	02/09/2016	03:34:11 PM
87	N018630-001A	SAMP	5	02/09/2016	03:40:03 PM
88	N018630-002A	SAMP	5	02/09/2016	03:44:54 PM
89	N018630-003A	SAMP	5	02/09/2016	03:49:45 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
7	CCV5	CCV	1	02/09/2016	03:54:35 PM
1	CCB5	CCB	1	02/09/2016	04:00:25 PM
90	N018630-004A	SAMP	5	02/09/2016	04:05:13 PM
91	N018630-005A	SAMP	5	02/09/2016	04:10:03 PM
92	N018630-006A	SAMP	5	02/09/2016	04:14:54 PM
93	N018630-007A	SAMP	5	02/09/2016	04:20:46 PM
94	N018630-007A-MS	MS	5	02/09/2016	04:25:37 PM
95	N018630-008A	SAMP	5	02/09/2016	04:31:29 PM
96	N018630-009A	SAMP	5	02/09/2016	04:37:21 PM
97	N018630-010A	SAMP	5	02/09/2016	04:43:13 PM
98	N018630-011A	SAMP	5	02/09/2016	04:49:22 PM
99	MB-56138	MBLK	1	02/09/2016	04:55:14 PM
7	CCV6	CCV	1	02/09/2016	04:59:36 PM
1	CCB6	CCB	1	02/09/2016	05:05:27 PM
2	LLCCV3	CCV2	1	02/09/2016	05:10:16 PM
4	ICSA3	ICSA	1	02/09/2016	05:15:05 PM
4	ICSA3	ICSA	1	02/09/2016	05:39:21 PM
5	ICSAB3	ICSAB	1	02/09/2016	05:45:18 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/2/2016 8:53:09 A**
Prep End Date: **2/2/2016 1:00:00 P**

For: 02/09/2016
Initials/ Date: _____

Prep Batch **56083** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**01-24**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56083	Aqueous		25	☐	0	0	25	1.000		
MB-56083	Aqueous		25	☐	0	0	25	1.000		
N018548-002C	Water	<2	25	☐	0	0	25	1.000		
N018548-002C-MS	Water	<2	25	☐	0	0	25	1.000		
N018548-002C-MS	Water	<2	25	☐	0	0	25	1.000		
N018548-003C	Water	<2	25	☐	0	0	25	1.000		
N018548-004C	Water	<2	25	☐	0	0	25	1.000		
N018548-005C	Water	<2	25	☐	0	0	25	1.000		
N018548-006C	Water	<2	25	☐	0	0	25	1.000		
N018548-007C	Water	<2	25	☐	0	0	25	1.000		
N018548-008C	Water	<2	25	☐	0	0	25	1.000		
N018548-009C	Water	<2	25	☐	0	0	25	1.000		
N018548-010C	Water	<2	25	☐	0	0	25	1.000		
N018549-002C	Water	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8267	NITRIC ACID
8271	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/2/2016 8:53:09 A**
Prep End Date: **2/2/2016 1:00:00 P**

For: 02/09/2016
Initials/ Date: _____

Prep Batch **56083** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**01-24**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018549-003C	Water	<2	25	☐	0	0	25	1.000		
N018549-003C-MS	Water	<2	25	☐	0	0	25	1.000		
N018549-004C	Water	<2	25	☐	0	0	25	1.000		
N018549-005C	Water	<2	25	☐	0	0	25	1.000		
N018560-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-008C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8267	NITRIC ACID
8271	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/7/2016 1:26:31 P**
Prep End Date: **2/7/2016 5:30:00 P**

Initials/ Date: For: 02/10/2016

Prep Batch **56157** Prep Code: **3010_W** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**01-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56157	Aqueous		25	☐	0	0	25	1.000		
MB-56157	Aqueous		25	☐	0	0	25	1.000		
N018560-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-010C	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-005C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160207B

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	02/07/2016	01:40:12 PM	Fe	273.953	-155	0.00	mg/L	
Standard1	02/07/2016	01:45:02 PM	Fe	273.953	625	0.0200	mg/L	
Standard2	02/07/2016	01:49:20 PM	Fe	273.953	1558	0.050	mg/L	
Standard3	02/07/2016	01:54:09 PM	Fe	273.953	58758	2.000	mg/L	
Standard4	02/07/2016	01:59:01 PM	Fe	273.953	148579	5.000	mg/L	
Standard5	02/07/2016	02:04:53 PM	Fe	273.953	214187	7.500	mg/L	
Standard6	02/07/2016	02:10:15 PM	Fe	273.953	288464	10.000	mg/L	
Standard7	02/07/2016	02:15:40 PM	Fe	273.953	559227	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160209A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	02/09/2016	09:15:07 AM	Fe	273.953	-71	0.00	mg/L	
Standard1	02/09/2016	09:19:29 AM	Fe	273.953	547	0.0200	mg/L	
Standard2	02/09/2016	09:24:18 AM	Fe	273.953	1272	0.050	mg/L	
Standard3	02/09/2016	09:29:08 AM	Fe	273.953	49142	2.000	mg/L	
Standard4	02/09/2016	09:34:01 AM	Fe	273.953	121811	5.000	mg/L	
Standard5	02/09/2016	09:39:53 AM	Fe	273.953	183745	7.500	mg/L	
Standard6	02/09/2016	09:47:05 AM	Fe	273.953	240597	10.000	mg/L	
Standard7	02/09/2016	09:53:11 AM	Fe	273.953	458706	20.000	mg/L	0.9996

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10187.982	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22.305	20	20.00	0	112	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10236.948	20	10000	0	102	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10294.361	20	10000	0	103	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10220.227	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	CCV4	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105743
Client ID:	CCV	Batch ID:	R105743	TestNo:	EPA 6010B			Analysis Date:	2/7/2016	SeqNo:	2224841

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10157.728	20	10000	0	102	90	110				

Sample ID	CCV5	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105743
Client ID:	CCV	Batch ID:	R105743	TestNo:	EPA 6010B			Analysis Date:	2/7/2016	SeqNo:	2224853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10100.257	20	10000	0	101	90	110				

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105743
Client ID:	ZZZZZZ	Batch ID:	R105743	TestNo:	EPA 6010B			Analysis Date:	2/7/2016	SeqNo:	2224855

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	21.253	20	20.00	0	106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	ICV	SampType:	ICV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ICV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10312.988	20	10000	0	103	90	110				

Sample ID	LLCCV1	SampType:	CCV1	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	21.948	20	20.00	0	110	80	120				

Sample ID	CCV1	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10335.905	20	10000	0	103	90	110				

Sample ID	CCV2	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226657

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10265.818	20	10000	0	103	90	110				

Sample ID	CCV3	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226669

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10284.755	20	10000	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ZZZZZZ** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22.566	20	20.00	0	113	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.439	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.097	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.373	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.626	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.515	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCB5** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.243948	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	ICB	6010_WPGE	ug/L		105767
Client ID	**Batch ID**	**TestNo**		**Analysis Date**	**SeqNo**
ICB	R105767	EPA 6010B		2/9/2016	2226631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.334	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB1	CCB	6010_WPGE	ug/L		105767
Client ID	**Batch ID**	**TestNo**		**Analysis Date**	**SeqNo**
CCB	R105767	EPA 6010B		2/9/2016	2226646

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.550	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB2	CCB	6010_WPGE	ug/L		105767
Client ID	**Batch ID**	**TestNo**		**Analysis Date**	**SeqNo**
CCB	R105767	EPA 6010B		2/9/2016	2226658

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB3	CCB	6010_WPGE	ug/L		105767
Client ID	**Batch ID**	**TestNo**		**Analysis Date**	**SeqNo**
CCB	R105767	EPA 6010B		2/9/2016	2226670

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.203454	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSA** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	490771.553	50	500000	0	98.2	80	120				
Calcium	478957.006	500	500000	0	95.8	80	120				
Iron	174063.017	20	200000	0	87.0	80	120				
Magnesium	485191.492	100	500000	0	97.0	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSAB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536970.146	50	500000	0	107	80	120				
Calcium	515642.596	500	500000	0	103	80	120				
Iron	181457.281	20	200000	0	90.7	80	120				
Magnesium	506834.537	100	500000	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSA** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	484213.590	50	500000	0	96.8	80	120				
Calcium	474938.389	500	500000	0	95.0	80	120				
Iron	171946.084	20	200000	0	86.0	80	120				
Magnesium	474424.053	100	500000	0	94.9	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSAB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528860.318	50	500000	0	106	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105743
Client ID:	ICSAB	Batch ID:	R105743	TestNo:	EPA 6010B			Analysis Date:	2/7/2016	SeqNo:	2224857

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	515463.580	500	500000	0	103	80	120				
Iron	184764.087	20	200000	0	92.4	80	120				
Magnesium	516389.108	100	500000	0	103	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSA** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	476491.864	50	500000	0	95.3	80	120				
Calcium	485268.826	500	500000	0	97.1	80	120				
Iron	161491.519	20	200000	0	80.7	80	120				
Magnesium	457865.596	100	500000	0	91.6	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSAB** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	538824.926	50	500000	0	108	80	120				
Calcium	544176.877	500	500000	0	109	80	120				
Iron	181847.378	20	200000	0	90.9	80	120				
Magnesium	512414.214	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSA** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	477492.448	50	500000	0	95.5	80	120				
Calcium	481907.291	500	500000	0	96.4	80	120				
Iron	160617.521	20	200000	0	80.3	80	120				
Magnesium	444262.489	100	500000	0	88.9	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSAB** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	539466.486	50	500000	0	108	80	120				
Calcium	540941.196	500	500000	0	108	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ICSAB	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226673

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	180314.544	20	200000	0	90.2	80	120				
Magnesium	495873.747	100	500000	0	99.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.0017	100.17	65-125	PASS
Standard2	ICAL	1	1.21	120.9	65-125	PASS
Standard3	ICAL	1	1.0029	100.29	65-125	PASS
Standard4	ICAL	1	1.14	114.42	65-125	PASS
Standard5	ICAL	1	1.21	121.15	65-125	PASS
Standard6	ICAL	1	1.037	103.7	65-125	PASS
Standard7	ICAL	1	1.03	102.97	65-125	PASS
ICV	ICV	1	1.055	105.5	65-125	PASS
ICB	ICB	1	1.0065	100.65	65-125	PASS
ICB	ICB	1	1.0041	100.41	65-125	PASS
LLCCV1	CCV1	1	1.0082	100.82	65-125	PASS
LLCCV1	CCV1	1	1.0062	100.62	65-125	PASS
ICSA1	ICSA	1	0.92	92.4	65-125	PASS
ICSAB1	ICSAB	1	0.95	94.99	65-125	PASS
CCV1	CCV	1	1.033	103.26	65-125	PASS
CCB1	CCB	1	1	99.76	65-125	PASS
MB-56083	MBLK	1	1.014	101.41	65-125	PASS
LCS-56083	LCS	1	0.95	94.56	65-125	PASS
N018548-002C	SAMP	1	1.14	113.61	65-125	PASS
N018548-002C	SAMP	5	1.032	103.24	65-125	PASS
N018548-002C-PS	PS	1	1.14	113.6	65-125	PASS
N018548-002C-MS	MS	1	1.13	113.48	65-125	PASS
N018548-002C-MSD	MSD	1	1.14	113.75	65-125	PASS
N018548-003C	SAMP	1	1.13	113.28	65-125	PASS
CCV2	CCV	1	1.031	103.13	65-125	PASS
CCB2	CCB	1	1	99.53	65-125	PASS
N018548-004C	SAMP	1	1.14	114.12	65-125	PASS
N018548-005C	SAMP	1	1.13	112.9	65-125	PASS
N018548-006C	SAMP	1	1.14	114.03	65-125	PASS
N018548-007C	SAMP	1	1.14	114.47	65-125	PASS
N018548-008C	SAMP	1	1.13	112.88	65-125	PASS
N018548-009C	SAMP	1	1.14	114.34	65-125	PASS
N018548-010C	SAMP	1	1.11	111.12	65-125	PASS
N018549-002C	SAMP	1	1.12	112.25	65-125	PASS
N018549-003C	SAMP	1	1.13	113.27	65-125	PASS
N018549-003C-MS	MS	1	1.11	110.59	65-125	PASS
CCV3	CCV	1	1.027	102.68	65-125	PASS
CCB3	CCB	1	1	99.55	65-125	PASS
N018549-004C	SAMP	1	1.14	114.08	65-125	PASS
N018549-005C	SAMP	1	1.14	114.41	65-125	PASS

INTERNAL STANDARD: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018560-002C	SAMP	1	1.12	111.58	65-125	PASS
N018560-003C	SAMP	1	1.1	110.41	65-125	PASS
N018560-004C	SAMP	1	1.1	110.1	65-125	PASS
N018560-005C	SAMP	1	1.12	111.58	65-125	PASS
N018560-006C	SAMP	1	1.13	113.3	65-125	PASS
N018560-007C	SAMP	1	1.12	112.4	65-125	PASS
N018560-008C	SAMP	1	1.13	112.83	65-125	PASS
CCV4	CCV	1	1.028	102.8	65-125	PASS
CCB4	CCB	1	0.99	99.46	65-125	PASS
CCV5	CCV	1	1.035	103.46	65-125	PASS
CCB5	CCB	1	1.0035	100.35	65-125	PASS
LLCCV2	CCV2	1	1	100	65-125	PASS
ICSA2	ICSA	1	0.92	91.52	65-125	PASS
ICSAB2	ICSAB	1	0.94	93.51	65-125	PASS
CCV6	CCV	1	1.04	104.01	65-125	PASS
CCB6	CCB	1	1.0031	100.31	65-125	PASS
CCV7	CCV	1	1.042	104.24	65-125	PASS
CCB7	CCB	1	1.0037	100.37	65-125	PASS
LLCCV3	CCV2	1	1.0063	100.63	65-125	PASS
ICSA3	ICSA	1	0.92	91.76	65-125	PASS
ICSAB3	ICSAB	1	0.94	93.94	65-125	PASS

INTERNAL STANDARD: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.78	65-125	PASS
Standard2	ICAL	1	1.18	118.4	65-125	PASS
Standard3	ICAL	1	1.13	112.69	65-125	PASS
Standard4	ICAL	1	1.028	102.77	65-125	PASS
Standard5	ICAL	1	1.11	110.89	65-125	PASS
Standard6	ICAL	1	0.99	98.79	65-125	PASS
Standard7	ICAL	1	0.98	98.13	65-125	PASS
ICV	ICV	1	1	99.86	65-125	PASS
ICB	ICB	1	1	99.75	65-125	PASS
LLCCV1	CCV1	1	1.0023	100.23	65-125	PASS
ICSA1	ICSA	1	0.93	93.31	65-125	PASS
ICSAB1	ICSAB	1	0.85	84.67	65-125	PASS
MB-56157	MBLK	1	1.01	101.03	65-125	PASS
LCS-56157	LCS	1	1	99.57	65-125	PASS
N018560-009C	SAMP	1	1.013	101.28	65-125	PASS
N018560-009C	SAMP	5	1.0057	100.57	65-125	PASS
N018560-009C-PS	PS	1	0.95	95.41	65-125	PASS
N018560-009C-MS	MS	1	0.94	93.69	65-125	PASS
N018560-009C-MSD	MSD	1	0.93	93.28	65-125	PASS
N018560-010C	SAMP	1	1.0034	100.34	65-125	PASS
N018561-004C	SAMP	1	0.98	98.47	65-125	PASS
N018561-005C	SAMP	1	0.98	98.065	65-125	PASS
CCV1	CCV	1	1	99.65	65-125	PASS
CCB1	CCB	1	1.008	100.8	65-125	PASS
CCV2	CCV	1	1.016	101.57	65-125	PASS
CCB2	CCB	1	1.026	102.62	65-125	PASS
CCV3	CCV	1	1.018	101.83	65-125	PASS
CCB3	CCB	1	1.02	101.97	65-125	PASS
LLCCV2	CCV2	1	1.02	101.96	65-125	PASS
ICSA2	ICSA	1	0.95	95.1	65-125	PASS
ICSAB2	ICSAB	1	0.87	86.81	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018560
Test Method: EPA 6010B
Analysis Date: 02/07/16

Matrix: Groundwater
Batch No.: 56083

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018548-002C-DT 5X	Iron	ug/L	105	NA	92.51962	13.71%	10

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018560
Test Method: EPA 6010B
Analysis Date: 02/09/16

Matrix: Groundwater
Batch No.: 56157

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018560-009C-DT 5X	Iron	ug/L	192.2205	NA	173.9650	10.49%	10

Note: NA - Not Applicable

ASSET Laboratories

Date: *10-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	**N018548-002C-PS**	SampType:	**PS**	TestCode:	**6010_WPGE**	Units:	**ug/L**	Prep Date:		RunNo:	**105743**
Client ID:	**ZZZZZZ**	Batch ID:	**56083**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**2/7/2016**	SeqNo:	**2224813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	185.360	20	100.0	92.52	92.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	N018560-009C-PS	SampType:	PS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226639

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	271.395	20	100.0	174.0	97.4	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56078
ASSET #: N018560

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/5/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

Ba in N018560-002B PS/MS/MSD is over linear range. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/10/2016 Date: —

2nd Level Reviewer 2/11/201 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56078 **Instrument ID:** ICPMS-02
ASSET #: N018560 **Analyst:** CEI
Method: **Date Analyzed:** 2/8/2016

[ ] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?		X				
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.		X				
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For dilution of Ba in N018560-002B PS/MS/MSD only.
%Rec of Ba in CCV6 failed, high bias. However samples affected are closed by CCV5.
Dilution test failed for Ba. However PS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/10/2016 Date: –
2nd Level Reviewer 2/11/201 Date: –

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Arsenic concentration, in ug/L in the original sample as follows:

Arsenic , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018560-002B** , the concentration in ug/L is calculated as follows:

Arsenic , ug/L = 2.31404 * 1 * (25/25)

Arsenic , ug/L = 2.314040

Reporting results in two significant figures,

Arsenic , ug/L = 2.3

% RSD SUMMARY

PERCENT RSD SUMMARY: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	4.04	15	PASS	0.096	2.073	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.51	1.053	15	PASS	0.47	3.79	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	0.61	15	PASS	4.81	0.23	15	PASS
Std4-10/100 ppb	ICAL	1	9.74	0.65	15	PASS	9.56	0.49	15	PASS
Std5-20/200 ppb	ICAL	1	19.52	0.46	15	PASS	19.16	0.72	15	PASS
Std6-40/400 ppb	ICAL	1	38.86	0.14	15	PASS	38.5	0.38	15	PASS
Std7-100/1000 ppb	ICAL	1	100.24	0.27	15	PASS	100.35	0.73	15	PASS
Std8-200/2000 ppb	ICAL	1	200.17	0.33	15	PASS	200.24	0.77	15	PASS
ICV	ICV	1	99.98	0.6	15	PASS	9.55	0.32	15	PASS
ICB	ICB	1	0.0048	30.096	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.039	1.12	20	PASS	0.99	0.72	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.16	3.46	15	PASS
ICSAB1	ICSAB	1	20.025	0.27	15	PASS	20.26	1.14	15	PASS
CCV1	CCV	1	19.9	0.32	15	PASS	19.35	1.12	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
MB-56078	MBLK	1	0.085	7.056	15	PASS	0.02	19.87	15	<PQL
LCS-56078	LCS	1	97.64	0.59	15	PASS	9.45	0.8	15	PASS
N018560-002B	SAMP	1	135.17	0.37	15	PASS	0.0097	18.013	15	<PQL
N018560-002B	SAMP	5	27.094	0.081	15	PASS	0.00044	498.83	15	<PQL
N018560-002B-PS	PS	1	230.99	0.068	15	PASS	8.93	0.79	15	PASS
CCV2	CCV	1	19.76	0.36	15	PASS	19.24	0.33	15	PASS
CCB2	CCB	1	0.0056	15.36	15	<PQL	<0.000	N/A	15	<PQL
N018560-002B-MS	MS	1	232.9	0.41	15	PASS	9.069	0.52	15	PASS
N018560-002B-MSD	MSD	1	230.57	0.56	15	PASS	9.15	0.76	15	PASS
N018560-003B	SAMP	1	130.43	0.35	15	PASS	0.051	16.71	15	<PQL
N018560-004B	SAMP	1	142.12	0.2	15	PASS	0.033	19.26	15	<PQL
N018560-005B	SAMP	1	140.31	0.61	15	PASS	<0.000	N/A	15	<PQL
N018560-006B	SAMP	1	133.67	1.12	15	PASS	0.024	30.51	15	<PQL
N018560-007B	SAMP	1	133.4	0.21	15	PASS	<0.000	N/A	15	<PQL
N018560-008B	SAMP	1	137.48	0.31	15	PASS	0.033	61.26	15	<PQL
N018560-009B	SAMP	1	135.78	0.54	15	PASS	0.052	6.1	15	PASS
N018560-010B	SAMP	1	134.58	0.54	15	PASS	0.0082	38.11	15	<PQL
CCV3	CCV	1	19.57	0.14	15	PASS	19.5	0.6	15	PASS
CCB3	CCB	1	0.0051	36.85	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.045	0.16	20	PASS	1	2.77	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.18	2.27	15	PASS
ICSAB2	ICSAB	1	19.89	0.073	15	PASS	20.14	0.66	15	PASS
CCV4	CCV	1	19.67	0.88	15	PASS	19.75	1.017	15	PASS
CCB4	CCB	1	0.0064	8.36	15	PASS	<0.000	N/A	15	<PQL
CCV5	CCV	1	20.012	0.48	15	PASS	19.086	1.32	15	PASS

PERCENT RSD SUMMARY: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCB5	CCB	1	0.02	3.56	15	PASS	0.013	21.75	15	<PQL
CCV6	CCV	1	20.44	0.35	15	PASS	18.73	1.11	15	PASS
CCB6	CCB	1	0.021	10.25	15	PASS	0.011	25.94	15	<PQL
CCV7	CCV	1	20.76	0.22	15	PASS	18.74	0.17	15	PASS
CCB7	CCB	1	0.021	9.25	15	PASS	0.0079	50.68	15	<PQL
LLCCV2	CCV2	1	1.1	1.15	20	PASS	0.97	0.68	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.16	4.69	15	PASS
ICSAB3	ICSAB	1	20.5	0.74	15	PASS	19.46	0.39	15	PASS

PERCENT RSD SUMMARY: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.094	5.7	15	PASS	0.11	10.96	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.49	0.86	15	PASS	0.51	4.17	15	PASS
Std3-5/50 ppb	ICAL	1	4.8	1.64	15	PASS	4.98	2.58	15	PASS
Std4-10/100 ppb	ICAL	1	9.58	0.15	15	PASS	9.88	1.12	15	PASS
Std5-20/200 ppb	ICAL	1	19.2	0.76	15	PASS	20.031	1.33	15	PASS
Std6-40/400 ppb	ICAL	1	38.73	0.27	15	PASS	39.9	0.72	15	PASS
Std7-100/1000 ppb	ICAL	1	95.96	0.76	15	PASS	100.3	0.52	15	PASS
Std8-200/2000 ppb	ICAL	1	202.38	1.088	15	PASS	199.87	0.29	15	PASS
ICV	ICV	1	101.67	0.34	15	PASS	9.92	1.06	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.0043	49.46	15	<PQL
LLICV	CCV1	1	0.59	2.96	20	PASS	0.11	7.96	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	16.72	1.49	15	PASS	21.025	0.9	15	PASS
CCV1	CCV	1	19.078	0.19	15	PASS	19.8	1.068	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0014	99.0019	15	<PQL
MB-56078	MBLK	1	0.047	15.75	15	<PQL	<0.000	N/A	15	<PQL
LCS-56078	LCS	1	88.34	0.33	15	PASS	9.68	2.34	15	PASS
N018560-002B	SAMP	1	0.12	5.64	15	PASS	2.31	1.049	15	PASS
N018560-002B	SAMP	5	0.011	133.68	15	<PQL	0.48	2.47	15	PASS
N018560-002B-PS	PS	1	88.46	0.056	15	PASS	12.18	1.17	15	PASS
CCV2	CCV	1	19.25	0.73	15	PASS	19.91	0.36	15	PASS
CCB2	CCB	1	0.0036	93.61	15	<PQL	0.0036	88.19	15	<PQL
N018560-002B-MS	MS	1	89.0053	0.067	15	PASS	12.36	0.85	15	PASS
N018560-002B-MSD	MSD	1	89.43	0.85	15	PASS	12.22	0.75	15	PASS
N018560-003B	SAMP	1	0.19	16.63	15	<PQL	2.28	1.13	15	PASS
N018560-004B	SAMP	1	40.4	0.46	15	PASS	2.38	2.22	15	PASS
N018560-005B	SAMP	1	69.62	0.51	15	PASS	2.32	3.75	15	PASS
N018560-006B	SAMP	1	<0.000	N/A	15	<PQL	2.29	2.016	15	PASS
N018560-007B	SAMP	1	<0.000	N/A	15	<PQL	2.3	0.43	15	PASS
N018560-008B	SAMP	1	<0.000	N/A	15	<PQL	2.3	2.56	15	PASS
N018560-009B	SAMP	1	<0.000	N/A	15	<PQL	2.33	1.56	15	PASS
N018560-010B	SAMP	1	<0.000	N/A	15	<PQL	2.34	1.98	15	PASS
CCV3	CCV	1	19.34	0.83	15	PASS	19.83	1.24	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.57	1.89	20	PASS	0.11	6.083	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	16.49	0.24	15	PASS	21.2	0.96	15	PASS
CCV4	CCV	1	19.52	0.48	15	PASS	20.18	0.87	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.21	1.23	15	PASS	19.72	0.92	15	PASS

PERCENT RSD SUMMARY: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCB5	CCB	1	0.068	8.55	15	PASS	0.000067	3253.37	15	<PQL
CCV6	CCV	1	19.07	0.91	15	PASS	19.92	0.34	15	PASS
CCB6	CCB	1	0.054	6.64	15	PASS	0.0008	178.45	15	<PQL
CCV7	CCV	1	18.97	0.39	15	PASS	19.99	0.73	15	PASS
CCB7	CCB	1	0.062	7.19	15	PASS	0.00099	661.18	15	<PQL
LLCCV2	CCV2	1	0.6	3.96	20	PASS	0.11	8.96	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	16.73	0.92	15	PASS	21.046	1.26	15	PASS

PERCENT RSD SUMMARY: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	71.21	15	<PQL	0.11	10.76	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.52	8.021	15	PASS	0.48	2.42	15	PASS
Std3-5/50 ppb	ICAL	1	4.93	6.02	15	PASS	4.86	0.79	15	PASS
Std4-10/100 ppb	ICAL	1	9.99	0.55	15	PASS	9.8	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	20.39	2.58	15	PASS	19.45	0.2	15	PASS
Std6-40/400 ppb	ICAL	1	39.62	0.71	15	PASS	38.94	0.13	15	PASS
Std7-100/1000 ppb	ICAL	1	100.014	0.91	15	PASS	98.66	0.24	15	PASS
Std8-200/2000 ppb	ICAL	1	200.032	0.72	15	PASS	200.95	0.89	15	PASS
ICV	ICV	1	10	0.73	15	PASS	9.34	2.13	15	PASS
ICB	ICB	1	0.0027	430.49	15	<PQL	0.036	16.12	15	<PQL
LLICV	CCV1	1	0.51	10.41	20	PASS	0.52	1.75	20	PASS
ICSA1	ICSA	1	0.021	69.91	15	<PQL	0.048	13.48	15	PASS
ICSAB1	ICSAB	1	19.96	1.68	15	PASS	23.28	1.65	15	PASS
CCV1	CCV	1	20.48	2.52	15	PASS	19.48	0.51	15	PASS
CCB1	CCB	1	0.0047	54.47	15	<PQL	0.015	13.43	15	PASS
MB-56078	MBLK	1	0.0039	197.16	15	<PQL	0.067	6.9	15	PASS
LCS-56078	LCS	1	9.92	2.84	15	PASS	9.36	0.92	15	PASS
N018560-002B	SAMP	1	1.6	4.96	15	PASS	5.21	0.53	15	PASS
N018560-002B	SAMP	5	0.32	9.64	15	PASS	1.016	1.76	15	PASS
N018560-002B-PS	PS	1	11.36	1.87	15	PASS	15.79	1.12	15	PASS
CCV2	CCV	1	20.059	2.81	15	PASS	19.53	1.63	15	PASS
CCB2	CCB	1	<0.000	0	15	PASS	0.011	35.14	15	<PQL
N018560-002B-MS	MS	1	11.75	2.13	15	PASS	15.75	0.89	15	PASS
N018560-002B-MSD	MSD	1	11.28	4.91	15	PASS	15.82	1.39	15	PASS
N018560-003B	SAMP	1	1.61	8.029	15	PASS	5.13	2.33	15	PASS
N018560-004B	SAMP	1	1.7	3.055	15	PASS	5.46	0.87	15	PASS
N018560-005B	SAMP	1	1.71	11.2	15	PASS	5.57	0.6	15	PASS
N018560-006B	SAMP	1	1.79	7.59	15	PASS	5.15	0.4	15	PASS
N018560-007B	SAMP	1	1.79	0.63	15	PASS	5.16	1.43	15	PASS
N018560-008B	SAMP	1	1.8	0.8	15	PASS	5.3	1.31	15	PASS
N018560-009B	SAMP	1	1.83	3.12	15	PASS	5.21	2.54	15	PASS
N018560-010B	SAMP	1	1.73	2.089	15	PASS	5.21	2.4	15	PASS
CCV3	CCV	1	20.92	2.34	15	PASS	19.53	1.22	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0.0016	8.26	15	PASS
LLCCV1	CCV2	1	0.57	5.25	20	PASS	0.52	1.91	20	PASS
ICSA2	ICSA	1	0.018	75.58	15	<PQL	0.042	11.057	15	PASS
ICSAB2	ICSAB	1	20.95	2.8	15	PASS	23.47	0.59	15	PASS
CCV4	CCV	1	20.98	3.067	15	PASS	19.32	1.16	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.023	17.063	15	<PQL
CCV5	CCV	1	20.3	0.23	15	PASS	19.45	0.43	15	PASS

PERCENT RSD SUMMARY: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.0033	46.38	15	<PQL
CCV6	CCV	1	20.1	0.94	15	PASS	19.72	1.42	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV7	CCV	1	20.32	2.21	15	PASS	19.71	1.27	15	PASS
CCB7	CCB	1	<0.000	N/A	15	<PQL	0.00044	224.93	15	<PQL
LLCCV2	CCV2	1	0.54	10.076	20	PASS	0.52	0.87	20	PASS
ICSA3	ICSA	1	0.016	27.42	15	<PQL	0.037	12.19	15	PASS
ICSAB3	ICSAB	1	20.39	2.33	15	PASS	23.59	0.47	15	PASS

PERCENT RSD SUMMARY: 160208A

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	1.46	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.52	1.4	15	PASS
Std3-5/50 ppb	ICAL	1	5.096	0.57	15	PASS
Std4-10/100 ppb	ICAL	1	10.28	1.075	15	PASS
Std5-20/200 ppb	ICAL	1	20.32	0.55	15	PASS
Std6-40/400 ppb	ICAL	1	40.8	0.21	15	PASS
Std7-100/1000 ppb	ICAL	1	100.55	1.21	15	PASS
Std8-200/2000 ppb	ICAL	1	199.52	0.94	15	PASS
ICV	ICV	1	99.52	0.75	15	PASS
ICB	ICB	1	0.059	3.42	15	PASS
LLICV	CCV1	1	1.12	0.7	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.79	0.66	15	PASS
CCV1	CCV	1	20.63	0.25	15	PASS
CCB1	CCB	1	0.0027	65.54	15	<PQL
CCV2	CCV	1	21.011	0.23	15	PASS
CCB2	CCB	1	0.0042	66.69	15	<PQL
CCV3	CCV	1	21.019	0.29	15	PASS
CCB3	CCB	1	0.0047	28.083	15	<PQL
CCV4	CCV	1	21.34	0.54	15	PASS
CCB4	CCB	1	0.00027	602.47	15	<PQL
LLCCV1	CCV2	1	1.15	0.7	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	21.87	0.74	15	PASS
N018560-002B	SAMP	25	6.13	0.55	15	PASS
N018560-002B-PS	PS	5	50.99	0.14	15	PASS
N018560-002B-MS	MS	5	50.23	0.27	15	PASS
N018560-002B-MSD	MSD	5	50.13	0.5	15	PASS
CCV5	CCV	1	21.21	0.37	15	PASS
CCB5	CCB	1	0.067	5.85	15	PASS
CCV6	CCV	1	23.4	0.25	15	PASS
CCB6	CCB	1	0.0054	16.32	15	<PQL
CCV7	CCV	1	21.81	0.44	15	PASS
CCB7	CCB	1	0.0074	19.37	15	<PQL
CCV8	CCV	1	21.67	0.21	15	PASS
CCB8	CCB	1	0.0085	26.75	15	<PQL
LLCCV2	CCV2	1	1.18	0.69	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	22.87	0.33	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160205A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0205001.D	RINSE	RINSE	1	02/05/16 9:19 AM
A0205002.D	Cal Blank	IBLK	1	02/05/16 9:24 AM
A0205003.D	Std1-0.1/1 ppb	ICAL	1	02/05/16 9:30 AM
A0205004.D	Std2-0.5/5 ppb	ICAL	1	02/05/16 9:35 AM
A0205005.D	Std3-5/50 ppb	ICAL	1	02/05/16 9:41 AM
A0205006.D	Std4-10/100 ppb	ICAL	1	02/05/16 9:46 AM
A0205007.D	Std5-20/200 ppb	ICAL	1	02/05/16 9:52 AM
A0205008.D	Std6-40/400 ppb	ICAL	1	02/05/16 9:58 AM
A0205009.D	Std7-100/1000 ppb	ICAL	1	02/05/16 10:03 AM
A0205010.D	Std8-200/2000 ppb	ICAL	1	02/05/16 10:09 AM
A0205011.D	ICV	ICV	1	02/05/16 10:40 AM
A0205012.D	ICB	ICB	1	02/05/16 10:45 AM
A0205013.D	LLICV	CCV1	1	02/05/16 10:56 AM
A0205014.D	ICSA1	ICSA	1	02/05/16 11:01 AM
A0205015.D	ICSAB1	ICSAB	1	02/05/16 11:05 AM
A0205016.D	MB-56104	MBLK	1	02/05/16 11:08 AM
A0205017.D	LCS-56104	LCS	1	02/05/16 11:18 AM
A0205018.D	N018642-001H	SAMP	1	02/05/16 11:23 AM
A0205019.D	N018642-001H	SAMP	5	02/05/16 11:29 AM
A0205020.D	N018642-001H-PS	PS	1	02/05/16 11:34 AM
A0205021.D	N018642-001H-MS	MS	1	02/05/16 11:40 AM
A0205022.D	N018642-001H-MSD	MSD	1	02/05/16 11:45 AM
A0205023.D	N018584-010B	SAMP	1	02/05/16 11:51 AM
A0205024.D	N018644-001B	SAMP	1	02/05/16 11:56 AM
A0205025.D	N018644-002B	SAMP	1	02/05/16 12:02 PM
A0205026.D	CCV1	CCV	1	02/05/16 12:08 PM
A0205027.D	CCB1	CCB	1	02/05/16 12:11 PM
A0205028.D	N018645-001C	SAMP	1	02/05/16 12:19 PM
A0205029.D	N018645-002E	SAMP	1	02/05/16 12:24 PM
A0205030.D	N018599-001I	SAMP	1	02/05/16 12:30 PM
A0205031.D	N018599-002I	SAMP	1	02/05/16 12:35 PM
A0205032.D	N018936-001C	SAMP	1	02/05/16 12:41 PM
A0205033.D	MB-56078	MBLK	1	02/05/16 12:46 PM
A0205034.D	LCS-56078	LCS	1	02/05/16 12:50 PM
A0205035.D	N018560-002B	SAMP	1	02/05/16 12:57 PM
A0205036.D	N018560-002B	SAMP	5	02/05/16 1:03 PM
A0205037.D	N018560-002B-PS	PS	1	02/05/16 1:09 PM
A0205038.D	CCV2	CCV	1	02/05/16 1:14 PM
A0205039.D	CCB2	CCB	1	02/05/16 1:17 PM
A0205040.D	N018560-002B-MS	MS	1	02/05/16 1:25 PM
A0205041.D	N018560-002B-MSD	MSD	1	02/05/16 1:31 PM
A0205042.D	N018560-003B	SAMP	1	02/05/16 1:36 PM

INJECTION LOG: 160205A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0205043.D	N018560-004B	SAMP	1	02/05/16 1:42 PM
A0205044.D	N018560-005B	SAMP	1	02/05/16 1:47 PM
A0205045.D	N018560-006B	SAMP	1	02/05/16 1:53 PM
A0205046.D	N018560-007B	SAMP	1	02/05/16 1:58 PM
A0205047.D	N018560-008B	SAMP	1	02/05/16 2:04 PM
A0205048.D	N018560-009B	SAMP	1	02/05/16 2:10 PM
A0205049.D	N018560-010B	SAMP	1	02/05/16 2:15 PM
A0205050.D	CCV3	CCV	1	02/05/16 2:21 PM
A0205051.D	CCB3	CCB	1	02/05/16 2:30 PM
A0205052.D	LLCCV1	CCV2	1	02/05/16 2:32 PM
A0205053.D	ICSA2	ICSA	1	02/05/16 2:37 PM
A0205054.D	ICSAB2	ICSAB	1	02/05/16 2:42 PM
A0205055.D	N018642-001H	SAMP	25	02/05/16 3:01 PM
A0205056.D	N018642-001H-PS	PS	5	02/05/16 3:07 PM
A0205057.D	N018642-001H-MS	MS	5	02/05/16 3:12 PM
A0205058.D	N018642-001H-MSD	MSD	5	02/05/16 3:18 PM
A0205059.D	N018644-002B	SAMP	5	02/05/16 3:24 PM
A0205060.D	N018645-001C	SAMP	5	02/05/16 3:30 PM
A0205061.D	N018645-002E	SAMP	5	02/05/16 3:35 PM
A0205062.D	N018936-001C	SAMP	10	02/05/16 3:41 PM
A0205063.D	MB-56079	MBLK	1	02/05/16 3:46 PM
A0205064.D	LCS-56079	LCS	1	02/05/16 3:52 PM
A0205065.D	CCV4	CCV	1	02/05/16 3:57 PM
A0205066.D	CCB4	CCB	1	02/05/16 4:08 PM
A0205067.D	N018574-001C	SAMP	1	02/05/16 4:14 PM
A0205068.D	N018574-001C	SAMP	5	02/05/16 4:19 PM
A0205069.D	N018574-001C-PS	PS	1	02/05/16 4:25 PM
A0205070.D	N018574-001C-MS	MS	1	02/05/16 4:30 PM
A0205071.D	N018574-001C-MSD	MSD	1	02/05/16 4:36 PM
A0205072.D	N018574-002C	SAMP	1	02/05/16 4:41 PM
A0205073.D	N018574-003C	SAMP	1	02/05/16 4:47 PM
A0205074.D	N018574-004C	SAMP	1	02/05/16 4:52 PM
A0205075.D	N018574-005C	SAMP	1	02/05/16 4:58 PM
A0205076.D	N018574-006C	SAMP	1	02/05/16 5:04 PM
A0205077.D	CCV5	CCV	1	02/05/16 5:09 PM
A0205078.D	CCB5	CCB	1	02/05/16 5:13 PM
A0205079.D	N018574-007C	SAMP	1	02/05/16 5:20 PM
A0205080.D	N018574-008C	SAMP	1	02/05/16 5:26 PM
A0205081.D	N018574-009C	SAMP	1	02/05/16 5:30 PM
A0205082.D	N018574-010C	SAMP	1	02/05/16 5:36 PM
A0205083.D	N018574-011C	SAMP	1	02/05/16 5:41 PM
A0205084.D	N018574-011C-MS	MS	1	02/05/16 5:47 PM

INJECTION LOG: 160205A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0205085.D	N018574-012C	SAMP	1	02/05/16 5:52 PM
A0205086.D	N018619-001B	SAMP	1	02/05/16 5:58 PM
A0205087.D	N018618-001B	SAMP	1	02/05/16 6:03 PM
A0205088.D	N018618-002B	SAMP	1	02/05/16 6:09 PM
A0205089.D	CCV6	CCV	1	02/05/16 6:14 PM
A0205090.D	CCB6	CCB	1	02/05/16 6:18 PM
A0205091.D	N018574-001C	SAMP	1	02/05/16 6:25 PM
A0205092.D	N018618-003B	SAMP	1	02/05/16 6:31 PM
A0205093.D	N018618-004B	SAMP	1	02/05/16 6:36 PM
A0205094.D	N018618-005B	SAMP	1	02/05/16 6:42 PM
A0205095.D	N018618-006B	SAMP	1	02/05/16 6:47 PM
A0205096.D	N018574-011C	SAMP	5	02/05/16 6:53 PM
A0205097.D	N018574-011C-MS	MS	5	02/05/16 6:58 PM
A0205098.D	N018574-011C	SAMP	25	02/05/16 7:04 PM
A0205099.D	N018574-011C-MS	MS	25	02/05/16 7:10 PM
A0205100.D	CCV7	CCV	1	02/05/16 7:15 PM
A0205101.D	CCB7	CCB	1	02/05/16 7:20 PM
A0205102.D	LLCCV2	CCV2	1	02/05/16 7:26 PM
A0205103.D	ICSA3	ICSA	1	02/05/16 7:32 PM
A0205104.D	ICSAB3	ICSAB	1	02/05/16 7:37 PM
A0205105.D	RINSE	RINSE	1	02/05/16 7:43 PM
A0205106.D	RINSE	RINSE	1	02/05/16 7:48 PM

INJECTION LOG: 160208A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0208001.D	RINSE	RINSE	1	02/08/16 9:59 AM
A0208002.D	Cal Blank	IBLK	1	02/08/16 10:04 AM
A0208003.D	Std1-0.1/1 ppb	ICAL	1	02/08/16 10:10 AM
A0208004.D	Std2-0.5/5 ppb	ICAL	1	02/08/16 10:16 AM
A0208005.D	Std3-5/50 ppb	ICAL	1	02/08/16 10:21 AM
A0208006.D	Std4-10/100 ppb	ICAL	1	02/08/16 10:27 AM
A0208007.D	Std5-20/200 ppb	ICAL	1	02/08/16 10:32 AM
A0208008.D	Std6-40/400 ppb	ICAL	1	02/08/16 10:38 AM
A0208009.D	Std7-100/1000 ppb	ICAL	1	02/08/16 10:43 AM
A0208010.D	Std8-200/2000 ppb	ICAL	1	02/08/16 10:49 AM
A0208011.D	ICV	ICV	1	02/08/16 10:54 AM
A0208012.D	ICB	ICB	1	02/08/16 11:00 AM
A0208013.D	LLICV	CCV1	1	02/08/16 11:05 AM
A0208014.D	ICSA1	ICSA	1	02/08/16 11:11 AM
A0208015.D	ICSAB1	ICSAB	1	02/08/16 11:15 AM
A0208016.D	N018616-006B	SAMP	1	02/08/16 12:04 PM
A0208017.D	N018616-007B	SAMP	5	02/08/16 12:10 PM
A0208018.D	N018616-010B	SAMP	5	02/08/16 12:16 PM
A0208019.D	N018616-012B	SAMP	10	02/08/16 12:22 PM
A0208020.D	N018617-001B	SAMP	10	02/08/16 12:28 PM
A0208021.D	N018617-001B-MS	MS	10	02/08/16 12:33 PM
A0208022.D	N018617-004B	SAMP	5	02/08/16 12:39 PM
A0208023.D	N018617-011B	SAMP	5	02/08/16 12:44 PM
A0208024.D	N018628-002B	SAMP	5	02/08/16 12:50 PM
A0208025.D	N018599-001I	SAMP	1	02/08/16 12:56 PM
A0208026.D	N018599-002I	SAMP	1	02/08/16 1:02 PM
A0208027.D	CCV1	CCV	1	02/08/16 1:07 PM
A0208028.D	CCB1	CCB	1	02/08/16 1:13 PM
A0208029.D	MB-56151	MBLK	1	02/08/16 1:22 PM
A0208030.D	LCS-56151	LCS	1	02/08/16 1:27 PM
A0208031.D	N018633-001B	SAMP	1	02/08/16 1:33 PM
A0208032.D	N018633-001B	SAMP	5	02/08/16 1:38 PM
A0208033.D	N018633-001B-PS	PS	1	02/08/16 1:50 PM
A0208034.D	N018633-001B-MS	MS	1	02/08/16 1:56 PM
A0208035.D	N018633-001B-MSD	MSD	1	02/08/16 2:02 PM
A0208036.D	N018633-002B	SAMP	1	02/08/16 2:07 PM
A0208037.D	N018633-003B	SAMP	1	02/08/16 2:13 PM
A0208038.D	N018633-004B	SAMP	1	02/08/16 2:18 PM
A0208039.D	CCV2	CCV	1	02/08/16 2:24 PM
A0208040.D	CCB2	CCB	1	02/08/16 2:30 PM
A0208041.D	N018633-005B	SAMP	1	02/08/16 2:35 PM
A0208042.D	N018633-006B	SAMP	1	02/08/16 2:41 PM

INJECTION LOG: 160208A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0208043.D	N018633-007B	SAMP	1	02/08/16 2:46 PM
A0208044.D	N018633-008B	SAMP	1	02/08/16 2:52 PM
A0208045.D	N018633-009B	SAMP	1	02/08/16 2:57 PM
A0208046.D	N018633-010B	SAMP	1	02/08/16 3:03 PM
A0208047.D	N018633-011B	SAMP	1	02/08/16 3:08 PM
A0208048.D	N018633-011B-MS	MS	1	02/08/16 3:14 PM
A0208049.D	N018633-012B	SAMP	1	02/08/16 3:19 PM
A0208050.D	N018634-001B	SAMP	1	02/08/16 3:25 PM
A0208051.D	CCV3	CCV	1	02/08/16 3:30 PM
A0208052.D	CCB3	CCB	1	02/08/16 3:36 PM
A0208053.D	N018634-002B	SAMP	1	02/08/16 3:41 PM
A0208054.D	N018634-003B	SAMP	1	02/08/16 3:47 PM
A0208055.D	N018634-004B	SAMP	1	02/08/16 3:52 PM
A0208056.D	N018634-005B	SAMP	1	02/08/16 3:58 PM
A0208057.D	N018634-006B	SAMP	1	02/08/16 4:04 PM
A0208058.D	N018634-007B	SAMP	1	02/08/16 4:09 PM
A0208059.D	N018634-008B	SAMP	1	02/08/16 4:15 PM
A0208060.D	N018633-002B	SAMP	5	02/08/16 4:20 PM
A0208061.D	N018633-004B	SAMP	10	02/08/16 4:26 PM
A0208062.D	N018634-007B	SAMP	10	02/08/16 4:31 PM
A0208063.D	CCV4	CCV	1	02/08/16 4:38 PM
A0208064.D	CCB4	CCB	1	02/08/16 4:45 PM
A0208065.D	LLCCV1	CCV2	1	02/08/16 4:51 PM
A0208066.D	ICSA2	ICSA	1	02/08/16 4:56 PM
A0208067.D	ICSAB2	ICSAB	1	02/08/16 5:02 PM
A0208068.D	N018560-002B	SAMP	25	02/08/16 5:09 PM
A0208069.D	N018560-002B-PS	PS	5	02/08/16 5:15 PM
A0208070.D	N018560-002B-MS	MS	5	02/08/16 5:20 PM
A0208071.D	N018560-002B-MSD	MSD	5	02/08/16 5:26 PM
A0208072.D	MB-56152	MBLK	1	02/08/16 5:31 PM
A0208073.D	LCS-56152	LCS	1	02/08/16 5:35 PM
A0208074.D	N018634-009B	SAMP	1	02/08/16 5:40 PM
A0208075.D	N018634-009B	SAMP	5	02/08/16 5:46 PM
A0208076.D	N018634-009B-PS	PS	1	02/08/16 5:51 PM
A0208077.D	N018634-009B-MS	MS	1	02/08/16 5:57 PM
A0208078.D	CCV5	CCV	1	02/08/16 6:02 PM
A0208079.D	CCB5	CCB	1	02/08/16 6:06 PM
A0208080.D	N018634-009B-MSD	MSD	1	02/08/16 6:38 PM
A0208081.D	N018634-010B	SAMP	1	02/08/16 6:44 PM
A0208082.D	N018634-011B	SAMP	1	02/08/16 6:49 PM
A0208083.D	N018634-012B	SAMP	1	02/08/16 6:55 PM
A0208084.D	N018653-001B	SAMP	1	02/08/16 7:00 PM

INJECTION LOG: 160208A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0208085.D	N018653-002B	SAMP	1	02/08/16 7:06 PM
A0208086.D	N018653-003B	SAMP	1	02/08/16 7:11 PM
A0208087.D	N018653-004B	SAMP	1	02/08/16 7:17 PM
A0208088.D	N018653-005B	SAMP	1	02/08/16 7:22 PM
A0208089.D	N018653-005B-MS	MS	1	02/08/16 7:28 PM
A0208090.D	CCV6	CCV	1	02/08/16 7:33 PM
A0208091.D	CCB6	CCB	1	02/08/16 7:39 PM
A0208092.D	N018653-006B	SAMP	1	02/08/16 7:45 PM
A0208093.D	N018653-007B	SAMP	1	02/08/16 7:50 PM
A0208094.D	N018653-008B	SAMP	1	02/08/16 7:56 PM
A0208095.D	N018653-010B	SAMP	1	02/08/16 8:01 PM
A0208096.D	N018653-011B	SAMP	1	02/08/16 8:07 PM
A0208097.D	N018653-012B	SAMP	1	02/08/16 8:12 PM
A0208098.D	N018654-001B	SAMP	1	02/08/16 8:18 PM
A0208099.D	N018654-002B	SAMP	1	02/08/16 8:23 PM
A0208100.D	N018654-003B	SAMP	1	02/08/16 8:29 PM
A0208101.D	N018654-004B	SAMP	1	02/08/16 8:34 PM
A0208102.D	CCV7	CCV	1	02/08/16 8:40 PM
A0208103.D	CCB7	CCB	1	02/08/16 8:45 PM
A0208104.D	N018654-005B	SAMP	1	02/08/16 8:51 PM
A0208105.D	N018653-001B	SAMP	100	02/08/16 8:57 PM
A0208106.D	N018653-002B	SAMP	5	02/08/16 9:02 PM
A0208107.D	N018653-003B	SAMP	10	02/08/16 9:08 PM
A0208108.D	N018653-004B	SAMP	10	02/08/16 9:13 PM
A0208109.D	N018653-005B	SAMP	50	02/08/16 9:19 PM
A0208110.D	N018653-005B-MS	MS	5	02/08/16 9:24 PM
A0208111.D	N018653-006B	SAMP	5	02/08/16 9:30 PM
A0208112.D	N018653-007B	SAMP	5	02/08/16 9:35 PM
A0208113.D	CCV8	CCV	1	02/08/16 9:41 PM
A0208114.D	CCB8	CCB	1	02/08/16 9:46 PM
A0208115.D	LLCCV2	CCV2	1	02/08/16 9:52 PM
A0208116.D	ICSA3	ICSA	1	02/08/16 9:57 PM
A0208117.D	ICSAB3	ICSAB	1	02/08/16 10:03 PM
A0208118.D	RINSE	RINSE	1	02/08/16 10:08 PM
A0208119.D	RINSE	RINSE	1	02/08/16 10:14 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/2/2016 8:20:59 A**
Prep End Date: **2/2/2016 1:00:00 P**

Initials/ Date: For: 02/10/2016

Prep Batch **56078** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56078	Aqueous		25	☐	0	0	25	1.000		
MB-56078	Aqueous		25	☐	0	0	25	1.000		
N018560-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-002B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-002B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-150907	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 5 Feb 2016 08:45:32 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	239024.00	0.00	
24 Mg	1853000.00	0.00	
25 Mg	241562.00	0.00	
26 Mg	284179.00	0.00	
59 Co	2027940.00	0.00	
115 In	3270450.00	0.00	
206 Pb	743354.00	0.00	
207 Pb	639560.00	0.00	
208 Pb	1607280.00	0.00	

RSD (%)

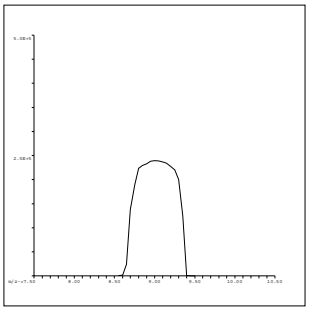
Element	Actual	Required	Flag
9 Be	1.08	5.00	
24 Mg	2.41	5.00	
25 Mg	2.77	5.00	
26 Mg	2.76	5.00	
59 Co	0.69	5.00	
115 In	0.99	5.00	
206 Pb	0.68	5.00	
207 Pb	0.77	5.00	
208 Pb	0.46	5.00	

Ion Ratio

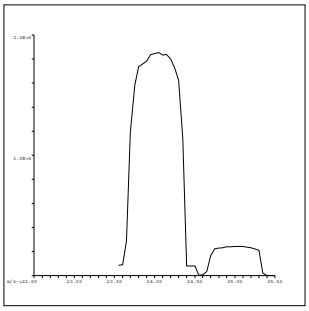
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

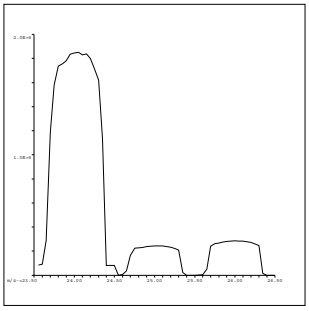
Element	Actual	Required	Flag



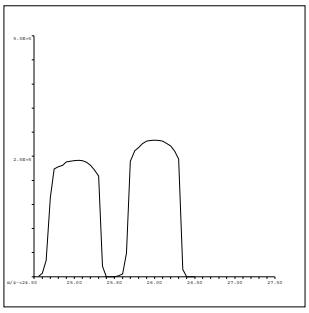
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



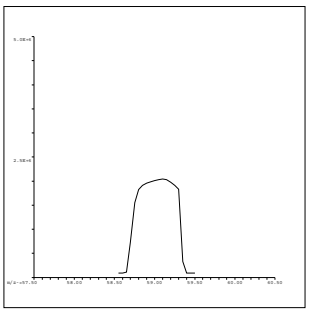
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



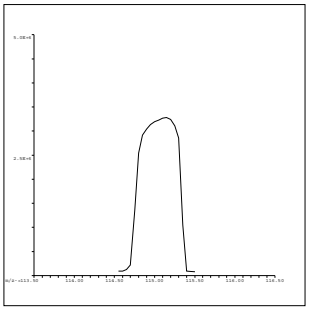
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



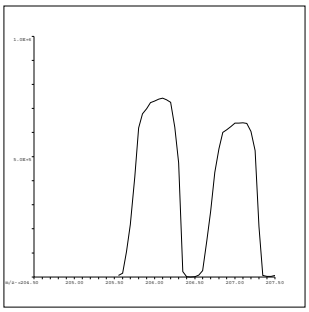
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



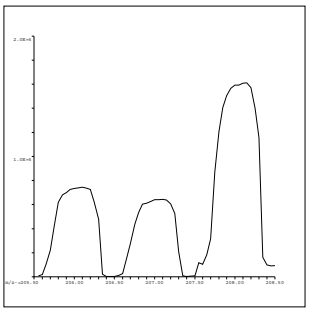
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



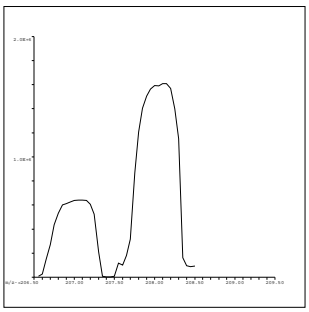
115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.10
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.05
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.10
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Feb 2016 09:30:35 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	162641.00	0.00	
24 Mg	749909.00	0.00	
25 Mg	99390.70	0.00	
26 Mg	117839.00	0.00	
59 Co	1328620.00	0.00	
115 In	2537190.00	0.00	
206 Pb	673970.00	0.00	
207 Pb	586740.00	0.00	
208 Pb	1435320.00	0.00	

RSD (%)

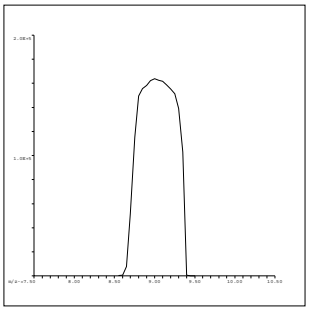
Element	Actual	Required	Flag
9 Be	0.81	5.00	
24 Mg	0.23	5.00	
25 Mg	0.81	5.00	
26 Mg	0.39	5.00	
59 Co	0.87	5.00	
115 In	0.38	5.00	
206 Pb	0.50	5.00	
207 Pb	1.19	5.00	
208 Pb	1.36	5.00	

Ion Ratio

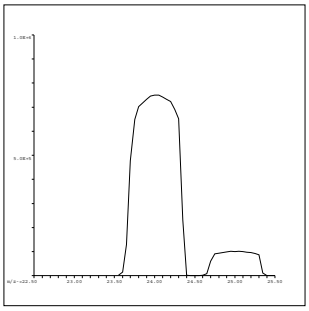
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

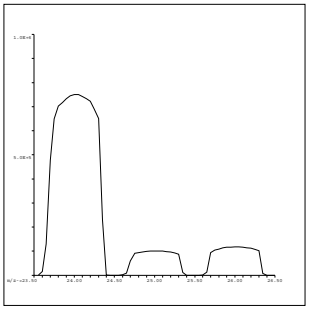
Element	Actual	Required	Flag



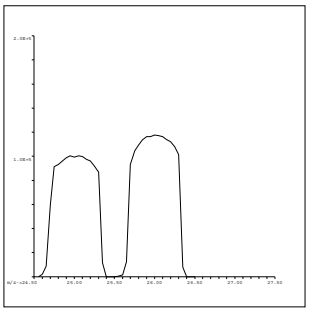
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



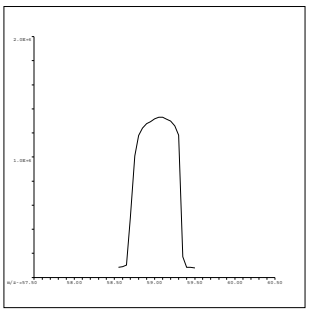
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



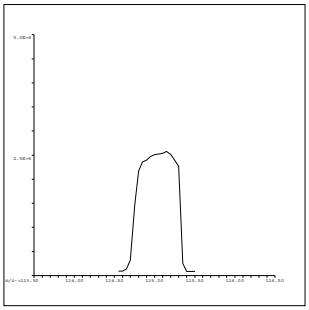
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



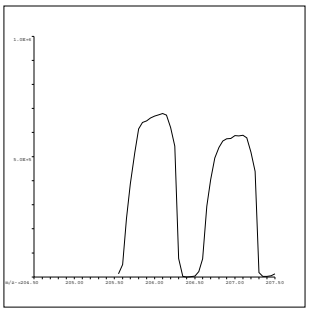
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



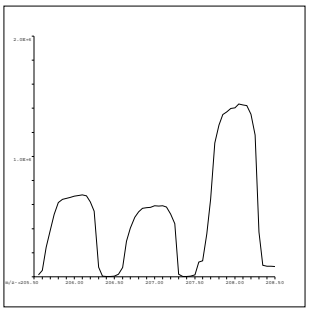
59 Co
Mass Calib.
Actual: 59.10
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



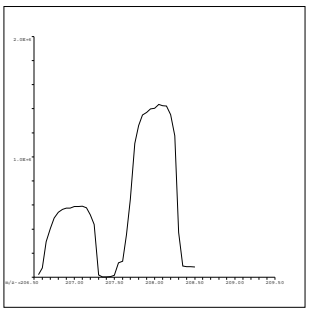
115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.05
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.05
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.05
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160205A

Instrument ID: ICPMS-02

Analyte	Data File	A0205002.D	A0205003.D	A0205004.D	A0205005.D	A0205006.D	A0205007.D	A0205008.D	A0205009.D	A0205010.D	
	Acq. Date-Time	02/05/2016 09:24 AM	02/05/2016 09:30 AM	02/05/2016 09:35 AM	02/05/2016 09:41 AM	02/05/2016 09:46 AM	02/05/2016 09:52 AM	02/05/2016 09:58 AM	02/05/2016 10:03 AM	02/05/2016 10:09 AM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	254079		246661.3	240188.6	233515	230717.9	224789.2	221183.1	218742.3	
55 Mn [2]	CPS	156.6		5261.4	49403.6	95605.7	189239.3	371843.9	906319.5	1890128.2	0.9997
52 Cr [2]	CPS	554.4		9392.9	88755.3	170910.2	338028.6	661133.9	1694948.4	3344066.7	1.0000
72 Ge (ISTD) [1]	CPS	227345.3		222373.5	219468.3	212205.8	208295.6	205476.5	201057	201044.1	
78 Se [1]	CPS	5.6		480	4415.3	8644.9	17312.1	33178.2	81948.9	163879.6	1.0000
72 Ge (ISTD) [2]	CPS	180326.5	177907.2	176386.8	172667.1	168478.2	164529.9	162501.5	159097.9	158504.3	
75 As [2]	CPS	35.1	252.5	1070.7	9978.7	19276	38145.4	75026.2	184590.8	366425.6	1.0000
103 Rh (ISTD) [2]	CPS	5252034.7		5135593.7	5068860.9	4953894.1	4912587.6	4818305.8	4734309.6	4707846.7	
95 Mo [2]	CPS	60		5729	56318.9	110933.2	218207.7	428343	1066356.6	2159775.3	1.0000
159 Tb (ISTD) [3]	CPS	16767845.9		16478388.8	16389117.1	16194016.8	16026079.6	15815680.6	15914907.1	15918650.9	
137 Ba [3]	CPS	52.4		13853.6	130620.1	257766.8	511047.9	1004215.4	2606162.7	5205794.5	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160208A

Instrument ID: ICPMS-02

Analyte	Data File	A0208002.D	A0208004.D	A0208005.D	A0208006.D	A0208007.D	A0208008.D	A0208009.D	A0208010.D	
	Acq. Date-Time	02/08/2016 10:04 AM	02/08/2016 10:16 AM	02/08/2016 10:21 AM	02/08/2016 10:27 AM	02/08/2016 10:32 AM	02/08/2016 10:38 AM	02/08/2016 10:43 AM	02/08/2016 10:49 AM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
159 Tb (ISTD) [3]	CPS	15686471.7	16488067.1	16450166.1	16514816.8	16611616.3	16601647.4	16691935.4	16774511.7	
137 Ba [3]	CPS	442.6	13920.5	133023.1	268790.4	534238.5	1071596.4	2654331.7	5292587.6	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ICV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.916	0.10	10.00	0	99.2	90	110				
Barium	99.975	1.0	100.0	0	100	90	110				
Manganese	101.666	0.50	100.0	0	102	90	110				
Molybdenum	9.337	0.50	10.00	0	93.4	90	110				
Selenium	9.998	0.50	10.00	0	100	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ZZZZZZ** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.114	0.10	0.1000	0	114	80	120				
Barium	1.039	1.0	1.000	0	104	80	120				
Manganese	0.588	0.50	0.5000	0	118	80	120				
Molybdenum	0.517	0.50	0.5000	0	103	80	120				
Selenium	0.509	0.50	0.5000	0	102	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.799	0.10	20.00	0	99.0	90	110				
Barium	19.904	1.0	20.00	0	99.5	90	110				
Manganese	19.078	0.50	20.00	0	95.4	90	110				
Molybdenum	19.484	0.50	20.00	0	97.4	90	110				
Selenium	20.477	0.50	20.00	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.907	0.10	20.00	0	99.5	90	110				
Barium	19.765	1.0	20.00	0	98.8	90	110				
Manganese	19.248	0.50	20.00	0	96.2	90	110				
Molybdenum	19.529	0.50	20.00	0	97.6	90	110				
Selenium	20.059	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.832	0.10	20.00	0	99.2	90	110				
Barium	19.572	1.0	20.00	0	97.9	90	110				
Manganese	19.342	0.50	20.00	0	96.7	90	110				
Molybdenum	19.527	0.50	20.00	0	97.6	90	110				
Selenium	20.921	0.50	20.00	0	105	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ZZZZZZ** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.111	0.10	0.1000	0	111	70	130				
Barium	1.045	1.0	1.000	0	104	70	130				
Manganese	0.573	0.50	0.5000	0	115	70	130				
Molybdenum	0.522	0.50	0.5000	0	104	70	130				
Selenium	0.573	0.50	0.5000	0	115	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.182	0.10	20.00	0	101	90	110				
Barium	19.672	1.0	20.00	0	98.4	90	110				
Manganese	19.519	0.50	20.00	0	97.6	90	110				
Molybdenum	19.322	0.50	20.00	0	96.6	90	110				
Selenium	20.975	0.50	20.00	0	105	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.720	0.10	20.00	0	98.6	90	110				
Barium	20.012	1.0	20.00	0	100	90	110				
Manganese	19.209	0.50	20.00	0	96.0	90	110				
Molybdenum	19.447	0.50	20.00	0	97.2	90	110				
Selenium	20.296	0.50	20.00	0	101	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.918	0.10	20.00	0	99.6	90	110				
Barium	20.439	1.0	20.00	0	102	90	110				
Manganese	19.070	0.50	20.00	0	95.4	90	110				
Molybdenum	19.718	0.50	20.00	0	98.6	90	110				
Selenium	20.102	0.50	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV7** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCV** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.986	0.10	20.00	0	99.9	90	110				
Barium	20.758	1.0	20.00	0	104	90	110				
Manganese	18.967	0.50	20.00	0	94.8	90	110				
Molybdenum	19.706	0.50	20.00	0	98.5	90	110				
Selenium	20.321	0.50	20.00	0	102	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ZZZZZZ** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.114	0.10	0.1000	0	114	70	130				
Barium	1.103	1.0	1.000	0	110	70	130				
Manganese	0.603	0.50	0.5000	0	121	70	130				
Molybdenum	0.525	0.50	0.5000	0	105	70	130				
Selenium	0.543	0.50	0.5000	0	109	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICV	**ICV**	**6020_DIS**	**µg/L**		**105765**
Client ID: **ICV**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	99.522	1.0	100.0	0	99.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLICV	**CCV1**	**6020_DIS**	**µg/L**		**105765**
Client ID: **ZZZZZZ**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.119	1.0	1.000	0	112	80	120				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV1	**CCV**	**6020_DIS**	**µg/L**		**105765**
Client ID: **CCV**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	20.628	1.0	20.00	0	103	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV2	**CCV**	**6020_DIS**	**µg/L**		**105765**
Client ID: **CCV**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.011	1.0	20.00	0	105	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV3	**CCV**	**6020_DIS**	**µg/L**		**105765**
Client ID: **CCV**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.019	1.0	20.00	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV4	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	CCV	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.339	1.0	20.00	0	107	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ZZZZZZ	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.149	1.0	1.000	0	115	70	130				

Sample ID	CCV5	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	CCV	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226590

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.211	1.0	20.00	0	106	90	110				

Sample ID	CCV6	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	CCV	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	23.396	1.0	20.00	0	117	90	110				S

Sample ID	CCV7	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	CCV	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226614

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.810	1.0	20.00	0	109	90	110				

Ba on CCV6 is biased high, however, samples N018560 were not affected since they were enclosed by CCV5.

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Nancy 2/11/201

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV8	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	CCV	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.670	1.0	20.00	0	108	90	110				

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ZZZZZZ	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.182	1.0	1.000	0	118	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.547	1.0	10.00	0	95.5	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ZZZZZZ** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.989	1.0	1.000	0	98.9	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.353	1.0	20.00	0	96.8	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.236	1.0	20.00	0	96.2	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.504	1.0	20.00	0	97.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ZZZZZZ** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.996	1.0	1.000	0	99.6	70	130				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.753	1.0	20.00	0	98.8	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.086	1.0	20.00	0	95.4	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.727	1.0	20.00	0	93.6	90	110				

Sample ID **CCV7** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCV** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221871**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.738	1.0	20.00	0	93.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ZZZZZZ** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.970	1.0	1.000	0	97.0	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ICB** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.036	0.50									
Selenium	ND	0.50									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCB** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **CCB** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221904**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **CCB3**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105710**
Client ID: **CCB**	Batch ID: **R105710**	TestNo: **EPA 6020**		Analysis Date: **2/5/2016**	SeqNo: **2221916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **CCB4**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105710**
Client ID: **CCB**	Batch ID: **R105710**	TestNo: **EPA 6020**		Analysis Date: **2/5/2016**	SeqNo: **2221931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **CCB5**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105710**
Client ID: **CCB**	Batch ID: **R105710**	TestNo: **EPA 6020**		Analysis Date: **2/5/2016**	SeqNo: **2221943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.068	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **CCB6**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105710**
Client ID: **CCB**	Batch ID: **R105710**	TestNo: **EPA 6020**		Analysis Date: **2/5/2016**	SeqNo: **2221955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.054	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **CCB7**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105710**
Client ID: **CCB**	Batch ID: **R105710**	TestNo: **EPA 6020**		Analysis Date: **2/5/2016**	SeqNo: **2221966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.062	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105765**
Client ID: **ICB** Batch ID: **R105765** TestNo: **EPA 6020** Analysis Date: **2/8/2016** SeqNo: **2226524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105765**
Client ID: **CCB** Batch ID: **R105765** TestNo: **EPA 6020** Analysis Date: **2/8/2016** SeqNo: **2226540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105765**
Client ID: **CCB** Batch ID: **R105765** TestNo: **EPA 6020** Analysis Date: **2/8/2016** SeqNo: **2226552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105765**
Client ID: **CCB** Batch ID: **R105765** TestNo: **EPA 6020** Analysis Date: **2/8/2016** SeqNo: **2226564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105765**
Client ID: **CCB** Batch ID: **R105765** TestNo: **EPA 6020** Analysis Date: **2/8/2016** SeqNo: **2226576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **CCB5**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105765**
Client ID: **CCB**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB6**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105765**
Client ID: **CCB**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB7**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105765**
Client ID: **CCB**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **CCB8**	SampType: **CCB**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **105765**
Client ID: **CCB**	Batch ID: **R105765**	TestNo: **EPA 6020**		Analysis Date: **2/8/2016**	SeqNo: **2226626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **CCB5** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB6** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB7** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **CCB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ICSA** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.048	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ICSAB** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.025	0.10	20.00	0	105	80	120				
Barium	20.025	1.0	20.00	0	100	80	120				
Manganese	16.723	0.50	20.00	0	83.6	80	120				
Molybdenum	23.282	0.50	20.00	0	116	80	120				
Selenium	19.957	0.50	20.00	0	99.8	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105710**
Client ID: **ICSA** Batch ID: **R105710** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.042	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105710
Client ID:	ICSAB	Batch ID:	R105710	TestNo:	EPA 6020			Analysis Date:	2/5/2016	SeqNo:	2221919

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.201	0.10	20.00	0	106	80	120				
Barium	19.889	1.0	20.00	0	99.4	80	120				
Manganese	16.492	0.50	20.00	0	82.5	80	120				
Molybdenum	23.466	0.50	20.00	0	117	80	120				
Selenium	20.953	0.50	20.00	0	105	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105710
Client ID:	ICSA	Batch ID:	R105710	TestNo:	EPA 6020			Analysis Date:	2/5/2016	SeqNo:	2221968

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.037	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105710
Client ID:	ICSAB	Batch ID:	R105710	TestNo:	EPA 6020			Analysis Date:	2/5/2016	SeqNo:	2221969

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.046	0.10	20.00	0	105	80	120				
Barium	20.497	1.0	20.00	0	102	80	120				
Manganese	16.733	0.50	20.00	0	83.7	80	120				
Molybdenum	23.588	0.50	20.00	0	118	80	120				
Selenium	20.394	0.50	20.00	0	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSA1	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ICSA	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226526

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ICSAB	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226527

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	20.793	1.0	20.00	0	104	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ICSA	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ICSAB	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	21.874	1.0	20.00	0	109	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ICSA	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226628

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ICSAB	Batch ID:	R105765	TestNo:	EPA 6020			Analysis Date:	2/8/2016	SeqNo:	2226629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	22.874	1.0	20.00	0	114	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICSA** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.159	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICSAB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.260	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICSA** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.175	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICSAB** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.138	1.0	20.00	0	101	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105709**
Client ID: **ICSA** Batch ID: **R105709** TestNo: **EPA 6020** Analysis Date: **2/5/2016** SeqNo: **2221874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.160	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105709
Client ID:	ICSAB	Batch ID:	R105709	TestNo:	EPA 6020			Analysis Date:	2/5/2016	SeqNo:	2221875

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.455	1.0	20.00	0	97.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	16767845.9	16767845.9	100	PASS	70-130	254079	254079	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	16610783.1	16767845.9	99.063	PASS	70-130	249416.3	254079	98.16	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	16478388.8	16767845.9	98.27	PASS	70-130	246661.3	254079	97.081	PASS	70-130
Std3-5/50 ppb	ICAL	1	16389117.1	16767845.9	97.74	PASS	70-130	240188.6	254079	94.53	PASS	70-130
Std4-10/100 ppb	ICAL	1	16194016.8	16767845.9	96.58	PASS	70-130	233515	254079	91.91	PASS	70-130
Std5-20/200 ppb	ICAL	1	16026079.6	16767845.9	95.58	PASS	70-130	230717.9	254079	90.81	PASS	70-130
Std6-40/400 ppb	ICAL	1	15815680.6	16767845.9	94.32	PASS	70-130	224789.2	254079	88.47	PASS	70-130
Std7-100/1000 ppb	ICAL	1	15914907.1	16767845.9	94.91	PASS	70-130	221183.1	254079	87.053	PASS	70-130
Std8-200/2000 ppb	ICAL	1	15918650.9	16767845.9	94.94	PASS	70-130	218742.3	254079	86.092	PASS	70-130
ICV	ICV	1	15575906	16767845.9	92.89	PASS	70-130	184029.9	254079	72.43	PASS	70-130
ICB	ICB	1	16643502.7	16767845.9	99.26	PASS	70-130	219263.1	254079	86.3	PASS	70-130
LLICV	CCV1	1	17872277.4	16767845.9	106.59	PASS	70-130	246981.6	254079	97.21	PASS	70-130
ICSA1	ICSA	1	16234777.7	16767845.9	96.82	PASS	70-130	276879.5	254079	108.97	PASS	70-130
ICSAB1	ICSAB	1	14848984.9	16767845.9	88.56	PASS	70-130	228188.2	254079	89.81	PASS	70-130
CCV1	CCV	1	17422999.7	16767845.9	103.91	PASS	70-130	262852.5	254079	103.45	PASS	70-130
CCB1	CCB	1	15554524.9	16767845.9	92.76	PASS	70-130	206379	254079	81.23	PASS	70-130
MB-56078	MBLK	1	17826251.4	16767845.9	106.31	PASS	70-130	249987.1	254079	98.39	PASS	70-130
LCS-56078	LCS	1	17755268.1	16767845.9	105.89	PASS	70-130	224256.5	254079	88.26	PASS	70-130
N018560-002B	SAMP	1	17169699.1	16767845.9	102.4	PASS	70-130	257332.3	254079	101.28	PASS	70-130
N018560-002B	SAMP	5	17713696.5	16767845.9	105.64	PASS	70-130	253056.5	254079	99.6	PASS	70-130
N018560-002B-PS	PS	1	16879203.8	16767845.9	100.66	PASS	70-130	242846.2	254079	95.58	PASS	70-130
CCV2	CCV	1	16972920.2	16767845.9	101.22	PASS	70-130	238696.1	254079	93.95	PASS	70-130
CCB2	CCB	1	15577575.9	16767845.9	92.9	PASS	70-130	194898.8	254079	76.71	PASS	70-130
N018560-002B-MS	MS	1	16692167	16767845.9	99.55	PASS	70-130	236406.7	254079	93.045	PASS	70-130
N018560-002B-MSD	MSD	1	16858321.1	16767845.9	100.54	PASS	70-130	234020.3	254079	92.11	PASS	70-130
N018560-003B	SAMP	1	16645701	16767845.9	99.27	PASS	70-130	231787.3	254079	91.23	PASS	70-130
N018560-004B	SAMP	1	16406171.8	16767845.9	97.84	PASS	70-130	228981.5	254079	90.12	PASS	70-130
N018560-005B	SAMP	1	16147256.4	16767845.9	96.3	PASS	70-130	226549.7	254079	89.17	PASS	70-130
N018560-006B	SAMP	1	16054398	16767845.9	95.75	PASS	70-130	222540.2	254079	87.59	PASS	70-130
N018560-007B	SAMP	1	16793367.9	16767845.9	100.15	PASS	70-130	229131.5	254079	90.18	PASS	70-130
N018560-008B	SAMP	1	16317648.8	16767845.9	97.32	PASS	70-130	221798.5	254079	87.3	PASS	70-130
N018560-009B	SAMP	1	16649466.4	16767845.9	99.29	PASS	70-130	226222	254079	89.036	PASS	70-130
N018560-010B	SAMP	1	16863963.1	16767845.9	100.57	PASS	70-130	229244	254079	90.23	PASS	70-130
CCV3	CCV	1	16218522.5	16767845.9	96.72	PASS	70-130	214145.2	254079	84.28	PASS	70-130
CCB3	CCB	1	15431356.7	16767845.9	92.029	PASS	70-130	190374.6	254079	74.93	PASS	70-130
LLCCV1	CCV2	1	17813269.5	16767845.9	106.23	PASS	70-130	233226.7	254079	91.79	PASS	70-130
ICSA2	ICSA	1	16233751.4	16767845.9	96.81	PASS	70-130	253458	254079	99.76	PASS	70-130
ICSAB2	ICSAB	1	15496767.7	16767845.9	92.42	PASS	70-130	241585	254079	95.083	PASS	70-130
CCV4	CCV	1	15682791.4	16767845.9	93.53	PASS	70-130	186568.2	254079	73.43	PASS	70-130
CCB4	CCB	1	15384366.4	16767845.9	91.75	PASS	70-130	187818.3	254079	73.92	PASS	70-130
CCV5	CCV	1	16343698.8	16767845.9	97.47	PASS	70-130	223737.9	254079	88.058	PASS	70-130

INTERNAL STANDARD: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCB5	CCB	1	16799337.8	16767845.9	100.19	PASS	70-130	237050.8	254079	93.3	PASS	70-130
CCV6	CCV	1	16760931.8	16767845.9	99.96	PASS	70-130	236310.7	254079	93.007	PASS	70-130
CCB6	CCB	1	16624410.2	16767845.9	99.14	PASS	70-130	221906.8	254079	87.34	PASS	70-130
CCV7	CCV	1	16768303.5	16767845.9	100	PASS	70-130	246968.1	254079	97.2	PASS	70-130
CCB7	CCB	1	16466089.6	16767845.9	98.2	PASS	70-130	215449.5	254079	84.8	PASS	70-130
LLCCV2	CCV2	1	18415586.5	16767845.9	109.83	PASS	70-130	264416.4	254079	104.07	PASS	70-130
ICSA3	ICSA	1	15160382	16767845.9	90.41	PASS	70-130	235774.9	254079	92.8	PASS	70-130
ICSAB3	ICSAB	1	15337630.1	16767845.9	91.47	PASS	70-130	252346.4	254079	99.32	PASS	70-130

INTERNAL STANDARD: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	180326.5	180326.5	100	PASS	70-130	227345.3	227345.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	177907.2	180326.5	98.66	PASS	70-130	223900	227345.3	98.48	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	176386.8	180326.5	97.82	PASS	70-130	222373.5	227345.3	97.81	PASS	70-130
Std3-5/50 ppb	ICAL	1	172667.1	180326.5	95.75	PASS	70-130	219468.3	227345.3	96.54	PASS	70-130
Std4-10/100 ppb	ICAL	1	168478.2	180326.5	93.43	PASS	70-130	212205.8	227345.3	93.34	PASS	70-130
Std5-20/200 ppb	ICAL	1	164529.9	180326.5	91.24	PASS	70-130	208295.6	227345.3	91.62	PASS	70-130
Std6-40/400 ppb	ICAL	1	162501.5	180326.5	90.12	PASS	70-130	205476.5	227345.3	90.38	PASS	70-130
Std7-100/1000 ppb	ICAL	1	159097.9	180326.5	88.23	PASS	70-130	201057	227345.3	88.44	PASS	70-130
Std8-200/2000 ppb	ICAL	1	158504.3	180326.5	87.9	PASS	70-130	201044.1	227345.3	88.43	PASS	70-130
ICV	ICV	1	134953.2	180326.5	74.84	PASS	70-130	160460.4	227345.3	70.58	PASS	70-130
ICB	ICB	1	158554.2	180326.5	87.93	PASS	70-130	188394.4	227345.3	82.87	PASS	70-130
LLICV	CCV1	1	180385.4	180326.5	100.03	PASS	70-130	223415.8	227345.3	98.27	PASS	70-130
ICSA1	ICSA	1	181271.8	180326.5	100.52	PASS	70-130	205608.5	227345.3	90.44	PASS	70-130
ICSAB1	ICSAB	1	152589.9	180326.5	84.62	PASS	70-130	170922.6	227345.3	75.18	PASS	70-130
CCV1	CCV	1	185817.3	180326.5	103.05	PASS	70-130	230823.2	227345.3	101.53	PASS	70-130
CCB1	CCB	1	149935.2	180326.5	83.15	PASS	70-130	177742.5	227345.3	78.18	PASS	70-130
MB-56078	MBLK	1	181810	180326.5	100.82	PASS	70-130	219436.3	227345.3	96.52	PASS	70-130
LCS-56078	LCS	1	165462	180326.5	91.76	PASS	70-130	194421.5	227345.3	85.52	PASS	70-130
N018560-002B	SAMP	1	178112.3	180326.5	98.77	PASS	70-130	220457	227345.3	96.97	PASS	70-130
N018560-002B	SAMP	5	182625.6	180326.5	101.27	PASS	70-130	224787.4	227345.3	98.87	PASS	70-130
N018560-002B-PS	PS	1	167935.3	180326.5	93.13	PASS	70-130	203425.8	227345.3	89.48	PASS	70-130
CCV2	CCV	1	173811.9	180326.5	96.39	PASS	70-130	214550.6	227345.3	94.37	PASS	70-130
CCB2	CCB	1	142823.2	180326.5	79.2	PASS	70-130	174519.6	227345.3	76.76	PASS	70-130
N018560-002B-MS	MS	1	165859.4	180326.5	91.98	PASS	70-130	197029.6	227345.3	86.67	PASS	70-130
N018560-002B-MSD	MSD	1	165907	180326.5	92.004	PASS	70-130	197967.4	227345.3	87.078	PASS	70-130
N018560-003B	SAMP	1	164260.5	180326.5	91.091	PASS	70-130	195197.8	227345.3	85.86	PASS	70-130
N018560-004B	SAMP	1	162377.3	180326.5	90.046	PASS	70-130	189202.7	227345.3	83.22	PASS	70-130
N018560-005B	SAMP	1	159324.2	180326.5	88.35	PASS	70-130	186233.2	227345.3	81.92	PASS	70-130
N018560-006B	SAMP	1	159573.8	180326.5	88.49	PASS	70-130	183896.7	227345.3	80.89	PASS	70-130
N018560-007B	SAMP	1	164696.2	180326.5	91.33	PASS	70-130	188487.9	227345.3	82.91	PASS	70-130
N018560-008B	SAMP	1	158483.8	180326.5	87.89	PASS	70-130	181242.3	227345.3	79.72	PASS	70-130
N018560-009B	SAMP	1	162305.5	180326.5	90.007	PASS	70-130	184288.5	227345.3	81.061	PASS	70-130
N018560-010B	SAMP	1	162956.9	180326.5	90.37	PASS	70-130	185726.9	227345.3	81.69	PASS	70-130
CCV3	CCV	1	158789.6	180326.5	88.057	PASS	70-130	185909.6	227345.3	81.77	PASS	70-130
CCB3	CCB	1	139497.9	180326.5	77.36	PASS	70-130	168257.9	227345.3	74.01	PASS	70-130
LLCCV1	CCV2	1	173972.5	180326.5	96.48	PASS	70-130	205278.7	227345.3	90.29	PASS	70-130
ICSA2	ICSA	1	172231.6	180326.5	95.51	PASS	70-130	194048.4	227345.3	85.35	PASS	70-130
ICSAB2	ICSAB	1	157337	180326.5	87.25	PASS	70-130	177225.7	227345.3	77.95	PASS	70-130
CCV4	CCV	1	138314.4	180326.5	76.7	PASS	70-130	163318.7	227345.3	71.84	PASS	70-130
CCB4	CCB	1	139333.3	180326.5	77.27	PASS	70-130	166437.1	227345.3	73.21	PASS	70-130
CCV5	CCV	1	163716.2	180326.5	90.79	PASS	70-130	199185.4	227345.3	87.61	PASS	70-130

INTERNAL STANDARD: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCB5	CCB	1	170299	180326.5	94.44	PASS	70-130	200983.3	227345.3	88.4	PASS	70-130
CCV6	CCV	1	169240.9	180326.5	93.85	PASS	70-130	212177.9	227345.3	93.33	PASS	70-130
CCB6	CCB	1	161081.4	180326.5	89.33	PASS	70-130	195027.6	227345.3	85.78	PASS	70-130
CCV7	CCV	1	175409.8	180326.5	97.27	PASS	70-130	214781.6	227345.3	94.47	PASS	70-130
CCB7	CCB	1	158122.1	180326.5	87.69	PASS	70-130	194585.9	227345.3	85.59	PASS	70-130
LLCCV2	CCV2	1	191122.4	180326.5	105.99	PASS	70-130	231831.1	227345.3	101.97	PASS	70-130
ICSA3	ICSA	1	157929.4	180326.5	87.58	PASS	70-130	187942	227345.3	82.67	PASS	70-130
ICSAB3	ICSAB	1	165641.5	180326.5	91.86	PASS	70-130	197917.8	227345.3	87.056	PASS	70-130

INTERNAL STANDARD: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	5252034.7	5252034.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	5186433.6	5252034.7	98.75	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	5135593.7	5252034.7	97.78	PASS	70-130
Std3-5/50 ppb	ICAL	1	5068860.9	5252034.7	96.51	PASS	70-130
Std4-10/100 ppb	ICAL	1	4953894.1	5252034.7	94.32	PASS	70-130
Std5-20/200 ppb	ICAL	1	4912587.6	5252034.7	93.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	4818305.8	5252034.7	91.74	PASS	70-130
Std7-100/1000 ppb	ICAL	1	4734309.6	5252034.7	90.14	PASS	70-130
Std8-200/2000 ppb	ICAL	1	4707846.7	5252034.7	89.64	PASS	70-130
ICV	ICV	1	4236775.7	5252034.7	80.67	PASS	70-130
ICB	ICB	1	4851530.8	5252034.7	92.37	PASS	70-130
LLICV	CCV1	1	5432757.4	5252034.7	103.44	PASS	70-130
ICSA1	ICSA	1	4828074.6	5252034.7	91.93	PASS	70-130
ICSAB1	ICSAB	1	4139038.6	5252034.7	78.81	PASS	70-130
CCV1	CCV	1	5438741.7	5252034.7	103.55	PASS	70-130
CCB1	CCB	1	4520415	5252034.7	86.07	PASS	70-130
MB-56078	MBLK	1	5333922.2	5252034.7	101.56	PASS	70-130
LCS-56078	LCS	1	5034402.6	5252034.7	95.86	PASS	70-130
N018560-002B	SAMP	1	4819913.1	5252034.7	91.77	PASS	70-130
N018560-002B	SAMP	5	5146866	5252034.7	98	PASS	70-130
N018560-002B-PS	PS	1	4631173.9	5252034.7	88.18	PASS	70-130
CCV2	CCV	1	5138250.1	5252034.7	97.83	PASS	70-130
CCB2	CCB	1	4401610	5252034.7	83.81	PASS	70-130
N018560-002B-MS	MS	1	4553146.7	5252034.7	86.69	PASS	70-130
N018560-002B-MSD	MSD	1	4571493.6	5252034.7	87.042	PASS	70-130
N018560-003B	SAMP	1	4526472.5	5252034.7	86.19	PASS	70-130
N018560-004B	SAMP	1	4458387.9	5252034.7	84.89	PASS	70-130
N018560-005B	SAMP	1	4419060.5	5252034.7	84.14	PASS	70-130
N018560-006B	SAMP	1	4358640.3	5252034.7	82.99	PASS	70-130
N018560-007B	SAMP	1	4537005.7	5252034.7	86.39	PASS	70-130
N018560-008B	SAMP	1	4415908.5	5252034.7	84.08	PASS	70-130
N018560-009B	SAMP	1	4478935.6	5252034.7	85.28	PASS	70-130
N018560-010B	SAMP	1	4510439.5	5252034.7	85.88	PASS	70-130
CCV3	CCV	1	4742527.5	5252034.7	90.3	PASS	70-130
CCB3	CCB	1	4333819.9	5252034.7	82.52	PASS	70-130
LLCCV1	CCV2	1	5200011.3	5252034.7	99.01	PASS	70-130
ICSA2	ICSA	1	4588030.7	5252034.7	87.36	PASS	70-130
ICSAB2	ICSAB	1	4315397.9	5252034.7	82.17	PASS	70-130
CCV4	CCV	1	4295565.4	5252034.7	81.79	PASS	70-130
CCB4	CCB	1	4321047.8	5252034.7	82.27	PASS	70-130
CCV5	CCV	1	4787325.4	5252034.7	91.15	PASS	70-130

INTERNAL STANDARD: 160205A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
CCB5	CCB	1	4919157.7	5252034.7	93.66	PASS	70-130
CCV6	CCV	1	4882454	5252034.7	92.96	PASS	70-130
CCB6	CCB	1	4697473.8	5252034.7	89.44	PASS	70-130
CCV7	CCV	1	5019954.4	5252034.7	95.58	PASS	70-130
CCB7	CCB	1	4673156.3	5252034.7	88.98	PASS	70-130
LLCCV2	CCV2	1	5484511.2	5252034.7	104.43	PASS	70-130
ICSA3	ICSA	1	4191197.7	5252034.7	79.8	PASS	70-130
ICSAB3	ICSAB	1	4348786.1	5252034.7	82.8	PASS	70-130

INTERNAL STANDARD: 160208A

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	15686471.7	15686471.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	16862339.2	15686471.7	107.5	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	16488067.1	15686471.7	105.11	PASS	70-130
Std3-5/50 ppb	ICAL	1	16450166.1	15686471.7	104.87	PASS	70-130
Std4-10/100 ppb	ICAL	1	16514816.8	15686471.7	105.28	PASS	70-130
Std5-20/200 ppb	ICAL	1	16611616.3	15686471.7	105.9	PASS	70-130
Std6-40/400 ppb	ICAL	1	16601647.4	15686471.7	105.83	PASS	70-130
Std7-100/1000 ppb	ICAL	1	16691935.4	15686471.7	106.41	PASS	70-130
Std8-200/2000 ppb	ICAL	1	16774511.7	15686471.7	106.94	PASS	70-130
ICV	ICV	1	16589764.1	15686471.7	105.76	PASS	70-130
ICB	ICB	1	17410905.3	15686471.7	110.99	PASS	70-130
LLICV	CCV1	1	18502204.2	15686471.7	117.95	PASS	70-130
ICSA1	ICSA	1	15567915.2	15686471.7	99.24	PASS	70-130
ICSAB1	ICSAB	1	15637059.4	15686471.7	99.69	PASS	70-130
CCV1	CCV	1	17333278.5	15686471.7	110.5	PASS	70-130
CCB1	CCB	1	16217310	15686471.7	103.38	PASS	70-130
CCV2	CCV	1	16873419.1	15686471.7	107.57	PASS	70-130
CCB2	CCB	1	15799832	15686471.7	100.72	PASS	70-130
CCV3	CCV	1	16591310.9	15686471.7	105.77	PASS	70-130
CCB3	CCB	1	15636117.7	15686471.7	99.68	PASS	70-130
CCV4	CCV	1	16284813.1	15686471.7	103.81	PASS	70-130
CCB4	CCB	1	15093833.7	15686471.7	96.22	PASS	70-130
LLCCV1	CCV2	1	17718156.1	15686471.7	112.95	PASS	70-130
ICSA2	ICSA	1	15204319.5	15686471.7	96.93	PASS	70-130
ICSAB2	ICSAB	1	14492496.7	15686471.7	92.39	PASS	70-130
N018560-002B	SAMP	25	15351584.1	15686471.7	97.87	PASS	70-130
N018560-002B-PS	PS	5	14613342.4	15686471.7	93.16	PASS	70-130
N018560-002B-MS	MS	5	14447820.1	15686471.7	92.1	PASS	70-130
N018560-002B-MSD	MSD	5	14249686.9	15686471.7	90.84	PASS	70-130
CCV5	CCV	1	16012511.4	15686471.7	102.08	PASS	70-130
CCB5	CCB	1	16151227.5	15686471.7	102.96	PASS	70-130
CCV6	CCV	1	15281541	15686471.7	97.42	PASS	70-130
CCB6	CCB	1	14417729.4	15686471.7	91.91	PASS	70-130
CCV7	CCV	1	14895711.3	15686471.7	94.96	PASS	70-130
CCB7	CCB	1	14222986.5	15686471.7	90.67	PASS	70-130
CCV8	CCV	1	13578772.3	15686471.7	86.56	PASS	70-130
CCB8	CCB	1	12936415.6	15686471.7	82.47	PASS	70-130
LLCCV2	CCV2	1	15388008.7	15686471.7	98.097	PASS	70-130
ICSA3	ICSA	1	13316975.2	15686471.7	84.89	PASS	70-130
ICSAB3	ICSAB	1	13016772.9	15686471.7	82.98	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018560
Test Method: EPA 6020
Analysis Date: 2/5/2016

Matrix: Groundwater
Batch No.: 56078

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Cr, Mn, Mo & Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018560-002B DT 5X	Arsenic	ug/L	2.414653	NA	2.314042	4.35%	10
N018560-002B DT 5X	Chromium	ug/L	0	NA	0		10
N018560-002B DT 5X	Manganese	ug/L	0	NA	0.116032	100.00%	10
N018560-002B DT 5X	Molybdenum	ug/L	5.079853	NA	5.212831	2.55%	10
N018560-002B DT 5X	Selenium	ug/L	1.583138	NA	1.604705	1.34%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018560
Test Method: EPA 6020
Analysis Date: 2/8/2016

Matrix: Groundwater
Batch No.: 56078

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test failed for Ba. However, PS passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018560-002B DT 25X	Barium	ug/L	153.2229	FAIL	135.472	13.10%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	N018560-002B-PS	SampType:	PS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105710
Client ID:	ZZZZZZ	Batch ID:	56078	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/5/2016	SeqNo:	2221902

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.181	0.10	10.00	2.314	98.7	80	120				
Manganese	88.462	0.50	100.0	0.1160	88.3	80	120				
Molybdenum	15.790	0.50	10.00	5.213	106	80	120				
Selenium	11.358	0.50	10.00	1.605	97.5	80	120				

Sample ID	N018560-002B-PS	SampType:	PS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105765
Client ID:	ZZZZZZ	Batch ID:	56078	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/8/2016	SeqNo:	2226581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	254.960	5.0	100.0	135.5	119	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018560
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	**N018560-002B-PS**	SampType:	**PS**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:				RunNo:	**105709**
Client ID:	**ZZZZZZ**	Batch ID:	**56078**	TestNo:	**EPA 6020**		**EPA 3010A**	Analysis Date:	**2/5/2016**			SeqNo:	**2221808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.931	1.0	10.00	0	89.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock

ASSET Laboratories Work Order: N018561

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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February 11, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018561

RE: PG&E Topock

Attention: Dan Bush

Enclosed are the results for sample(s) received on January 27, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Dissolved:

Laboratory Control Sample (LCS) recovery biased high for Iron. Sample results were non-detect (ND) for this analyte therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron on QC samples N018560-009C-MS and N018560-009C-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Barium on QC sample N018549-003B-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock
Lab Order: N018561
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018561-001A	RRB-D-Q116L	Groundwater	1/27/2016 8:40:00 AM	1/27/2016	2/11/2016
N018561-001B	RRB-D-Q116L	Groundwater	1/27/2016 8:40:00 AM	1/27/2016	2/11/2016
N018561-001C	RRB-D-Q116L	Groundwater	1/27/2016 8:40:00 AM	1/27/2016	2/11/2016
N018561-001D	RRB-D-Q116L	Groundwater	1/27/2016 8:40:00 AM	1/27/2016	2/11/2016
N018561-001E	RRB-D-Q116L	Groundwater	1/27/2016 8:40:00 AM	1/27/2016	2/11/2016
N018561-002A	SW1-D-Q116L	Groundwater	1/27/2016 1:30:00 PM	1/27/2016	2/11/2016
N018561-002B	SW1-D-Q116L	Groundwater	1/27/2016 1:30:00 PM	1/27/2016	2/11/2016
N018561-002C	SW1-D-Q116L	Groundwater	1/27/2016 1:30:00 PM	1/27/2016	2/11/2016
N018561-003A	SW2-D-Q116L	Groundwater	1/27/2016 2:00:00 PM	1/27/2016	2/11/2016
N018561-003B	SW2-D-Q116L	Groundwater	1/27/2016 2:00:00 PM	1/27/2016	2/11/2016
N018561-003C	SW2-D-Q116L	Groundwater	1/27/2016 2:00:00 PM	1/27/2016	2/11/2016
N018561-004A	C-NR4-S-Q116L	Groundwater	1/27/2016 12:15:00 PM	1/27/2016	2/11/2016
N018561-004B	C-NR4-S-Q116L	Groundwater	1/27/2016 12:15:00 PM	1/27/2016	2/11/2016
N018561-004C	C-NR4-S-Q116L	Groundwater	1/27/2016 12:15:00 PM	1/27/2016	2/11/2016
N018561-004D	C-NR4-S-Q116L	Groundwater	1/27/2016 12:15:00 PM	1/27/2016	2/11/2016
N018561-004E	C-NR4-S-Q116L	Groundwater	1/27/2016 12:15:00 PM	1/27/2016	2/11/2016
N018561-005A	C-NR4-D-Q116L	Groundwater	1/27/2016 11:55:00 AM	1/27/2016	2/11/2016
N018561-005B	C-NR4-D-Q116L	Groundwater	1/27/2016 11:55:00 AM	1/27/2016	2/11/2016
N018561-005C	C-NR4-D-Q116L	Groundwater	1/27/2016 11:55:00 AM	1/27/2016	2/11/2016
N018561-005D	C-NR4-D-Q116L	Groundwater	1/27/2016 11:55:00 AM	1/27/2016	2/11/2016
N018561-005E	C-NR4-D-Q116L	Groundwater	1/27/2016 11:55:00 AM	1/27/2016	2/11/2016

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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 1:30:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW2-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 2:00:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	990	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	950	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 11:55:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160128E**	QC Batch: **R105593**			PrepDate			Analyst: **LR**
Specific Conductance	960	0.10	0.10		umhos/cm	1	1/28/2016 04:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018560-002D DUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **105593**
Client ID: **ZZZZZZ** Batch ID: **R105593** TestNo: **EPA 120.1** Analysis Date: **1/28/2016** SeqNo: **2214597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	993.000	0.10						989.0	0.404	10	

Sample ID **N018561-002C DUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **105593**
Client ID: **ZZZZZZ** Batch ID: **R105593** TestNo: **EPA 120.1** Analysis Date: **1/28/2016** SeqNo: **2214609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1084.000	0.10						1087	0.276	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 1:30:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	7.6	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018561
Project: PG&E Topock
Lab ID: N018561-003

Client Sample ID: SW2-D-Q116L
Collection Date: 1/27/2016 2:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	7.8	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 11:55:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160128D**	QC Batch: **R105541**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	1/28/2016 03:45 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	1/28/2016 03:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018560-002D DUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **105541**
Client ID: **ZZZZZZ** Batch ID: **R105541** TestNo: **SM4500-H+B** Analysis Date: **1/28/2016** SeqNo: **2212487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.040	0.10						8.000	0.499	10	H
Temp. at time of pH Analysis	18.800	0.10						19.00	1.06	10	H

Sample ID **N018561-002C DUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **105541**
Client ID: **ZZZZZZ** Batch ID: **R105541** TestNo: **SM4500-H+B** Analysis Date: **1/28/2016** SeqNo: **2212497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.620	0.10						7.600	0.263	10	H
Temp. at time of pH Analysis	18.200	0.10						18.10	0.551	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160201F**	QC Batch: **56071**				PrepDate	**2/1/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/1/2016 01:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 11:55:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160201F**	QC Batch: **56071**				PrepDate	**2/1/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/1/2016 01:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID **MB-56071** SampType: **MBLK** TestCode: **160.2_2540D** Units: **mg/L** Prep Date: **2/1/2016** RunNo: **105623**
Client ID: **PBW** Batch ID: **56071** TestNo: **SM2540D** Analysis Date: **2/1/2016** SeqNo: **2216602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID **LCS-56071** SampType: **LCS** TestCode: **160.2_2540D** Units: **mg/L** Prep Date: **2/1/2016** RunNo: **105623**
Client ID: **LCSW** Batch ID: **56071** TestNo: **SM2540D** Analysis Date: **2/1/2016** SeqNo: **2216603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	953.000	10	1000	0	95.3	80	120				

Sample ID **N018561-004D-DUP** SampType: **DUP** TestCode: **160.2_2540D** Units: **mg/L** Prep Date: **2/1/2016** RunNo: **105623**
Client ID: **ZZZZZZ** Batch ID: **56071** TestNo: **SM2540D** Analysis Date: **2/1/2016** SeqNo: **2216607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 1:30:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 05:12 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160202A**	QC Batch: **56037**			PrepDate		**1/29/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/2/2016 04:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018561
Project: PG&E Topock
Lab ID: N018561-003

Client Sample ID: SW2-D-Q116L
Collection Date: 1/27/2016 2:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 05:31 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160202A**	QC Batch: **56037**			PrepDate	**1/29/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/2/2016 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 05:50 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160202A**	QC Batch: **56037**			PrepDate		**1/29/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/2/2016 04:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 11:55:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160201A**	QC Batch: **R105644**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/1/2016 06:28 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160202A**	QC Batch: **56037**			PrepDate		**1/29/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/2/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R105644** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **PBW** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R105644** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **LCSW** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.230	0.20	5.000	0	105	90	110				

Sample ID **N018560-002A-DUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.048	0.20						0.06700	0	20	

Sample ID **N018560-002A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.042	0.20	1.000	0.06700	97.5	90	110				

Sample ID **N018560-002A-MSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0.06700	95.9	90	110	1.042	1.54	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
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"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018560-003A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.04960	101	90	110				

Sample ID **N018560-004A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0.07770	97.5	90	110				

Sample ID **N018560-005A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0.05820	98.6	90	110				

Sample ID **N018560-006A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0.06780	92.7	90	110				

Sample ID **N018560-007A-MS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0.05360	99.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018560-008A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0.07300	96.0	90	110				

Sample ID	N018560-009A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217321

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0.05560	99.2	90	110				

Sample ID	N018560-010A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217325

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0.06990	97.0	90	110				

Sample ID	N018561-002A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217329

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.133	0.20	1.000	0.1426	99.0	90	110				

Sample ID	N018561-003A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217331

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.119	0.20	1.000	0.1041	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018561-004A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217333

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.060	0.20	1.000	0.07460	98.6	90	110				

Sample ID	N018561-005A-MS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	ZZZZZZ	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217337

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0.07600	96.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56037** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **PBW** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56037** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **LCSW** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.745	1.0	10.00	0	97.5	85	115				

Sample ID **N018548-002B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.344	1.0	10.00	0	93.4	75	125				

Sample ID **N018548-002B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.316	1.0	10.00	0	93.2	75	125	9.344	0.301	20	

Sample ID **N018549-003B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.387	1.0	10.00	0	93.9	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160210A** QC Batch: **R105800** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.47	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 11:55:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160210A**	QC Batch: **R105800**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	0.45	0.022	0.050		mg/L	1	2/10/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R105800** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **PBW** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R105800** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **LCSW** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.516	0.050	0.5000	0	103	85	115				

Sample ID **N018560-002E-DUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ZZZZZZ** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.482	0.050						0.4790	0.521	20	

Sample ID **N018560-002E-MS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ZZZZZZ** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.976	0.050	0.5000	0.4790	99.3	75	125				

Sample ID **N018560-002E-MSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ZZZZZZ** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.969	0.050	0.5000	0.4790	97.9	75	125	0.9756	0.710	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56137**				PrepDate	**2/5/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/7/2016 07:27 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160209A**	QC Batch: **56157**				PrepDate	**2/7/2016**	Analyst: **CEI**
Iron	94	17	20		ug/L	1	2/9/2016 11:08 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 11:55:00 AM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160207F**	QC Batch: **56137**				PrepDate	**2/5/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	2/7/2016 07:55 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160209A**	QC Batch: **56157**				PrepDate	**2/7/2016**	Analyst: **CEI**
Iron	120	17	20		ug/L	1	2/9/2016 11:13 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56137** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/5/2016** RunNo: **105743**
Client ID: **PBW** Batch ID: **56137** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56137** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/5/2016** RunNo: **105743**
Client ID: **LCSW** Batch ID: **56137** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.871	20	100.0	0	121	85	115				S

Sample ID **N018561-004B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/5/2016** RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **56137** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	106.796	20	100.0	0	107	75	125				

Sample ID **N018561-004B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/5/2016** RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **56137** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	106.609	20	100.0	0	107	75	125	106.8	0.176	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-56157	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	PBW	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226635

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56157	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	LCSW	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226636

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.070	20	100.0	0	107	85	115				

Sample ID	N018560-009C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226640

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	204.610	20	100.0	174.0	30.6	75	125				S

Sample ID	N018560-009C-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	2/7/2016	RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	56157	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	2/9/2016	SeqNo:	2226641

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	204.005	20	100.0	174.0	30.0	75	125	204.6	0.296	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116L
Lab Order:	N018561	**Collection Date:**	1/27/2016 12:15:00 PM
Project:	PG&E Topock	**Matrix:**	GROUNDWATER
Lab ID:	N018561-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160202A**	QC Batch: **56037**			PrepDate	**1/29/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/2/2016 04:34 PM
Barium	130	0.072	1.0		µg/L	1	2/2/2016 04:34 PM
Manganese	ND	0.023	0.50		µg/L	1	2/2/2016 04:34 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/2/2016 04:34 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/2/2016 04:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018561
Project: PG&E Topock
Lab ID: N018561-005

Client Sample ID: C-NR4-D-Q116L
Collection Date: 1/27/2016 11:55:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160202A**	QC Batch: **56037**			PrepDate	**1/29/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/2/2016 04:40 PM
Barium	140	0.072	1.0		µg/L	1	2/2/2016 04:40 PM
Manganese	ND	0.023	0.50		µg/L	1	2/2/2016 04:40 PM
Molybdenum	5.8	0.029	0.50		µg/L	1	2/2/2016 04:40 PM
Selenium	1.8	0.070	0.50		µg/L	1	2/2/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56037** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **PBW** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56037** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **LCSW** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218370**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.721	0.10	10.00	0	97.2	85	115				
Barium	100.508	1.0	100.0	0	101	85	115				
Manganese	93.055	0.50	100.0	0	93.1	85	115				
Molybdenum	10.025	0.50	10.00	0	100	85	115				
Selenium	9.009	0.50	10.00	0	90.1	85	115				

Sample ID **N018548-002B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.012	0.10	10.00	2.299	97.1	75	125				
Barium	240.796	1.0	100.0	139.4	101	75	125				
Manganese	91.371	0.50	100.0	0	91.4	75	125				
Molybdenum	17.055	0.50	10.00	5.605	114	75	125				
Selenium	10.994	0.50	10.00	1.590	94.0	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018548-002B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.942	0.10	10.00	2.299	96.4	75	125	12.01	0.585	20	
Barium	241.781	1.0	100.0	139.4	102	75	125	240.8	0.408	20	
Manganese	91.256	0.50	100.0	0	91.3	75	125	91.37	0.126	20	
Molybdenum	17.127	0.50	10.00	5.605	115	75	125	17.06	0.423	20	
Selenium	10.952	0.50	10.00	1.590	93.6	75	125	10.99	0.383	20	

Sample ID **N018549-003B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/29/2016** RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.916	0.10	10.00	2.313	106	75	125				
Barium	203.706	1.0	100.0	145.5	58.2	75	125				S
Manganese	94.652	0.50	100.0	0.6929	94.0	75	125				
Molybdenum	14.808	0.50	10.00	5.849	89.6	75	125				
Selenium	12.370	0.50	10.00	1.753	106	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 2 of 2

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Arcadis	
Address:	Company:	Address:	
Address:	Email:	Address:	
Phone: / Fax:	Address:	Email to:	P.O.#
Submitted By: Gary Clift		Phone:	Fax:
Title:	Phone: / Fax:		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE				
Geotracker		RWQCB	✓	1. Chilled	✓	
Labspec		CalTrans		2. Headspace		
Others	✓	LEVEL III		3. Container Intact		
Specify: RWQCB		LEVEL IV		4. Seal Present		
		Regulatory		5. IR number	2	
Global ID:		Specify State:		6. Method of Cooling: ICE		

Signature: Date: 1/27/16
I hereby authorize ASSET Labs to perform the tests indicated below

Sampled By: Jason Mahn
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Signature: Date: 1/27/16

Project Name: PG&E Topock
Project Number:

Sample Temp: 2-4°C / 3.6°C

Courier:
Tracking No.:

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Water	TIME	DATE	E218.6 FF | Cr(VI) (E218.6 - river)FF	E218.6 FF | Field QC Cr(VI)	6020A FF | Dissolved metals FF Cr	SW6010B /SW6020 Adis | Dissolved metals FF (As, Mn, Fe, Se, Mo, Ba)	SW6010B | Total Fe	E120.1 | Specific Conductance	SM4500HB | pH	SM2540 | TSS	SM4500NO 3-E | Nitrate/Nitrite as Nitrogen	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						3x250 mL poly	250 mL poly	3x250 mL poly	3x250 mL poly	500 mL poly	2x1 liter poly	2x1 liter poly	2x1 liter poly	125 mL poly					
1	N018561-1	RRB-D-Q116L	X	840	1/27	X		X	X	X	X	X	X	X		10	P		HOLD
2	-2	SW1-D-Q116L	X	1330	1/27	X		X			X	X			E	10	P		
3	-3	SW2-D-Q116L	X	1400	1/27	X		X			X	X			E	10	P		
4	-4	C-NR4-S-Q116L	X	1215	1/27	X		X	X	X	X	X	X	X	E	10	P		
5	-5	C-NR4-D-Q116L	X	1155	1/27	X		X	X	X	X	X	X	X	E	10	P		
6																			
7																			
8																			
9																			
10																			

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
Gary Clift GARY CLIFT	1/27/16 1630	[illegible]	1/27/16 1630
[illegible]	1/27/16 1900	[illegible]	1/27/16 1900

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:				M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	1/27/2016	Workorder:	N018561
Rep sample Temp (Deg C):	2.9/3.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for pH was past holding time upon receipt.

Checklist Completed B MBC MBC 1/28/2016

Reviewed By: gsg 02/05/16

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018561

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018561-001A	RRB-D-Q116L	1/27/2016 8:40:00 AM	2/10/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018561-001B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☑	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018561-001C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☑	☐	☐	WW
N018561-001D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☑	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☑	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☑	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☑	☐	☐	WW
N018561-001E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018561-002A	SW1-D-Q116L	1/27/2016 1:30:00 PM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018561-002B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018561-002C			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
N018561-003A	SW2-D-Q116L	1/27/2016 2:00:00 PM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018561-003B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018561-003C			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018561

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018561-003C	SW2-D-Q116L	1/27/2016 2:00:00 PM	2/10/2016	Groundwater	SM4500-H+B	pH	☐	☐	☐	WW
N018561-004A	C-NR4-S-Q116L	1/27/2016 12:15:00 PM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018561-004B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018561-004C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018561-004D			2/10/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018561-004E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018561-005A	C-NR4-D-Q116L	1/27/2016 11:55:00 AM	2/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018561-005B			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018561-005C			2/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/10/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

28-Jan-16

WorkOrder: N018561

Client ID: ARCUS02

Project: PG&E Topock **QC Level:** Level IV **Date Received:** 1/27/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018561-005D	C-NR4-D-Q116L	1/27/2016 11:55:00 AM	2/10/2016	Groundwater	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/10/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/10/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			2/10/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018561-005E			2/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018561-006A	FOLDER		2/10/2016		EDD	RWQCB	☐	☐	☐	LAB
			2/10/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018561**

NAME	TEST METHOD
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540D

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105593 **Analyst:** LSR

ASSET #: N018561 **Date Analyzed:** 1/28/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MS~~D, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer: Julia Ramit Date: 2/4/2016

2nd Level Reviewer: Nancy 2/11/201 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 1/28/16 1600
Analyst: LSR

Standard	Std ID	Reading	Comments
9.78 mS/cm	CINV - 150619A	9.85 mS/cm @ 21.6°C	% Rec: (90-110%)
1414	150601B	1426 @ 21.6°C	
~~10009~~ 9992	~~150619B~~ 160111B	10170 @ 21.6°C	
99797	151012B	99200 @ 21.6°C	

	Sample ID	Matrix	Reading	Comments
1	N018560-002D	water	989 mS/cm @ 20.4°C	
2	2D DUP		993 @ 20.1°C	
3	3D		944 @ 19.9°C	
4	4D		967 @ 19.5°C	
5	5D		993 @ 19.5°C	
6	6D		955 @ 19.5°C	
7	7D		964 @ 19.6°C	
8	8D		970 @ 19.8°C	
9	9D		989 @ 19.3°C	
10	10D		997 @ 19.3°C	
up				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Julia Ramit 2/4/2016

Date: 1/28/16 1600
Analyst: LSR

CONT'D

Standard	Std ID	Reading	Comments
1413 mS/cm	CINV -150527A	1448 mS/cm @ 20.9°C	% Rec: (90-110%)
10000	-150909A	10230 @ 21.0°C	
99996	-150430A	98100 @ 21.1°C	

	Sample ID	Matrix	Reading	Comments
1	N018561-002C	water	1087 mS/cm @ 19.6°C	
2	2C DUP		1084 @ 19.5°C	
3	3C		987 @ 19.5°C	
4	4D		949 @ 19.3°C	
5	5D		956 @ 19.3°C	
6				
7				
8				
9	1413 mS/cm	CINV -150527A	1445 mS/cm @ 21.1°C	
10	10000	150909A	10280 @ 21.1°C	
up	99996	150430A	97700 @ 21.2°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

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SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105541 **Instrument ID:** pH meter

ASSET #: N018561 **Analyst:** LSR

Date Analyzed: 1/28/2016

Method: SM 150.1_4500H+B

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Lilia Ramit Date: 2/4/2016

2nd Level Reviewer 2/11/201 Date: ——

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

pH Logbook

Date: 1/28/16 1545
Analyst: ISR (CONT'D)

Standard	Std ID	pH	Comments
Buffer 7	CINV-150828A	7.00 @ 22.0°C	SLOPE: 95.7%
Buffer 4	↓ B	4.20 @ 21.8°C	
Buffer 10	CINV-150708A	10.05 @ 21.6°C	

	Sample ID	Matrix	pH	Comments
1	N018561-002C	Water	7.60 @ 18.1°C	
2	2C DUP	↓	7.62 @ 18.2°C	
3	3C	↓	7.81 @ 18.1°C	
4	4D	↓	8.19 @ 17.6°C	
5	5D	↓	8.16 @ 17.9°C	
6				
7				
8				
9				
10				
Dup				Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CINV-150624A	6.97 @ 20.7°C	Accept: +/-0.1 pH units from expected value

Date: 1/29/16 910
Analyst: ISR

Standard	Std ID	pH	Comments
Buffer 7	CINV-150828A	7.03 @ 21.4°C	SLOPE: 96.1%
Buffer 4	↓ B	4.02 @ 21.3°C	
Buffer 10	CINV-150708A	10.05 @ 20.9°C	

	Sample ID	Matrix	pH	Comments
1	N018522-001B	Soil	8.46 @ 19.4°C	
2	1B DUP	↓	8.40 @ 19.1°C	
3	2B	↓	8.40 @ 19.3°C	
4	3B	↓	8.78 @ 19.5°C	
5	4B	↓	9.92 @ 19.6°C	
6	5B	↓	10.12 @ 19.3°C	
7	6B	↓	9.75 @ 19.3°C	
8	7B	↓	9.94 @ 19.2°C	
9	N018523-001B	↓	9.65 @ 18.9°C	
10	2B	↓	8.86 @ 19.1°C	
Dup	3B	↓	9.14 @ 19.1°C	Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CINV-150624A	7.03 @ 20.9°C	Accept: +/-0.1 pH units from expected value

Logbook #8

Julia Ramit 2/4/2016

SM 2540D

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56071 **Analyst:** LSR

ASSET #: N018561 **Date Analyzed:** 2/1/2016

Method: EPA 160.2

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/4/2016

2nd Level Reviewer Nancy 2/11/201 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018561-004D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(2.6188-2.6187)*1000000}{100}$$
$$= 1 \text{ mg/L}$$

Since reporting limit is 10 mg/L, therefore:

TSS = ND

Silia Ramit 2/4/2016

SAMPLE PREPARATION LOG

ASSET LABORATORIES
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ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/1/2016 1:20:20 P**
Prep End Date: **2/1/2016 6:10:00 P**

Initials/ Date: Lilia Ramit 2/4/2016

Prep Batch **56071** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56071	Water		100	☐	0	0	100	1.000		
MB-56071	Water		100	☐	0	0	100	1.000		
N018560-009D	Groundwater		100	☐	0	0	100	1.000		
N018560-010D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D-DU	Groundwater		100	☐	0	0	100	1.000		
N018561-005D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160108A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/1/2016 1:20:20 P**

Prep End Date:

Initials/ Date: Lilia Ramit 2/4/2016

Prep Batch **56071** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56071	Water	INST160108A	100	☐	0	0	100	1.000		
MB-56071	Water		100	☐	0	0	100	1.000		
N018560-009D	Groundwater		100	☐	0	0	100	1.000		
N018560-010D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D	Groundwater		100	☐	0	0	100	1.000		
N018561-004D-DU	Groundwater		100	☐	0	0	100	1.000		
N018561-005D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #:
T60410

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/1/16 1320	MB1 56071	100	2.6190 2.6191	2.6192 2.6191	
	LCS 56071	100	2.6219 2.6221	2.7176 2.7174	
1	N018560-009D	100	2.6231 2.6233	2.6236 2.6235	
2	10D	100	2.5573 2.5575	2.5575 2.5576	
3	N018561-004D	100	2.6184 2.6187	2.6188 2.6188	
4	5 ~~4~~D ~~DSR~~ 2/1/15	100	2.5550 2.5552	2.5554 2.5555	
DUP	4D DUP	100	2.6474 2.6475	2.6478 ~~2.6477~~ 2.6477 KR 2/1/16	
~~DUP~~					

Julia Ramit 2/4/2016

ASSET Laboratories

Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 2/1/16						
MB-56071	100	2.6191	2.6191	0.0000	1.00	0
LCS-56071	100	2.6221	2.7174	953.0000	1.00	953
N018560-009D	100	2.6233	2.6235	2.0000	1.00	2
N018560-010D	100	2.5575	2.5576	1.0000	1.00	1
N018561-004D	100	2.6187	2.6188	1.0000	1.00	1
N018561-004D DUP	100	2.6475	2.6477	2.0000	1.00	2
N018561-005D	100	2.5552	2.5555	3.0000	1.00	3

Silia Ramit 2/4/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

QC Batch Number: R105644
ASSET #: N018561

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/1/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM, GMP, ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 2/11/2016 Date: ____

2nd Level Reviewer Mary 2/11/201 Date: ____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018561-002A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.1426 * 1

= 0.1426

Since PQL is 0.20 µg/L,

Cr^{+6}, µg/L = ND

ANALYSIS RUN LOG

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	01/05/16 12:47 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/05/16 12:56 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	01/05/16 1:06 PM	Reported
13	MB-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:15 PM	Reported
14	LCS-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:24 PM	Reported
15	N018212-001A	SAMP	1	Hexavalent Chromium	01/05/16 1:35 PM	Reported
16	N018212-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 1:46 PM	Reported
17	N018212-001AMS	MS	1	Hexavalent Chromium	01/05/16 1:59 PM	Reported
18	N018212-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 2:10 PM	Reported
19	N018212-002A	SAMP	1	Hexavalent Chromium	01/05/16 2:30 PM	Reported
20	N018212-002AMS	MS	1	Hexavalent Chromium	01/05/16 2:41 PM	Reported
21	N018212-003A	SAMP	1	Hexavalent Chromium	01/05/16 2:50 PM	Reported
22	N018212-003AMS	MS	1	Hexavalent Chromium	01/05/16 3:00 PM	Reported
23	CCV-1	CCV	1	Hexavalent Chromium	01/05/16 3:09 PM	Reported
24	CCB-1	CCB	1	Hexavalent Chromium	01/05/16 3:19 PM	Reported
25	N018212-004A	SAMP	1	Hexavalent Chromium	01/05/16 3:28 PM	Reported
26	N018212-004AMS	MS	1	Hexavalent Chromium	01/05/16 3:38 PM	Reported
27	N018212-005A	SAMP	1	Hexavalent Chromium	01/05/16 3:47 PM	Reported
28	N018212-005AMS	MS	1	Hexavalent Chromium	01/05/16 3:57 PM	Reported
29	N018212-006A	SAMP	1	Hexavalent Chromium	01/05/16 4:06 PM	Reported
30	N018212-006AMS	MS	1	Hexavalent Chromium	01/05/16 4:16 PM	Reported
31	N018212-007A	SAMP	1	Hexavalent Chromium	01/05/16 4:25 PM	Reported
32	N018212-007AMS	MS	1	Hexavalent Chromium	01/05/16 4:35 PM	Reported
33	N018213-001A	SAMP	1	Hexavalent Chromium	01/05/16 4:44 PM	Reported
34	N018213-002A	SAMP	1	Hexavalent Chromium	01/05/16 4:54 PM	Reported
35	CCV-2	CCV	1	Hexavalent Chromium	01/05/16 5:03 PM	Reported
36	CCB-2	CCB	1	Hexavalent Chromium	01/05/16 5:12 PM	Reported
37	N018213-003A	SAMP	1	Hexavalent Chromium	01/05/16 5:22 PM	Reported
38	N018213-004A	SAMP	1	Hexavalent Chromium	01/05/16 5:31 PM	Reported
39	N018213-005A	SAMP	1	Hexavalent Chromium	01/05/16 5:41 PM	Reported
40	N018213-006A	SAMP	1	Hexavalent Chromium	01/05/16 5:50 PM	Reported
41	N018213-007A	SAMP	1	Hexavalent Chromium	01/05/16 6:00 PM	Reported
42	N018213-008A	SAMP	1	Hexavalent Chromium	01/05/16 6:11 PM	Reported

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018213-009A	SAMP	1	Hexavalent Chromium	01/05/16 6:21 PM	Reported
44	N018213-010A	SAMP	1	Hexavalent Chromium	01/05/16 6:30 PM	Reported
45	N018213-011A	SAMP	1	Hexavalent Chromium	01/05/16 6:39 PM	Reported
46	N018213-012A	SAMP	1	Hexavalent Chromium	01/05/16 6:49 PM	Reported
47	CCV-3	CCV	1	Hexavalent Chromium	01/05/16 6:58 PM	Reported
48	CCB-3	CCB	1	Hexavalent Chromium	01/05/16 7:08 PM	Reported
49	MB-R105090	MBLK	1	Hexavalent Chromium	01/05/16 7:17 PM	Reported
50	LCS-R105090	LCS	1	Hexavalent Chromium	01/05/16 7:27 PM	Reported
51	N018214-001A	SAMP	1	Hexavalent Chromium	01/05/16 7:36 PM	Reported
52	N018214-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 7:46 PM	Reported
53	N018214-001AMS	MS	1	Hexavalent Chromium	01/05/16 7:55 PM	Reported
54	N018214-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 8:05 PM	Reported
55	N018214-002A	SAMP	1	Hexavalent Chromium	01/05/16 8:14 PM	Reported
56	N018214-003A	SAMP	1	Hexavalent Chromium	01/05/16 8:24 PM	Reported
57	N018214-004A	SAMP	1	Hexavalent Chromium	01/05/16 8:33 PM	Reported
58	N018214-005A	SAMP	1	Hexavalent Chromium	01/05/16 8:43 PM	Reported
59	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 8:52 PM	Not Reported
60	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 10:51 PM	Reported
61	CCB-4	CCB	1	Hexavalent Chromium	01/05/16 11:02 PM	Reported
62	N018214-006A	SAMP	1	Hexavalent Chromium	01/05/16 11:12 PM	Reported
63	N018214-007A	SAMP	1	Hexavalent Chromium	01/05/16 11:21 PM	Reported
64	N018214-008A	SAMP	1	Hexavalent Chromium	01/05/16 11:30 PM	Reported
65	N018214-009A	SAMP	1	Hexavalent Chromium	01/05/16 11:40 PM	Reported
66	N018214-010A	SAMP	1	Hexavalent Chromium	01/05/16 11:49 PM	Reported
67	N018214-011A	SAMP	1	Hexavalent Chromium	01/05/16 11:59 PM	Reported
68	N018214-012A	SAMP	1	Hexavalent Chromium	01/06/16 12:08 AM	Reported
69	N018214-013A	SAMP	1	Hexavalent Chromium	01/06/16 12:18 AM	Reported
70	N018214-014A	SAMP	1	Hexavalent Chromium	01/06/16 12:27 AM	Reported
71	N018214-015A	SAMP	1	Hexavalent Chromium	01/06/16 12:37 AM	Reported
72	CCV-5	CCV	1	Hexavalent Chromium	01/06/16 12:46 AM	Reported
73	CCB-5	CCB	1	Hexavalent Chromium	01/06/16 12:56 AM	Reported
74	N018223-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:05 AM	Reported
75	N018224-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:15 AM	Reported
76	CCV-6	CCV	1	Hexavalent Chromium	01/06/16 1:24 AM	Reported
77	CCB-6	CCB	1	Hexavalent Chromium	01/06/16 1:33 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160105A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Jan/16 10:48:03**
No. of Injections:	**80**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	ICV,ICV,1,	10	1000	Unknown		01/05/2016 12:47	Finished	ICV @ 5ppb, IWST 160105B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		01/05/2016 12:56	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		01/05/2016 13:06	Finished	ICB R151228A
13	MB-H2O,MBLK,1	13	1000	Unknown		01/05/2016 13:15	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		01/05/2016 13:24	Finished	LCS @ 5ppb, IWST-160105D
15	N018212-001A,SAMF	15	1000	Unknown		01/05/2016 13:35	Finished	SAMP, 10mL
16	N018212-001ADUP,D	16	1000	Unknown		01/05/2016 13:46	Finished	DUP, 10mL
17	N018212-001AMS,MS	17	1000	Unknown		01/05/2016 13:59	Finished	MS(1ppb), IWST-160105D, 10r
18	N018212-001AMSD,M	18	1000	Unknown		01/05/2016 14:10	Finished	MSD(1ppb), IWST-160105D, 1
19	N018212-002A,SAMF	19	1000	Unknown		01/05/2016 14:30	Finished	SAMP, 10mL
20	N018212-002AMS,MS	20	1000	Unknown		01/05/2016 14:41	Finished	MS(1ppb), IWST-160105D, 10r
21	N018212-003A,SAMF	21	1000	Unknown		01/05/2016 14:50	Finished	SAMP, 10mL
22	N018212-003AMS,MS	22	1000	Unknown		01/05/2016 15:00	Finished	MS(1ppb), IWST-160105D, 10r
23	CCV-1,CCV,1	23	1000	Unknown		01/05/2016 15:09	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-1,CCB,1	24	1000	Unknown		01/05/2016 15:19	Finished	CCB
25	N018212-004A,SAMF	25	1000	Unknown		01/05/2016 15:28	Finished	SAMP, 10mL
26	N018212-004AMS,MS	26	1000	Unknown		01/05/2016 15:38	Finished	MS(1ppb), IWST-160105D, 10r
27	N018212-005A,SAMF	27	1000	Unknown		01/05/2016 15:47	Finished	SAMP, 10mL
28	N018212-005AMS,MS	28	1000	Unknown		01/05/2016 15:57	Finished	MS(1ppb), IWST-160105D, 10r
29	N018212-006A,SAMF	29	1000	Unknown		01/05/2016 16:06	Finished	SAMP, 10mL
30	N018212-006AMS,MS	30	1000	Unknown		01/05/2016 16:16	Finished	MS(1ppb), IWST-160105D, 10r
31	N018212-007A,SAMF	31	1000	Unknown		01/05/2016 16:25	Finished	SAMP, 10mL
32	N018212-007AMS,MS	32	1000	Unknown		01/05/2016 16:35	Finished	MS(1ppb), IWST-160105D, 10r
33	N018213-001A,SAMF	33	1000	Unknown		01/05/2016 16:44	Finished	SAMP, 10mL
34	N018213-002A,SAMF	34	1000	Unknown		01/05/2016 16:54	Finished	SAMP, 10mL
35	CCV-2,CCV,1	35	1000	Unknown		01/05/2016 17:03	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-2,CCB,1	36	1000	Unknown		01/05/2016 17:12	Finished	CCB
37	N018213-003A,SAMF	37	1000	Unknown		01/05/2016 17:22	Finished	SAMP, 10mL
38	N018213-004A,SAMF	38	1000	Unknown		01/05/2016 17:31	Finished	SAMP, 10mL
39	N018213-005A,SAMF	39	1000	Unknown		01/05/2016 17:41	Finished	SAMP, 10mL
40	N018213-006A,SAMF	40	1000	Unknown		01/05/2016 17:50	Finished	SAMP, 10mL
41	N018213-007A,SAMF	1	1000	Unknown		01/05/2016 18:00	Finished	SAMP, 10mL
42	N018213-008A,SAMF	2	1000	Unknown		01/05/2016 18:11	Finished	SAMP, 10mL
43	N018213-009A,SAMF	3	1000	Unknown		01/05/2016 18:21	Finished	SAMP, 10mL
44	N018213-010A,SAMF	4	1000	Unknown		01/05/2016 18:30	Finished	SAMP, 10mL
45	N018213-011A,SAMF	5	1000	Unknown		01/05/2016 18:39	Finished	SAMP, 10mL
46	N018213-012A,SAMF	6	1000	Unknown		01/05/2016 18:49	Finished	SAMP, 10mL
47	CCV-3,CCV,1	7	1000	Unknown		01/05/2016 18:58	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-3,CCB,1	8	1000	Unknown		01/05/2016 19:08	Finished	CCB
49	MB-H2O-2,MBLK,1	9	1000	Unknown		01/05/2016 19:17	Finished	MB
50	LCS-H2O-2,LCS,1	10	1000	Unknown		01/05/2016 19:27	Finished	LCS @ 5ppb, IWST-151103D
51	N018214-001A,SAMF	11	1000	Unknown		01/05/2016 19:36	Finished	SAMP, 10mL
52	N018214-001ADUP,D	12	1000	Unknown		01/05/2016 19:46	Finished	DUP, 10mL
53	N018214-001AMS,MS	13	1000	Unknown		01/05/2016 19:55	Finished	MS(5ppb), IWST-160105D, 10r
54	N018214-001AMSD,M	14	1000	Unknown		01/05/2016 20:05	Finished	MSD(5ppb), IWST-160105D, 1
55	N018214-002A,SAMF	15	1000	Unknown		01/05/2016 20:14	Finished	SAMP, 10mL
56	N018214-003A,SAMF	16	1000	Unknown		01/05/2016 20:24	Finished	SAMP, 10mL
57	N018214-004A,SAMF	17	1000	Unknown		01/05/2016 20:33	Finished	SAMP, 10mL
58	N018214-005A,SAMF	18	1000	Unknown		01/05/2016 20:43	Finished	SAMP, 10mL
59	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 20:52	Interrupted	CCV @ 5ppb, IWST-160105C
60	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 22:51	Finished	CCV @ 5ppb, IWST-160105C

61	CCB-4,CCB,1	20	1000	Unknown		01/05/2016 23:02	Finished	CCB
62	N018214-006A,SAMF	21	1000	Unknown		01/05/2016 23:12	Finished	SAMP, 10mL
63	N018214-007A,SAMF	22	1000	Unknown		01/05/2016 23:21	Finished	SAMP, 10mL
64	N018214-008A,SAMF	23	1000	Unknown		01/05/2016 23:30	Finished	SAMP, 10mL
65	N018214-009A,SAMF	24	1000	Unknown		01/05/2016 23:40	Finished	SAMP, 10mL
66	N018214-010A,SAMF	25	1000	Unknown		01/05/2016 23:49	Finished	SAMP, 10mL
67	N018214-011A,SAMF	26	1000	Unknown		01/05/2016 23:59	Finished	SAMP, 10mL
68	N018214-012A,SAMF	27	1000	Unknown		01/06/2016 00:08	Finished	SAMP, 10mL
69	N018214-013A,SAMF	28	1000	Unknown		01/06/2016 00:18	Finished	SAMP, 10mL
70	N018214-014A,SAMF	29	1000	Unknown		01/06/2016 00:27	Finished	SAMP, 10mL
71	N018214-015A,SAMF	30	1000	Unknown		01/06/2016 00:37	Finished	SAMP, 10mL
72	CCV-5,CCV,1	31	1000	Unknown		01/06/2016 00:46	Finished	CCV @ 10ppb, IWST-160105C
73	CCB-5,CCB,1	32	1000	Unknown		01/06/2016 00:56	Finished	CCB
74	N018223-001A,SAMF	33	1000	Unknown		01/06/2016 01:05	Finished	SAMP, 10mL
75	N018224-001A,SAMF	34	1000	Unknown		01/06/2016 01:15	Finished	SAMP, 10mL
76	CCV-6,CCV,1	35	1000	Unknown		01/06/2016 01:24	Finished	CCV @ 5ppb, IWST-160105C
77	CCB-6,CCB,1	36	1000	Unknown		01/06/2016 01:33	Finished	CCB
78	SHUTDOWN	37	1000	Unknown		01/06/2016 01:43	Finished	BLANK
79	Eluent: R160105A	38	1000	Unknown		n.a.	Finished	Eluent
80	PCR: R160105B	39	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:37 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:48 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	02/01/16 11:57 AM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/01/16 12:07 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/01/16 12:16 PM	Reported
15	MB-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:26 PM	Reported
16	LCS-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:35 PM	Reported
17	N018560-002A	SAMP	1	Hexavalent Chromium	02/01/16 12:53 PM	Reported
18	N018560-002A-DUP	DUP	1	Hexavalent Chromium	02/01/16 1:04 PM	Reported
19	N018560-002A-MS	MS	1	Hexavalent Chromium	02/01/16 1:13 PM	Reported
20	N018560-002A-MSD	MSD	1	Hexavalent Chromium	02/01/16 1:23 PM	Reported
21	N018560-003A	SAMP	1	Hexavalent Chromium	02/01/16 1:32 PM	Reported
22	N018560-003A-MS	MS	1	Hexavalent Chromium	02/01/16 1:42 PM	Reported
23	N018560-004A	SAMP	1	Hexavalent Chromium	02/01/16 1:51 PM	Reported
24	N018560-004A-MS	MS	1	Hexavalent Chromium	02/01/16 2:01 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/01/16 2:10 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/01/16 2:20 PM	Reported
27	N018560-005A	SAMP	1	Hexavalent Chromium	02/01/16 2:39 PM	Reported
28	N018560-005A-MS	MS	1	Hexavalent Chromium	02/01/16 2:50 PM	Reported
29	N018560-006A	SAMP	1	Hexavalent Chromium	02/01/16 3:00 PM	Reported
30	N018560-006A-MS	MS	1	Hexavalent Chromium	02/01/16 3:09 PM	Reported
31	N018560-007A	SAMP	1	Hexavalent Chromium	02/01/16 3:19 PM	Reported
32	N018560-007A-MS	MS	1	Hexavalent Chromium	02/01/16 3:28 PM	Reported
33	N018560-008A	SAMP	1	Hexavalent Chromium	02/01/16 3:38 PM	Reported
34	N018560-008A-MS	MS	1	Hexavalent Chromium	02/01/16 3:47 PM	Reported
35	N018560-009A	SAMP	1	Hexavalent Chromium	02/01/16 3:57 PM	Reported
36	N018560-009A-MS	MS	1	Hexavalent Chromium	02/01/16 4:06 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/01/16 4:15 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/01/16 4:25 PM	Reported
39	N018560-010A	SAMP	1	Hexavalent Chromium	02/01/16 4:34 PM	Reported
40	N018560-010A-MS	MS	1	Hexavalent Chromium	02/01/16 4:44 PM	Reported
41	N018561-001A	SAMP	1	Hexavalent Chromium	02/01/16 4:53 PM	Not Reported
42	N018561-001A-MS	MS	1	Hexavalent Chromium	02/01/16 5:03 PM	Not Reported

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018561-002A	SAMP	1	Hexavalent Chromium	02/01/16 5:12 PM	Reported
44	N018561-002A-MS	MS	1	Hexavalent Chromium	02/01/16 5:22 PM	Reported
45	N018561-003A	SAMP	1	Hexavalent Chromium	02/01/16 5:31 PM	Reported
46	N018561-003A-MS	MS	1	Hexavalent Chromium	02/01/16 5:41 PM	Reported
47	N018561-004A	SAMP	1	Hexavalent Chromium	02/01/16 5:50 PM	Reported
48	N018561-004A-MS	MS	1	Hexavalent Chromium	02/01/16 6:00 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/01/16 6:09 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/01/16 6:18 PM	Reported
51	N018561-005A	SAMP	1	Hexavalent Chromium	02/01/16 6:28 PM	Reported
52	N018561-005A-MS	MS	1	Hexavalent Chromium	02/01/16 6:37 PM	Reported
53	CCV-5	CCV	1	Hexavalent Chromium	02/01/16 6:47 PM	Reported
54	CCB-5	CCB	1	Hexavalent Chromium	02/01/16 6:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160201A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Feb/16 15:41:58**
No. of Injections:	**57**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	BLANK	1	1000	Unknown		02/01/2016 11:37	Finished	BLANK
11	BLANK	2	1000	Unknown		02/01/2016 11:48	Finished	BLANK
12	CCV-1,CCV,1,	3	1000	Unknown		02/01/2016 11:57	Finished	CCV @ 5ppb, IWST 160105C
13	PQL@0.2ppb,CCV2,1	4	1000	Unknown		02/01/2016 12:07	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	5	1000	Unknown		02/01/2016 12:16	Finished	CCB R160110A
15	MB-H2O,MBLK,1	6	1000	Unknown		02/01/2016 12:26	Finished	MB
16	LCS-H2O,LCS,1	7	1000	Unknown		02/01/2016 12:35	Finished	LCS @ 5ppb, IWST-160107A
17	N018560-002A,SAMP	8	1000	Unknown		02/01/2016 12:53	Finished	SAMP, 10mL
18	N018560-002A-DUP,I	9	1000	Unknown		02/01/2016 13:04	Finished	DUP, 10mL
19	N018560-002A-MS,M	10	1000	Unknown		02/01/2016 13:13	Finished	MS(1ppb), IWST-160107A, 10r
20	N018560-002A-MSD,	11	1000	Unknown		02/01/2016 13:23	Finished	MSD(5ppb), IWST-160107A, 1
21	N018560-003A,SAMP	12	1000	Unknown		02/01/2016 13:32	Finished	SAMP, 10mL
22	N018560-003A-MS,M	13	1000	Unknown		02/01/2016 13:42	Finished	MS(1ppb), IWST-160107A, 10r
23	N018560-004A,SAMP	14	1000	Unknown		02/01/2016 13:51	Finished	SAMP, 10mL
24	N018560-004A-MS,M	15	1000	Unknown		02/01/2016 14:01	Finished	MS(1ppb), IWST-160107A, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/01/2016 14:10	Finished	CCV @ 10ppb, IWST-160105C
26	CCB-2,CCB,1	17	1000	Unknown		02/01/2016 14:20	Finished	CCB
27	N018560-005A,SAMP	18	1000	Unknown		02/01/2016 14:39	Finished	SAMP, 10mL
28	N018560-005A-MS,M	19	1000	Unknown		02/01/2016 14:50	Finished	MS(1ppb), IWST-160107A, 10r
29	N018560-006A,SAMP	20	1000	Unknown		02/01/2016 15:00	Finished	SAMP, 10mL
30	N018560-006A-MS,M	21	1000	Unknown		02/01/2016 15:09	Finished	MS(1ppb), IWST-160107A, 10r
31	N018560-007A,SAMP	22	1000	Unknown		02/01/2016 15:19	Finished	SAMP, 10mL
32	N018560-007A-MS,M	23	1000	Unknown		02/01/2016 15:28	Finished	MS(1ppb), IWST-160107A, 10r
33	N018560-008A,SAMP	24	1000	Unknown		02/01/2016 15:38	Finished	SAMP, 10mL
34	N018560-008A-MS,M	25	1000	Unknown		02/01/2016 15:47	Finished	MS(1ppb), IWST-160107A, 10r
35	N018560-009A,SAMP	26	1000	Unknown		02/01/2016 15:57	Finished	SAMP, 10mL
36	N018560-009A-MS,M	27	1000	Unknown		02/01/2016 16:06	Finished	MS(1ppb), IWST-160107A, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/01/2016 16:15	Finished	CCV @ 5ppb, IWST-160105C
38	CCB-3,CCB,1	29	1000	Unknown		02/01/2016 16:25	Finished	CCB
39	N018560-010A,SAMP	30	1000	Unknown		02/01/2016 16:34	Finished	SAMP, 10mL
40	N018560-010A-MS,M	31	1000	Unknown		02/01/2016 16:44	Finished	MS(1ppb), IWST-160107A, 10r
41	N018561-001A,SAMP	32	1000	Unknown		02/01/2016 16:53	Finished	SAMP, 10mL
42	N018561-001A-MS,M	33	1000	Unknown		02/01/2016 17:03	Finished	MS(1ppb), IWST-160107A, 10r
43	N018561-002A,SAMP	34	1000	Unknown		02/01/2016 17:12	Finished	SAMP, 10mL
44	N018561-002A-MS,M	35	1000	Unknown		02/01/2016 17:22	Finished	MS(1ppb), IWST-160107A, 10r
45	N018561-003A,SAMP	36	1000	Unknown		02/01/2016 17:31	Finished	SAMP, 10mL
46	N018561-003A-MS,M	37	1000	Unknown		02/01/2016 17:41	Finished	MS(1ppb), IWST-160107A, 10r
47	N018561-004A,SAMP	38	1000	Unknown		02/01/2016 17:50	Finished	SAMP, 10mL
48	N018561-004A-MS,M	39	1000	Unknown		02/01/2016 18:00	Finished	MS(1ppb), IWST-160107A, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/01/2016 18:09	Finished	CCV @ 10ppb, IWST-160105C
50	CCB-4,CCB,1	41	1000	Unknown		02/01/2016 18:18	Finished	CCB
51	N018561-005A,SAMP	42	1000	Unknown		02/01/2016 18:28	Finished	SAMP, 10mL
52	N018561-005A-MS,M	43	1000	Unknown		02/01/2016 18:37	Finished	MS(1ppb), IWST-160107A, 10r
53	CCV-5,CCV,1	44	1000	Unknown		02/01/2016 18:47	Finished	CCV @ 5ppb, IWST-160105C
54	CCB-5,CCB,1	45	1000	Unknown		02/01/2016 18:57	Finished	CCB
55	SHUTDOWN	46	1000	Unknown		02/01/2016 19:06	Finished	BLANK
56	Eluent: R160129B	47	1000	Unknown		n.a.	Finished	Eluent
57	PCR: R160127C	48	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 01/28/16
Time Prepared: 12:00PM
Prepared By: MSB

Reagent ID:
Sulfuric Acid: CIM-1511300
Diphenylcarbazide: CIM-1511300P
NH4OH + NH4SO4 eluent: R1601290
NH4OH + NH4SO4 buffer: R1601100A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018560-007A1	9.53	—	—	—	—	R1601100A
2)	A2	9.55	—	—	—	—	
3)	A3	9.52	—	—	—	—	
4)	8A1	9.53	—	—	—	—	
5)	A2	9.52	—	—	—	—	
6)	A3	9.54	—	—	—	—	
7)	9A1	9.55	—	—	—	—	
8)	A2	9.54	—	—	—	—	
9)	A3	9.53	—	—	—	—	
10)	10A1	9.52	—	—	—		
11)	A2	9.52	—	—	—	—	
12)	A3	9.54	—	—	—	—	
13)	N018561-001A1	9.52	—	—	—	—	
14)	A2	9.47	—	—	—	—	
15)	A3	9.45	—	—	—	—	

Sample Preparation

Date Prepared: 01/28/16
Time Prepared: 12:00PM
Prepared By: MSB

Reagent ID:
Sulfuric Acid: CIM-1511300 ~~R1601290~~ MSB 2/10/16
Diphenylcarbazide: CIM-1511300P
NH4OH + NH4SO4 eluent: R1601290
NH4OH + NH4SO4 buffer: R1601100A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018561-002A1	9.49	—	—	—	—	R1601100A
2)	A2	9.49	—	—	—	—	
3)	A3	9.46	—	—	—	—	
4)	3A1	9.48	—	—	—	—	
5)	A2	9.50	—	—	—	—	
6)	A3	9.50	—	—	—		
7)	4A1	9.48	—	—	—	—	
8)	A2	9.49	—	—	—	—	
9)	A3	9.52	—	—	—	—	
10)	5A1	9.49	—	—	—	—	
11)	A2	9.49	—	—	—	—	
12)	A3	9.48	—	—	—	—	
13)							
14)							
15)							

Logbook No. 10

Reb 2/11/2016

ASSET LABORATORIES
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INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 1/5/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0526	0.2524	1.2092	2.3780	3.6489	4.8150	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160105C

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ICV** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2217294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.046	0.20	5.000	0	101	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2217295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.227	0.20	0.2000	0	114	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCV** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ZZZZZZ** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.206	0.20	0.2000	0	103	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCV** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.846	0.20	10.00	0	98.5	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCV-3	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	CCV	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217322

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.052	0.20	5.000	0	101	95	105				

Sample ID	CCV-4	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	CCV	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217334

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.052	0.20	10.00	0	101	95	105				

Sample ID	CCV-5	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105644
Client ID:	CCV	Batch ID:	R105644	TestNo:	EPA 218.6			Analysis Date:	2/1/2016	SeqNo:	2217338

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.896	0.20	5.000	0	97.9	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **ICB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **1/5/2016** SeqNo: **2217296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.013	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105644**
Client ID: **CCB** Batch ID: **R105644** TestNo: **EPA 218.6** Analysis Date: **2/1/2016** SeqNo: **2217339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/1/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.048	
CCV-2	5.056	
CCV-3	5.048	
CCV-4	5.048	
CCV-5	5.056	
Average	5.051	
Actual RT Window	4.971 - 5.131	
Applied RT Window	4.851 - 5.251	
MB-R105644	N.A.	N.A.
LCS-R105644	5.048	PASS
N018560-002A	5.056	PASS
N018560-002A-DUP	5.040	PASS
N018560-002A-MS	5.048	PASS
N018560-002A-MSD	5.040	PASS
N018560-003A	5.040	PASS
N018560-003A-MS	5.048	PASS
N018560-004A	5.048	PASS
N018560-004A-MS	5.048	PASS
N018560-005A	5.031	PASS
N018560-005A-MS	5.048	PASS
N018560-006A	5.031	PASS
N018560-006A-MS	5.040	PASS
N018560-007A	5.048	PASS
N018560-007A-MS	5.040	PASS
N018560-008A	5.040	PASS
N018560-008A-MS	5.048	PASS
N018560-009A	5.056	PASS
N018560-009A-MS	5.048	PASS
N018560-010A	5.031	PASS
N018560-010A-MS	5.040	PASS
N018561-001A	5.031	PASS
N018561-001A-MS	5.048	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/1/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.048	
CCV-2	5.056	
CCV-3	5.048	
CCV-4	5.048	
CCV-5	5.056	
Average	5.051	
Actual RT Window	4.971 - 5.131	
Applied RT Window	4.851 - 5.251	
N018561-002A	5.048	PASS
N018561-002A-MS	5.048	PASS
N018561-003A	5.056	PASS
N018561-003A-MS	5.048	PASS
N018561-004A	5.056	PASS
N018561-004A-MS	5.048	PASS
N018561-005A	5.048	PASS
N018561-005A-MS	5.040	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	01/05/16 12:47 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	01/05/16 12:56 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	01/05/16 1:06 PM	Reported
13	MB-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:15 PM	Reported
14	LCS-R105089	ICAL	1	Hexavalent Chromium	01/05/16 1:24 PM	Reported
15	N018212-001A	SAMP	1	Hexavalent Chromium	01/05/16 1:35 PM	Reported
16	N018212-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 1:46 PM	Reported
17	N018212-001AMS	MS	1	Hexavalent Chromium	01/05/16 1:59 PM	Reported
18	N018212-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 2:10 PM	Reported
19	N018212-002A	SAMP	1	Hexavalent Chromium	01/05/16 2:30 PM	Reported
20	N018212-002AMS	MS	1	Hexavalent Chromium	01/05/16 2:41 PM	Reported
21	N018212-003A	SAMP	1	Hexavalent Chromium	01/05/16 2:50 PM	Reported
22	N018212-003AMS	MS	1	Hexavalent Chromium	01/05/16 3:00 PM	Reported
23	CCV-1	CCV	1	Hexavalent Chromium	01/05/16 3:09 PM	Reported
24	CCB-1	CCB	1	Hexavalent Chromium	01/05/16 3:19 PM	Reported
25	N018212-004A	SAMP	1	Hexavalent Chromium	01/05/16 3:28 PM	Reported
26	N018212-004AMS	MS	1	Hexavalent Chromium	01/05/16 3:38 PM	Reported
27	N018212-005A	SAMP	1	Hexavalent Chromium	01/05/16 3:47 PM	Reported
28	N018212-005AMS	MS	1	Hexavalent Chromium	01/05/16 3:57 PM	Reported
29	N018212-006A	SAMP	1	Hexavalent Chromium	01/05/16 4:06 PM	Reported
30	N018212-006AMS	MS	1	Hexavalent Chromium	01/05/16 4:16 PM	Reported
31	N018212-007A	SAMP	1	Hexavalent Chromium	01/05/16 4:25 PM	Reported
32	N018212-007AMS	MS	1	Hexavalent Chromium	01/05/16 4:35 PM	Reported
33	N018213-001A	SAMP	1	Hexavalent Chromium	01/05/16 4:44 PM	Reported
34	N018213-002A	SAMP	1	Hexavalent Chromium	01/05/16 4:54 PM	Reported
35	CCV-2	CCV	1	Hexavalent Chromium	01/05/16 5:03 PM	Reported
36	CCB-2	CCB	1	Hexavalent Chromium	01/05/16 5:12 PM	Reported
37	N018213-003A	SAMP	1	Hexavalent Chromium	01/05/16 5:22 PM	Reported
38	N018213-004A	SAMP	1	Hexavalent Chromium	01/05/16 5:31 PM	Reported
39	N018213-005A	SAMP	1	Hexavalent Chromium	01/05/16 5:41 PM	Reported
40	N018213-006A	SAMP	1	Hexavalent Chromium	01/05/16 5:50 PM	Reported
41	N018213-007A	SAMP	1	Hexavalent Chromium	01/05/16 6:00 PM	Reported
42	N018213-008A	SAMP	1	Hexavalent Chromium	01/05/16 6:11 PM	Reported

INJECTION LOG: 160105A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018213-009A	SAMP	1	Hexavalent Chromium	01/05/16 6:21 PM	Reported
44	N018213-010A	SAMP	1	Hexavalent Chromium	01/05/16 6:30 PM	Reported
45	N018213-011A	SAMP	1	Hexavalent Chromium	01/05/16 6:39 PM	Reported
46	N018213-012A	SAMP	1	Hexavalent Chromium	01/05/16 6:49 PM	Reported
47	CCV-3	CCV	1	Hexavalent Chromium	01/05/16 6:58 PM	Reported
48	CCB-3	CCB	1	Hexavalent Chromium	01/05/16 7:08 PM	Reported
49	MB-R105090	MBLK	1	Hexavalent Chromium	01/05/16 7:17 PM	Reported
50	LCS-R105090	LCS	1	Hexavalent Chromium	01/05/16 7:27 PM	Reported
51	N018214-001A	SAMP	1	Hexavalent Chromium	01/05/16 7:36 PM	Reported
52	N018214-001ADUP	DUP	1	Hexavalent Chromium	01/05/16 7:46 PM	Reported
53	N018214-001AMS	MS	1	Hexavalent Chromium	01/05/16 7:55 PM	Reported
54	N018214-001AMSD	MSD	1	Hexavalent Chromium	01/05/16 8:05 PM	Reported
55	N018214-002A	SAMP	1	Hexavalent Chromium	01/05/16 8:14 PM	Reported
56	N018214-003A	SAMP	1	Hexavalent Chromium	01/05/16 8:24 PM	Reported
57	N018214-004A	SAMP	1	Hexavalent Chromium	01/05/16 8:33 PM	Reported
58	N018214-005A	SAMP	1	Hexavalent Chromium	01/05/16 8:43 PM	Reported
59	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 8:52 PM	Not Reported
60	CCV-4	CCV	1	Hexavalent Chromium	01/05/16 10:51 PM	Reported
61	CCB-4	CCB	1	Hexavalent Chromium	01/05/16 11:02 PM	Reported
62	N018214-006A	SAMP	1	Hexavalent Chromium	01/05/16 11:12 PM	Reported
63	N018214-007A	SAMP	1	Hexavalent Chromium	01/05/16 11:21 PM	Reported
64	N018214-008A	SAMP	1	Hexavalent Chromium	01/05/16 11:30 PM	Reported
65	N018214-009A	SAMP	1	Hexavalent Chromium	01/05/16 11:40 PM	Reported
66	N018214-010A	SAMP	1	Hexavalent Chromium	01/05/16 11:49 PM	Reported
67	N018214-011A	SAMP	1	Hexavalent Chromium	01/05/16 11:59 PM	Reported
68	N018214-012A	SAMP	1	Hexavalent Chromium	01/06/16 12:08 AM	Reported
69	N018214-013A	SAMP	1	Hexavalent Chromium	01/06/16 12:18 AM	Reported
70	N018214-014A	SAMP	1	Hexavalent Chromium	01/06/16 12:27 AM	Reported
71	N018214-015A	SAMP	1	Hexavalent Chromium	01/06/16 12:37 AM	Reported
72	CCV-5	CCV	1	Hexavalent Chromium	01/06/16 12:46 AM	Reported
73	CCB-5	CCB	1	Hexavalent Chromium	01/06/16 12:56 AM	Reported
74	N018223-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:05 AM	Reported
75	N018224-001A	SAMP	1	Hexavalent Chromium	01/06/16 1:15 AM	Reported
76	CCV-6	CCV	1	Hexavalent Chromium	01/06/16 1:24 AM	Reported
77	CCB-6	CCB	1	Hexavalent Chromium	01/06/16 1:33 AM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160105A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2015**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Jan/16 10:48:03**
No. of Injections:	**80**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	ICV,ICV,1,	10	1000	Unknown		01/05/2016 12:47	Finished	ICV @ 5ppb, IWST 160105B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		01/05/2016 12:56	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		01/05/2016 13:06	Finished	ICB R151228A
13	MB-H2O,MBLK,1	13	1000	Unknown		01/05/2016 13:15	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		01/05/2016 13:24	Finished	LCS @ 5ppb, IWST-160105D
15	N018212-001A,SAMF	15	1000	Unknown		01/05/2016 13:35	Finished	SAMP, 10mL
16	N018212-001ADUP,D	16	1000	Unknown		01/05/2016 13:46	Finished	DUP, 10mL
17	N018212-001AMS,MS	17	1000	Unknown		01/05/2016 13:59	Finished	MS(1ppb), IWST-160105D, 10r
18	N018212-001AMSD,M	18	1000	Unknown		01/05/2016 14:10	Finished	MSD(1ppb), IWST-160105D, 1
19	N018212-002A,SAMF	19	1000	Unknown		01/05/2016 14:30	Finished	SAMP, 10mL
20	N018212-002AMS,MS	20	1000	Unknown		01/05/2016 14:41	Finished	MS(1ppb), IWST-160105D, 10r
21	N018212-003A,SAMF	21	1000	Unknown		01/05/2016 14:50	Finished	SAMP, 10mL
22	N018212-003AMS,MS	22	1000	Unknown		01/05/2016 15:00	Finished	MS(1ppb), IWST-160105D, 10r
23	CCV-1,CCV,1	23	1000	Unknown		01/05/2016 15:09	Finished	CCV @ 10ppb, IWST-160105C
24	CCB-1,CCB,1	24	1000	Unknown		01/05/2016 15:19	Finished	CCB
25	N018212-004A,SAMF	25	1000	Unknown		01/05/2016 15:28	Finished	SAMP, 10mL
26	N018212-004AMS,MS	26	1000	Unknown		01/05/2016 15:38	Finished	MS(1ppb), IWST-160105D, 10r
27	N018212-005A,SAMF	27	1000	Unknown		01/05/2016 15:47	Finished	SAMP, 10mL
28	N018212-005AMS,MS	28	1000	Unknown		01/05/2016 15:57	Finished	MS(1ppb), IWST-160105D, 10r
29	N018212-006A,SAMF	29	1000	Unknown		01/05/2016 16:06	Finished	SAMP, 10mL
30	N018212-006AMS,MS	30	1000	Unknown		01/05/2016 16:16	Finished	MS(1ppb), IWST-160105D, 10r
31	N018212-007A,SAMF	31	1000	Unknown		01/05/2016 16:25	Finished	SAMP, 10mL
32	N018212-007AMS,MS	32	1000	Unknown		01/05/2016 16:35	Finished	MS(1ppb), IWST-160105D, 10r
33	N018213-001A,SAMF	33	1000	Unknown		01/05/2016 16:44	Finished	SAMP, 10mL
34	N018213-002A,SAMF	34	1000	Unknown		01/05/2016 16:54	Finished	SAMP, 10mL
35	CCV-2,CCV,1	35	1000	Unknown		01/05/2016 17:03	Finished	CCV @ 5ppb, IWST-160105C
36	CCB-2,CCB,1	36	1000	Unknown		01/05/2016 17:12	Finished	CCB
37	N018213-003A,SAMF	37	1000	Unknown		01/05/2016 17:22	Finished	SAMP, 10mL
38	N018213-004A,SAMF	38	1000	Unknown		01/05/2016 17:31	Finished	SAMP, 10mL
39	N018213-005A,SAMF	39	1000	Unknown		01/05/2016 17:41	Finished	SAMP, 10mL
40	N018213-006A,SAMF	40	1000	Unknown		01/05/2016 17:50	Finished	SAMP, 10mL
41	N018213-007A,SAMF	1	1000	Unknown		01/05/2016 18:00	Finished	SAMP, 10mL
42	N018213-008A,SAMF	2	1000	Unknown		01/05/2016 18:11	Finished	SAMP, 10mL
43	N018213-009A,SAMF	3	1000	Unknown		01/05/2016 18:21	Finished	SAMP, 10mL
44	N018213-010A,SAMF	4	1000	Unknown		01/05/2016 18:30	Finished	SAMP, 10mL
45	N018213-011A,SAMF	5	1000	Unknown		01/05/2016 18:39	Finished	SAMP, 10mL
46	N018213-012A,SAMF	6	1000	Unknown		01/05/2016 18:49	Finished	SAMP, 10mL
47	CCV-3,CCV,1	7	1000	Unknown		01/05/2016 18:58	Finished	CCV @ 10ppb, IWST-160105C
48	CCB-3,CCB,1	8	1000	Unknown		01/05/2016 19:08	Finished	CCB
49	MB-H2O-2,MBLK,1	9	1000	Unknown		01/05/2016 19:17	Finished	MB
50	LCS-H2O-2,LCS,1	10	1000	Unknown		01/05/2016 19:27	Finished	LCS @ 5ppb, IWST-151103D
51	N018214-001A,SAMF	11	1000	Unknown		01/05/2016 19:36	Finished	SAMP, 10mL
52	N018214-001ADUP,D	12	1000	Unknown		01/05/2016 19:46	Finished	DUP, 10mL
53	N018214-001AMS,MS	13	1000	Unknown		01/05/2016 19:55	Finished	MS(5ppb), IWST-160105D, 10r
54	N018214-001AMSD,M	14	1000	Unknown		01/05/2016 20:05	Finished	MSD(5ppb), IWST-160105D, 1
55	N018214-002A,SAMF	15	1000	Unknown		01/05/2016 20:14	Finished	SAMP, 10mL
56	N018214-003A,SAMF	16	1000	Unknown		01/05/2016 20:24	Finished	SAMP, 10mL
57	N018214-004A,SAMF	17	1000	Unknown		01/05/2016 20:33	Finished	SAMP, 10mL
58	N018214-005A,SAMF	18	1000	Unknown		01/05/2016 20:43	Finished	SAMP, 10mL
59	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 20:52	Interrupted	CCV @ 5ppb, IWST-160105C
60	CCV-4,CCV,1	19	1000	Unknown		01/05/2016 22:51	Finished	CCV @ 5ppb, IWST-160105C

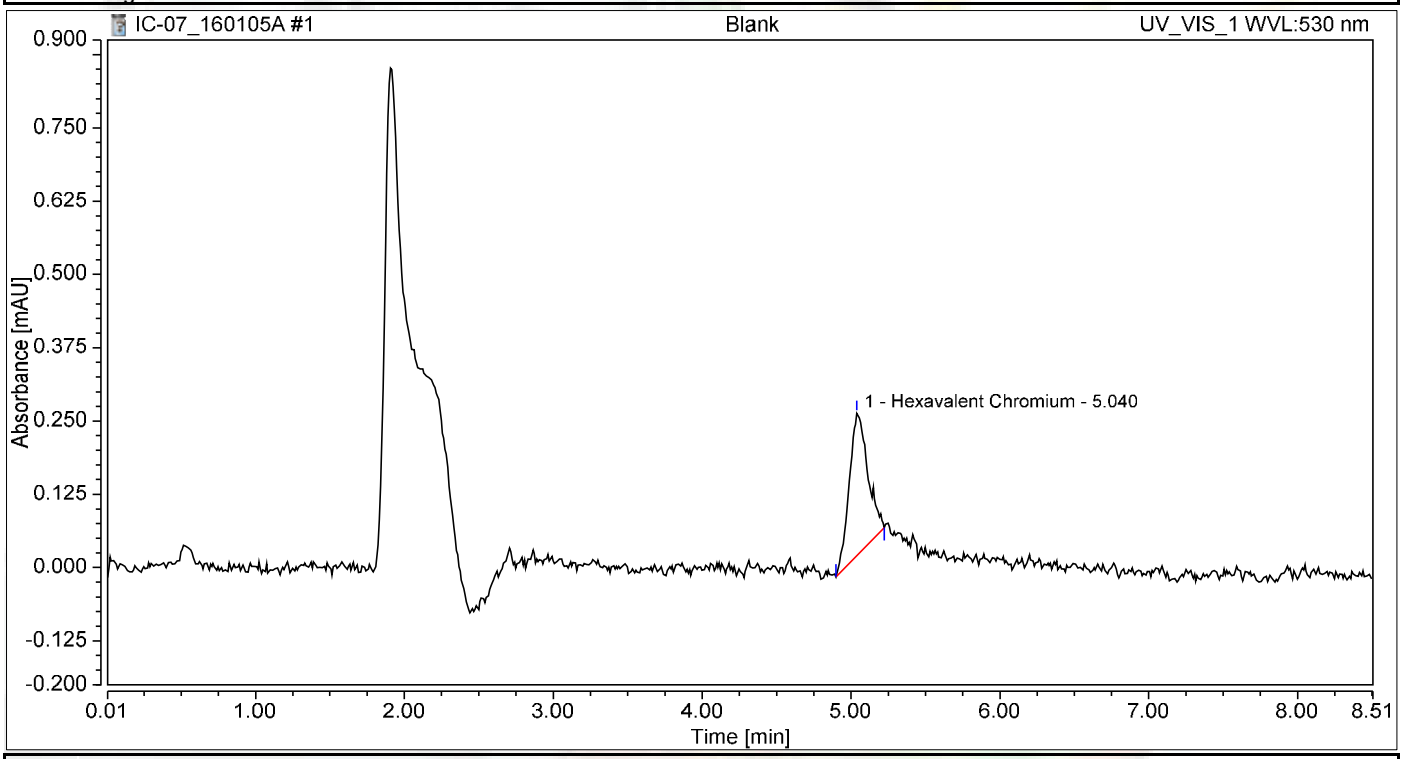
61	CCB-4,CCB,1	20	1000	Unknown		01/05/2016 23:02	Finished	CCB
62	N018214-006A,SAMP	21	1000	Unknown		01/05/2016 23:12	Finished	SAMP, 10mL
63	N018214-007A,SAMP	22	1000	Unknown		01/05/2016 23:21	Finished	SAMP, 10mL
64	N018214-008A,SAMP	23	1000	Unknown		01/05/2016 23:30	Finished	SAMP, 10mL
65	N018214-009A,SAMP	24	1000	Unknown		01/05/2016 23:40	Finished	SAMP, 10mL
66	N018214-010A,SAMP	25	1000	Unknown		01/05/2016 23:49	Finished	SAMP, 10mL
67	N018214-011A,SAMP	26	1000	Unknown		01/05/2016 23:59	Finished	SAMP, 10mL
68	N018214-012A,SAMP	27	1000	Unknown		01/06/2016 00:08	Finished	SAMP, 10mL
69	N018214-013A,SAMP	28	1000	Unknown		01/06/2016 00:18	Finished	SAMP, 10mL
70	N018214-014A,SAMP	29	1000	Unknown		01/06/2016 00:27	Finished	SAMP, 10mL
71	N018214-015A,SAMP	30	1000	Unknown		01/06/2016 00:37	Finished	SAMP, 10mL
72	CCV-5,CCV,1	31	1000	Unknown		01/06/2016 00:46	Finished	CCV @ 10ppb, IWST-160105C
73	CCB-5,CCB,1	32	1000	Unknown		01/06/2016 00:56	Finished	CCB
74	N018223-001A,SAMP	33	1000	Unknown		01/06/2016 01:05	Finished	SAMP, 10mL
75	N018224-001A,SAMP	34	1000	Unknown		01/06/2016 01:15	Finished	SAMP, 10mL
76	CCV-6,CCV,1	35	1000	Unknown		01/06/2016 01:24	Finished	CCV @ 5ppb, IWST-160105C
77	CCB-6,CCB,1	36	1000	Unknown		01/06/2016 01:33	Finished	CCB
78	SHUTDOWN	37	1000	Unknown		01/06/2016 01:43	Finished	BLANK
79	Eluent: R160105A	38	1000	Unknown		n.a.	Finished	Eluent
80	PCR: R160105B	39	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.035	0.243	100.00	100.00	0.1432
Total:			**0.035**	**0.243**	**100.00**	**100.00**	

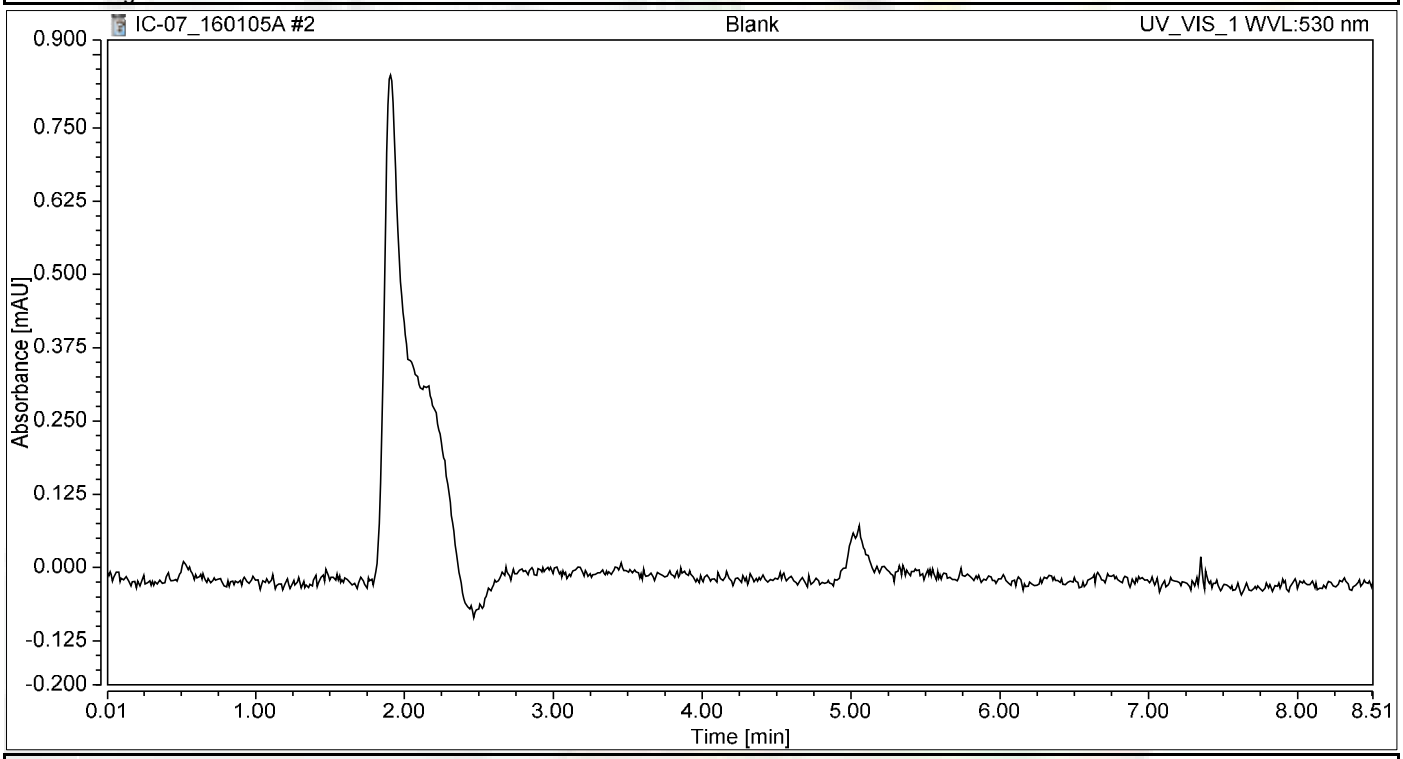
not reported

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

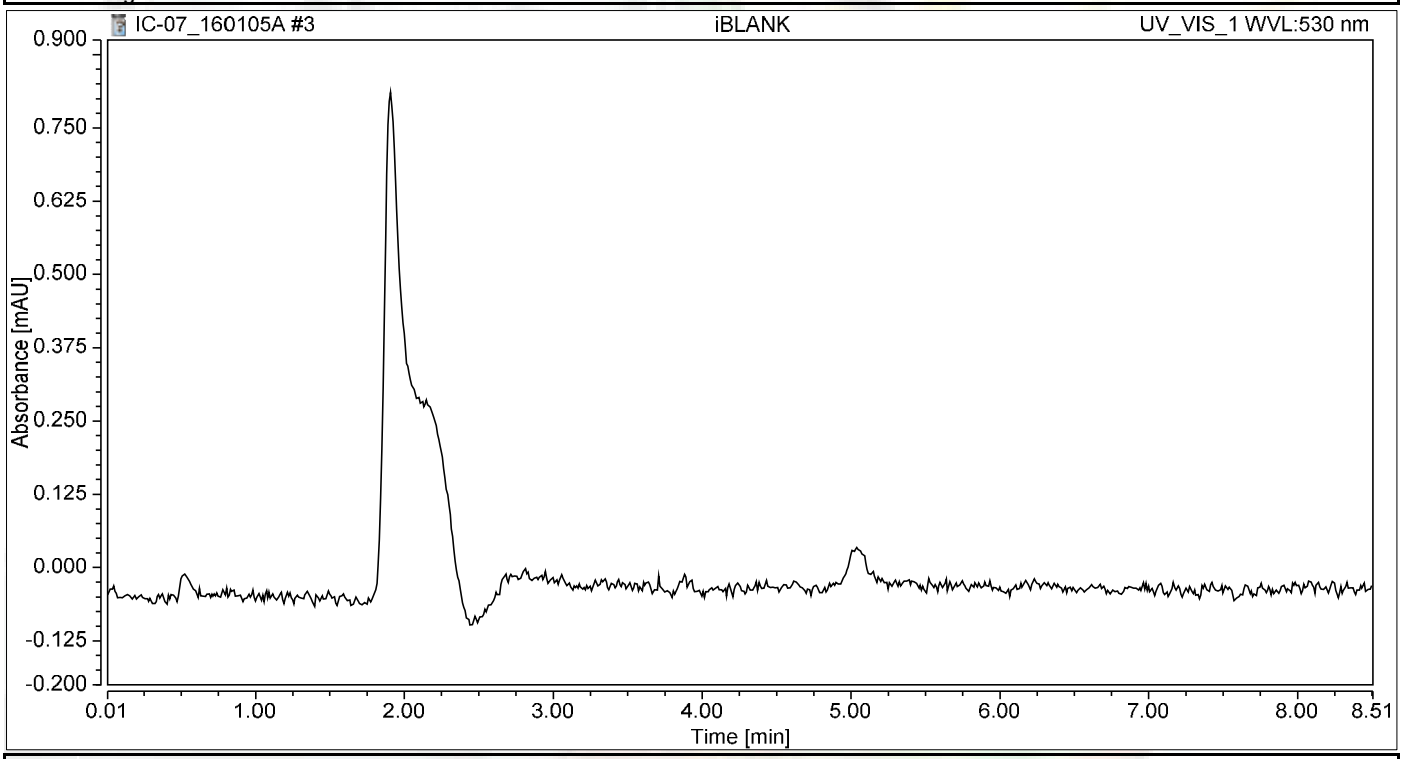
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

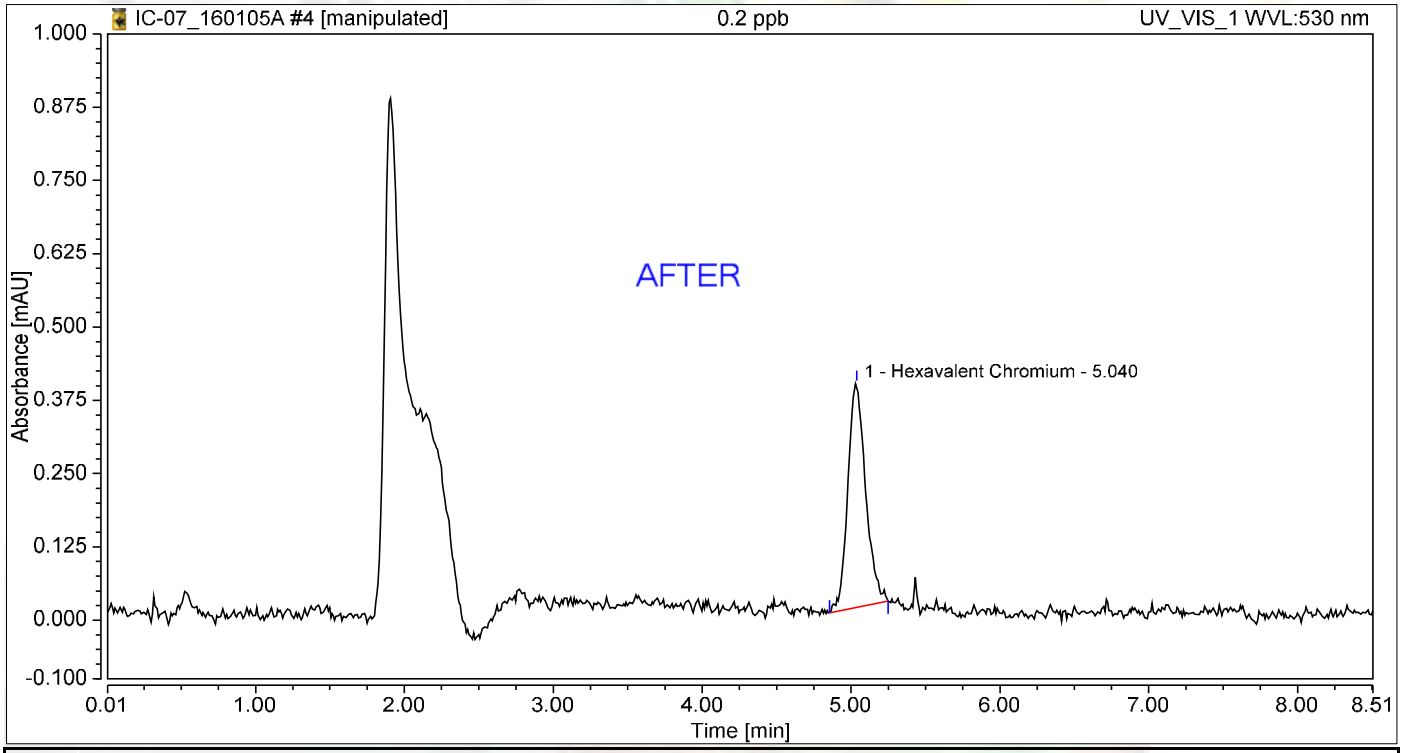
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.053	0.382	100.00	100.00	0.2182
Total:			**0.053**	**0.382**	**100.00**	**100.00**	

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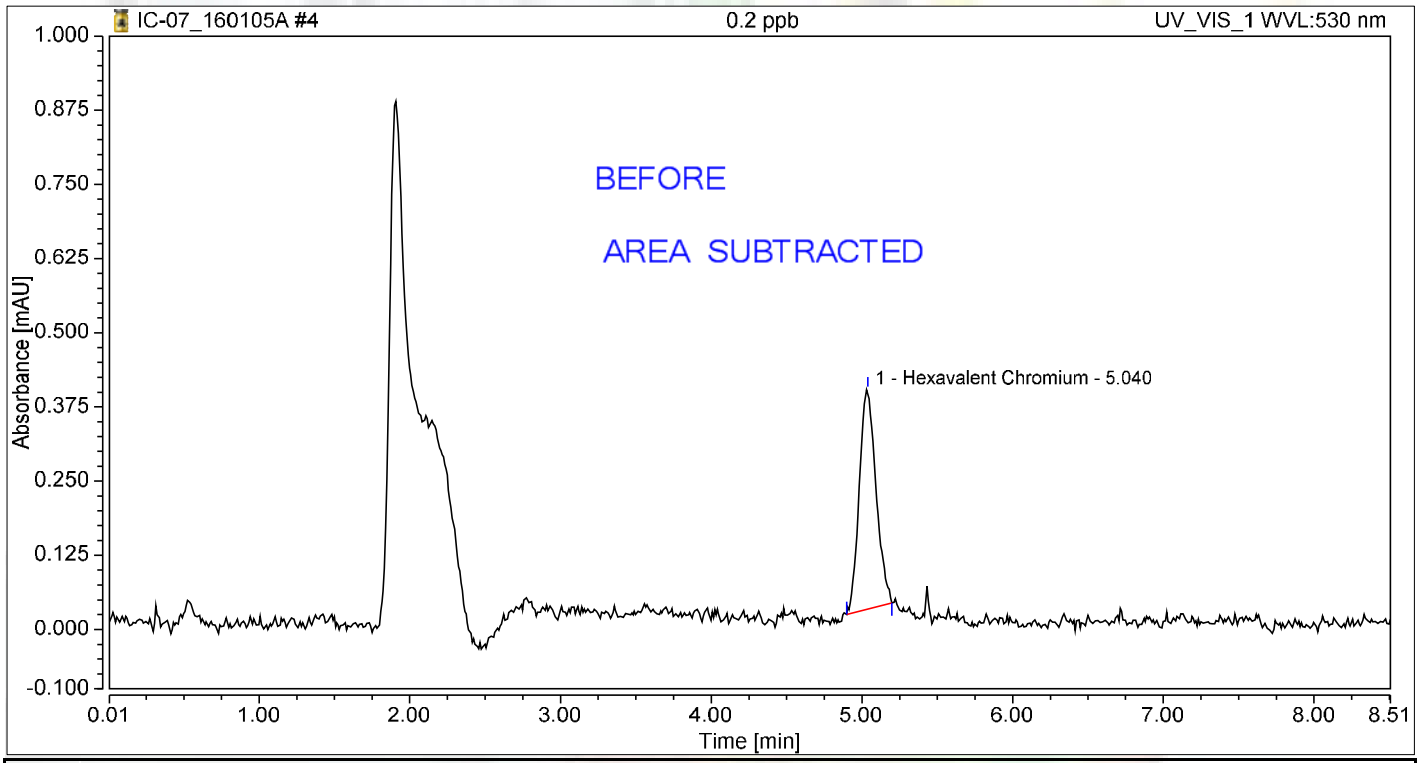
Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.048	0.369	100.00	100.00	0.1983
Total:			**0.048**	**0.369**	**100.00**	**100.00**	

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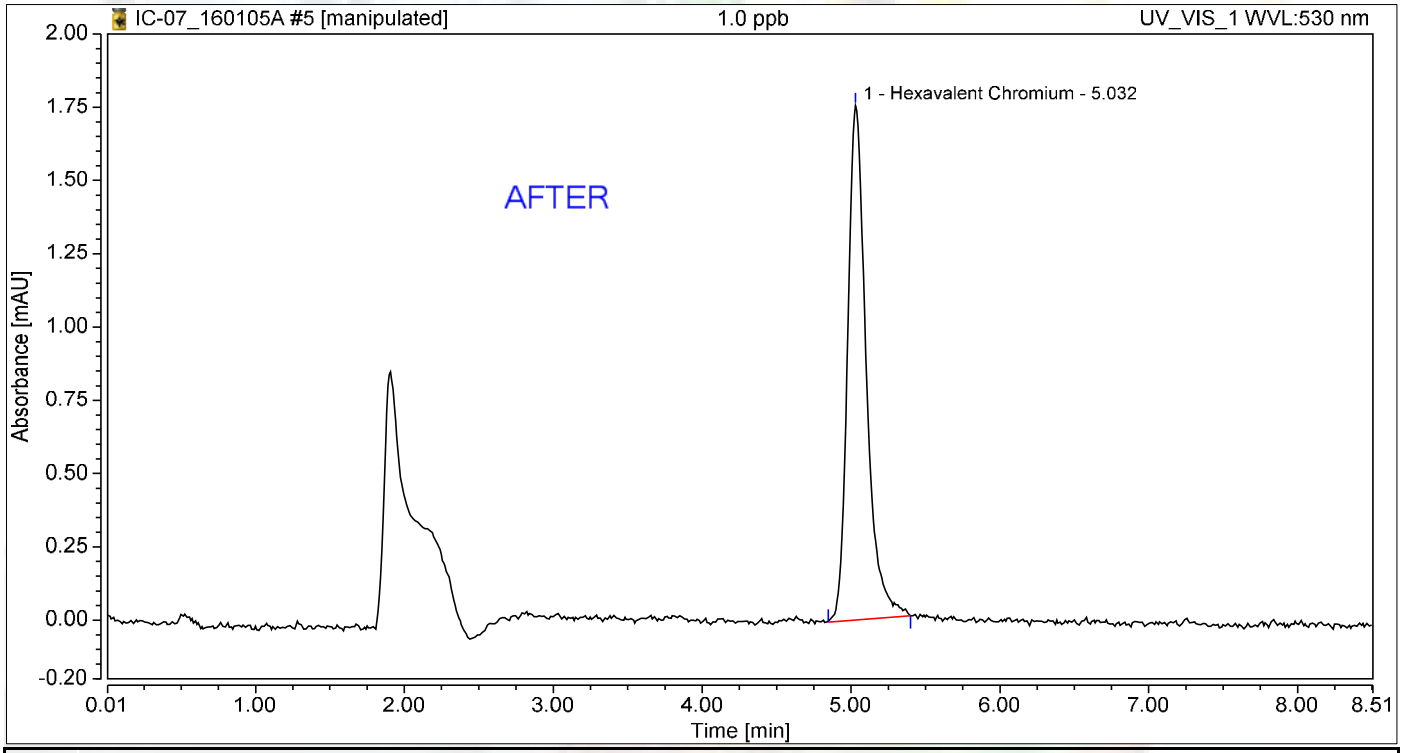
Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.252	1.755	100.00	100.00	1.0465
Total:			**0.252**	**1.755**	**100.00**	**100.00**	

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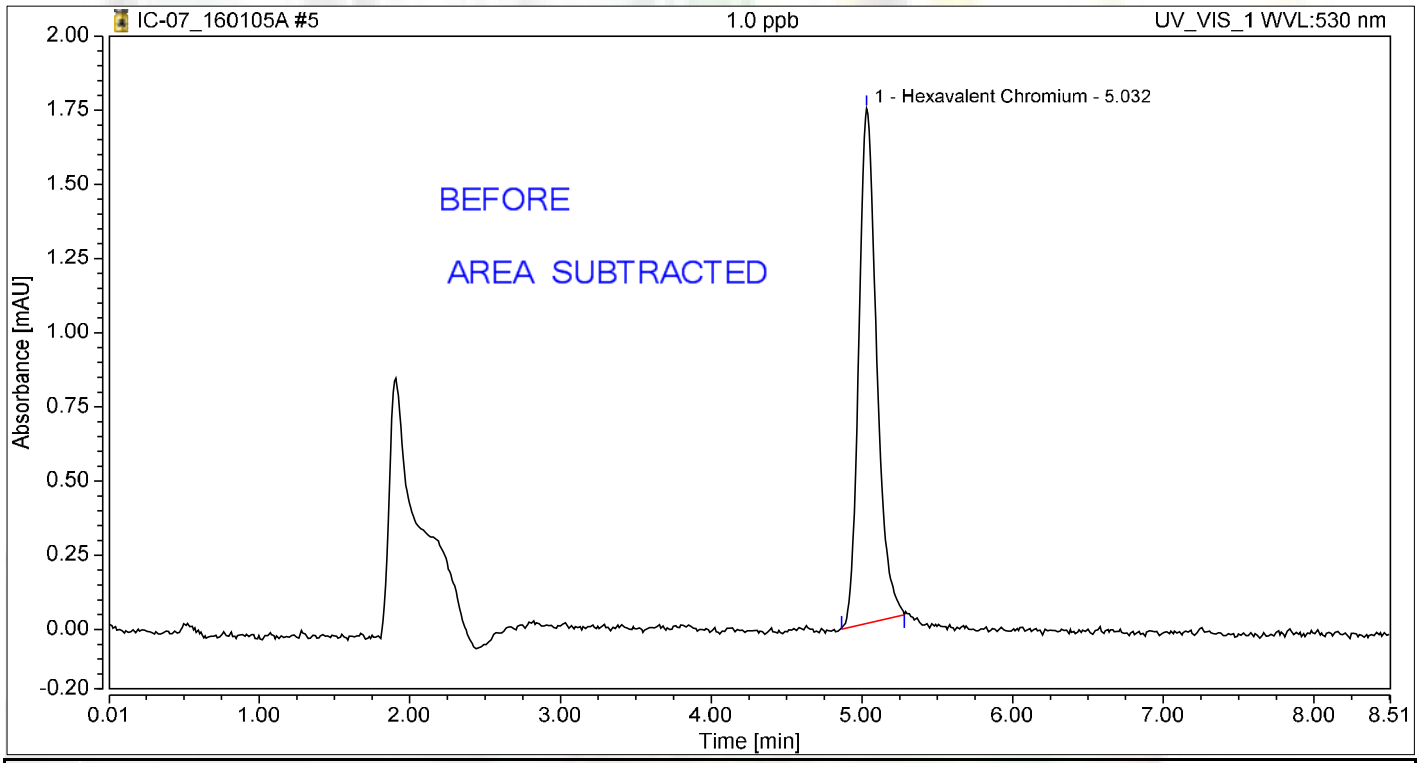
1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	0.240	1.735	100.00	100.00	0.9940
Total:			**0.240**	**1.735**	**100.00**	**100.00**	

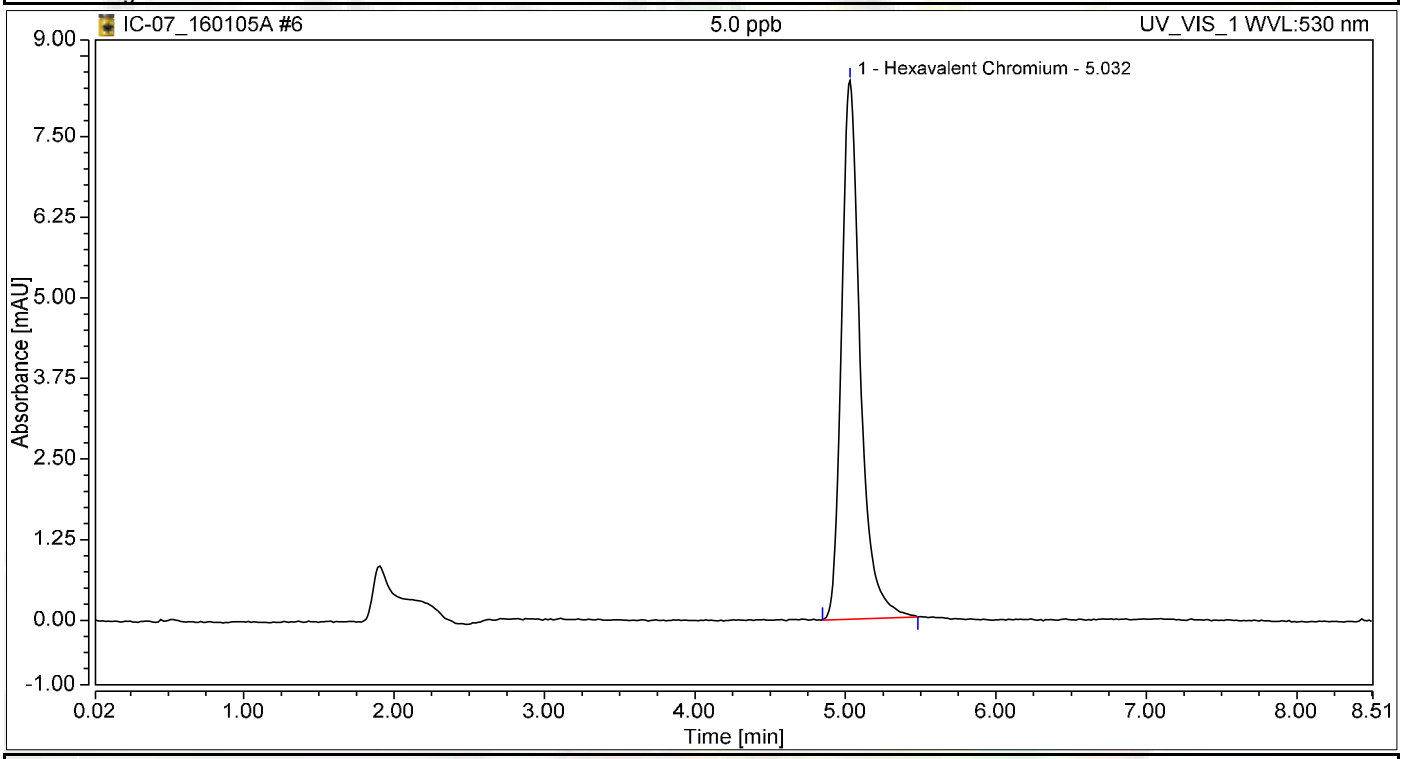
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

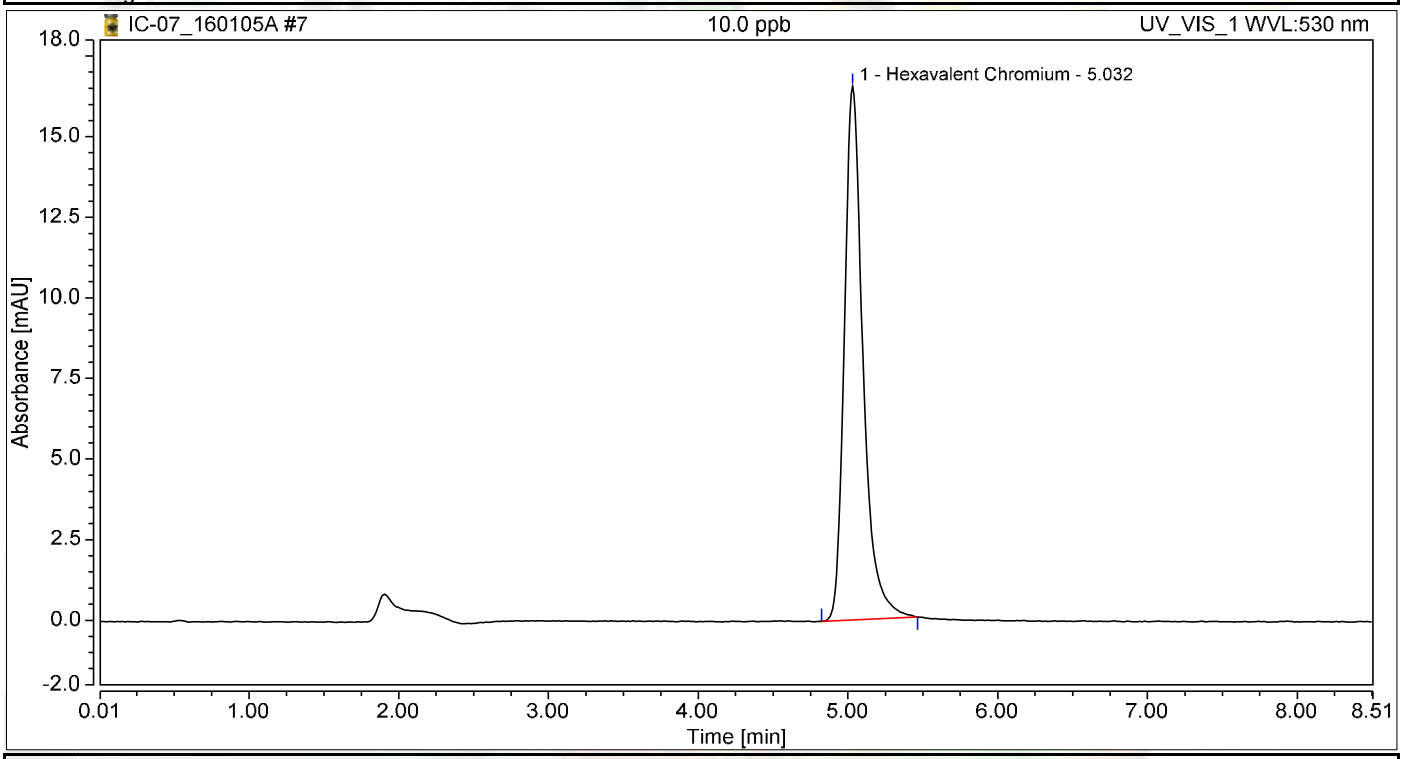
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.209	8.350	100.00	100.00	5.0139
Total:			**1.209**	**8.350**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

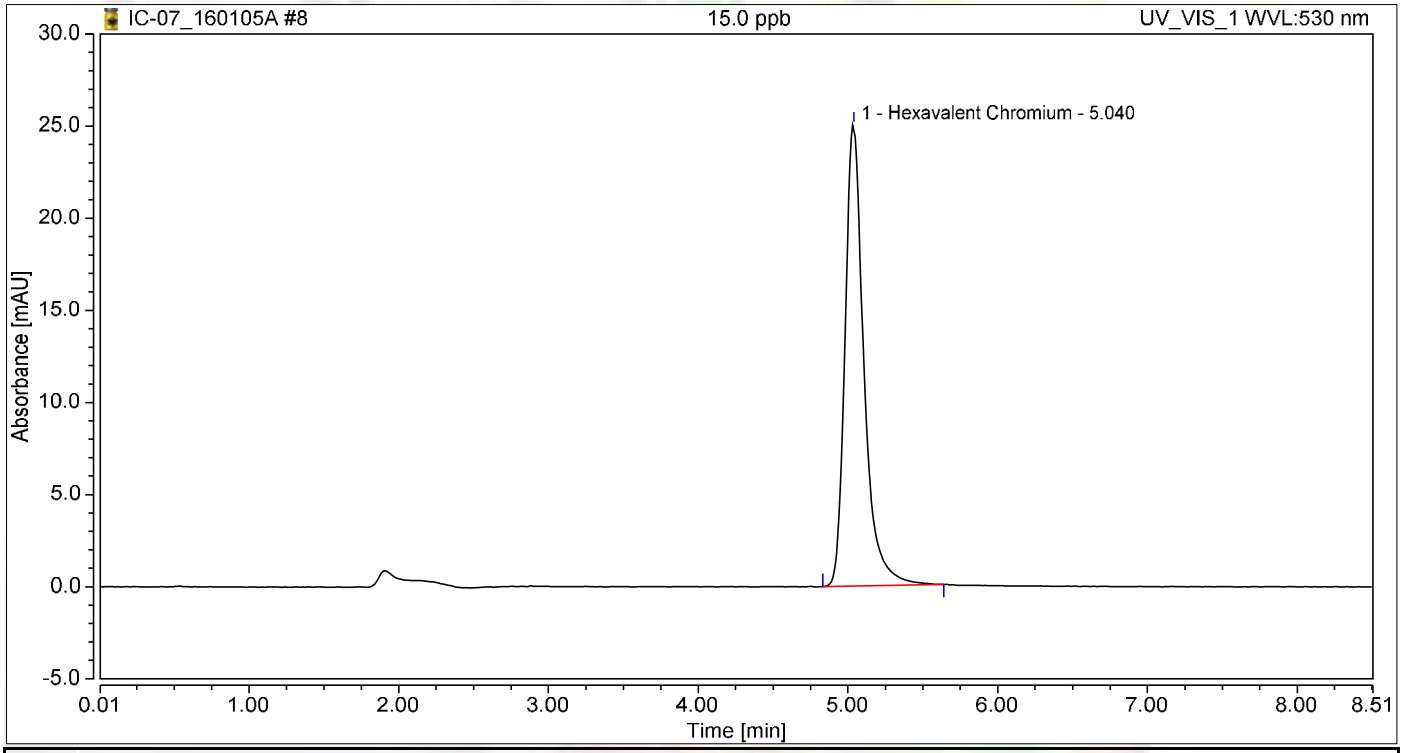
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	2.378	16.545	100.00	100.00	9.8607
Total:			**2.378**	**16.545**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

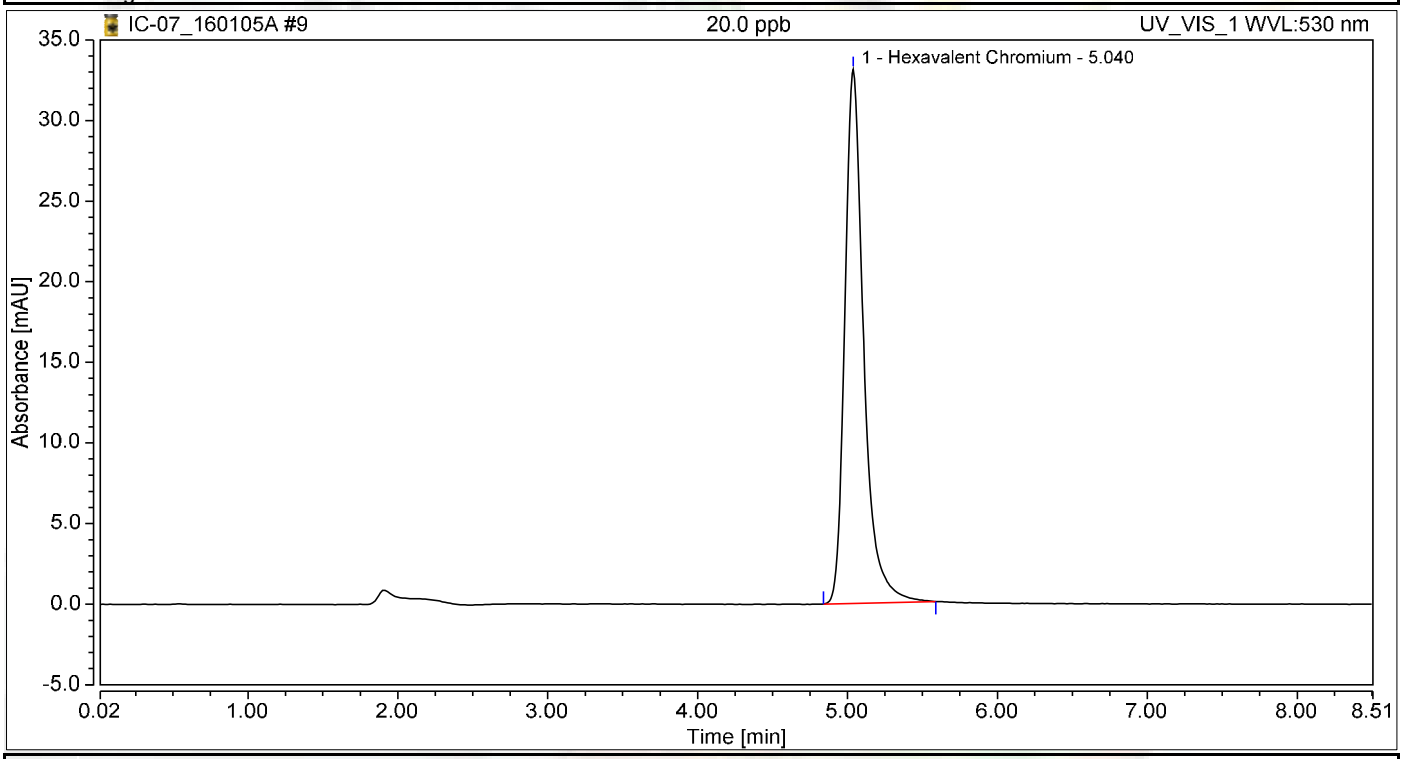
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.649	25.036	100.00	100.00	15.1303
Total:			**3.649**	**25.036**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:37**	*Sample Weight:*	**1.0000**

Chromatogram



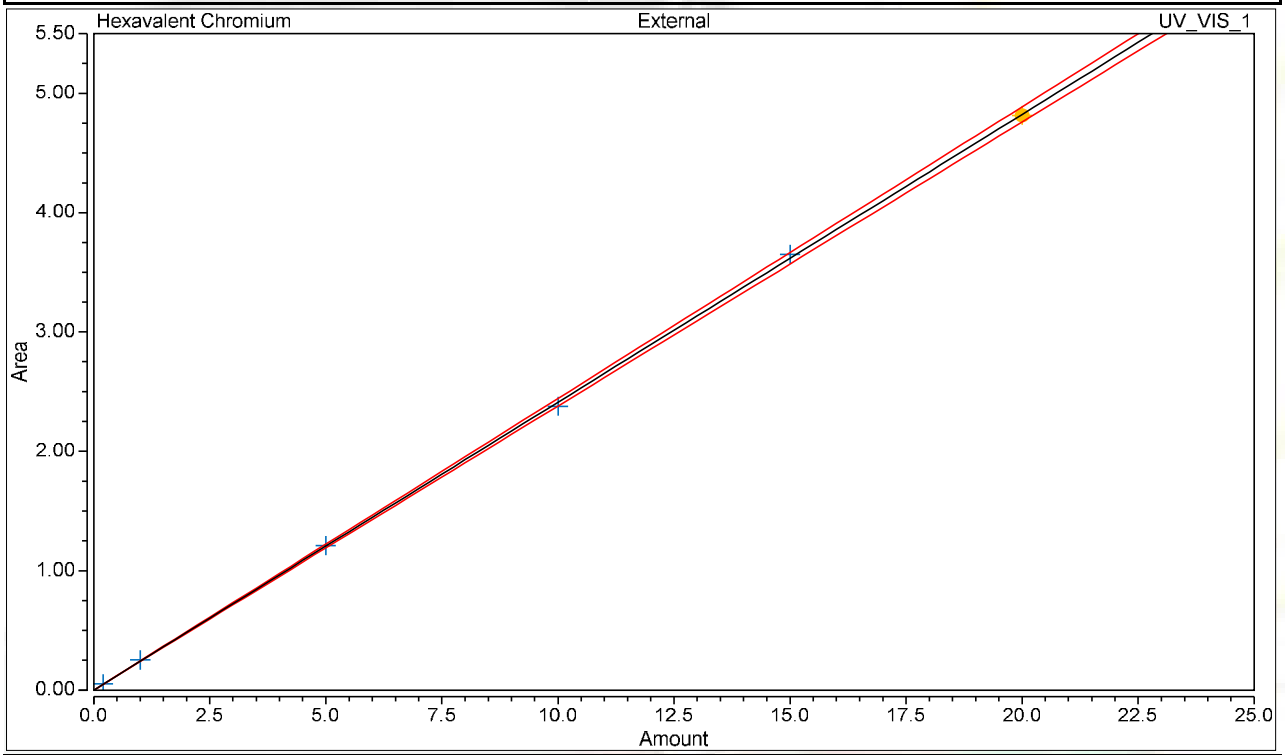
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.815	33.121	100.00	100.00	19.9659
Total:			**4.815**	**33.121**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99987

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

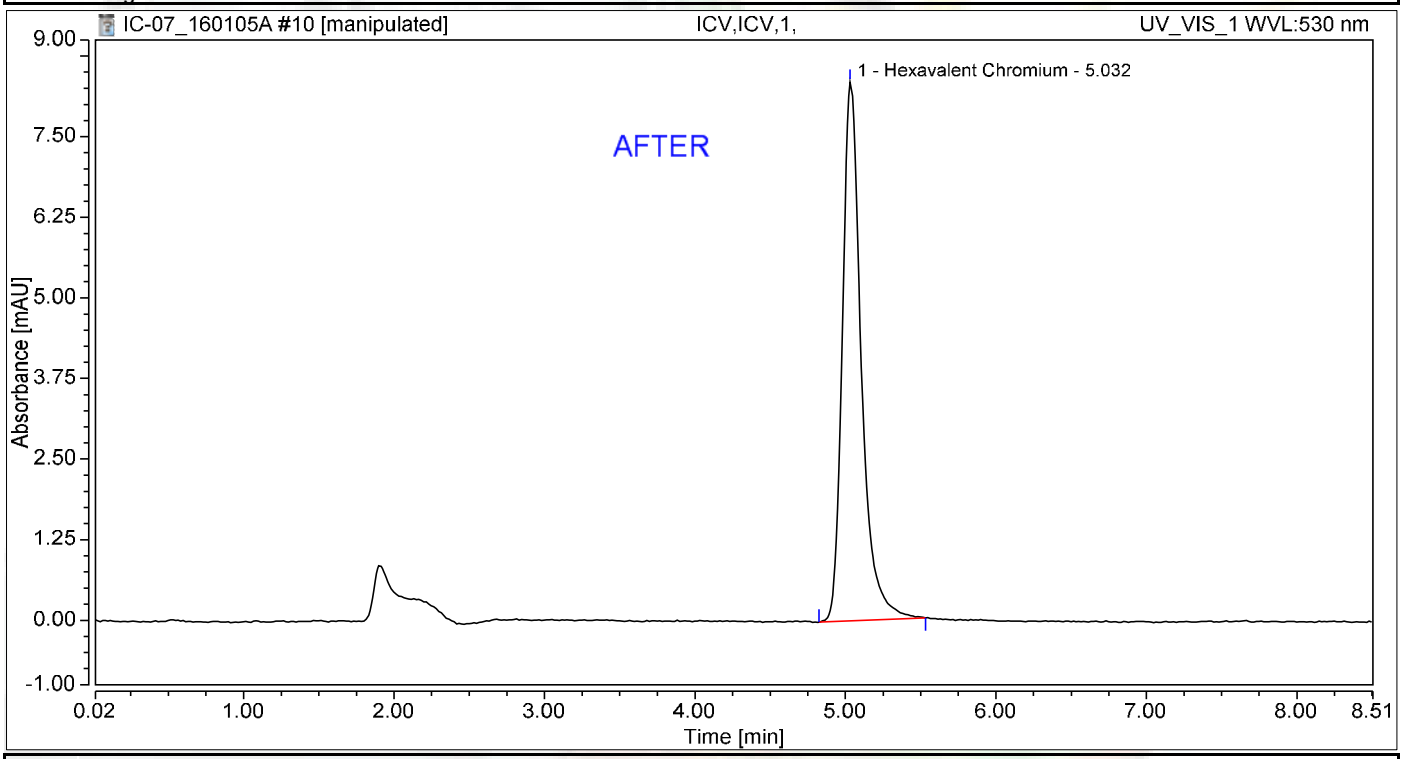
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0526	0.053	0.382
5	1.0 ppb	02	1.0000	0.2524	0.252	1.755
6	5.0 ppb	03	5.0000	1.2092	1.209	8.350
7	10.0 ppb	04	10.0000	2.3780	2.378	16.545
8	15.0 ppb	05	15.0000	3.6489	3.649	25.036
9	20.0 ppb	06	20.0000	4.8150	4.815	33.121

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.217	8.351	100.00	100.00	5.0460
Total:			**1.217**	**8.351**	**100.00**	**100.00**	

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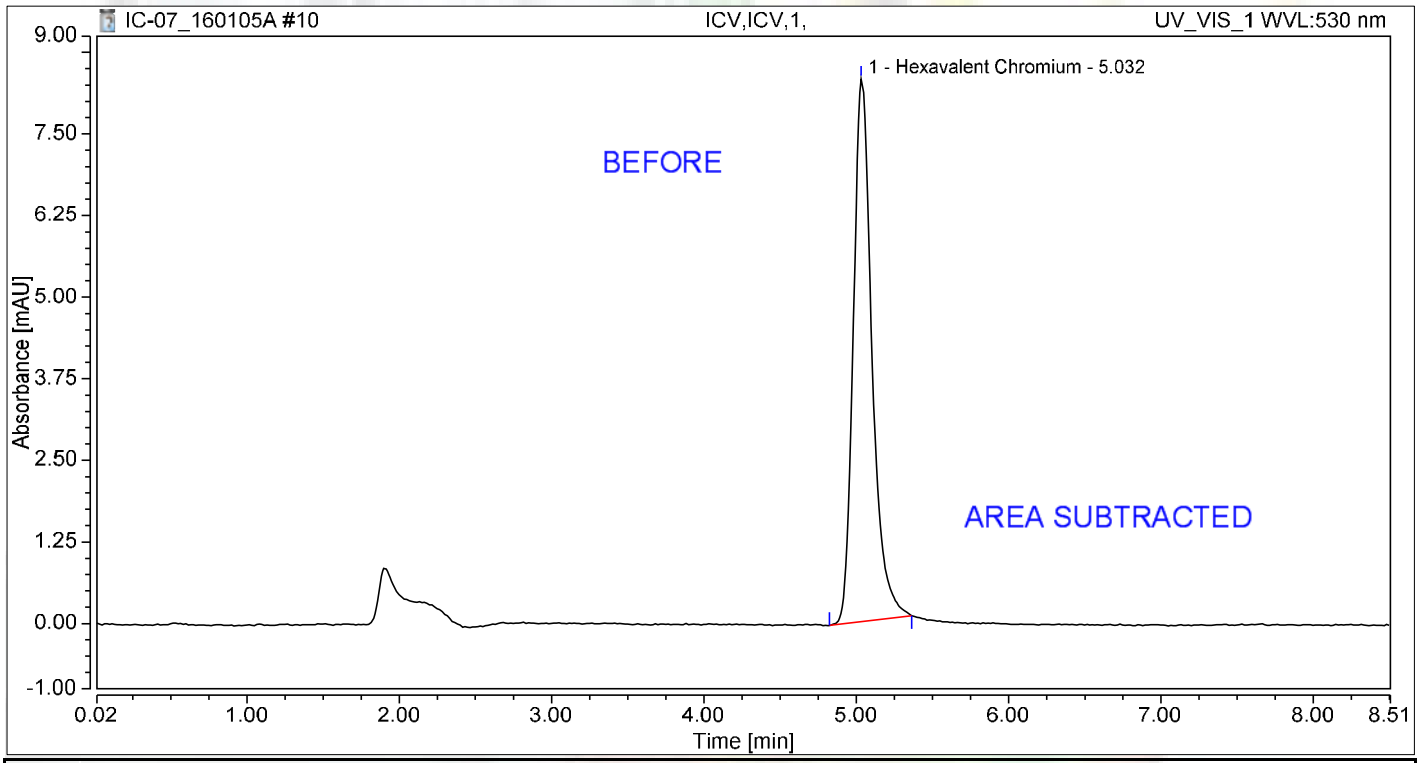
Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.032	1.184	8.314	100.00	100.00	4.9110
Total:			**1.184**	**8.314**	**100.00**	**100.00**	

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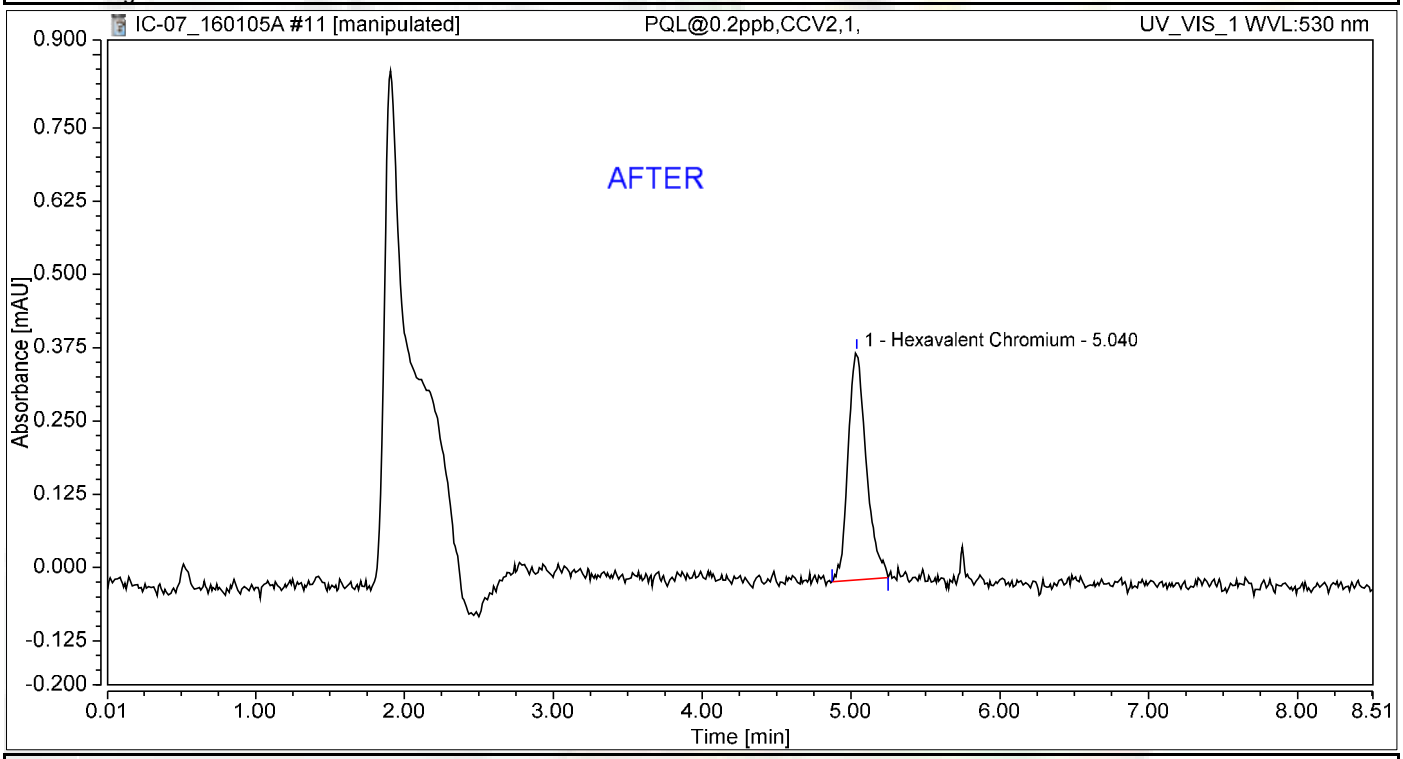
Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.055	0.389	100.00	100.00	0.2270
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

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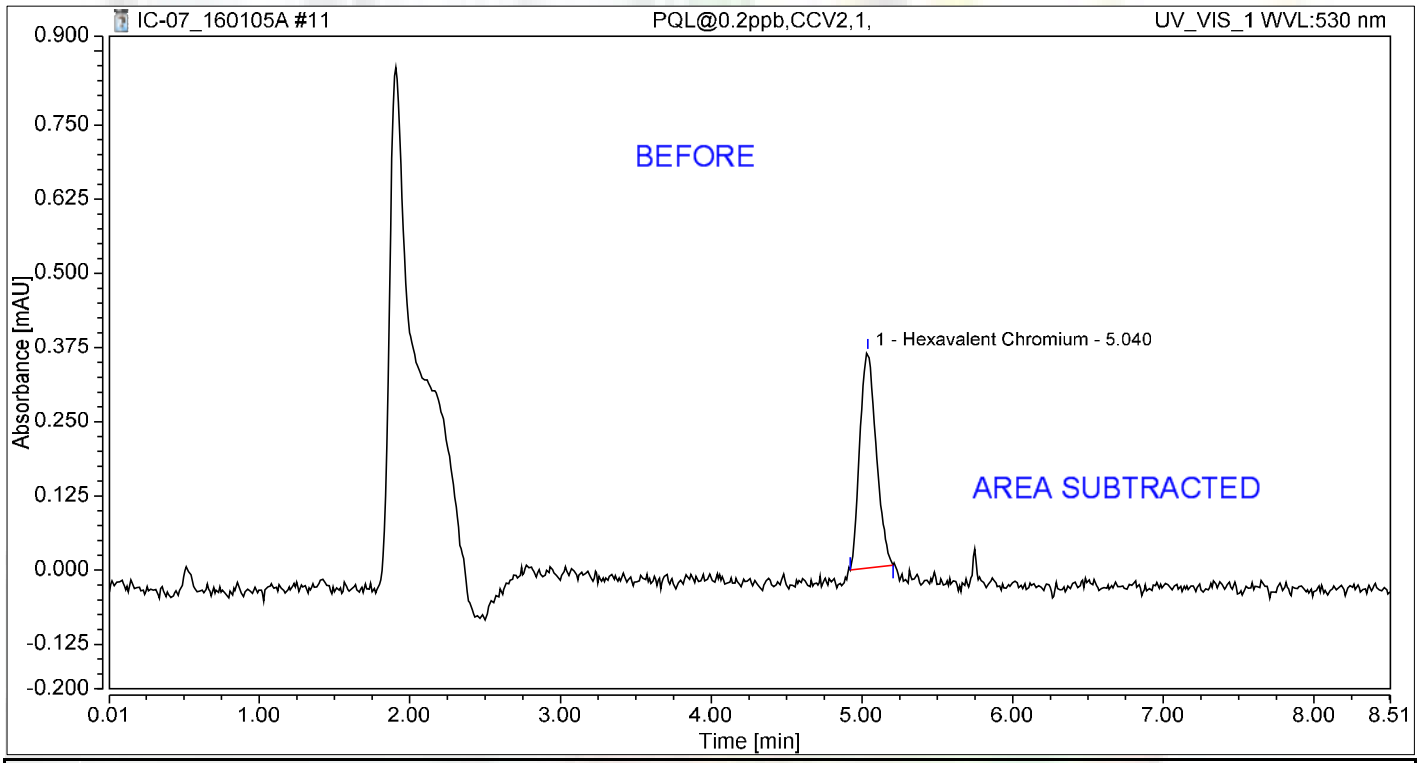
Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.046	0.364	100.00	100.00	0.1910
Total:			**0.046**	**0.364**	**100.00**	**100.00**	

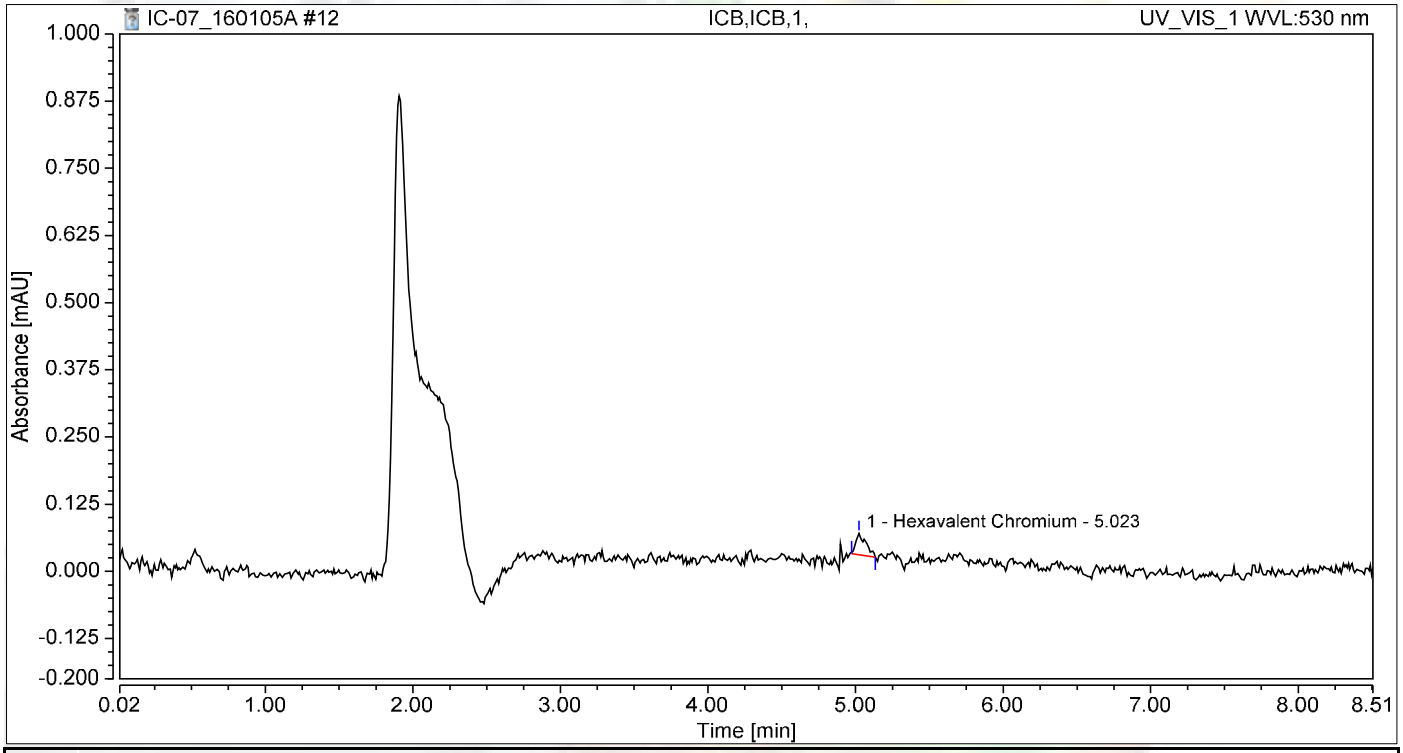
REB 1/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**05/Jan/16 13:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.003	0.040	100.00	100.00	0.0126
Total:			**0.003**	**0.040**	**100.00**	**100.00**	

RAW DATA

Reb 2/11/2016

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:20 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	01/05/16 11:31 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	01/05/16 11:40 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:50 AM	Reported
5	STD1.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 11:59 AM	Reported
6	STD5.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:09 PM	Reported
7	STD10.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:18 PM	Reported
8	STD15.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:28 PM	Reported
9	STD20.0 ppb	ICAL	1	Hexavalent Chromium	01/05/16 12:37 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:37 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	02/01/16 11:48 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	02/01/16 11:57 AM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/01/16 12:07 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/01/16 12:16 PM	Reported
15	MB-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:26 PM	Reported
16	LCS-R105644	ICAL	1	Hexavalent Chromium	02/01/16 12:35 PM	Reported
17	N018560-002A	SAMP	1	Hexavalent Chromium	02/01/16 12:53 PM	Reported
18	N018560-002A-DUP	DUP	1	Hexavalent Chromium	02/01/16 1:04 PM	Reported
19	N018560-002A-MS	MS	1	Hexavalent Chromium	02/01/16 1:13 PM	Reported
20	N018560-002A-MSD	MSD	1	Hexavalent Chromium	02/01/16 1:23 PM	Reported
21	N018560-003A	SAMP	1	Hexavalent Chromium	02/01/16 1:32 PM	Reported
22	N018560-003A-MS	MS	1	Hexavalent Chromium	02/01/16 1:42 PM	Reported
23	N018560-004A	SAMP	1	Hexavalent Chromium	02/01/16 1:51 PM	Reported
24	N018560-004A-MS	MS	1	Hexavalent Chromium	02/01/16 2:01 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/01/16 2:10 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/01/16 2:20 PM	Reported
27	N018560-005A	SAMP	1	Hexavalent Chromium	02/01/16 2:39 PM	Reported
28	N018560-005A-MS	MS	1	Hexavalent Chromium	02/01/16 2:50 PM	Reported
29	N018560-006A	SAMP	1	Hexavalent Chromium	02/01/16 3:00 PM	Reported
30	N018560-006A-MS	MS	1	Hexavalent Chromium	02/01/16 3:09 PM	Reported
31	N018560-007A	SAMP	1	Hexavalent Chromium	02/01/16 3:19 PM	Reported
32	N018560-007A-MS	MS	1	Hexavalent Chromium	02/01/16 3:28 PM	Reported
33	N018560-008A	SAMP	1	Hexavalent Chromium	02/01/16 3:38 PM	Reported
34	N018560-008A-MS	MS	1	Hexavalent Chromium	02/01/16 3:47 PM	Reported
35	N018560-009A	SAMP	1	Hexavalent Chromium	02/01/16 3:57 PM	Reported
36	N018560-009A-MS	MS	1	Hexavalent Chromium	02/01/16 4:06 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/01/16 4:15 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/01/16 4:25 PM	Reported
39	N018560-010A	SAMP	1	Hexavalent Chromium	02/01/16 4:34 PM	Reported
40	N018560-010A-MS	MS	1	Hexavalent Chromium	02/01/16 4:44 PM	Reported
41	N018561-001A	SAMP	1	Hexavalent Chromium	02/01/16 4:53 PM	Not Reported
42	N018561-001A-MS	MS	1	Hexavalent Chromium	02/01/16 5:03 PM	Not Reported

INJECTION LOG: 160201A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018561-002A	SAMP	1	Hexavalent Chromium	02/01/16 5:12 PM	Reported
44	N018561-002A-MS	MS	1	Hexavalent Chromium	02/01/16 5:22 PM	Reported
45	N018561-003A	SAMP	1	Hexavalent Chromium	02/01/16 5:31 PM	Reported
46	N018561-003A-MS	MS	1	Hexavalent Chromium	02/01/16 5:41 PM	Reported
47	N018561-004A	SAMP	1	Hexavalent Chromium	02/01/16 5:50 PM	Reported
48	N018561-004A-MS	MS	1	Hexavalent Chromium	02/01/16 6:00 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/01/16 6:09 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/01/16 6:18 PM	Reported
51	N018561-005A	SAMP	1	Hexavalent Chromium	02/01/16 6:28 PM	Reported
52	N018561-005A-MS	MS	1	Hexavalent Chromium	02/01/16 6:37 PM	Reported
53	CCV-5	CCV	1	Hexavalent Chromium	02/01/16 6:47 PM	Reported
54	CCB-5	CCB	1	Hexavalent Chromium	02/01/16 6:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160201A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Feb/16 15:41:58**
No. of Injections:	**57**	*Updated By:*	**ics 5000**

Injection Details

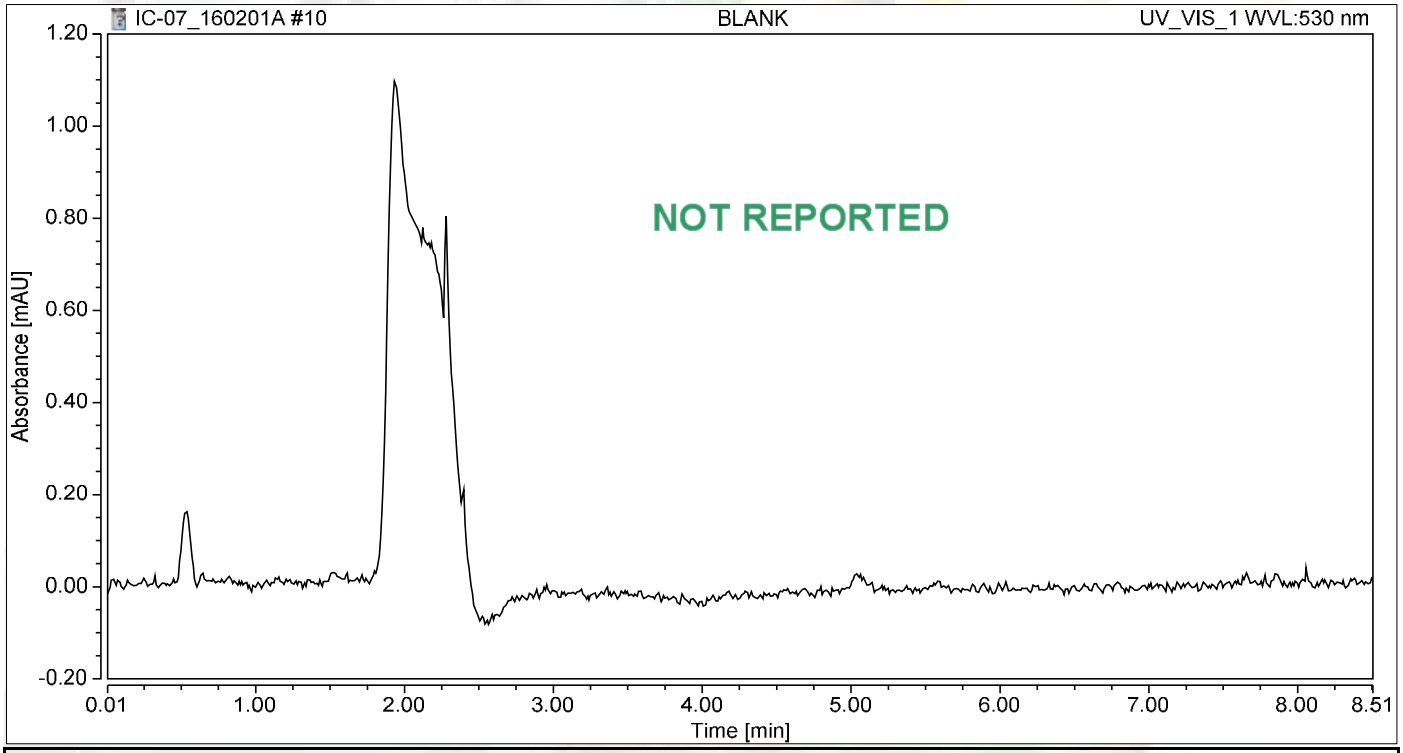
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		01/05/2016 11:20	Finished	BLANK
2	Blank	2	1000	Unknown		01/05/2016 11:31	Finished	BLANK
3	iBLANK	3	1000	Unknown		01/05/2016 11:40	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	01/05/2016 11:50	Finished	0.2 ppb, IWST160105C
5	1.0 ppb	5	1000	Calibration Standard	02	01/05/2016 11:59	Finished	1.0 ppb, IWST160105C
6	5.0 ppb	6	1000	Calibration Standard	03	01/05/2016 12:09	Finished	5.0 ppb, IWST160105C
7	10.0 ppb	7	1000	Calibration Standard	04	01/05/2016 12:18	Finished	10 ppb, IWST160105C
8	15.0 ppb	8	1000	Calibration Standard	05	01/05/2016 12:28	Finished	15 ppb, IWST160105C
9	20.0 ppb	9	1000	Calibration Standard	06	01/05/2016 12:37	Finished	20 ppb, IWST160105C
10	BLANK	1	1000	Unknown		02/01/2016 11:37	Finished	BLANK
11	BLANK	2	1000	Unknown		02/01/2016 11:48	Finished	BLANK
12	CCV-1,CCV,1,	3	1000	Unknown		02/01/2016 11:57	Finished	CCV @ 5ppb, IWST 160105C
13	PQL@0.2ppb,CCV2,1	4	1000	Unknown		02/01/2016 12:07	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	5	1000	Unknown		02/01/2016 12:16	Finished	CCB R160110A
15	MB-H2O,MBLK,1	6	1000	Unknown		02/01/2016 12:26	Finished	MB
16	LCS-H2O,LCS,1	7	1000	Unknown		02/01/2016 12:35	Finished	LCS @ 5ppb, IWST-160107A
17	N018560-002A,SAMP	8	1000	Unknown		02/01/2016 12:53	Finished	SAMP, 10mL
18	N018560-002A-DUP,I	9	1000	Unknown		02/01/2016 13:04	Finished	DUP, 10mL
19	N018560-002A-MS,M	10	1000	Unknown		02/01/2016 13:13	Finished	MS(1ppb), IWST-160107A, 10r
20	N018560-002A-MSD,	11	1000	Unknown		02/01/2016 13:23	Finished	MSD(5ppb), IWST-160107A, 1
21	N018560-003A,SAMP	12	1000	Unknown		02/01/2016 13:32	Finished	SAMP, 10mL
22	N018560-003A-MS,M	13	1000	Unknown		02/01/2016 13:42	Finished	MS(1ppb), IWST-160107A, 10r
23	N018560-004A,SAMP	14	1000	Unknown		02/01/2016 13:51	Finished	SAMP, 10mL
24	N018560-004A-MS,M	15	1000	Unknown		02/01/2016 14:01	Finished	MS(1ppb), IWST-160107A, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/01/2016 14:10	Finished	CCV @ 10ppb, IWST-160105C
26	CCB-2,CCB,1	17	1000	Unknown		02/01/2016 14:20	Finished	CCB
27	N018560-005A,SAMP	18	1000	Unknown		02/01/2016 14:39	Finished	SAMP, 10mL
28	N018560-005A-MS,M	19	1000	Unknown		02/01/2016 14:50	Finished	MS(1ppb), IWST-160107A, 10r
29	N018560-006A,SAMP	20	1000	Unknown		02/01/2016 15:00	Finished	SAMP, 10mL
30	N018560-006A-MS,M	21	1000	Unknown		02/01/2016 15:09	Finished	MS(1ppb), IWST-160107A, 10r
31	N018560-007A,SAMP	22	1000	Unknown		02/01/2016 15:19	Finished	SAMP, 10mL
32	N018560-007A-MS,M	23	1000	Unknown		02/01/2016 15:28	Finished	MS(1ppb), IWST-160107A, 10r
33	N018560-008A,SAMP	24	1000	Unknown		02/01/2016 15:38	Finished	SAMP, 10mL
34	N018560-008A-MS,M	25	1000	Unknown		02/01/2016 15:47	Finished	MS(1ppb), IWST-160107A, 10r
35	N018560-009A,SAMP	26	1000	Unknown		02/01/2016 15:57	Finished	SAMP, 10mL
36	N018560-009A-MS,M	27	1000	Unknown		02/01/2016 16:06	Finished	MS(1ppb), IWST-160107A, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/01/2016 16:15	Finished	CCV @ 5ppb, IWST-160105C
38	CCB-3,CCB,1	29	1000	Unknown		02/01/2016 16:25	Finished	CCB
39	N018560-010A,SAMP	30	1000	Unknown		02/01/2016 16:34	Finished	SAMP, 10mL
40	N018560-010A-MS,M	31	1000	Unknown		02/01/2016 16:44	Finished	MS(1ppb), IWST-160107A, 10r
41	N018561-001A,SAMP	32	1000	Unknown		02/01/2016 16:53	Finished	SAMP, 10mL
42	N018561-001A-MS,M	33	1000	Unknown		02/01/2016 17:03	Finished	MS(1ppb), IWST-160107A, 10r
43	N018561-002A,SAMP	34	1000	Unknown		02/01/2016 17:12	Finished	SAMP, 10mL
44	N018561-002A-MS,M	35	1000	Unknown		02/01/2016 17:22	Finished	MS(1ppb), IWST-160107A, 10r
45	N018561-003A,SAMP	36	1000	Unknown		02/01/2016 17:31	Finished	SAMP, 10mL
46	N018561-003A-MS,M	37	1000	Unknown		02/01/2016 17:41	Finished	MS(1ppb), IWST-160107A, 10r
47	N018561-004A,SAMP	38	1000	Unknown		02/01/2016 17:50	Finished	SAMP, 10mL
48	N018561-004A-MS,M	39	1000	Unknown		02/01/2016 18:00	Finished	MS(1ppb), IWST-160107A, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/01/2016 18:09	Finished	CCV @ 10ppb, IWST-160105C
50	CCB-4,CCB,1	41	1000	Unknown		02/01/2016 18:18	Finished	CCB
51	N018561-005A,SAMP	42	1000	Unknown		02/01/2016 18:28	Finished	SAMP, 10mL
52	N018561-005A-MS,M	43	1000	Unknown		02/01/2016 18:37	Finished	MS(1ppb), IWST-160107A, 10r
53	CCV-5,CCV,1	44	1000	Unknown		02/01/2016 18:47	Finished	CCV @ 5ppb, IWST-160105C
54	CCB-5,CCB,1	45	1000	Unknown		02/01/2016 18:57	Finished	CCB
55	SHUTDOWN	46	1000	Unknown		02/01/2016 19:06	Finished	BLANK
56	Eluent: R160129B	47	1000	Unknown		n.a.	Finished	Eluent
57	PCR: R160127C	48	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 11:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

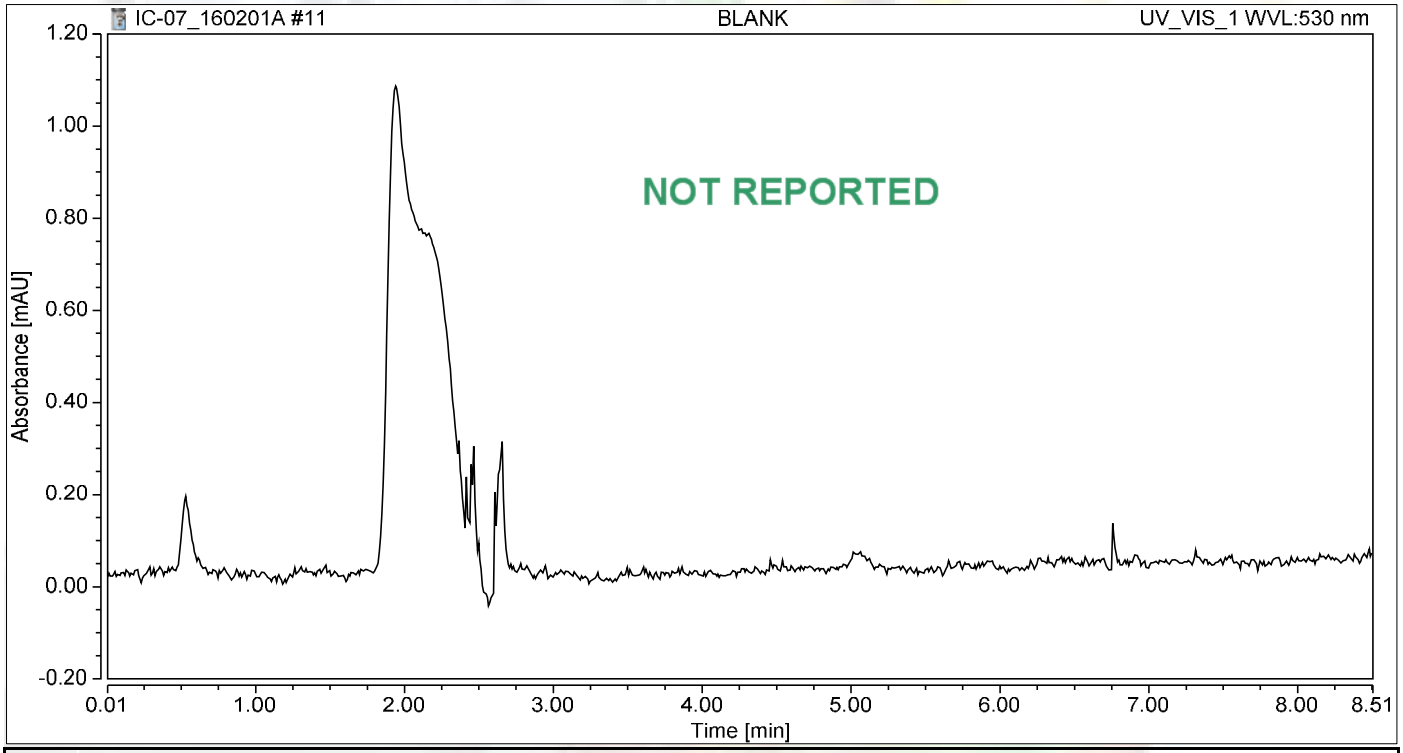
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

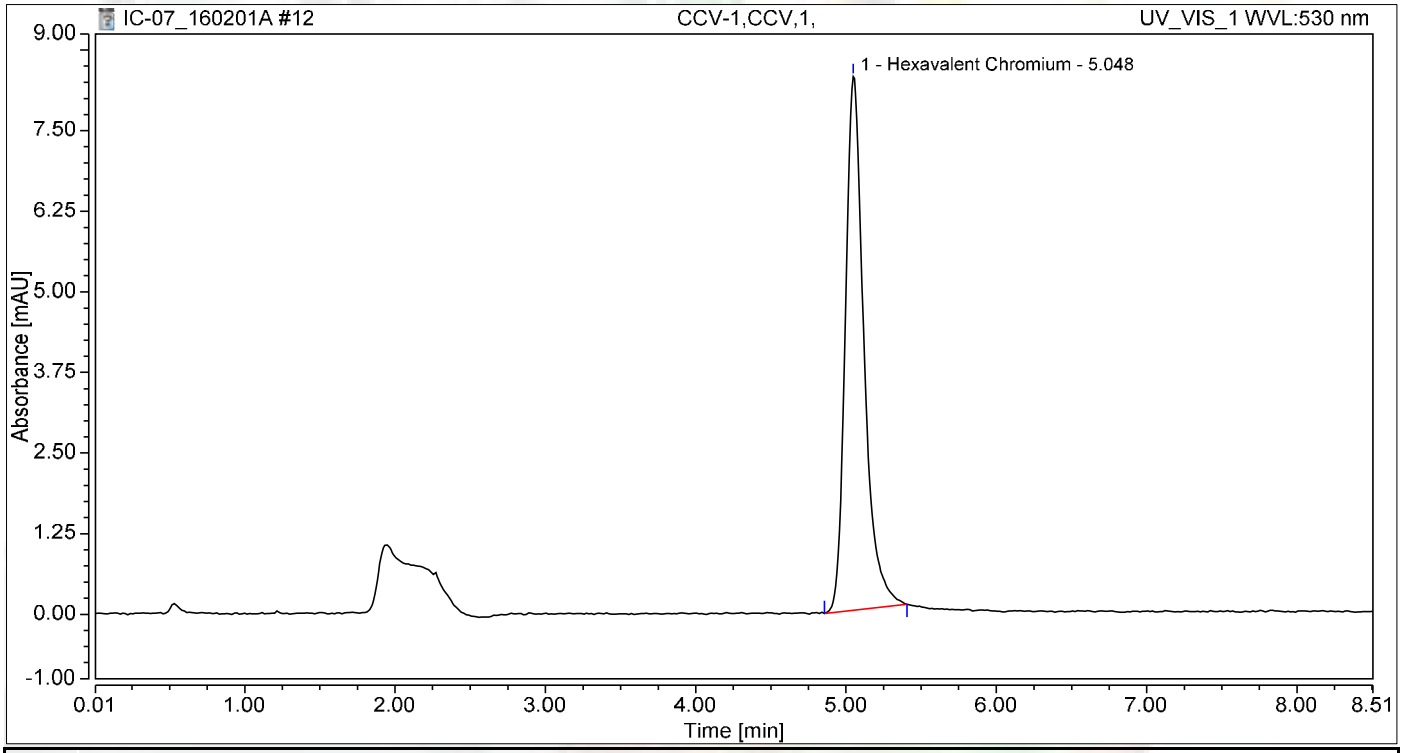
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

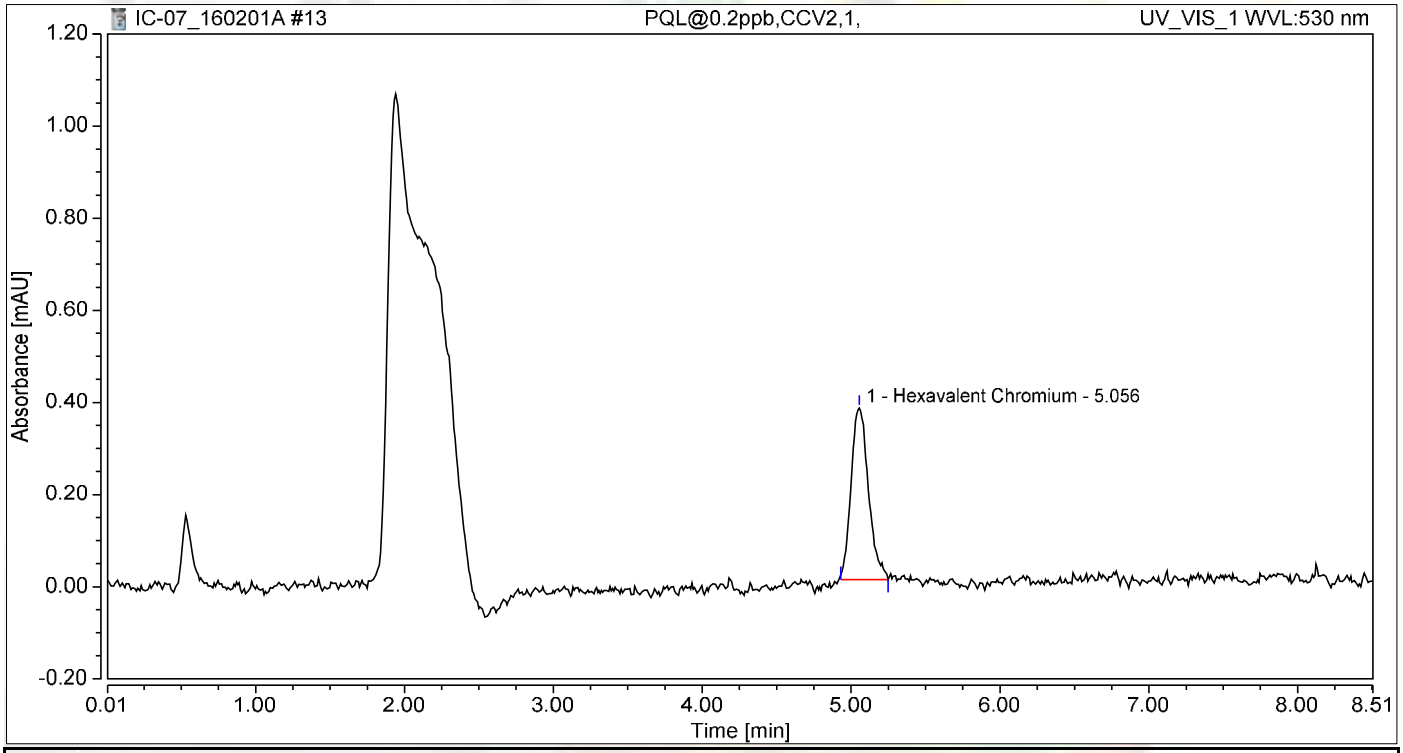
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.181	8.274	100.00	100.00	4.8973
Total:			**1.181**	**8.274**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

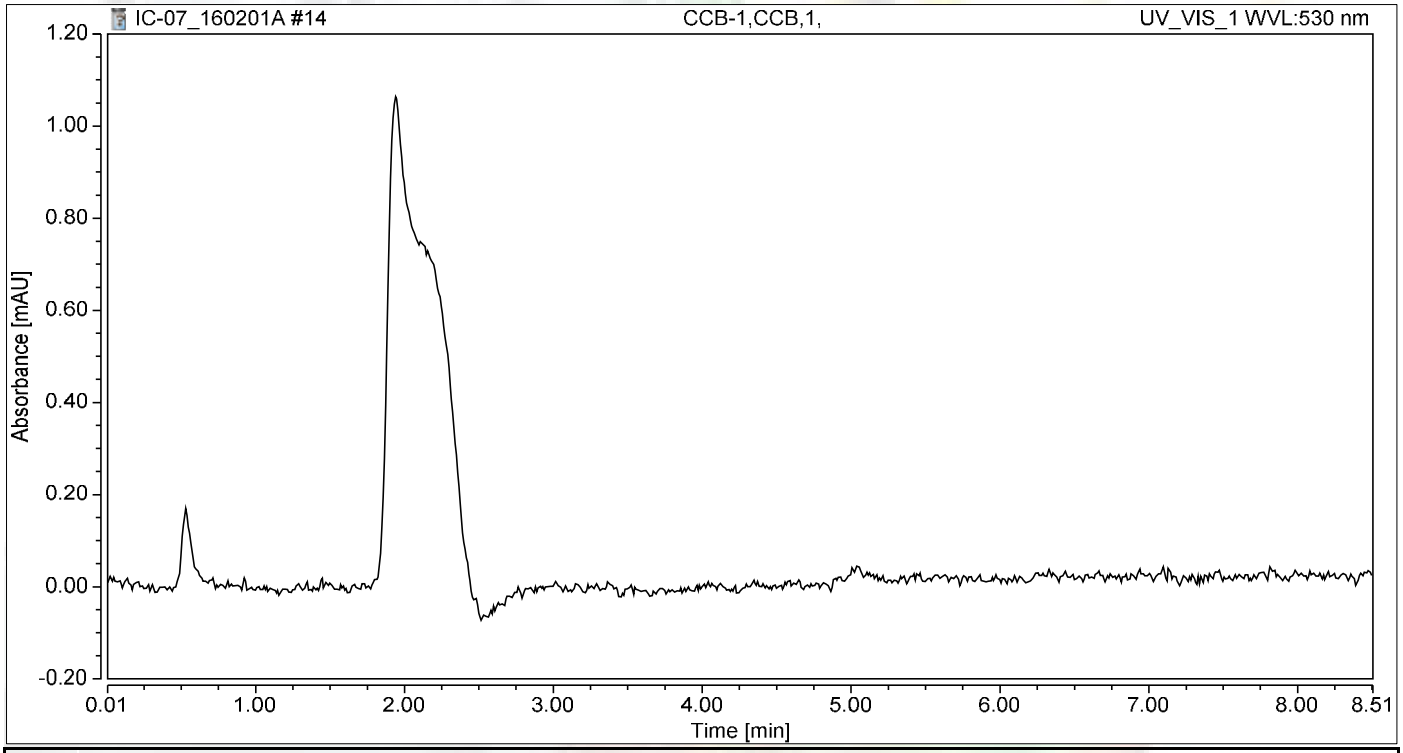
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.050	0.372	100.00	100.00	0.2063
Total:			**0.050**	**0.372**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

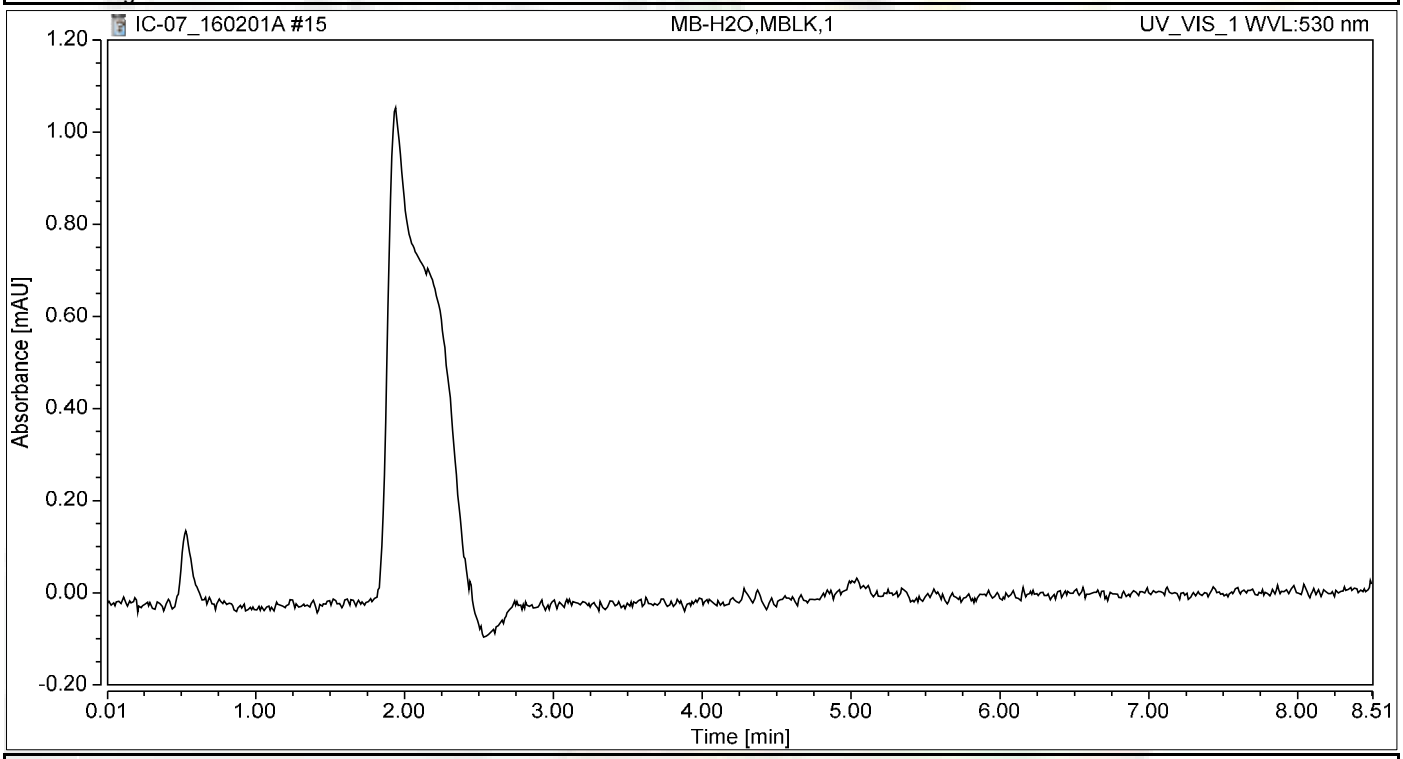
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

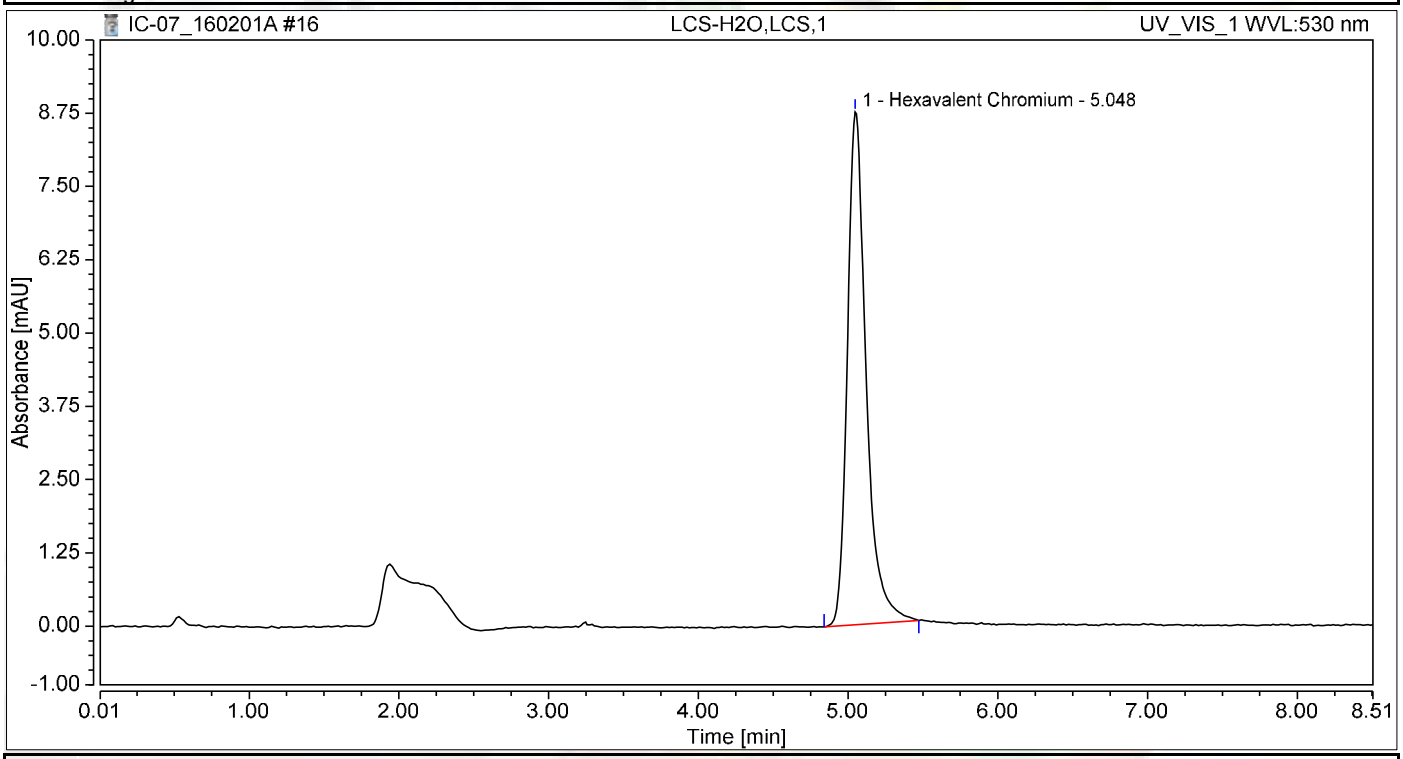
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

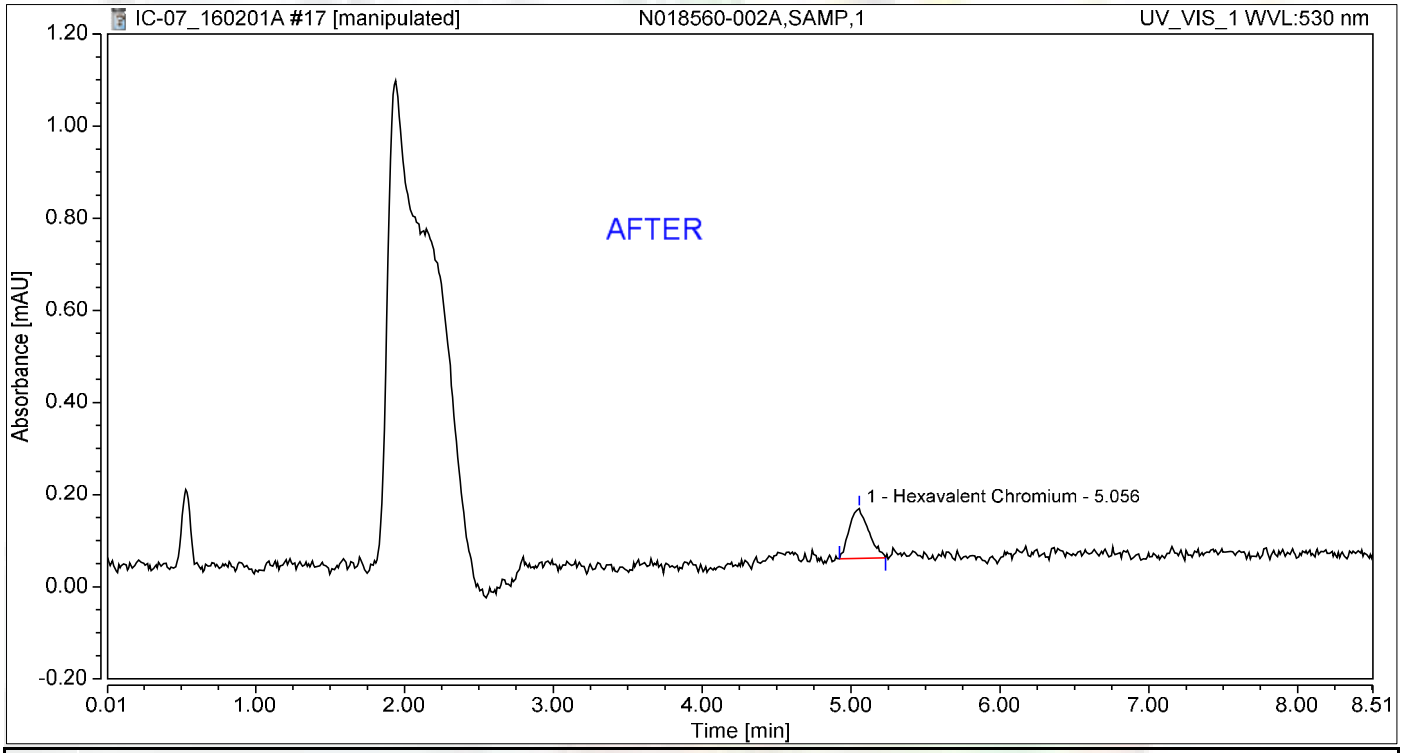
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.261	8.749	100.00	100.00	5.2302
Total:			**1.261**	**8.749**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.016	0.109	100.00	100.00	0.0670
Total:			**0.016**	**0.109**	**100.00**	**100.00**	

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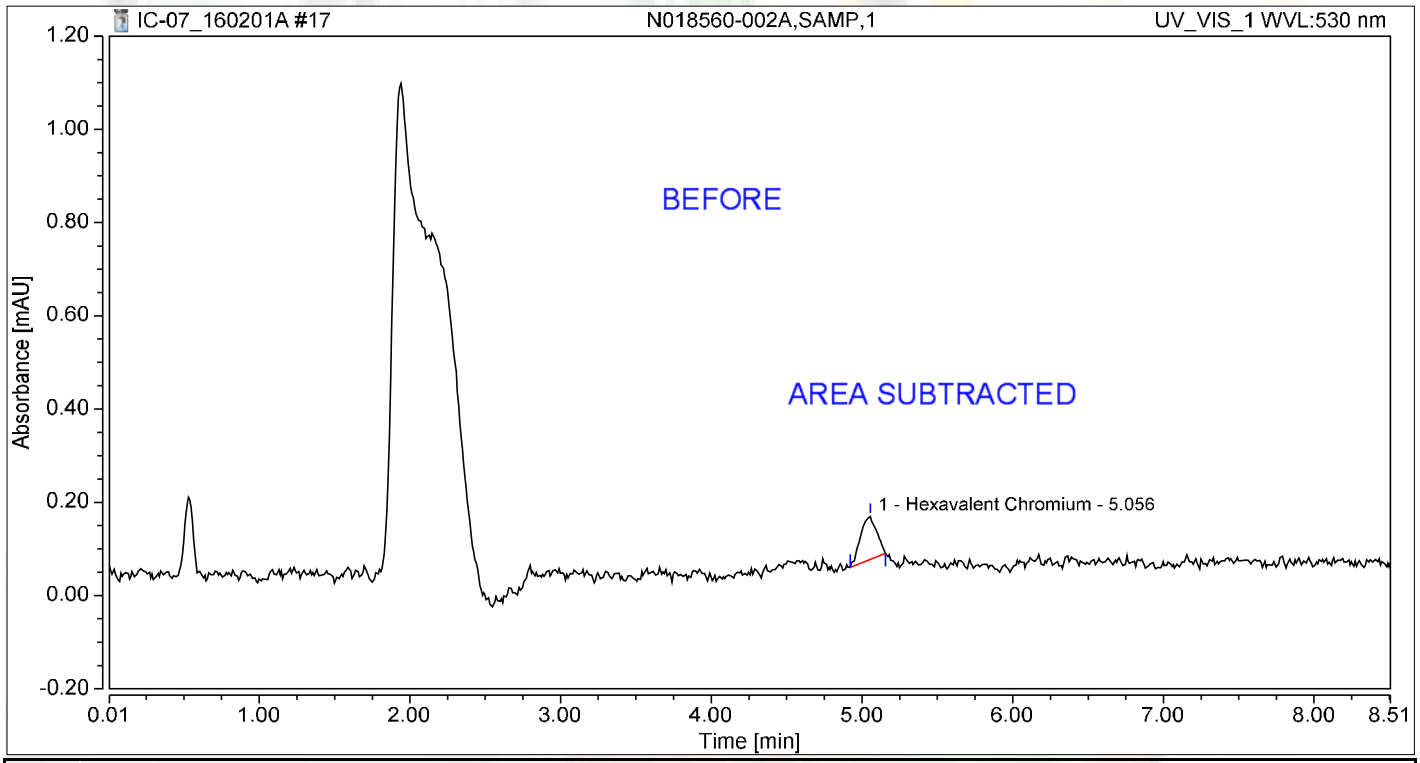
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 12:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.012	0.093	100.00	100.00	0.0484
Total:			**0.012**	**0.093**	**100.00**	**100.00**	

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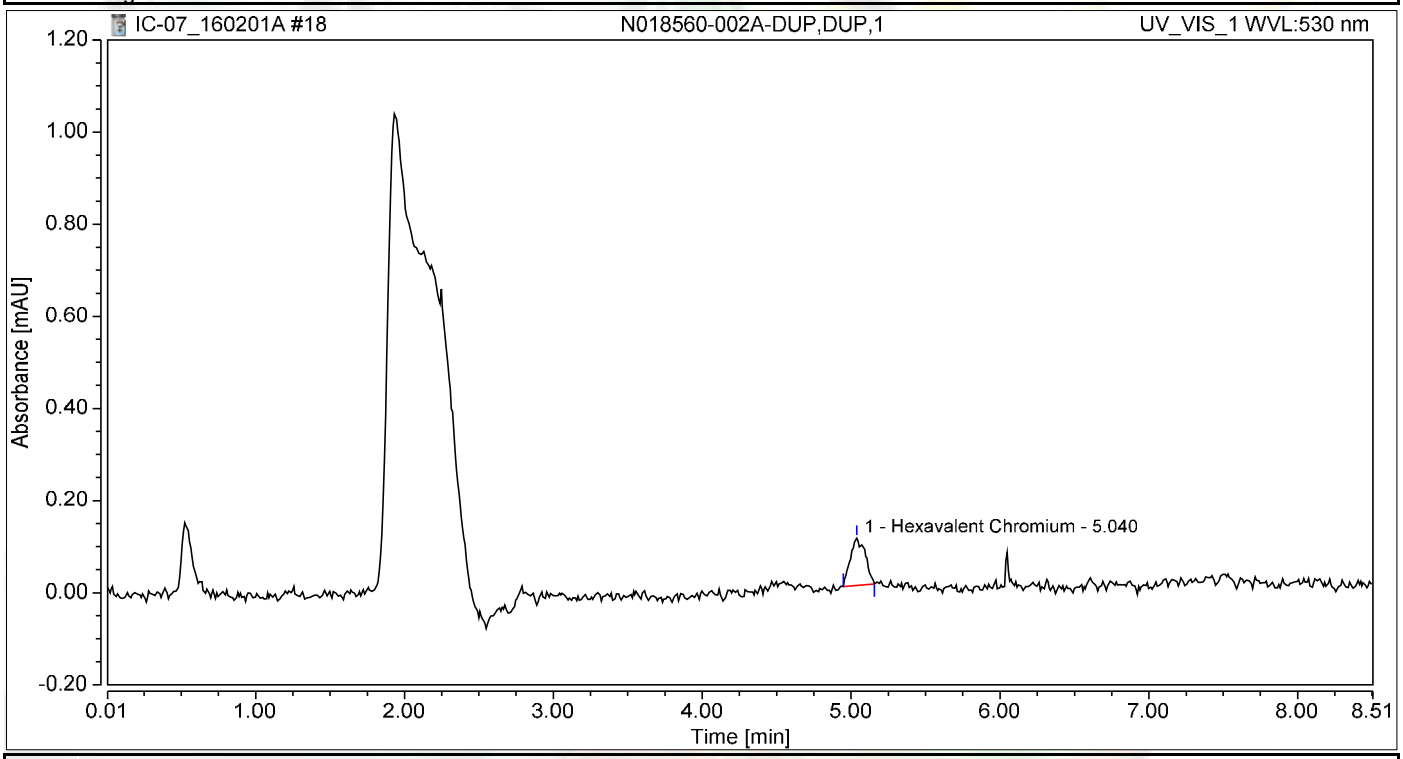
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-DUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

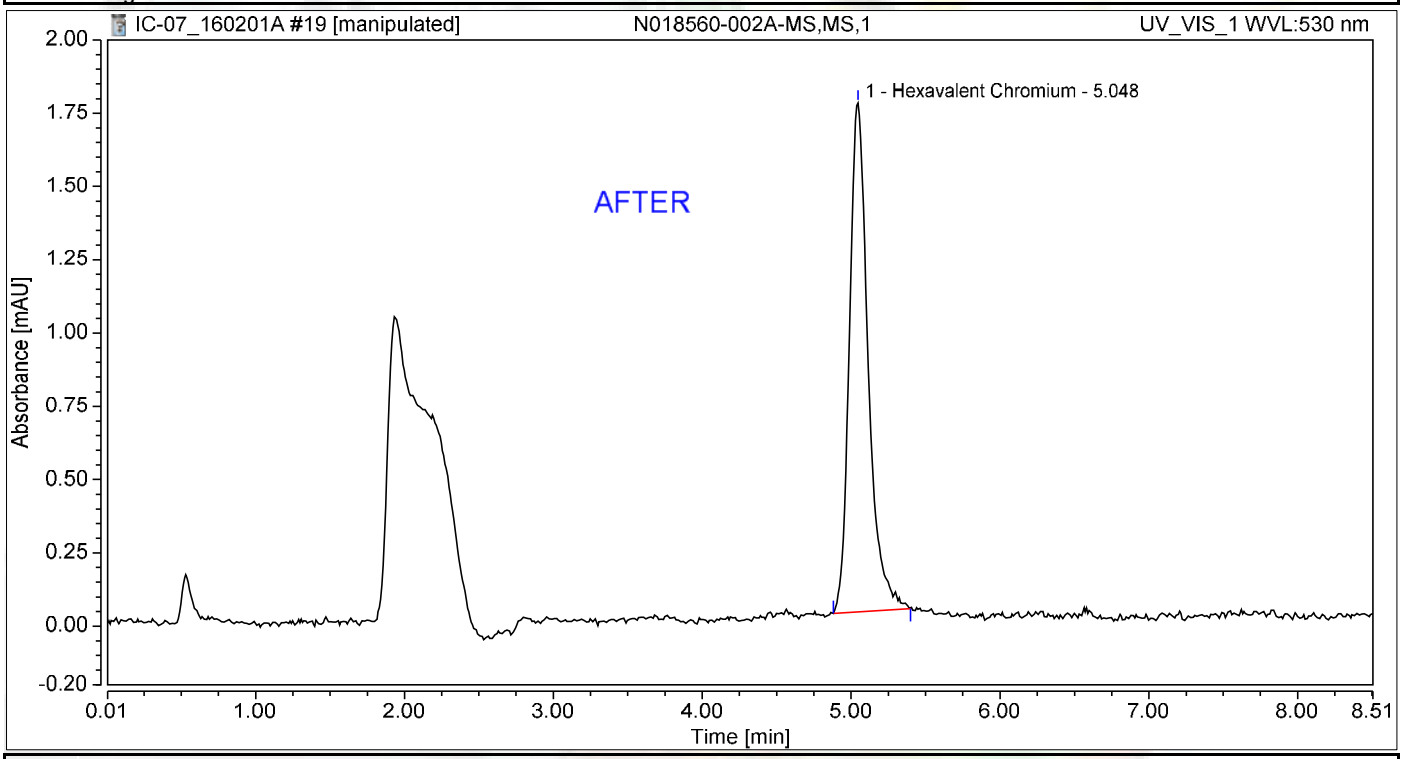
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.012	0.102	100.00	100.00	0.0480
Total:			**0.012**	**0.102**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.251	1.736	100.00	100.00	1.0420
Total:			**0.251**	**1.736**	**100.00**	**100.00**	

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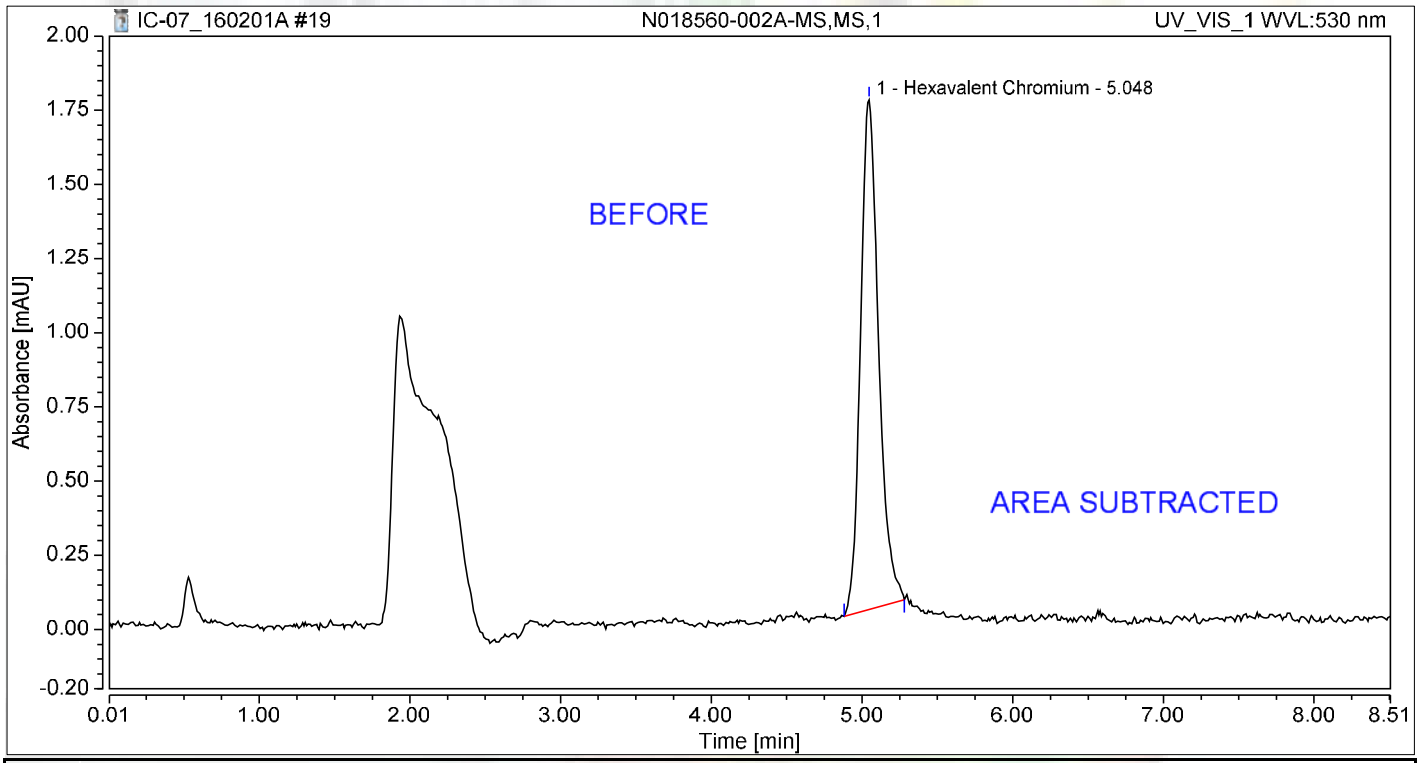
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.239	1.717	100.00	100.00	0.9920
Total:			**0.239**	**1.717**	**100.00**	**100.00**	

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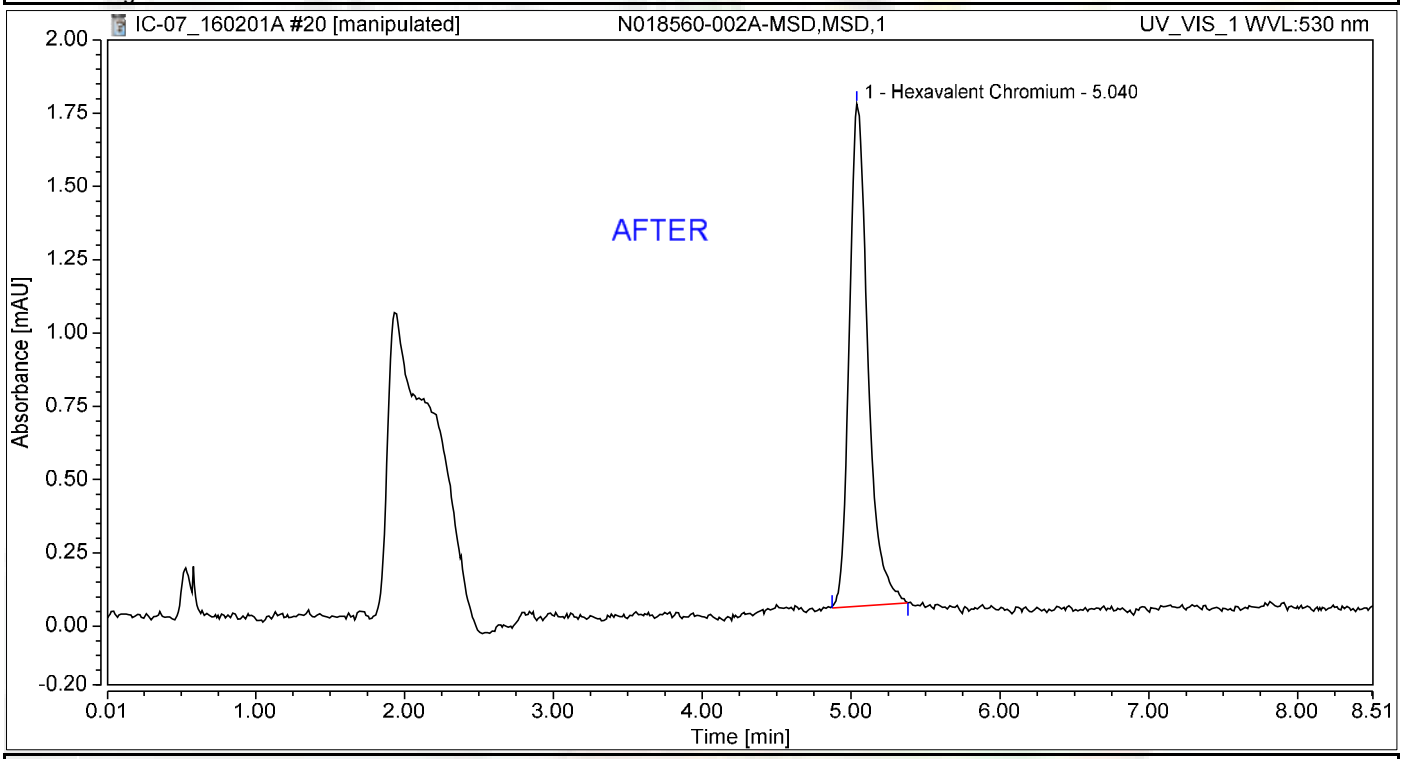
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.247	1.714	100.00	100.00	1.0261
Total:			**0.247**	**1.714**	**100.00**	**100.00**	

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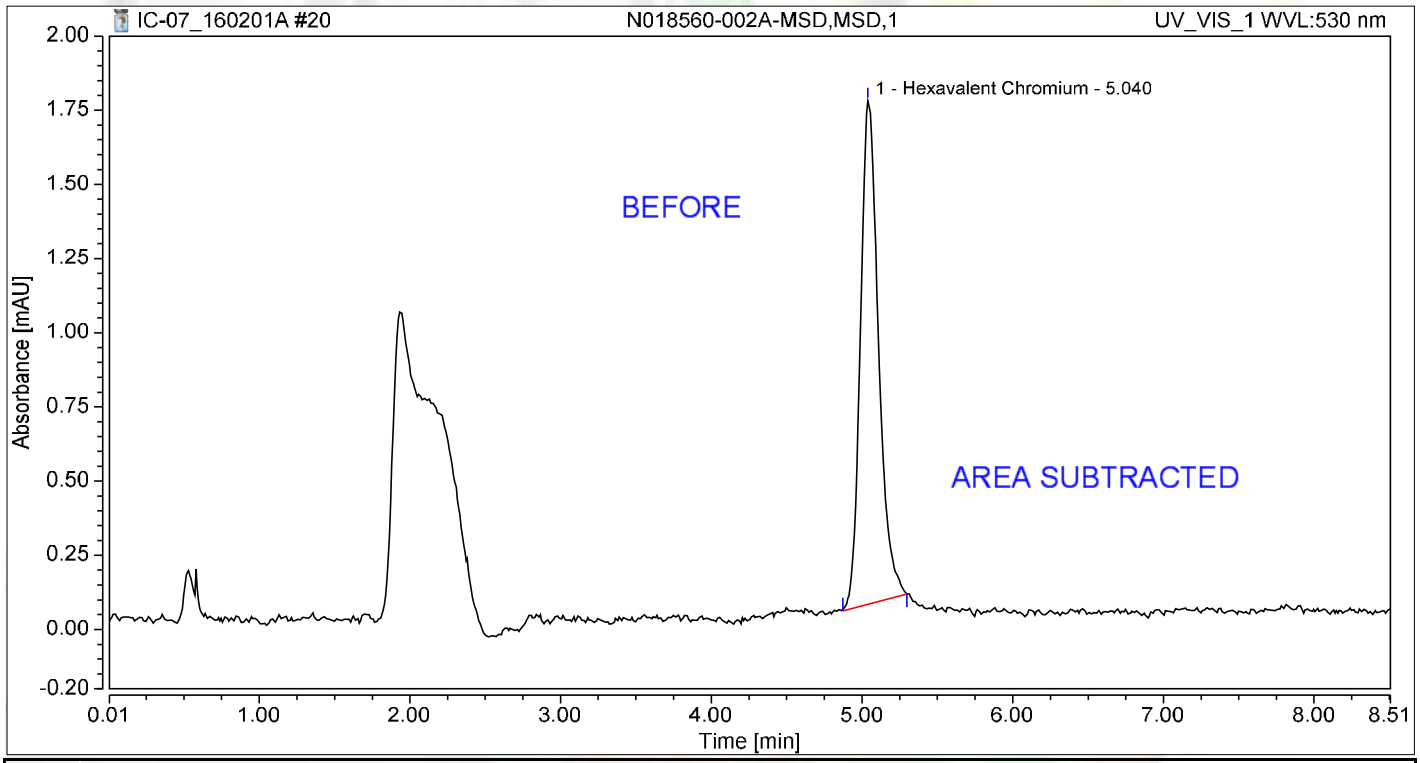
Chromatogram and Results

Injection Details

Injection Name:	**N018560-002A-MSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.237	1.698	100.00	100.00	0.9813
Total:			**0.237**	**1.698**	**100.00**	**100.00**	

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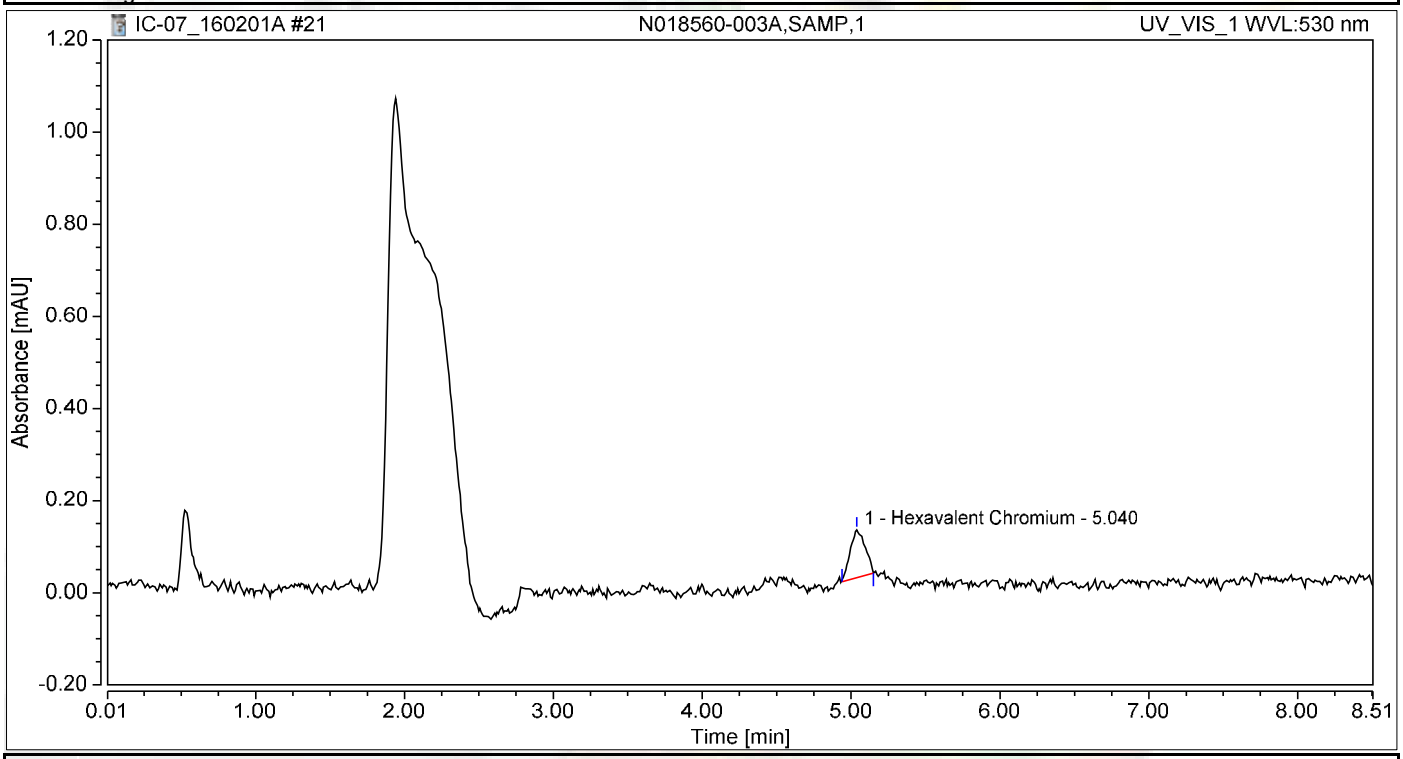
Chromatogram and Results

Injection Details

Injection Name:	**N018560-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

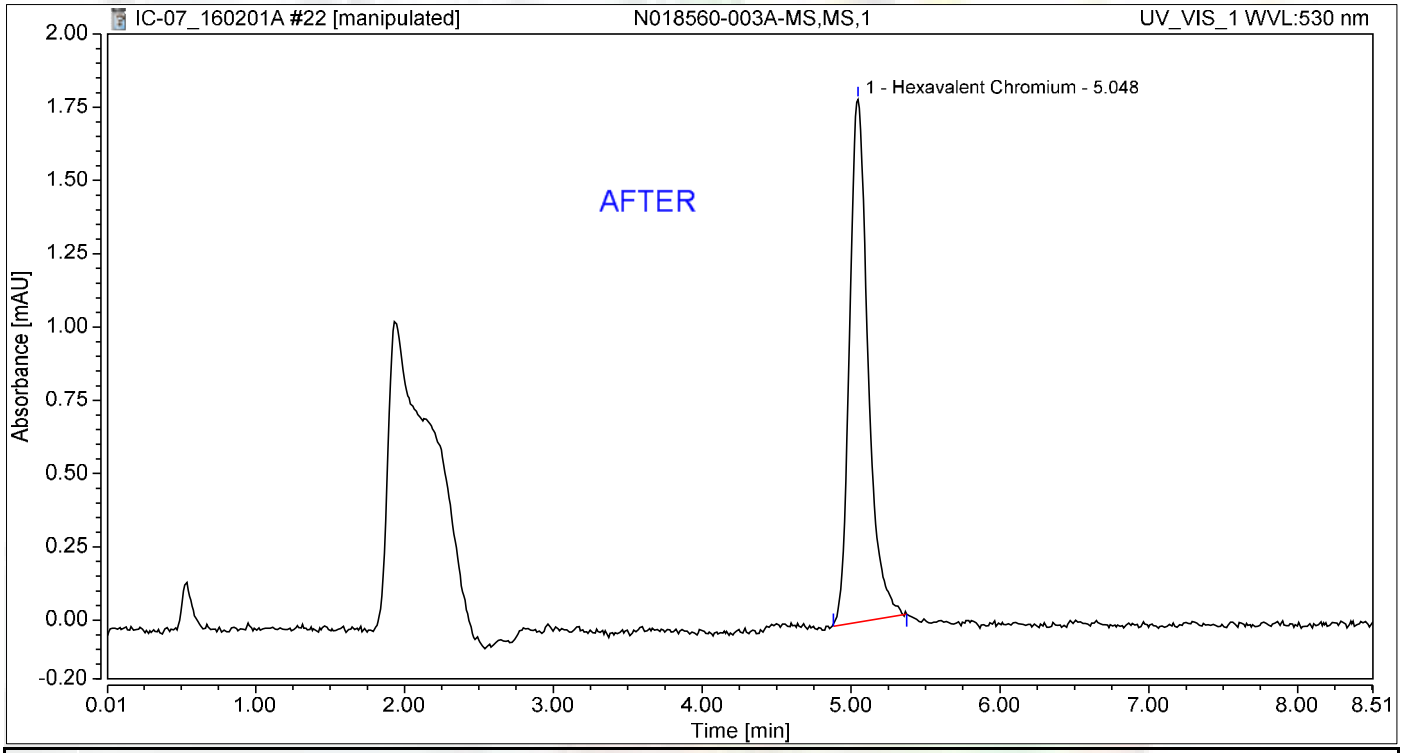
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.012	0.104	100.00	100.00	0.0496
Total:			**0.012**	**0.104**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-003A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.256	1.783	100.00	100.00	1.0622
Total:			**0.256**	**1.783**	**100.00**	**100.00**	

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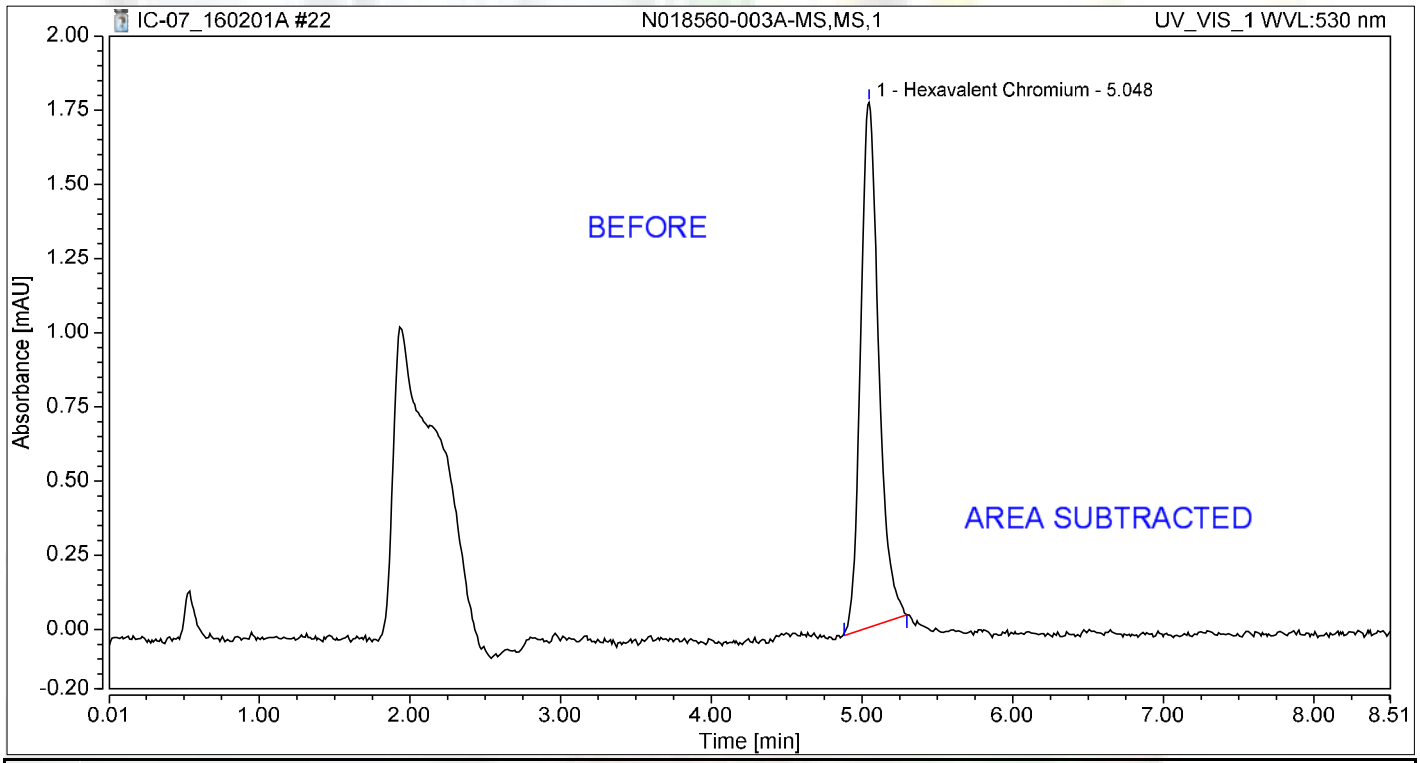
Chromatogram and Results

Injection Details

Injection Name:	**N018560-003A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.769	100.00	100.00	1.0271
Total:			**0.248**	**1.769**	**100.00**	**100.00**	

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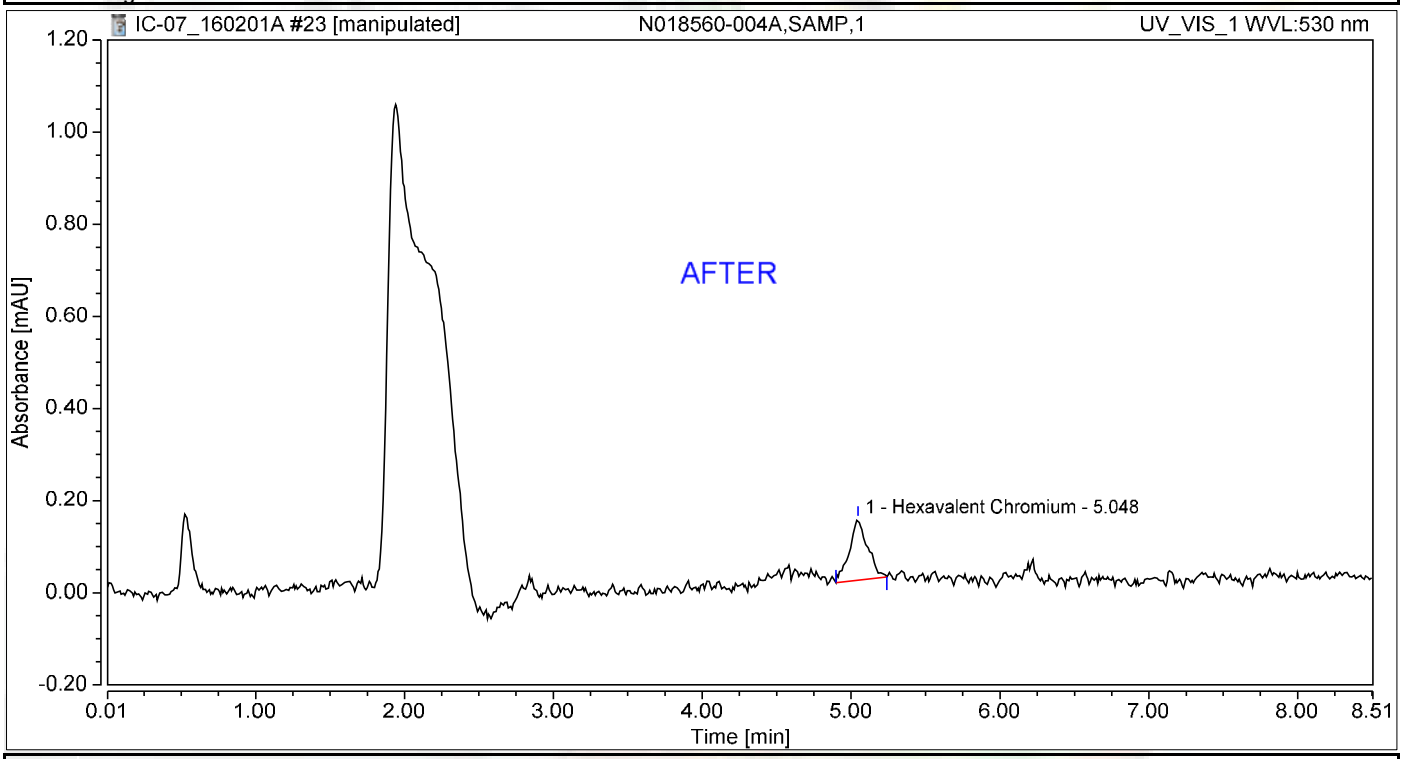
Chromatogram and Results

Injection Details

Injection Name:	**N018560-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.019	0.133	100.00	100.00	0.0777
Total:			**0.019**	**0.133**	**100.00**	**100.00**	

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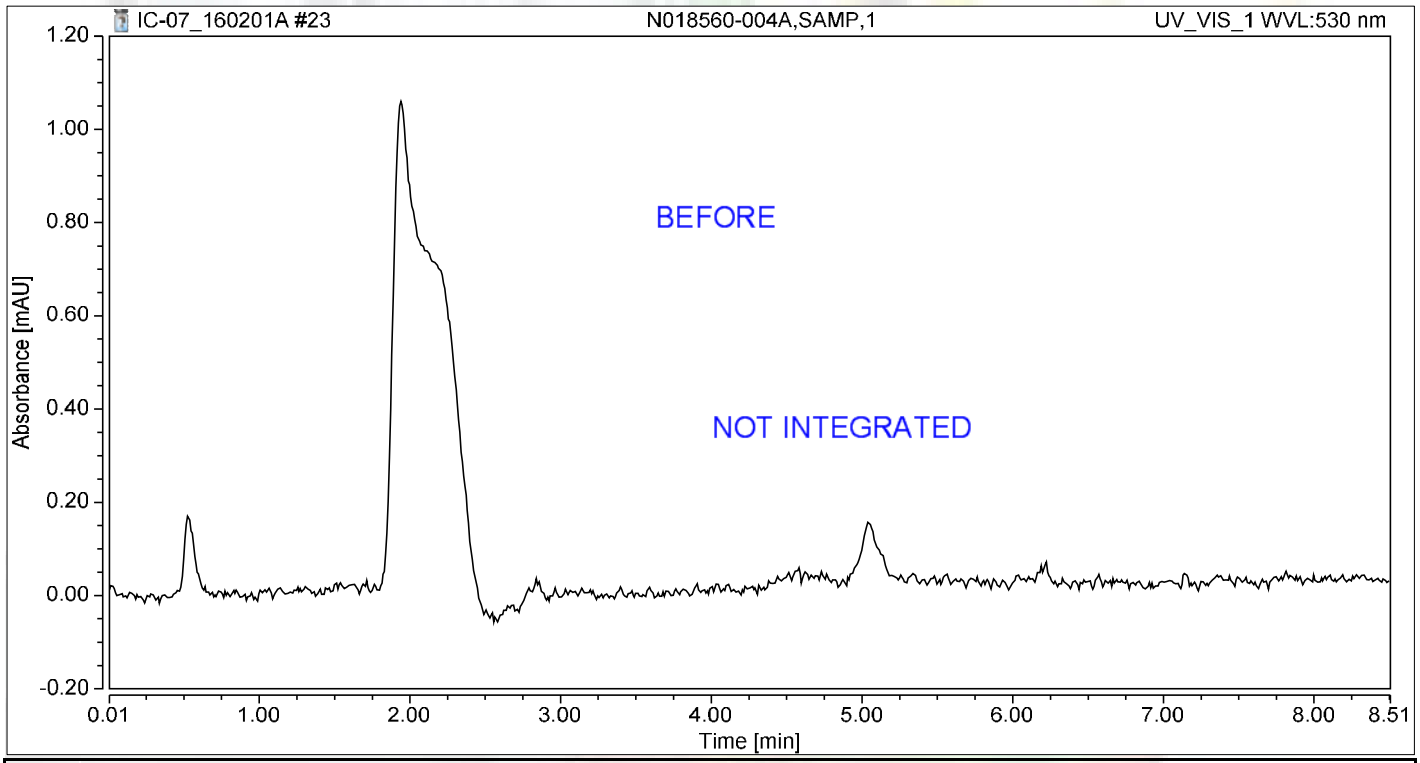
Chromatogram and Results

Injection Details

Injection Name:	**N018560-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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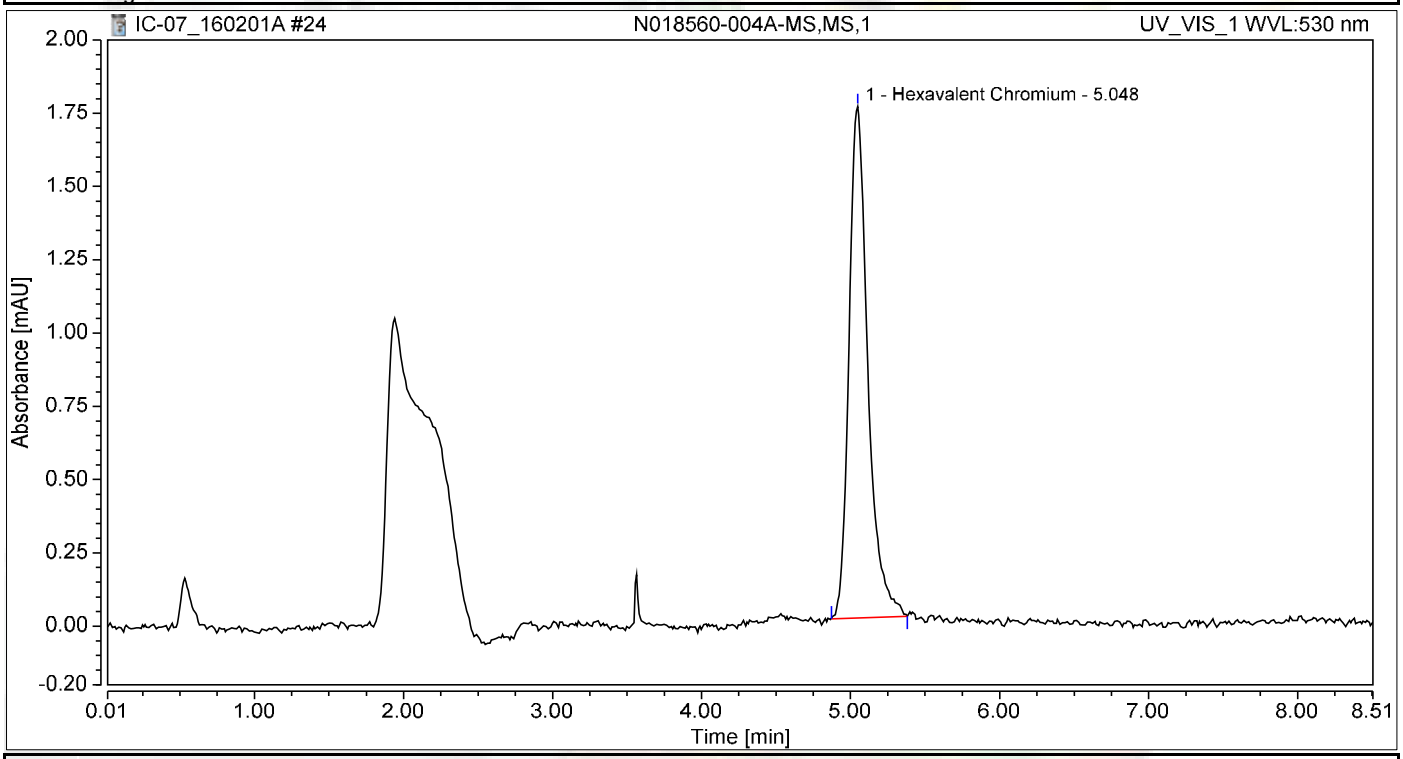
Chromatogram and Results

Injection Details

Injection Name:	**N018560-004A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

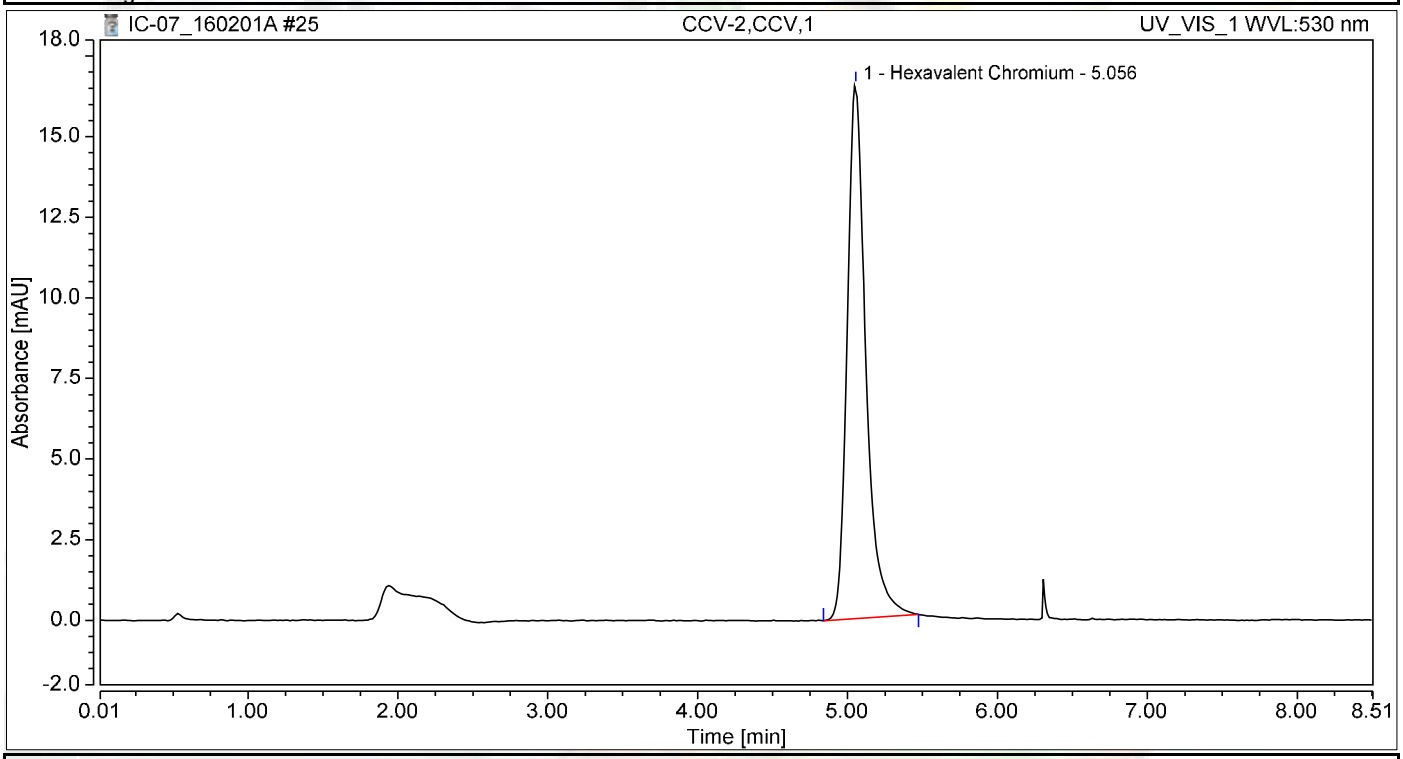
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.254	1.745	100.00	100.00	1.0526
Total:			**0.254**	**1.745**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

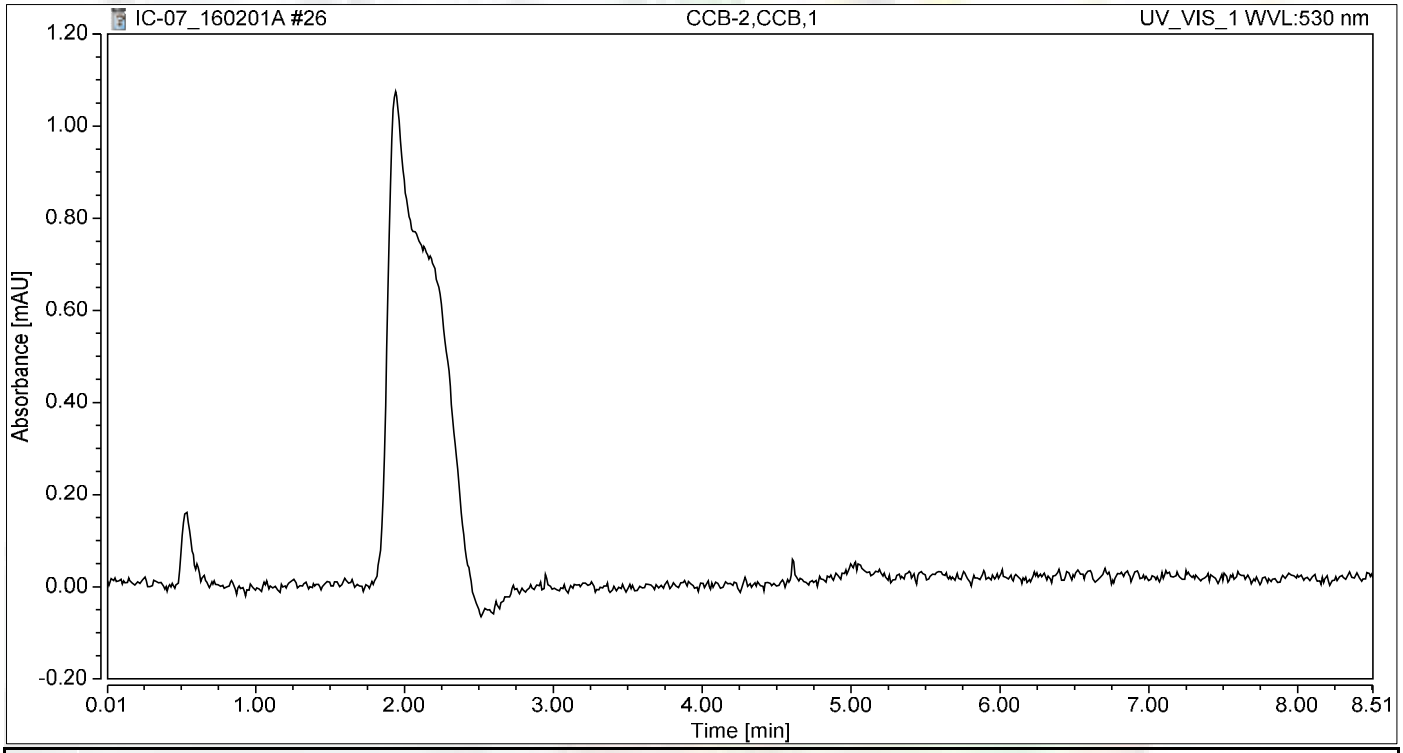
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.374	16.558	100.00	100.00	9.8458
Total:			**2.374**	**16.558**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

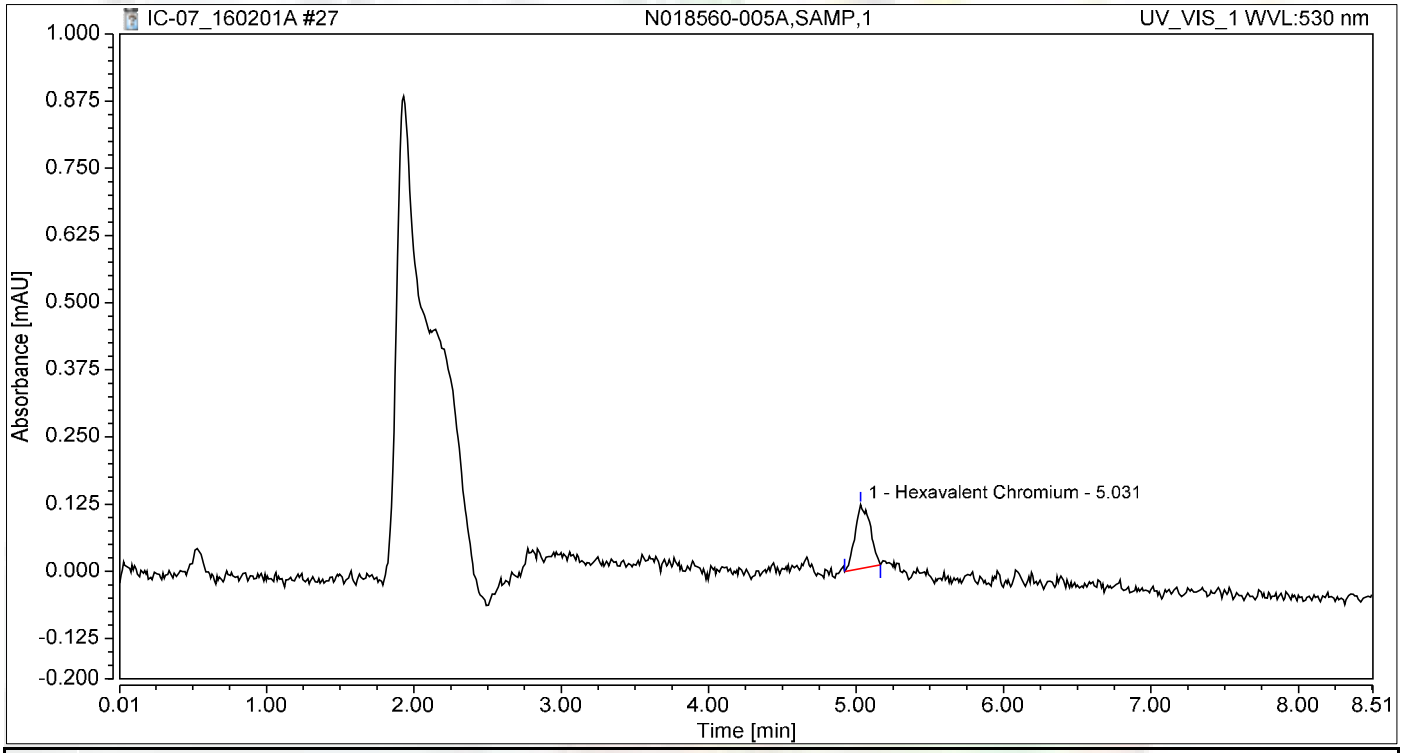
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

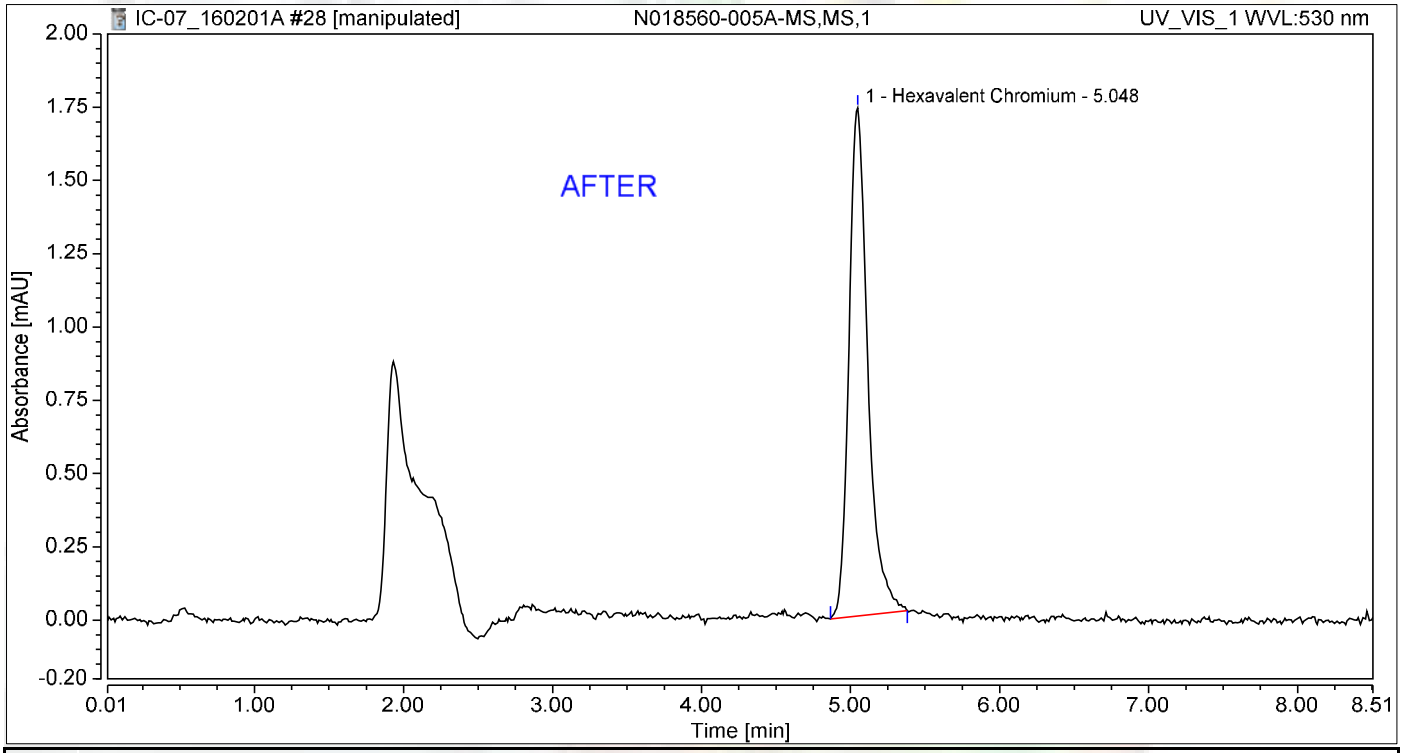
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.014	0.119	100.00	100.00	0.0582
Total:			**0.014**	**0.119**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-005A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.252	1.734	100.00	100.00	1.0445
Total:			**0.252**	**1.734**	**100.00**	**100.00**	

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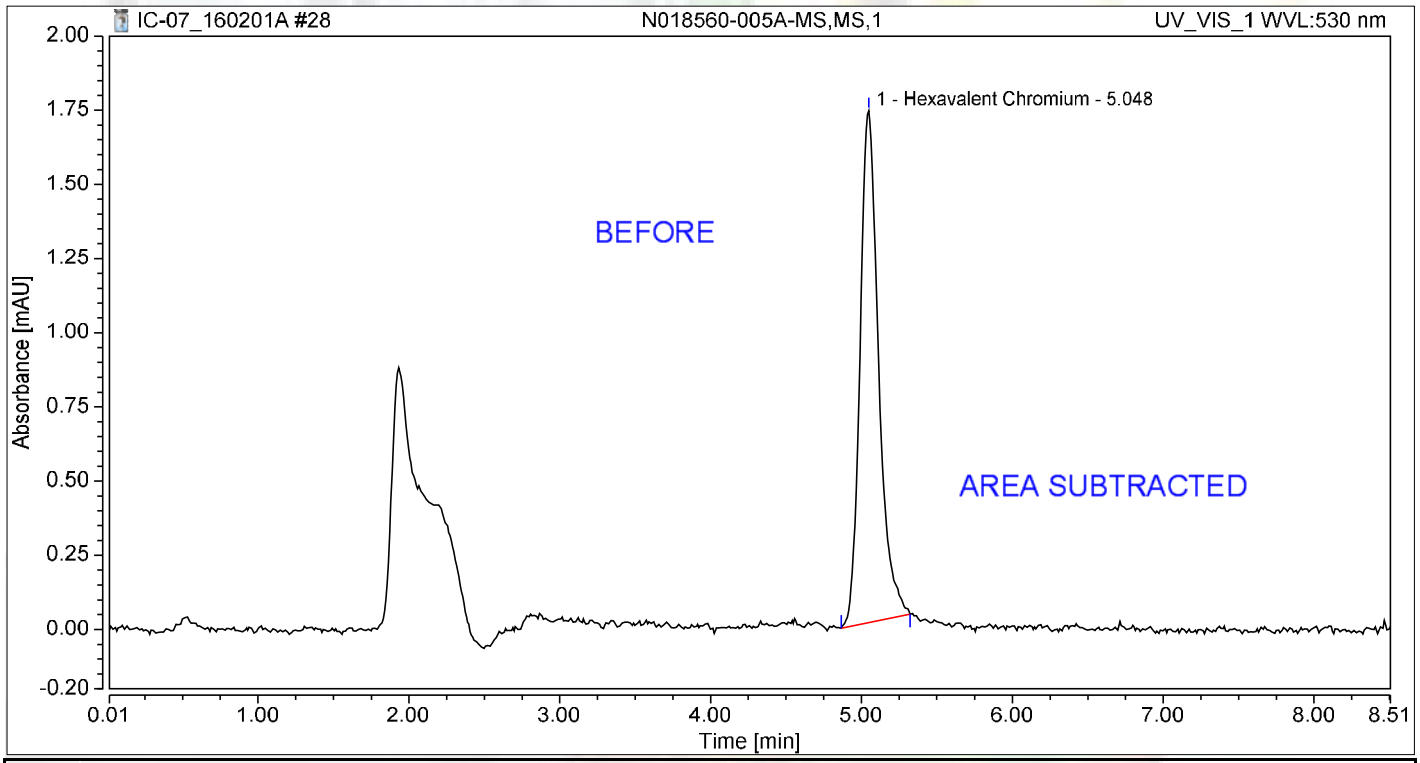
Chromatogram and Results

Injection Details

Injection Name:	**N018560-005A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 14:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.246	1.725	100.00	100.00	1.0206
Total:			**0.246**	**1.725**	**100.00**	**100.00**	

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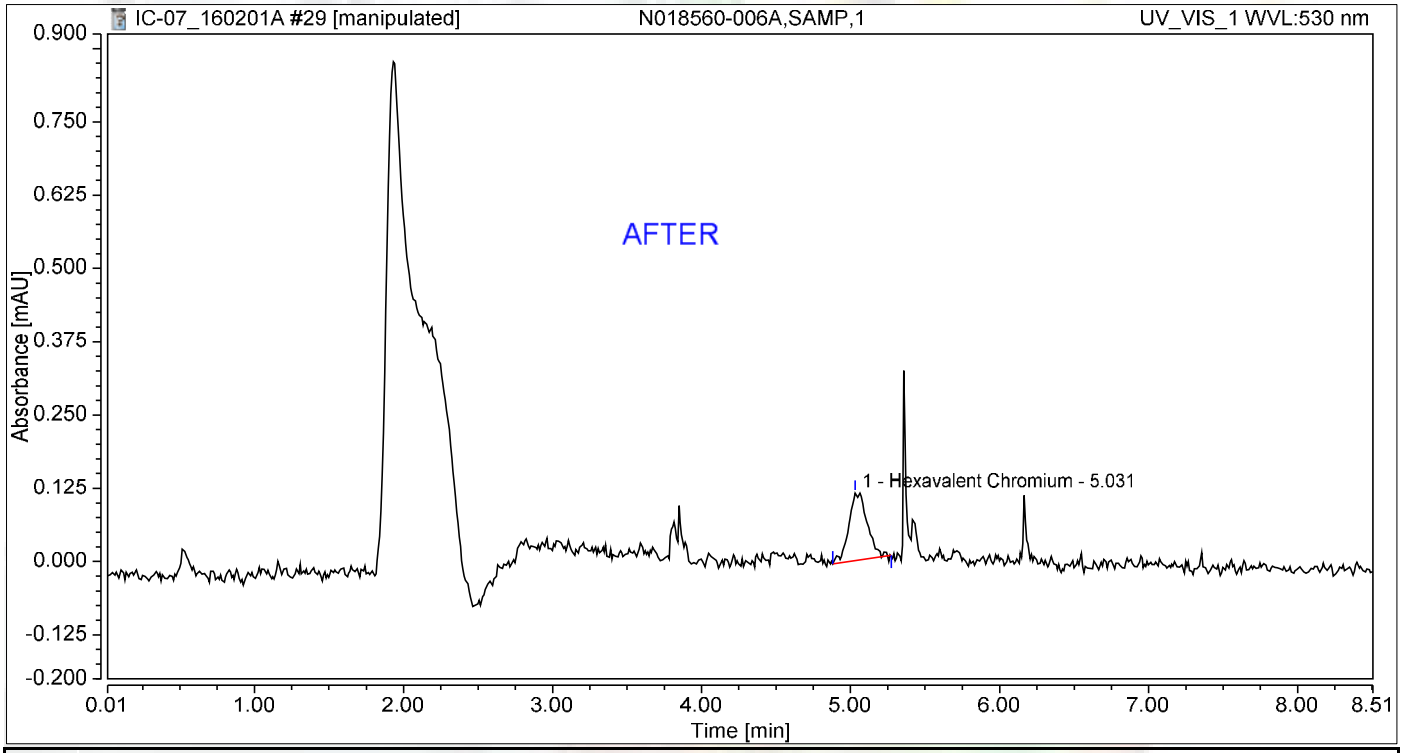
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.115	100.00	100.00	0.0678
Total:			**0.016**	**0.115**	**100.00**	**100.00**	

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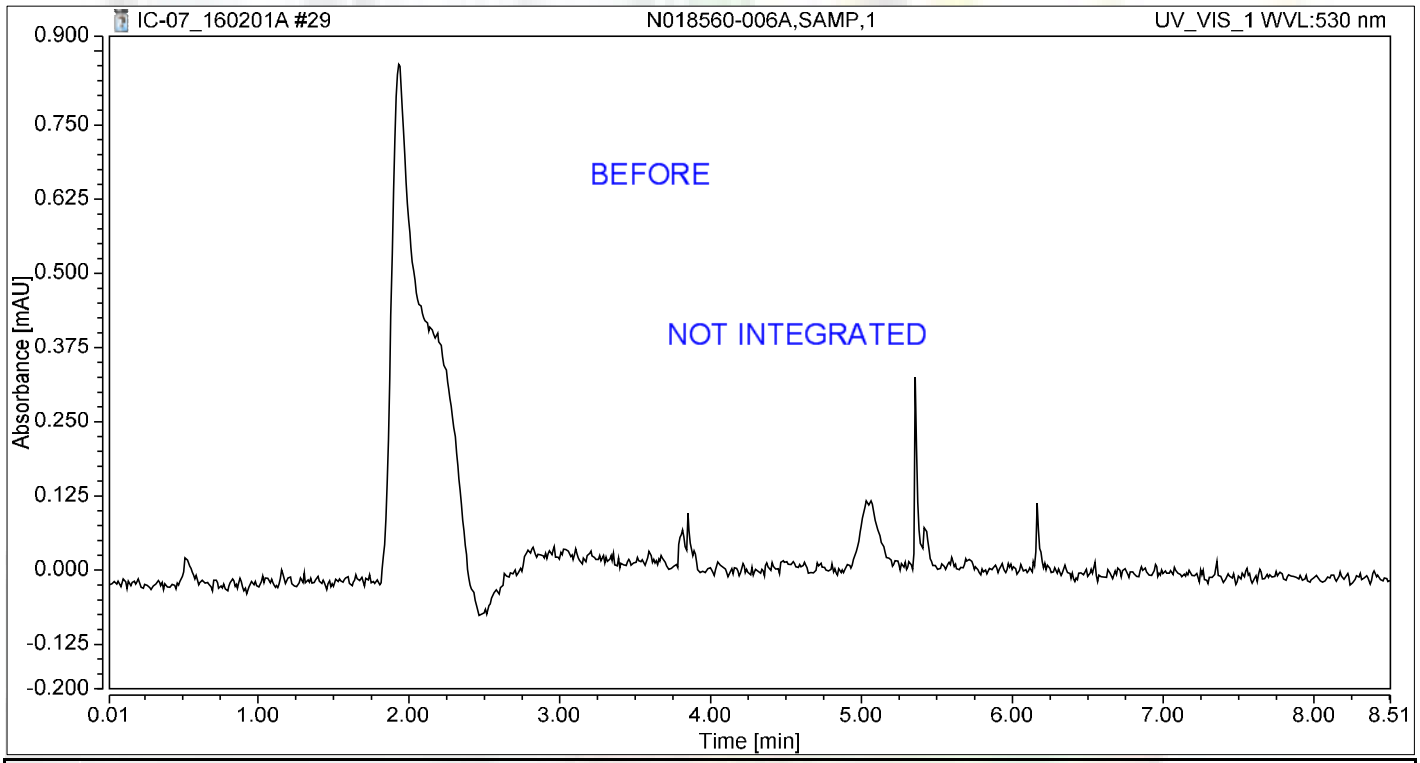
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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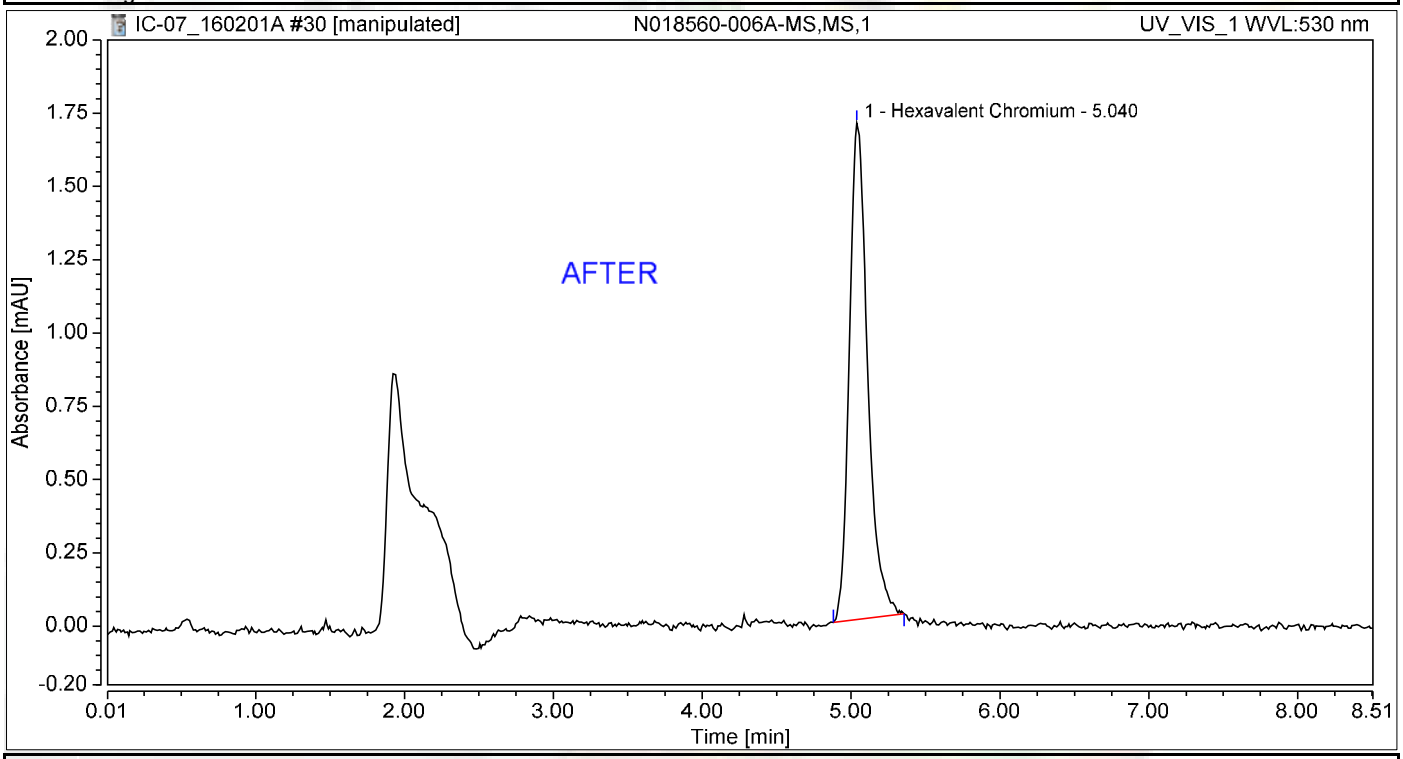
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.240	1.693	100.00	100.00	0.9947
Total:			**0.240**	**1.693**	**100.00**	**100.00**	

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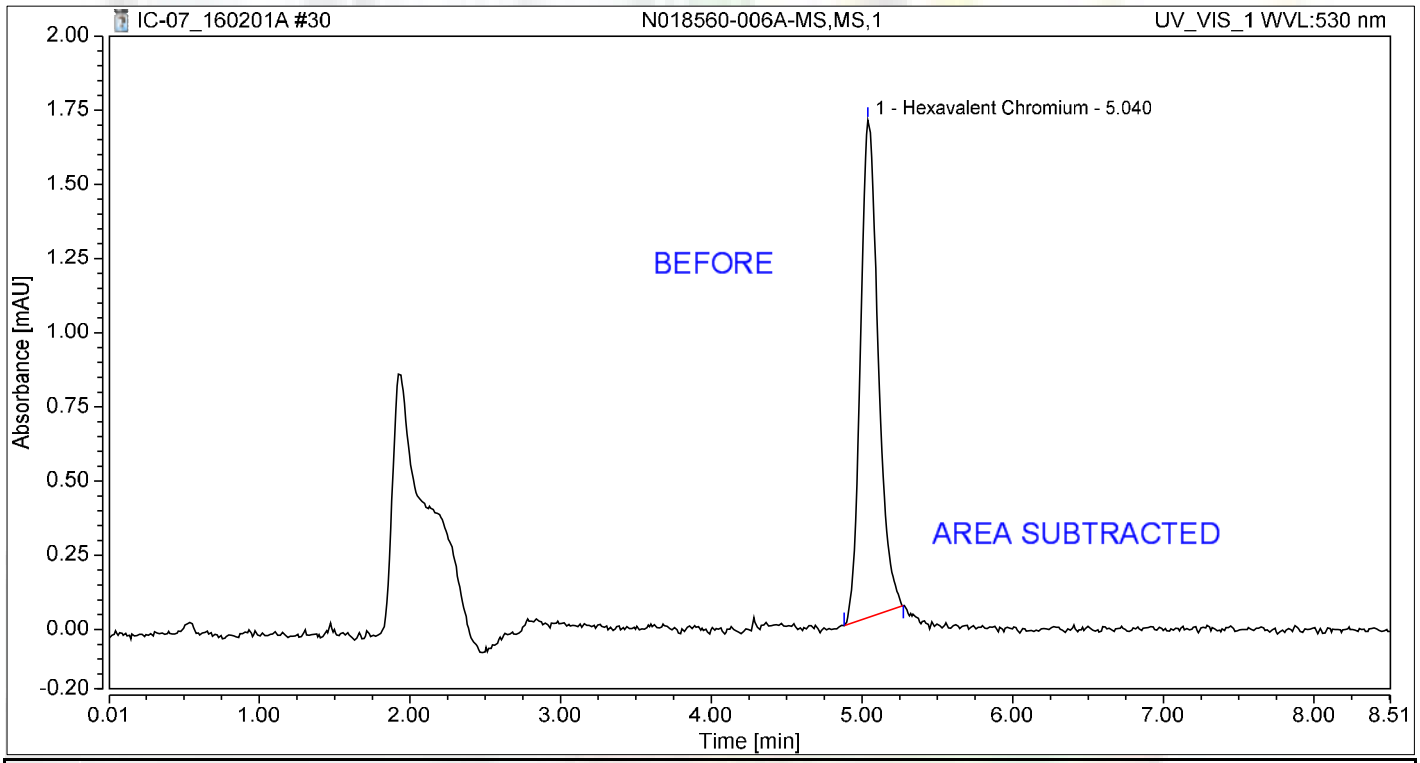
Chromatogram and Results

Injection Details

Injection Name:	**N018560-006A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.230	1.676	100.00	100.00	0.9535
Total:			**0.230**	**1.676**	**100.00**	**100.00**	

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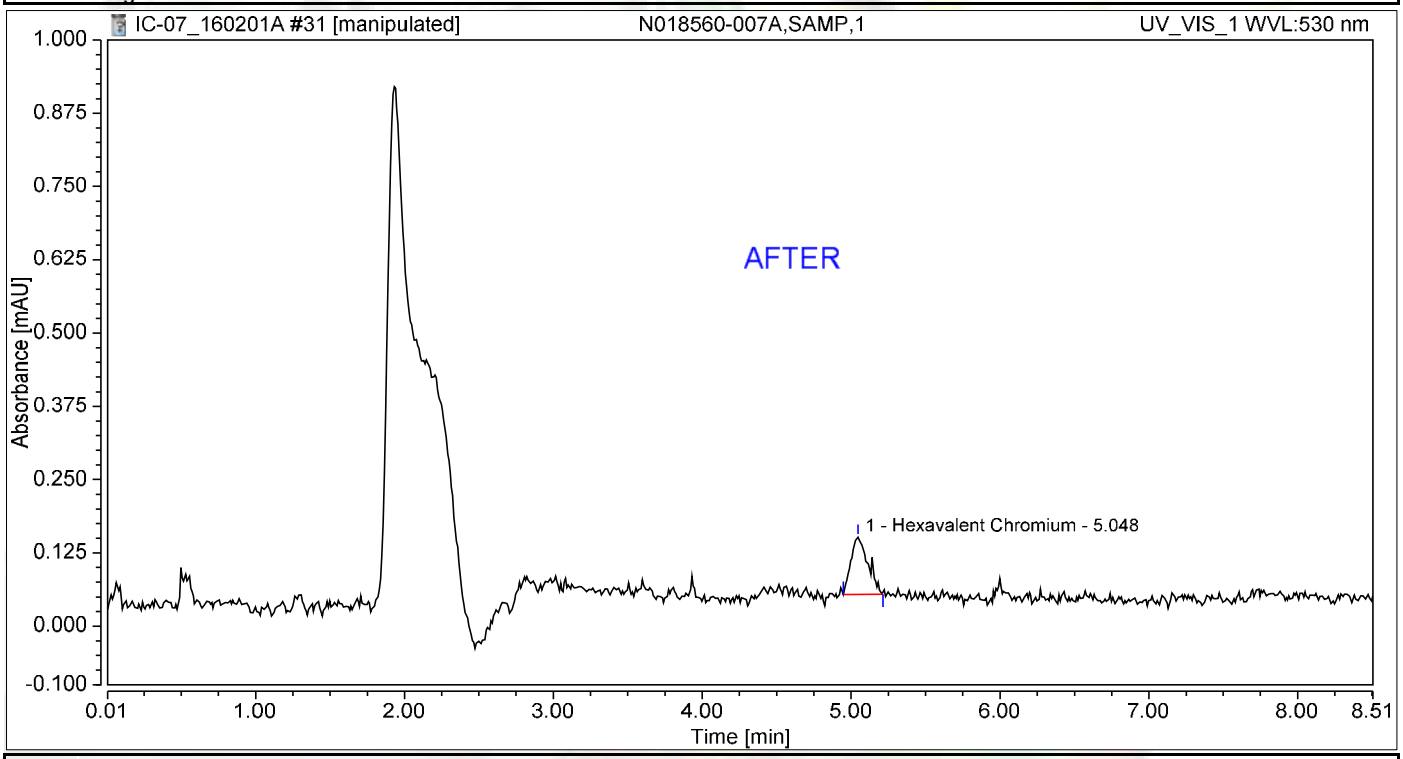
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.013	0.098	100.00	100.00	0.0536
Total:			**0.013**	**0.098**	**100.00**	**100.00**	

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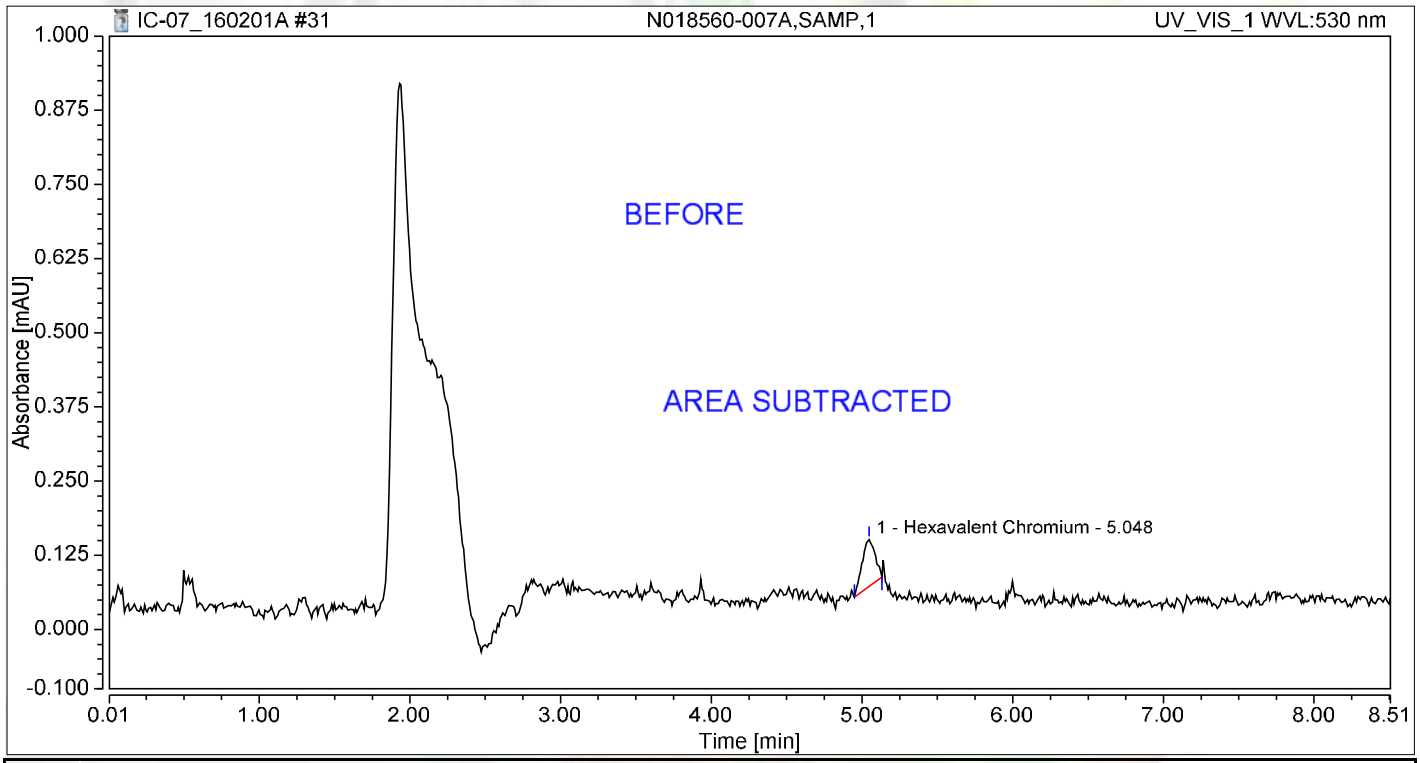
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.008	0.079	100.00	100.00	0.0333
Total:			**0.008**	**0.079**	**100.00**	**100.00**	

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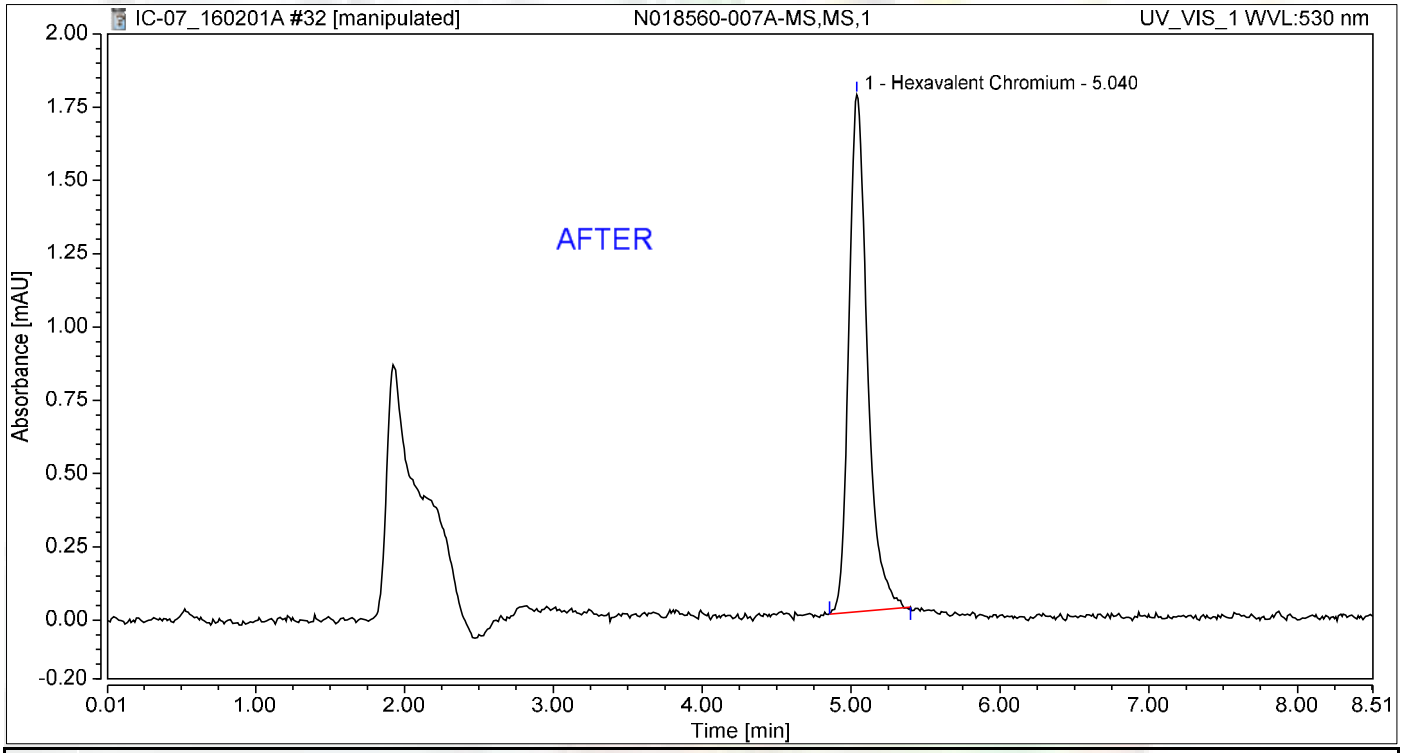
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.253	1.765	100.00	100.00	1.0479
Total:			**0.253**	**1.765**	**100.00**	**100.00**	

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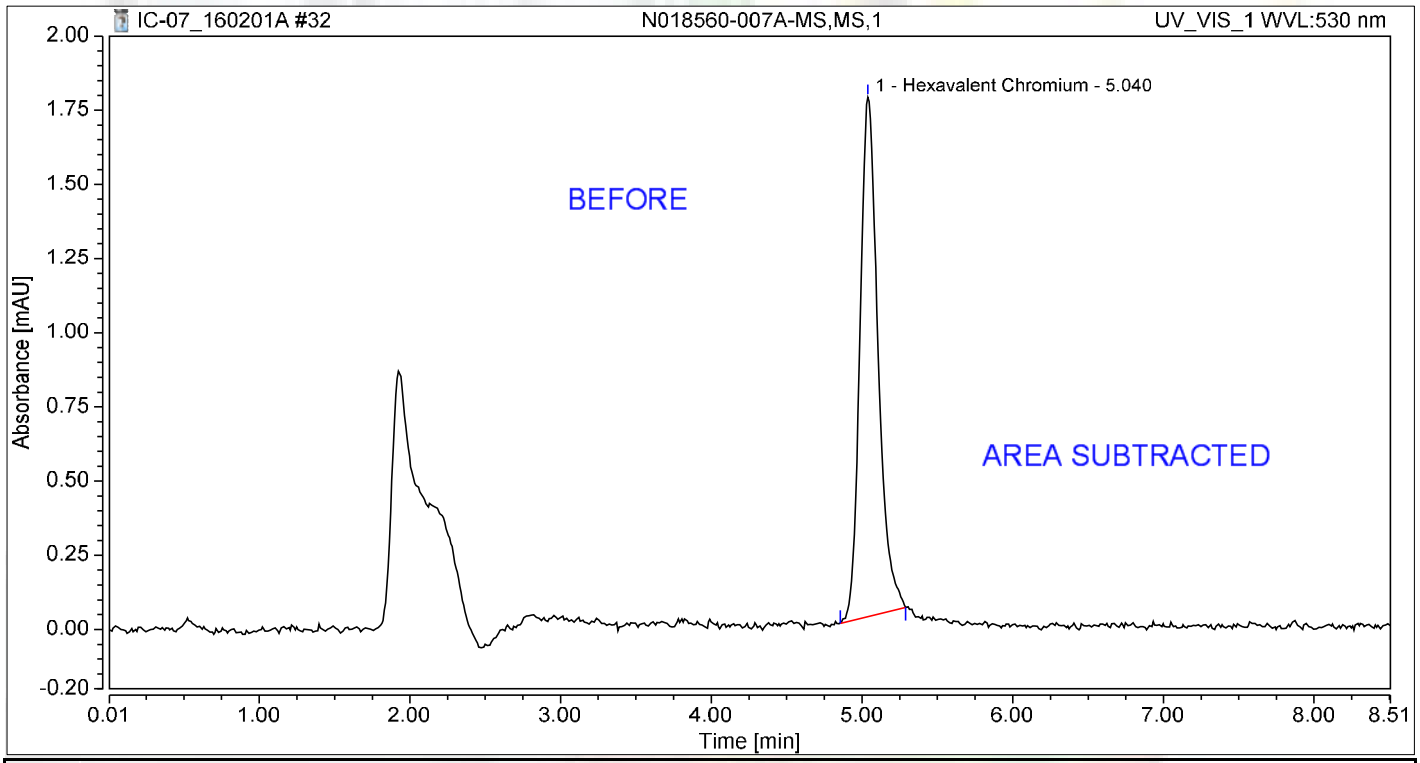
Chromatogram and Results

Injection Details

Injection Name:	**N018560-007A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.244	1.750	100.00	100.00	1.0108
Total:			**0.244**	**1.750**	**100.00**	**100.00**	

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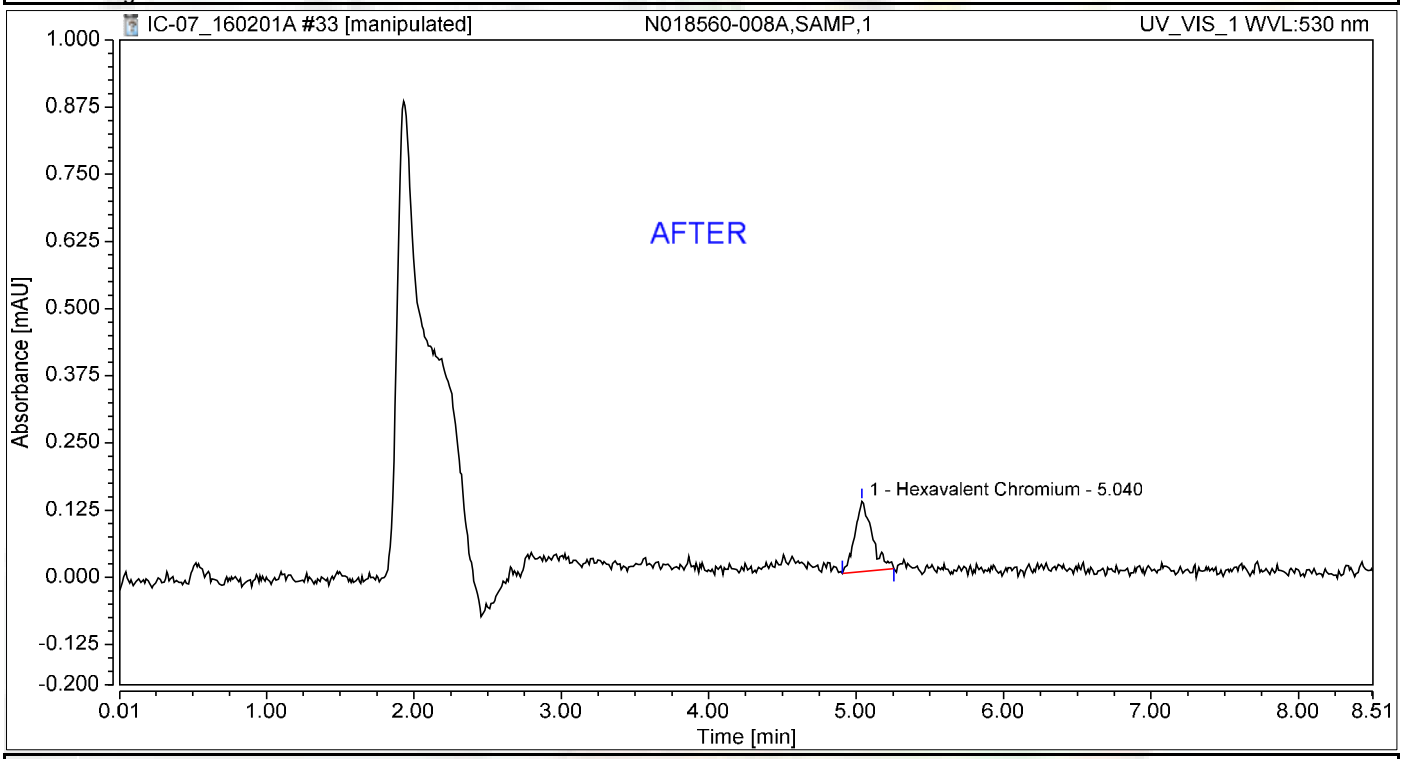
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.018	0.131	100.00	100.00	0.0730
Total:			**0.018**	**0.131**	**100.00**	**100.00**	

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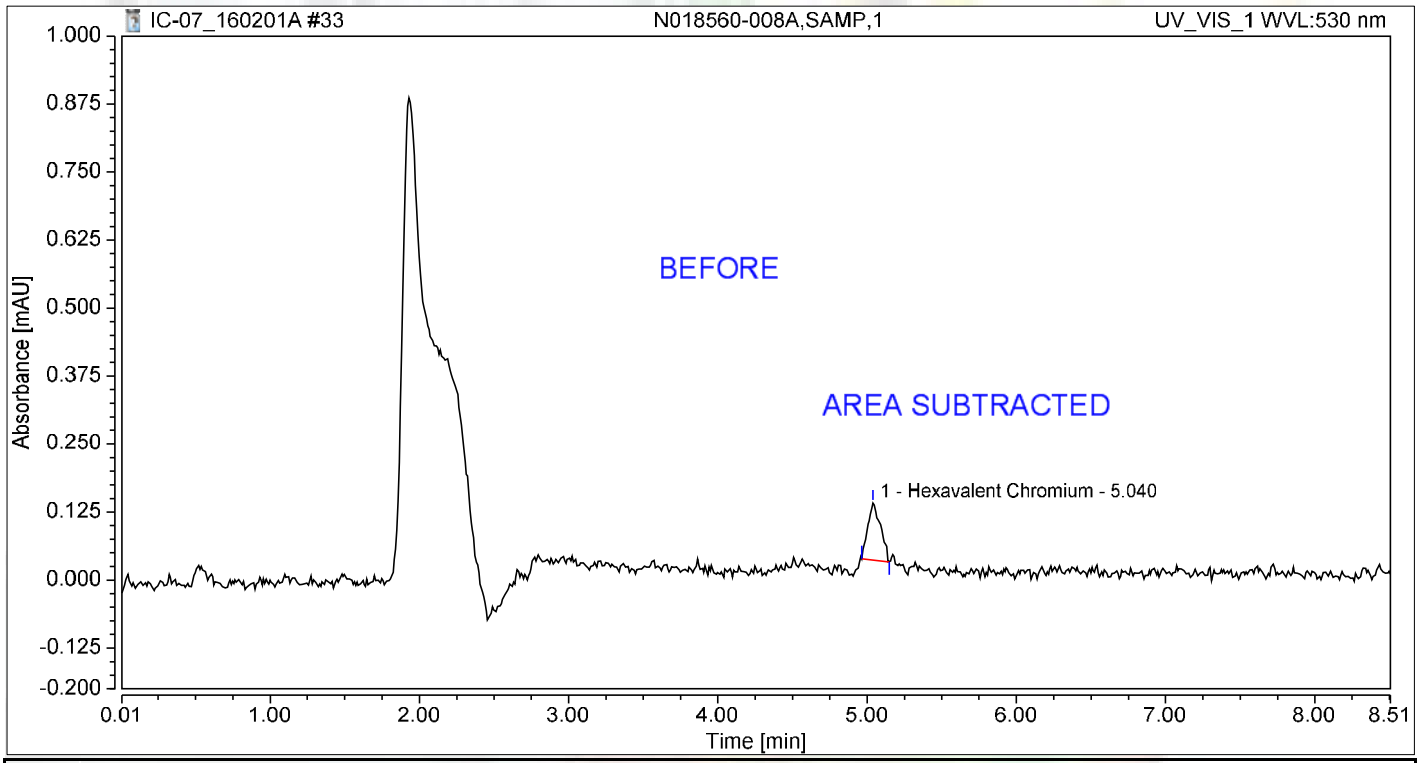
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.010	0.105	100.00	100.00	0.0427
Total:			**0.010**	**0.105**	**100.00**	**100.00**	

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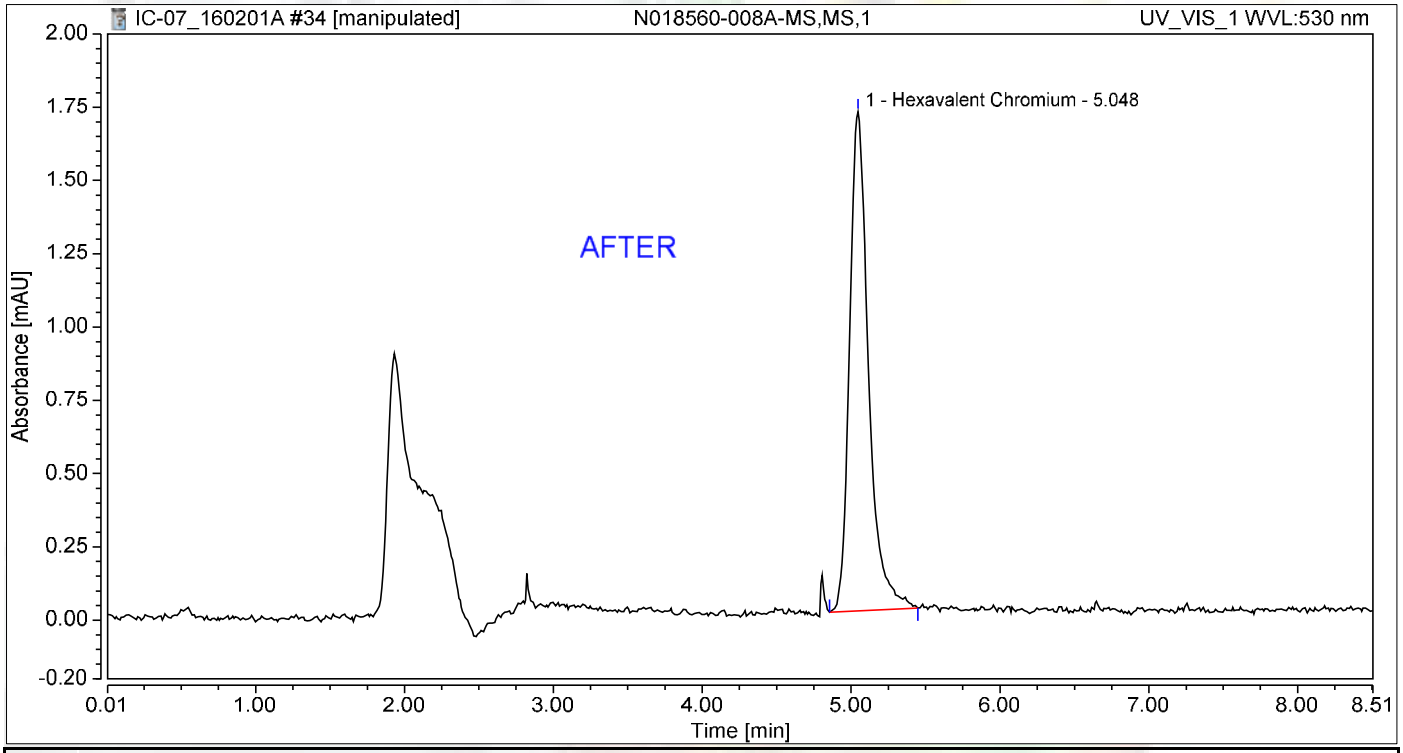
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.249	1.703	100.00	100.00	1.0327
Total:			**0.249**	**1.703**	**100.00**	**100.00**	

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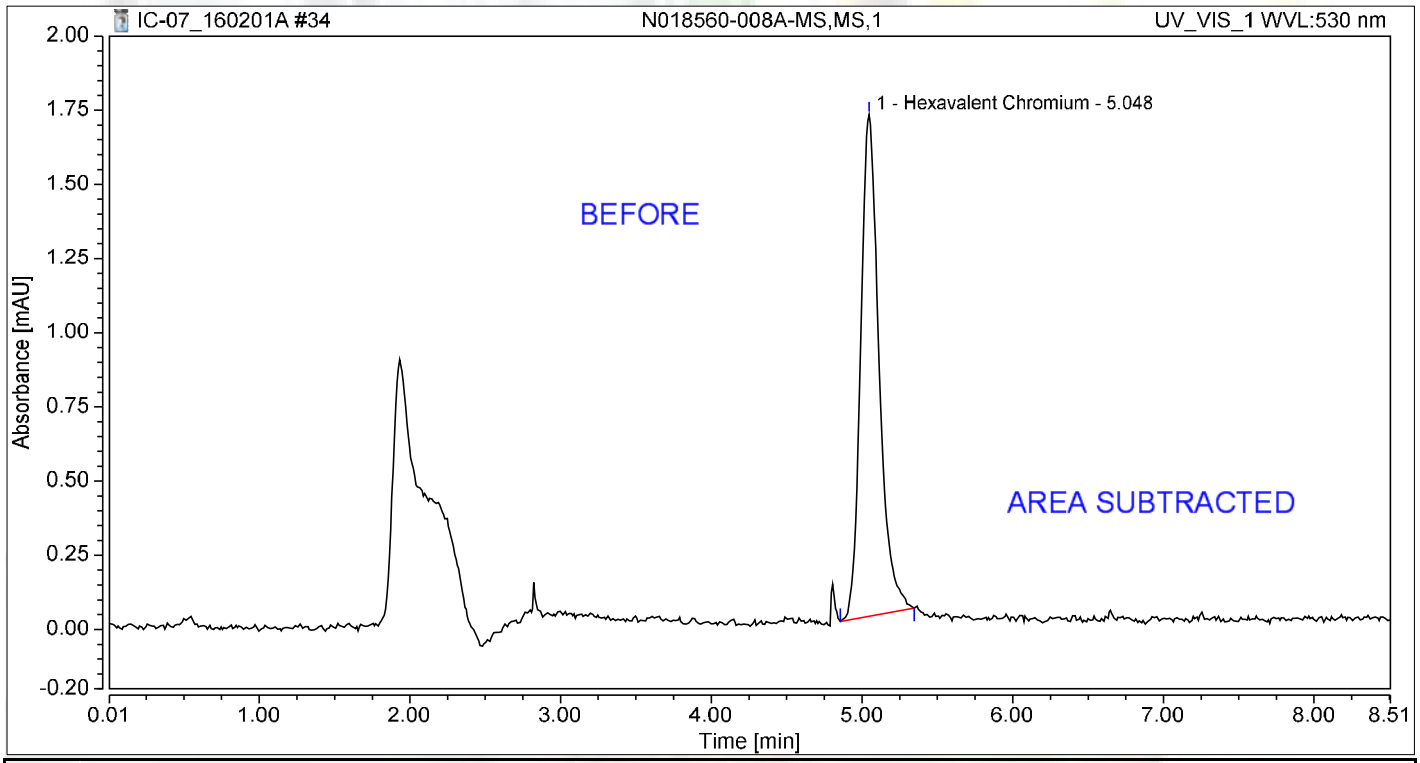
Chromatogram and Results

Injection Details

Injection Name:	**N018560-008A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.239	1.690	100.00	100.00	0.9917
Total:			**0.239**	**1.690**	**100.00**	**100.00**	

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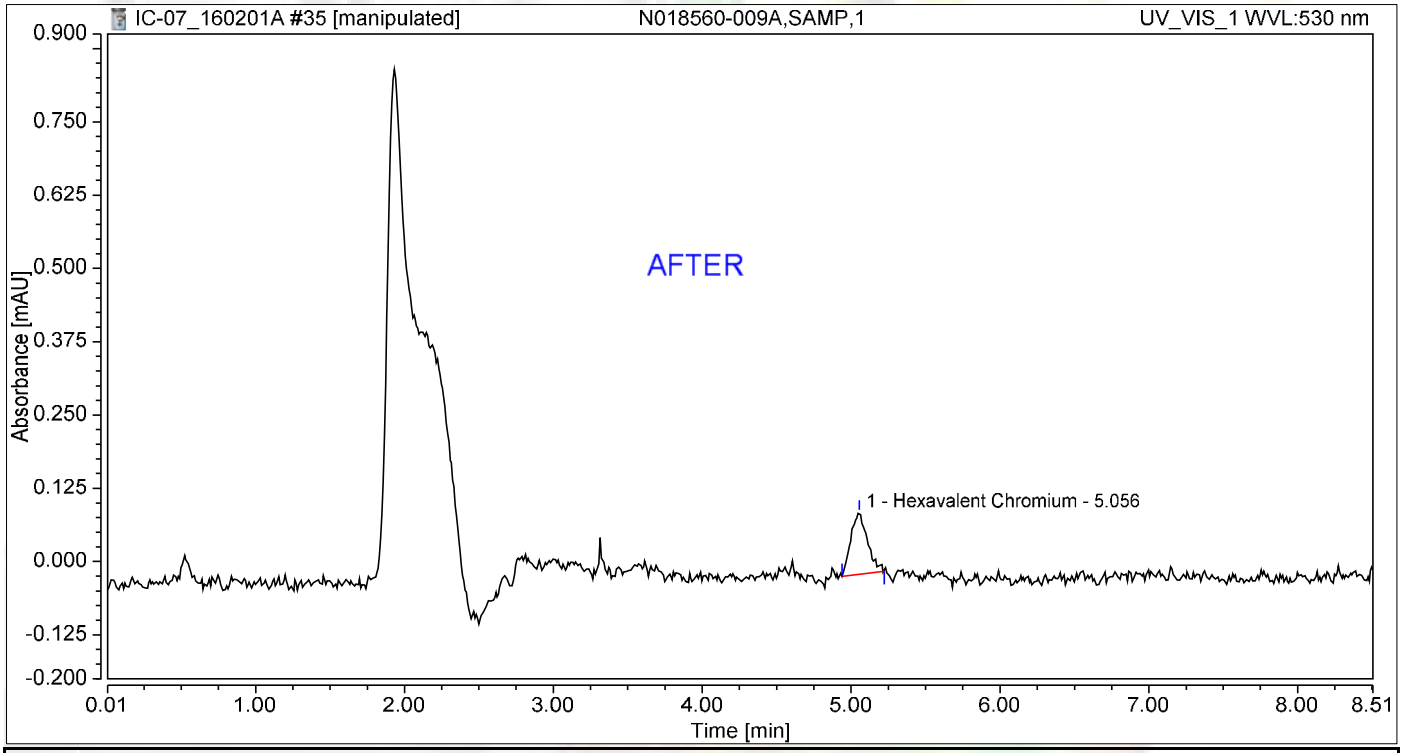
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.013	0.105	100.00	100.00	0.0556
Total:			**0.013**	**0.105**	**100.00**	**100.00**	

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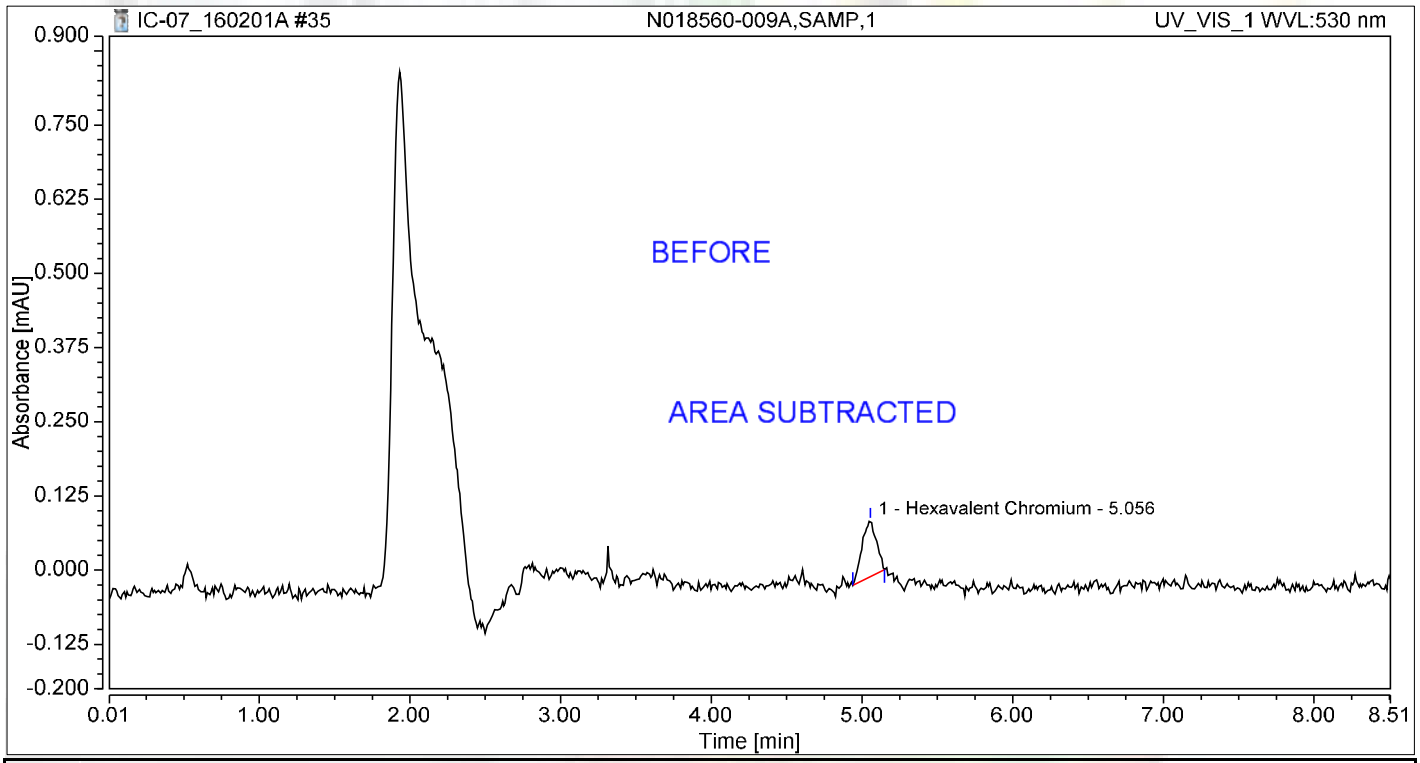
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 15:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.010	0.094	100.00	100.00	0.0435
Total:			**0.010**	**0.094**	**100.00**	**100.00**	

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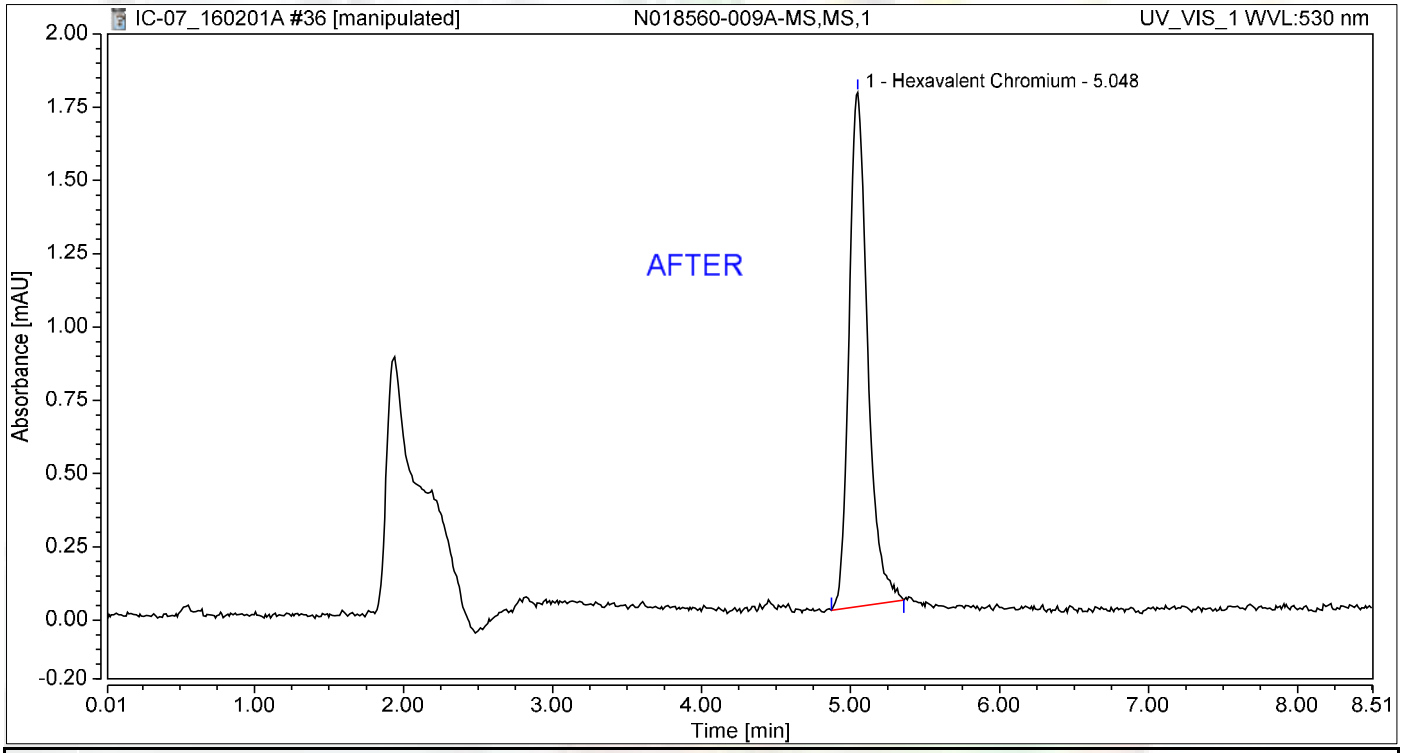
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.253	1.754	100.00	100.00	1.0480
Total:			**0.253**	**1.754**	**100.00**	**100.00**	

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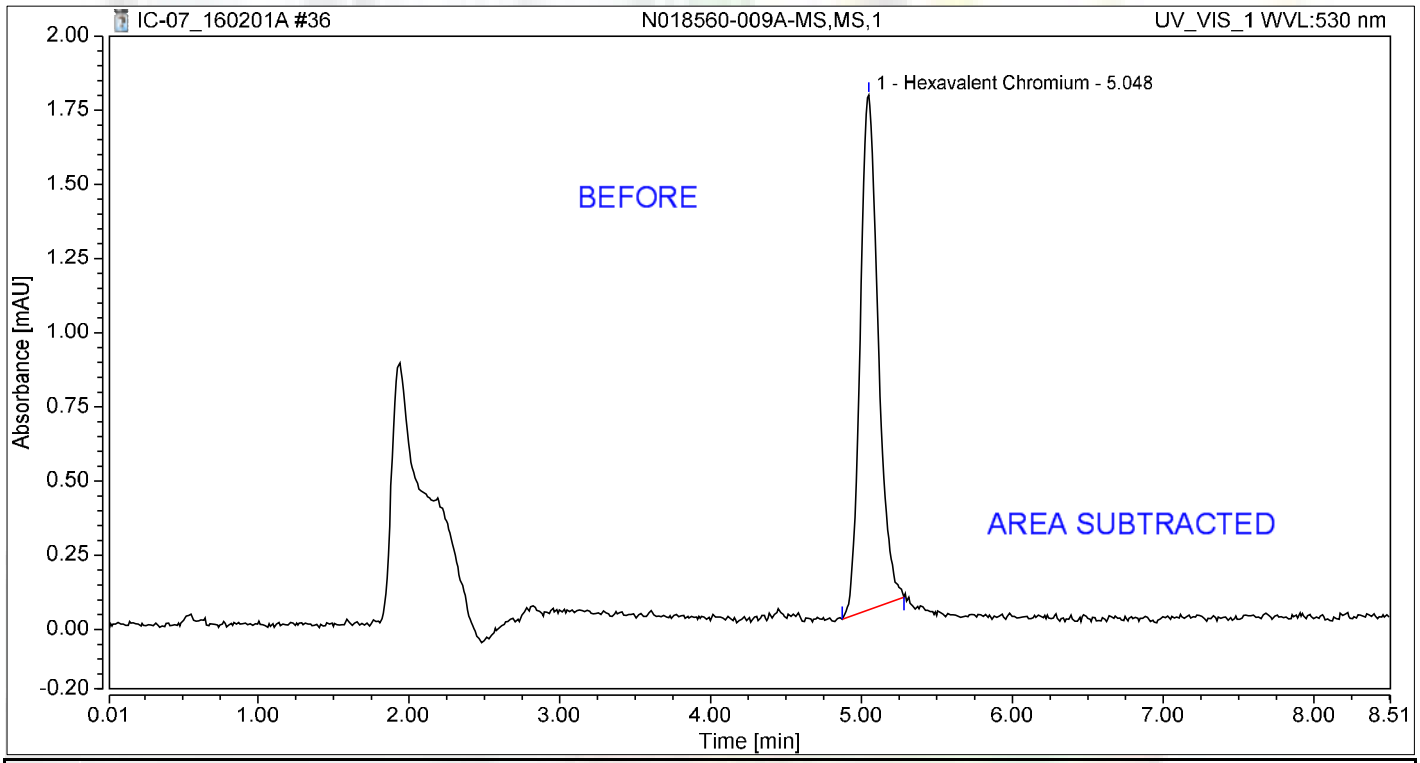
Chromatogram and Results

Injection Details

Injection Name:	**N018560-009A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.241	1.735	100.00	100.00	1.0003
Total:			**0.241**	**1.735**	**100.00**	**100.00**	

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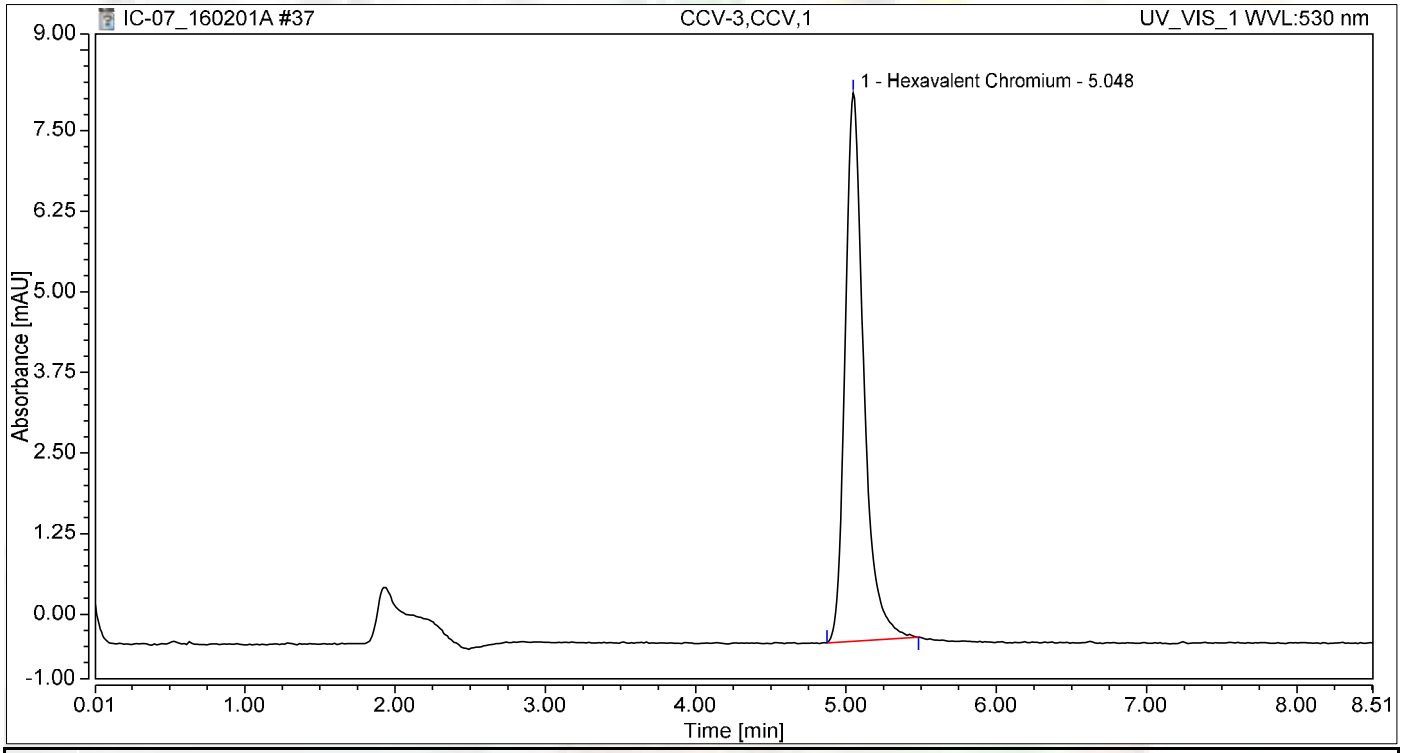
Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

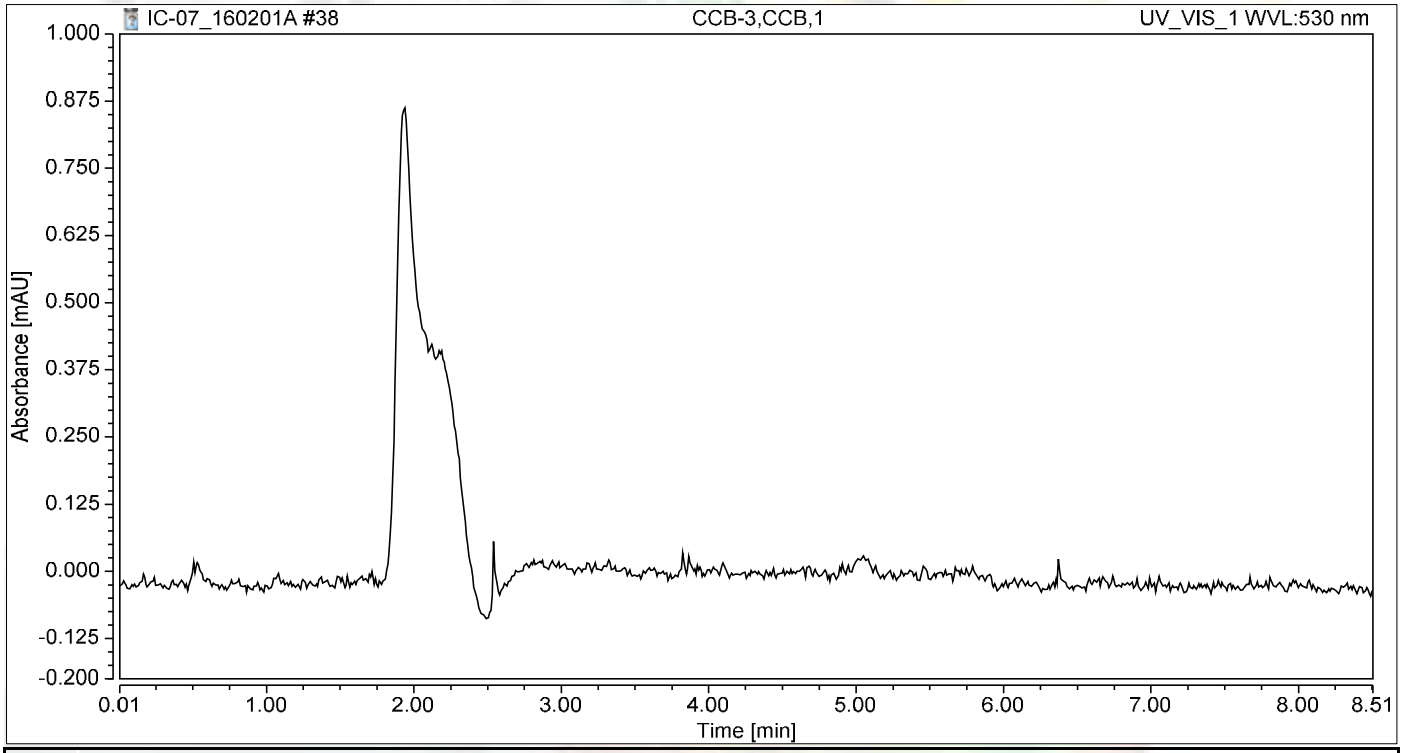
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.218	8.507	100.00	100.00	5.0517
Total:			**1.218**	**8.507**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

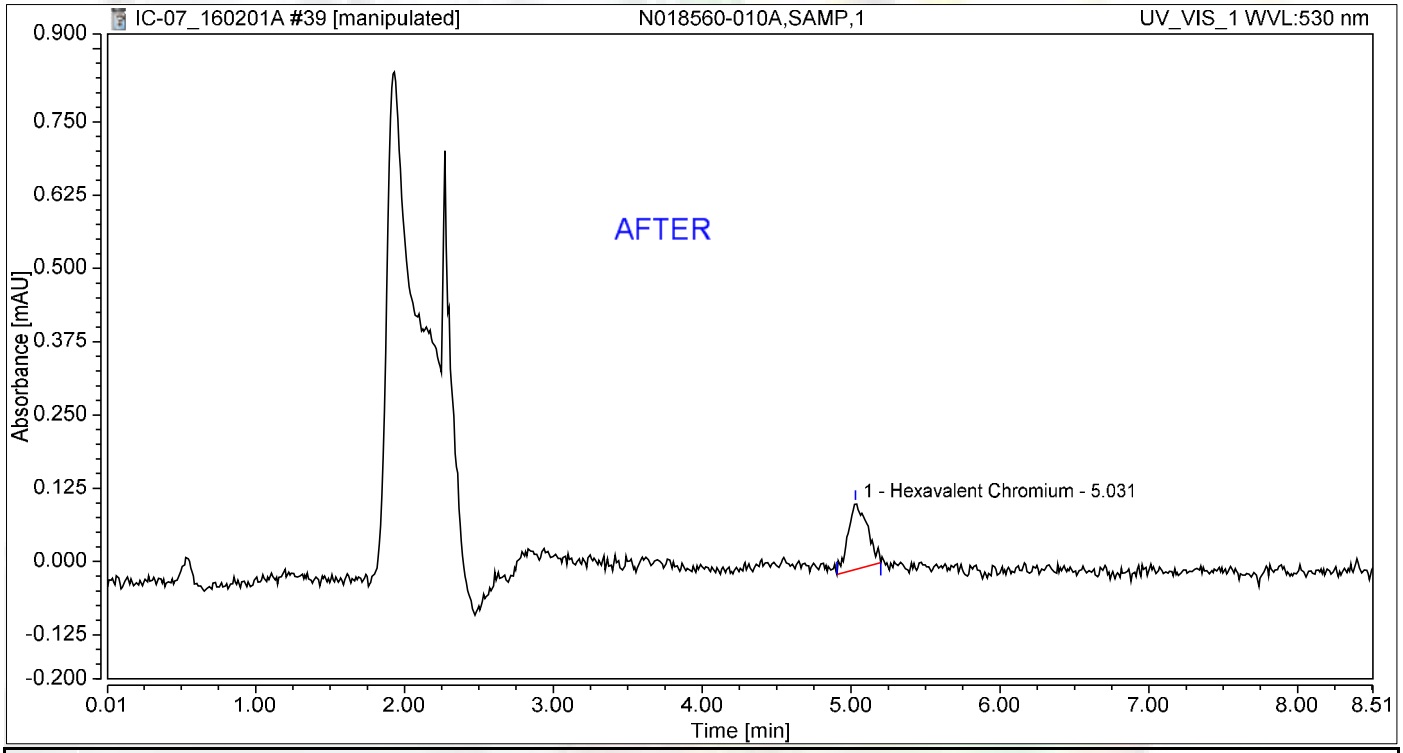
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.017	0.114	100.00	100.00	0.0699
Total:			**0.017**	**0.114**	**100.00**	**100.00**	

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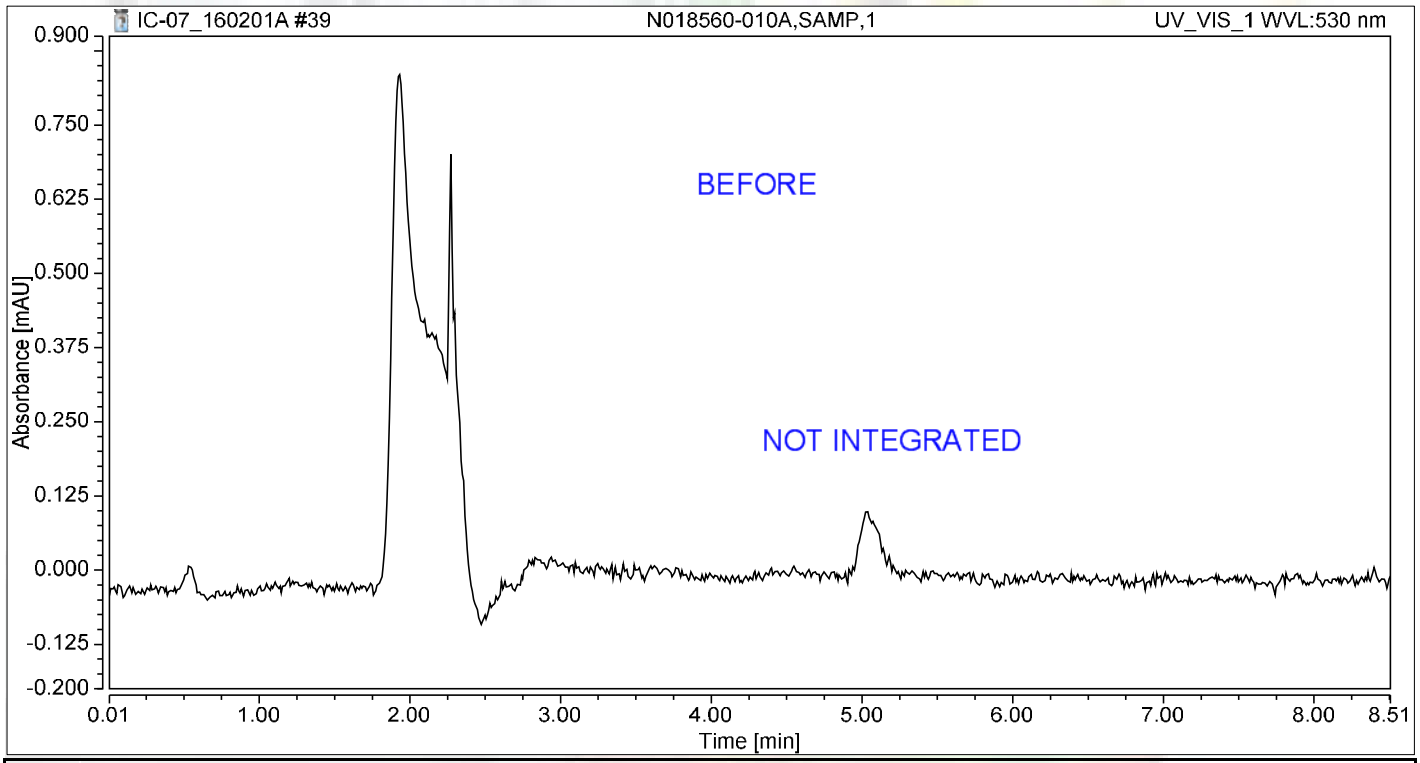
Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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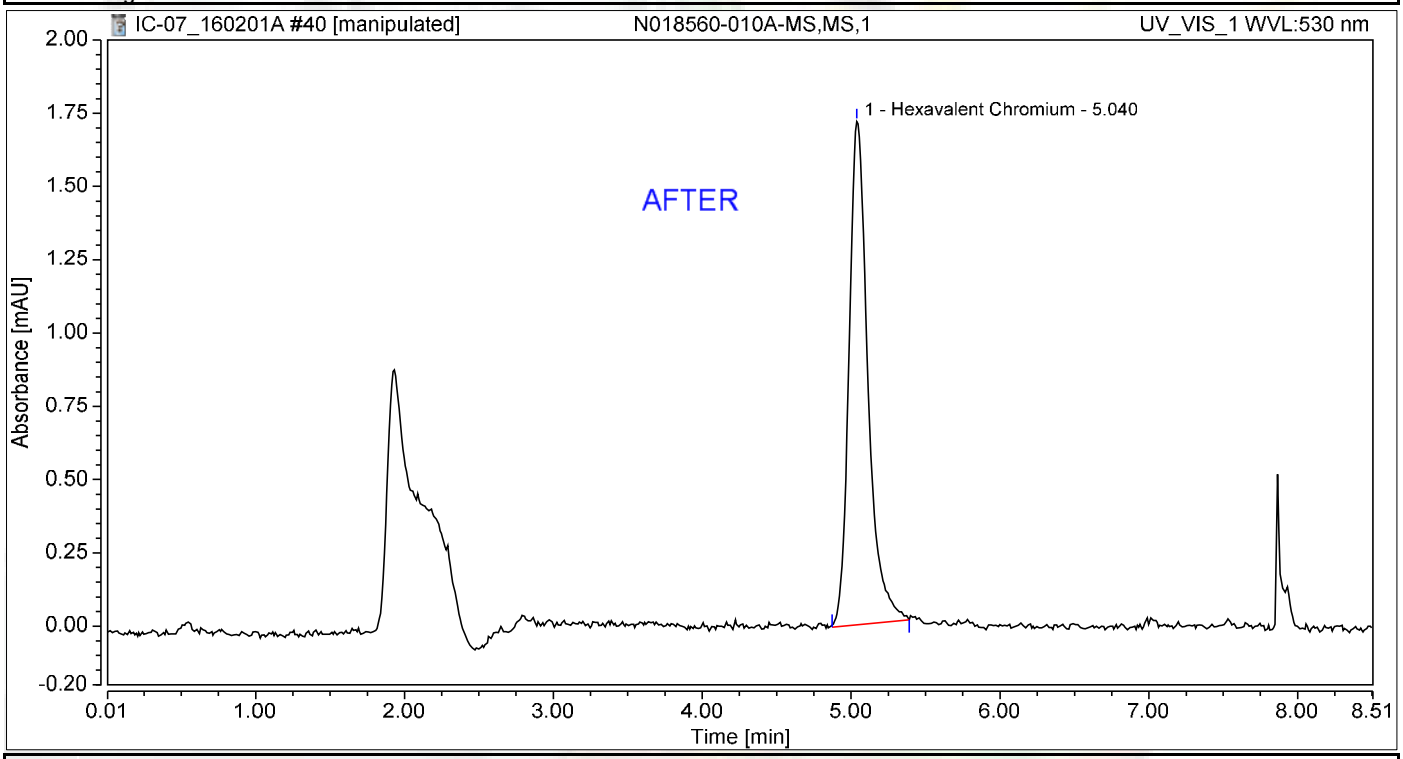
Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.251	1.717	100.00	100.00	1.0395
Total:			**0.251**	**1.717**	**100.00**	**100.00**	

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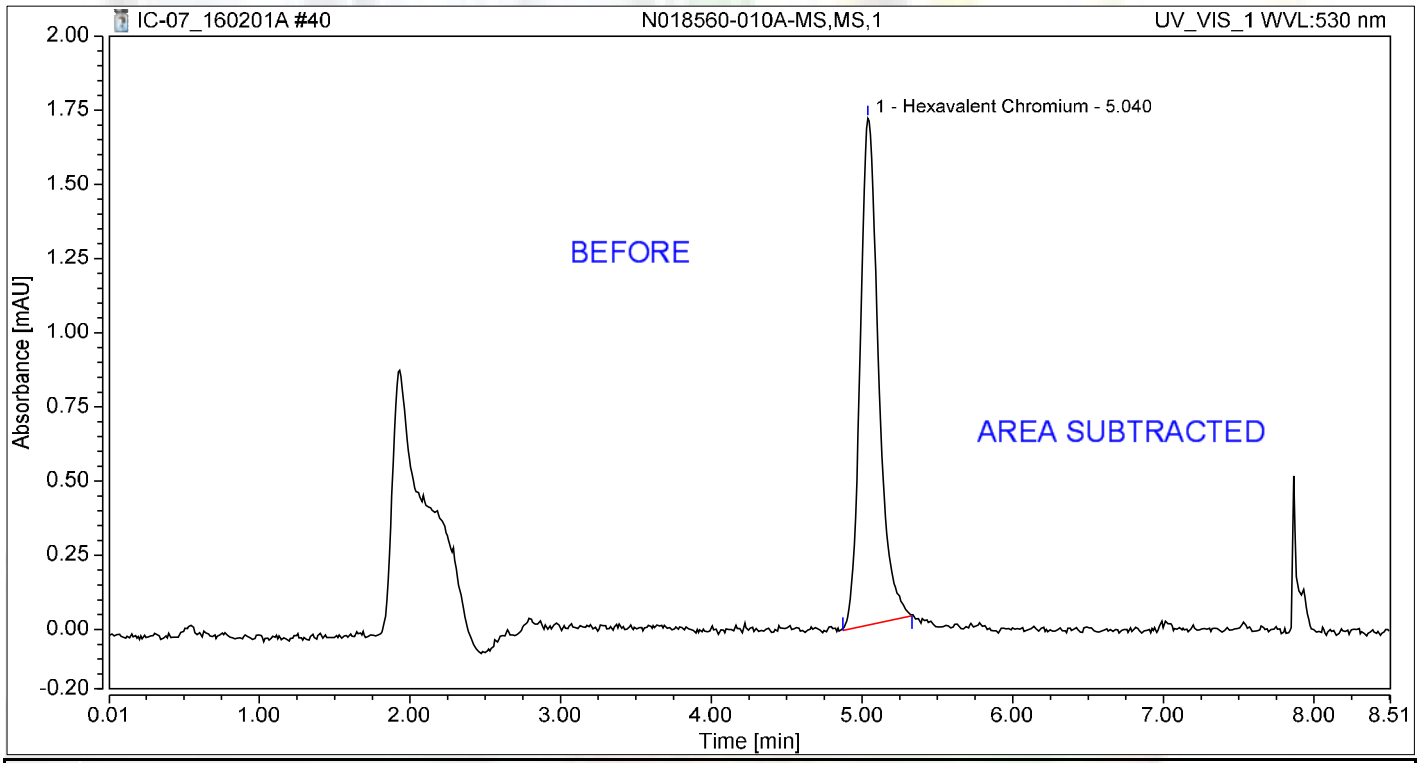
Chromatogram and Results

Injection Details

Injection Name:	**N018560-010A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.243	1.707	100.00	100.00	1.0097
Total:			**0.243**	**1.707**	**100.00**	**100.00**	

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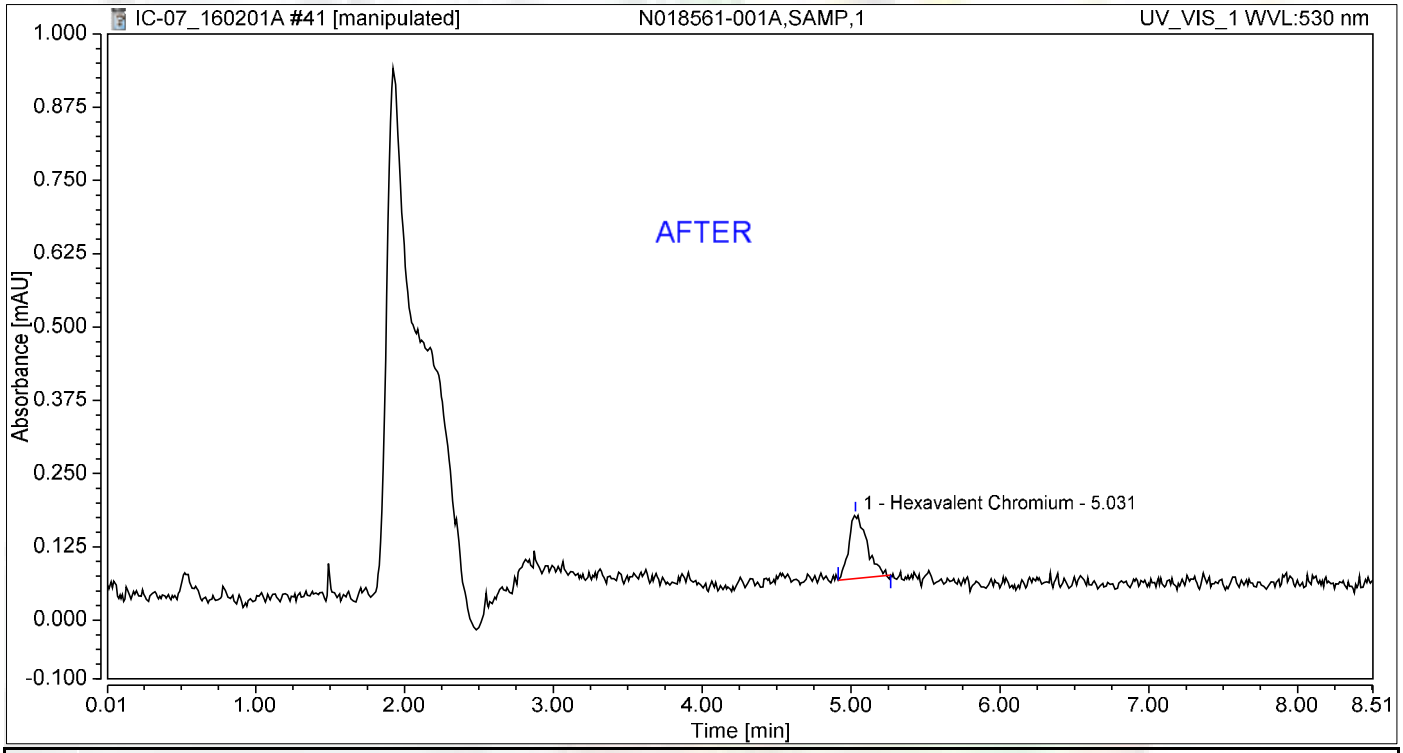
Chromatogram and Results

Injection Details

Injection Name:	**N018561-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.015	0.109	100.00	100.00	0.0630
Total:			**0.015**	**0.109**	**100.00**	**100.00**	

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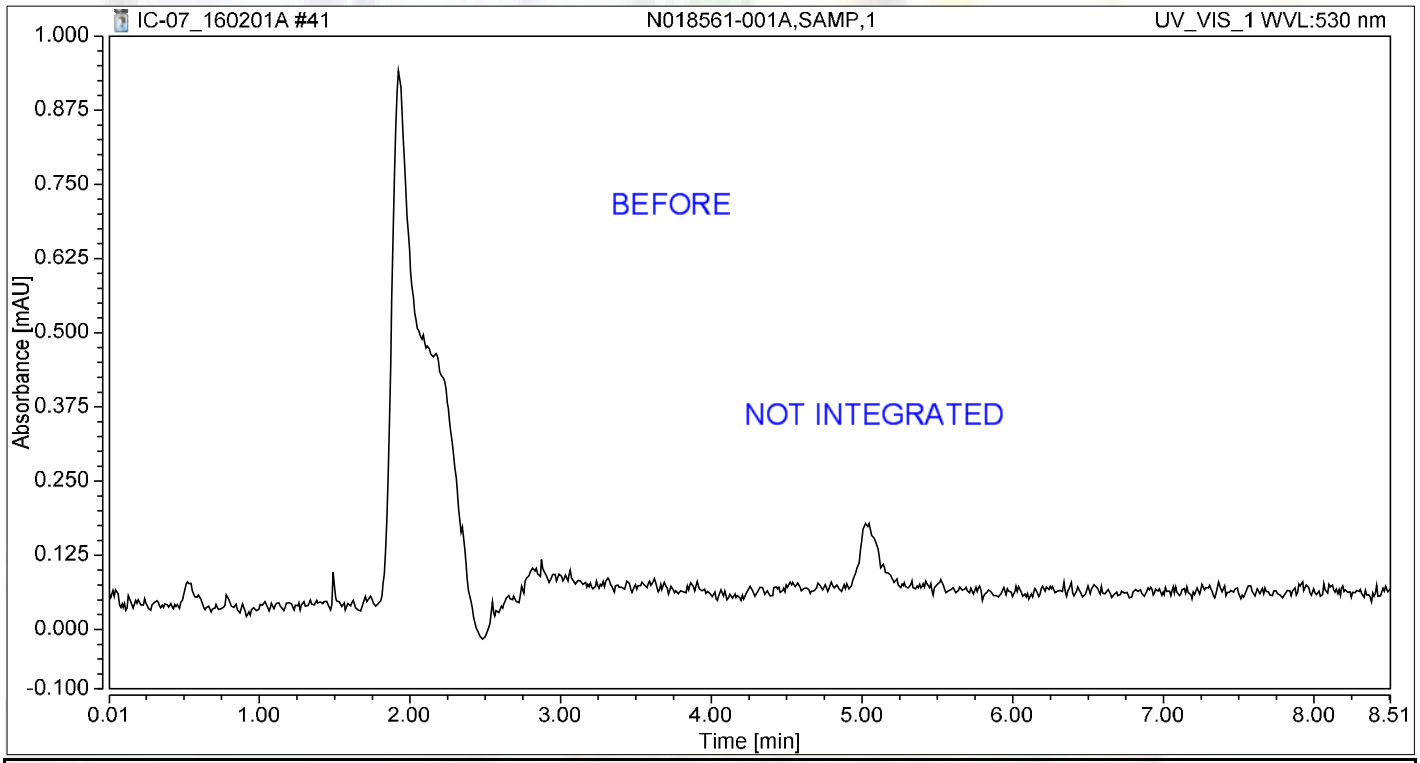
Chromatogram and Results

Injection Details

Injection Name:	**N018561-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 16:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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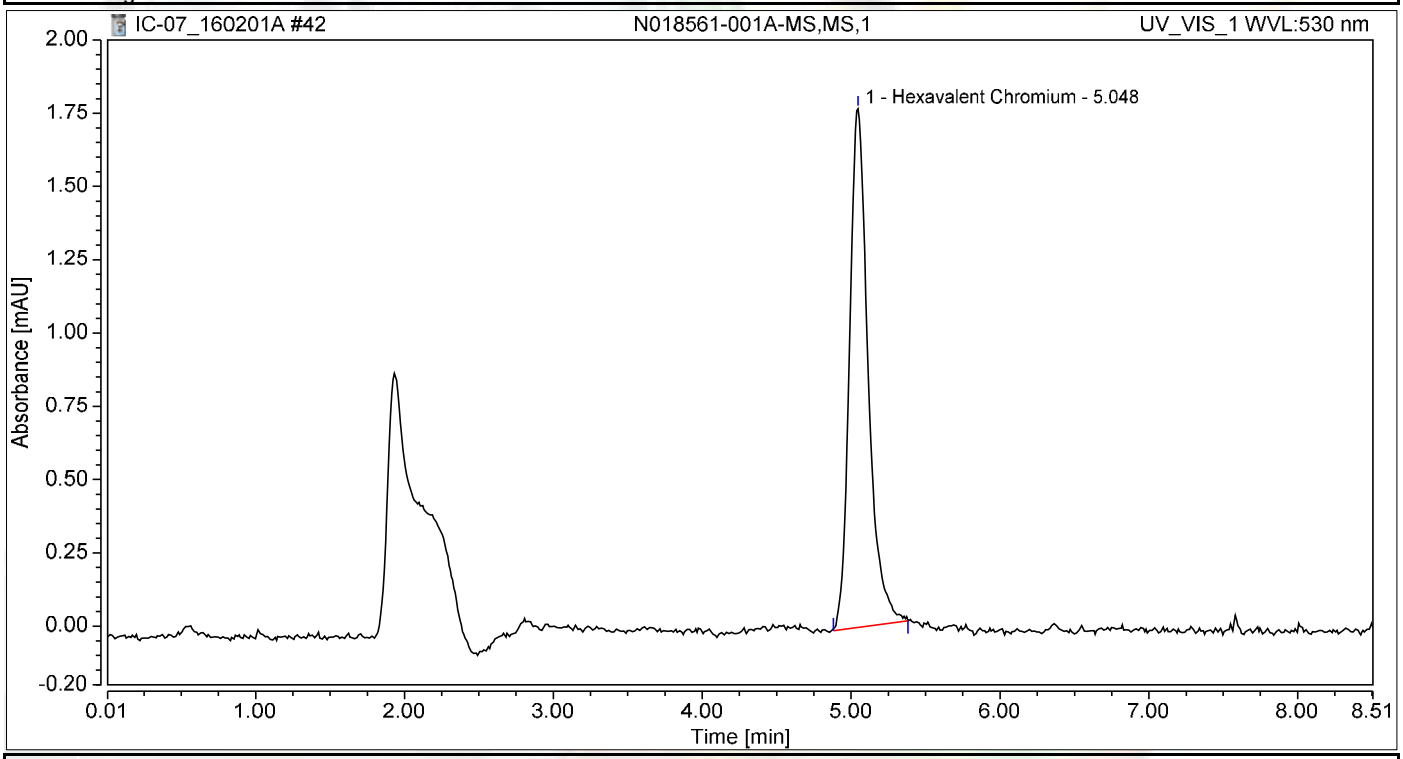
Chromatogram and Results

Injection Details

Injection Name:	**N018561-001A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

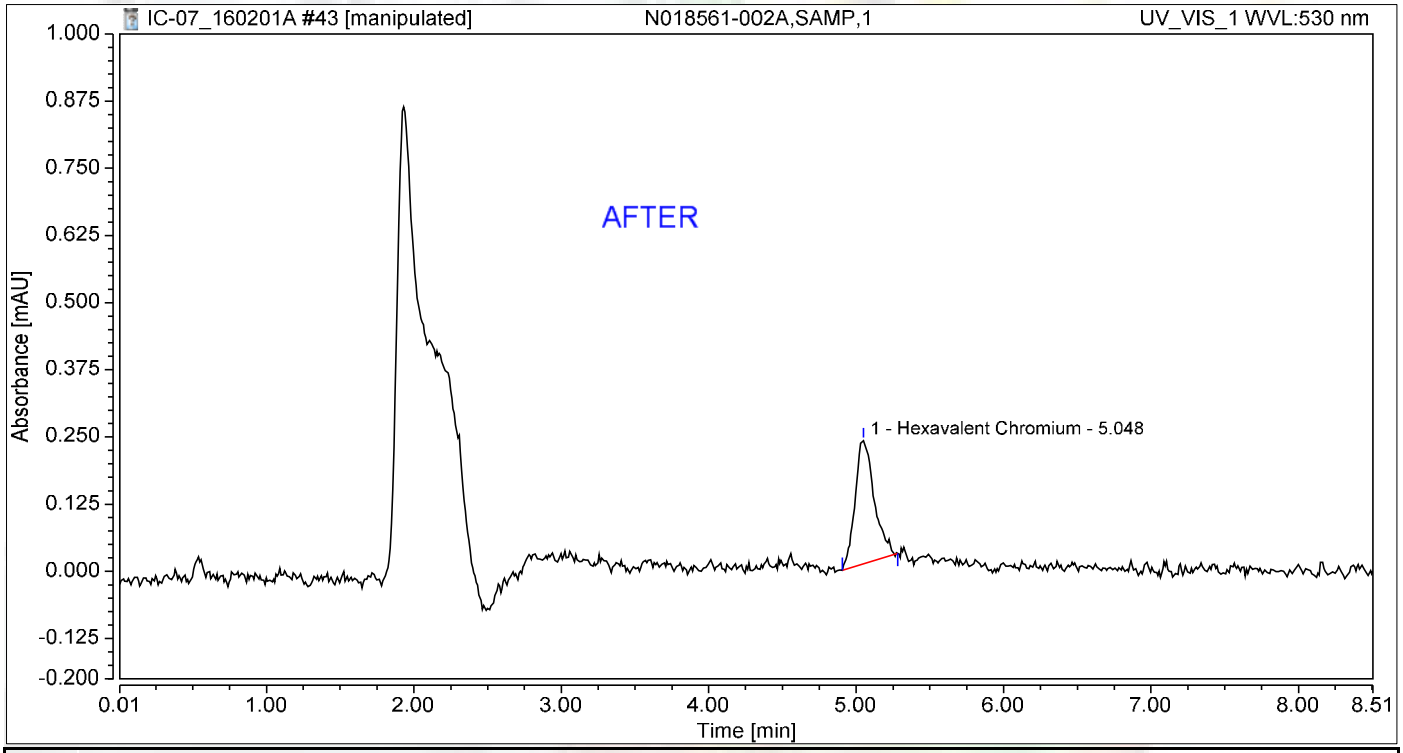
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.255	1.770	100.00	100.00	1.0557
Total:			**0.255**	**1.770**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.034	0.230	100.00	100.00	0.1426
Total:			**0.034**	**0.230**	**100.00**	**100.00**	

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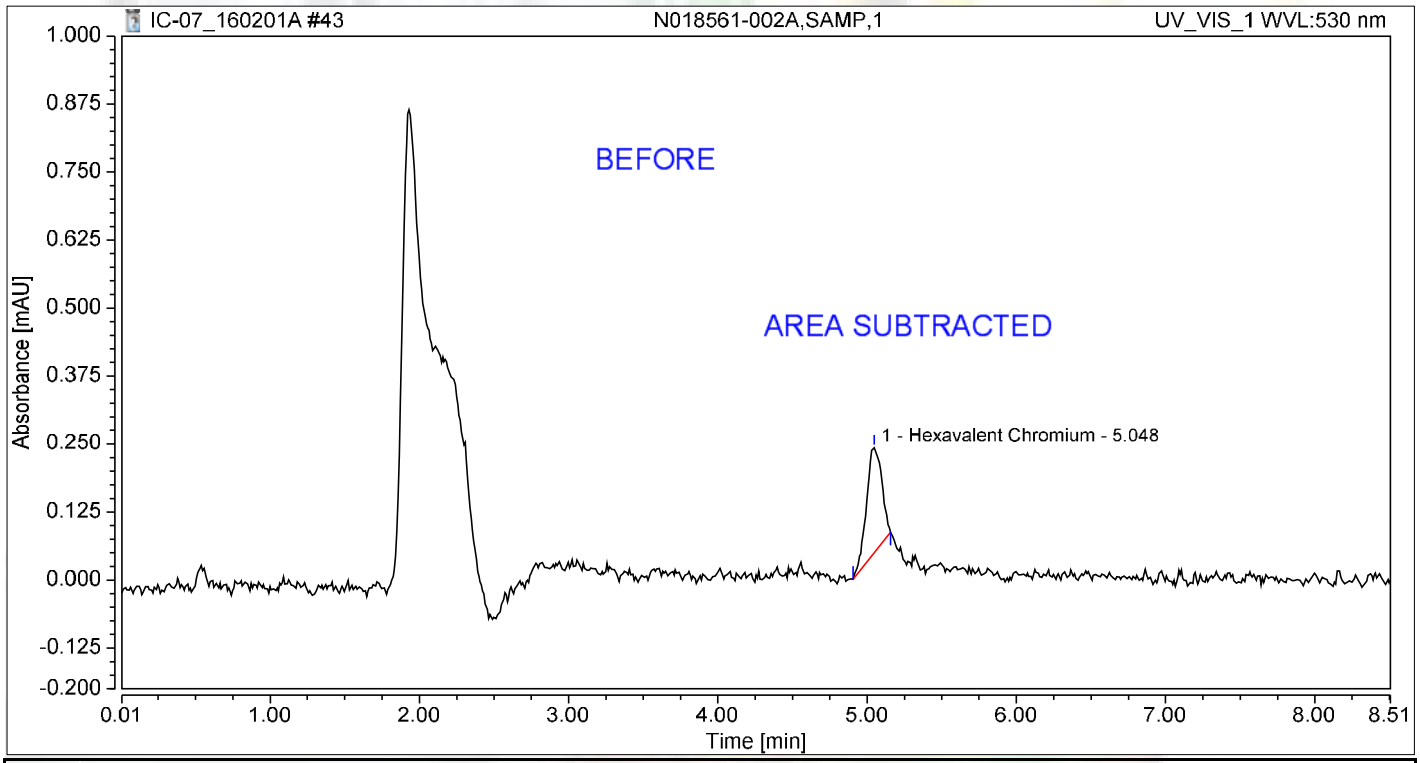
Nancy 2/11/201

Chromatogram and Results

Injection Details

Injection Name:	**N018561-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.023	0.193	100.00	100.00	0.0952
Total:			**0.023**	**0.193**	**100.00**	**100.00**	

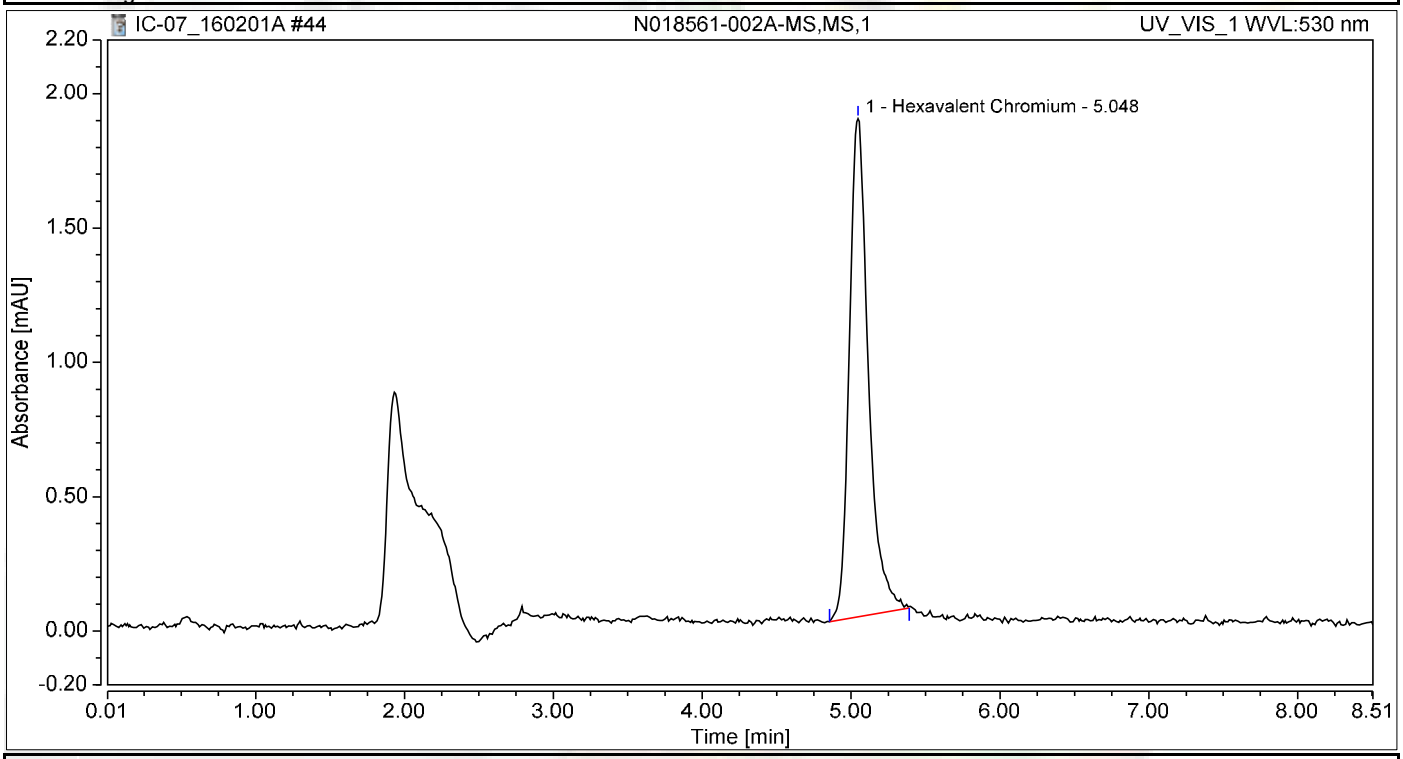
Reb 2/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018561-002A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

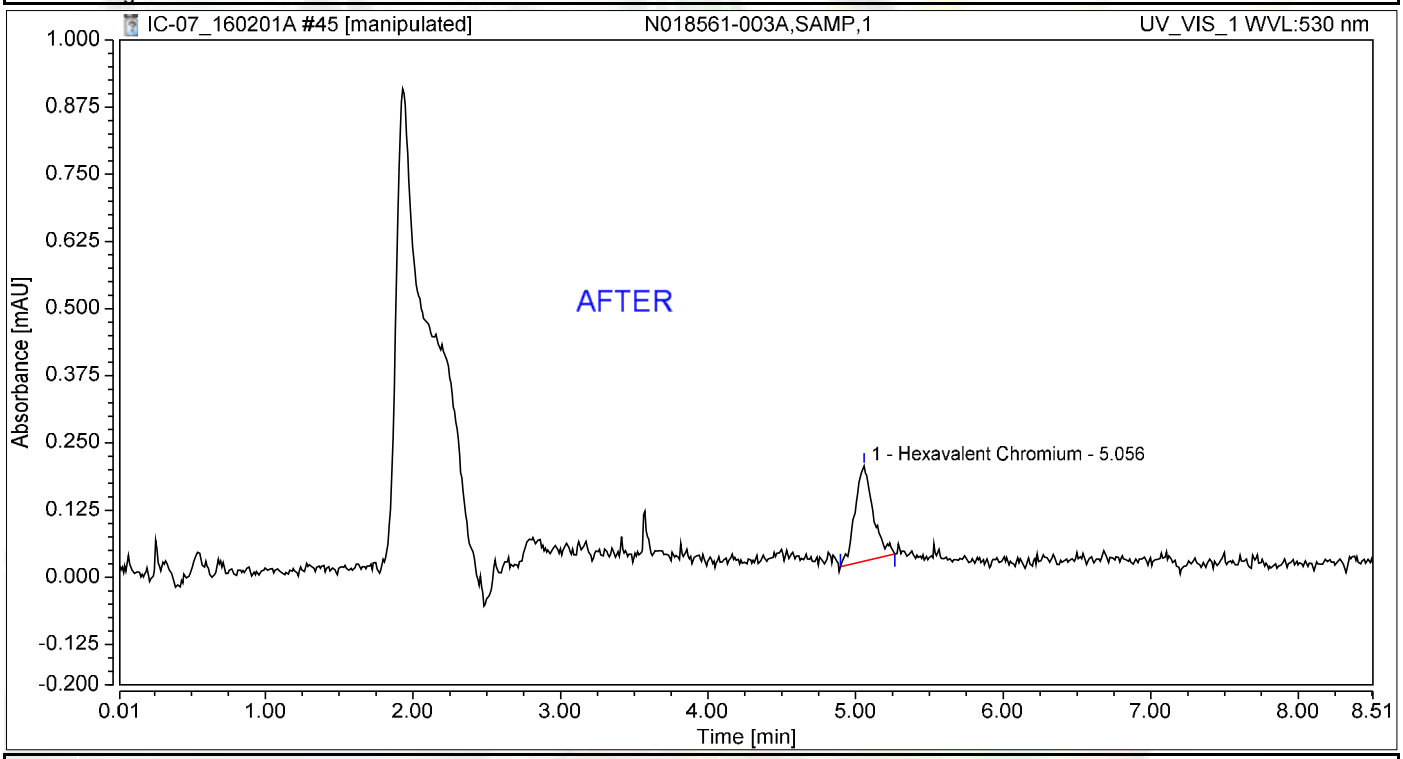
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.273	1.855	100.00	100.00	1.1326
Total:			**0.273**	**1.855**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.025	0.178	100.00	100.00	0.1041
Total:			**0.025**	**0.178**	**100.00**	**100.00**	

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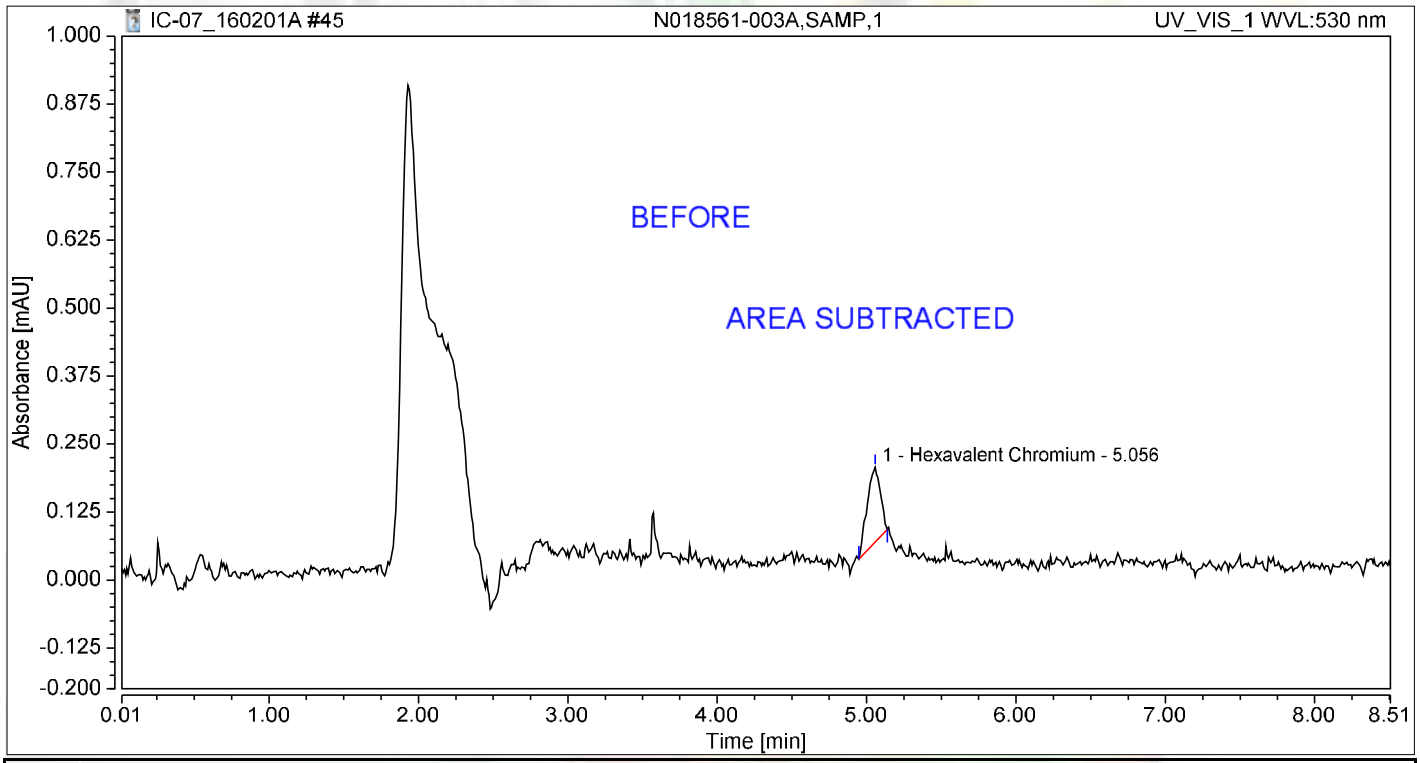
Chromatogram and Results

Injection Details

Injection Name:	**N018561-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.014	0.138	100.00	100.00	0.0584
Total:			**0.014**	**0.138**	**100.00**	**100.00**	

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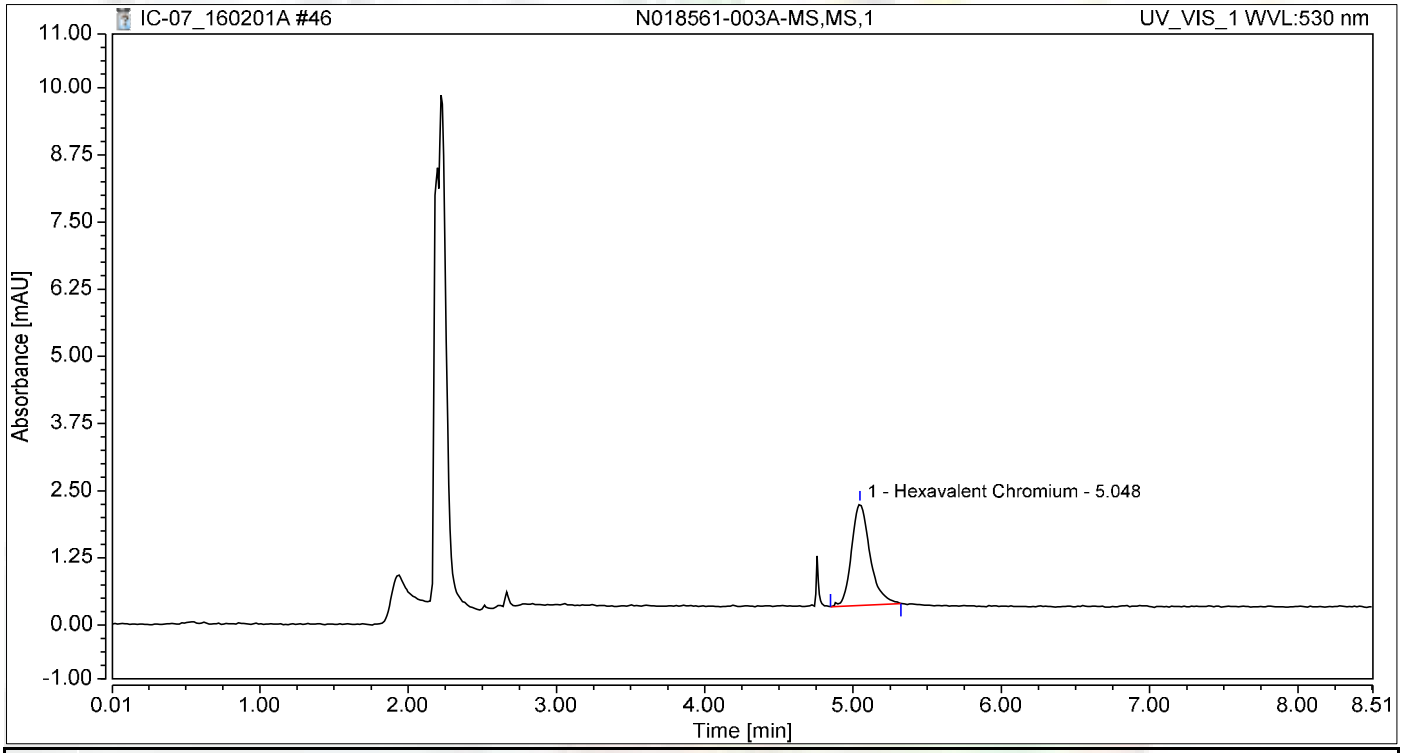
Chromatogram and Results

Injection Details

Injection Name:	**N018561-003A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

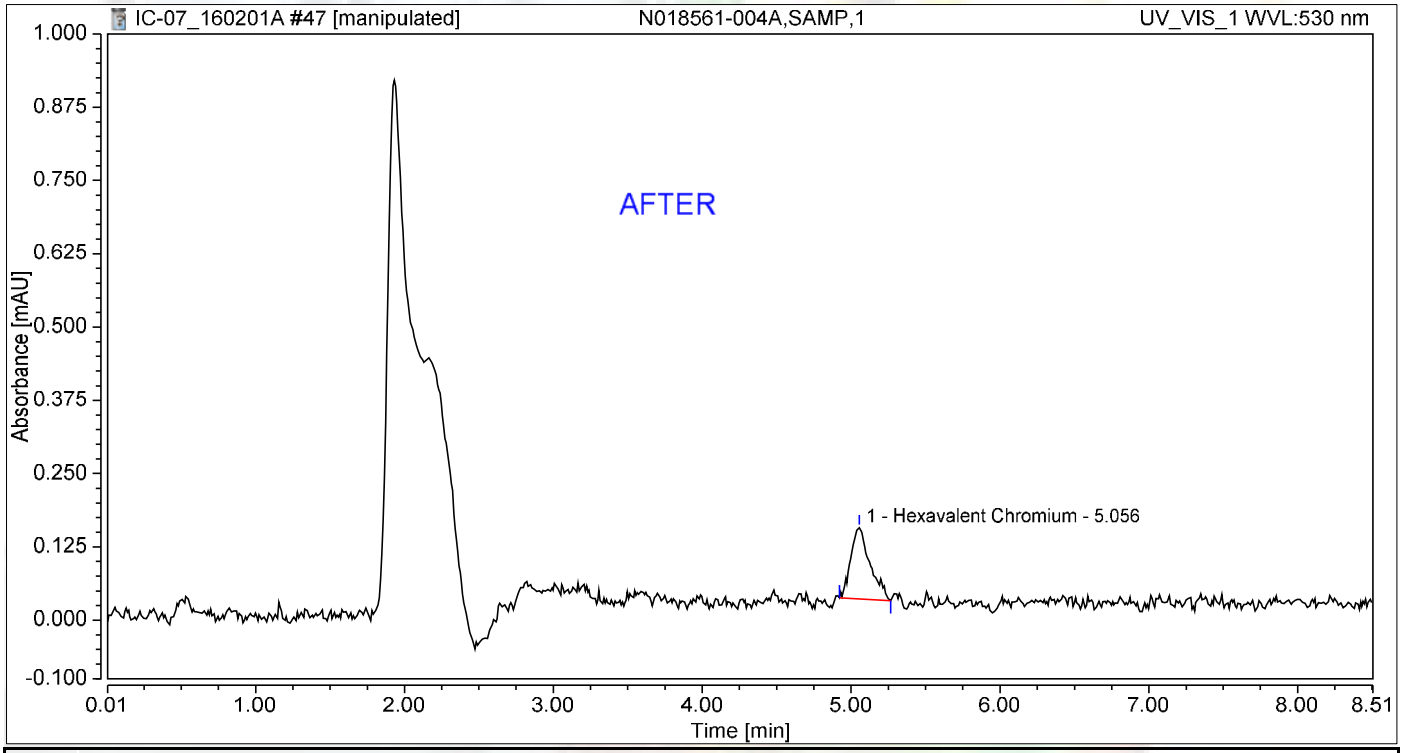
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.270	1.890	100.00	100.00	1.1190
Total:			**0.270**	**1.890**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.018	0.121	100.00	100.00	0.0746
Total:			**0.018**	**0.121**	**100.00**	**100.00**	

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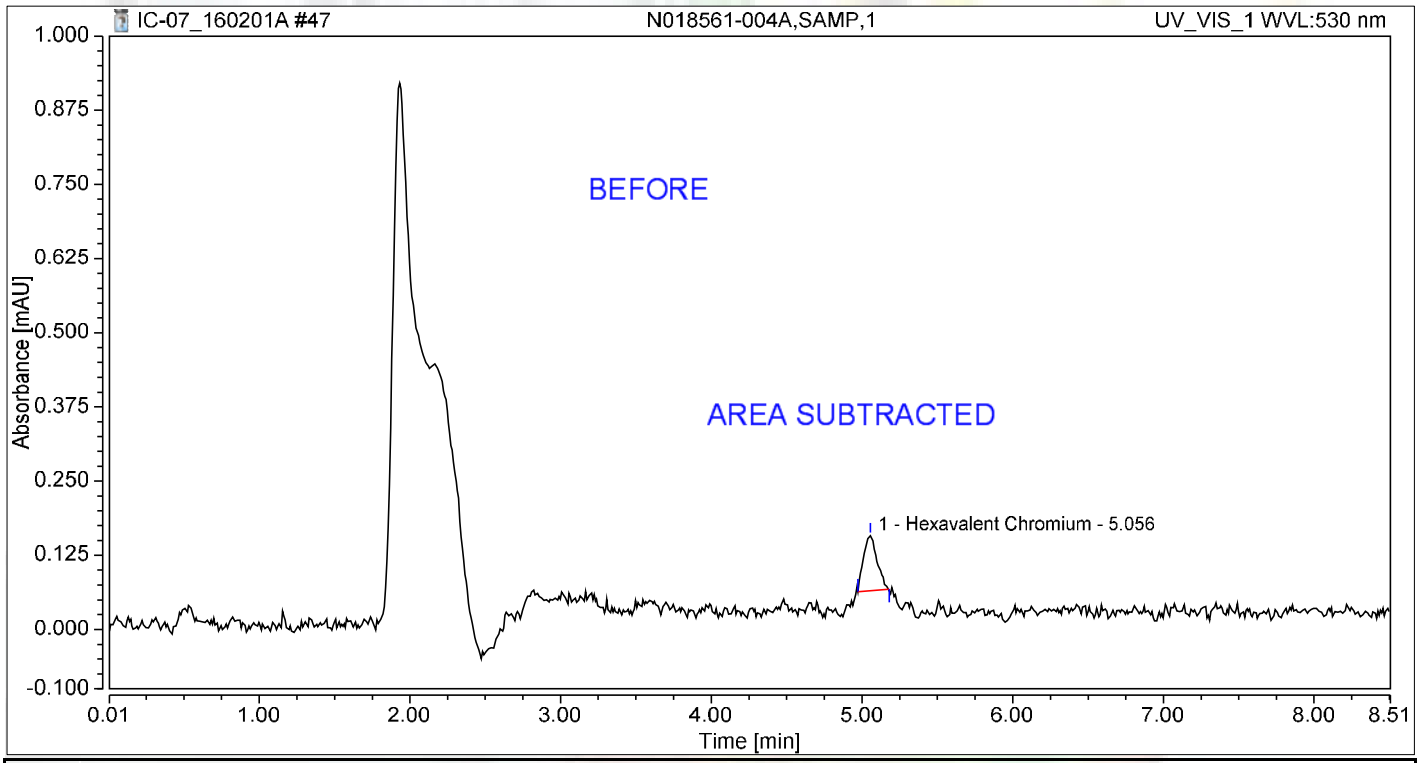
Chromatogram and Results

Injection Details

Injection Name:	**N018561-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 17:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.010	0.092	100.00	100.00	0.0400
Total:			**0.010**	**0.092**	**100.00**	**100.00**	

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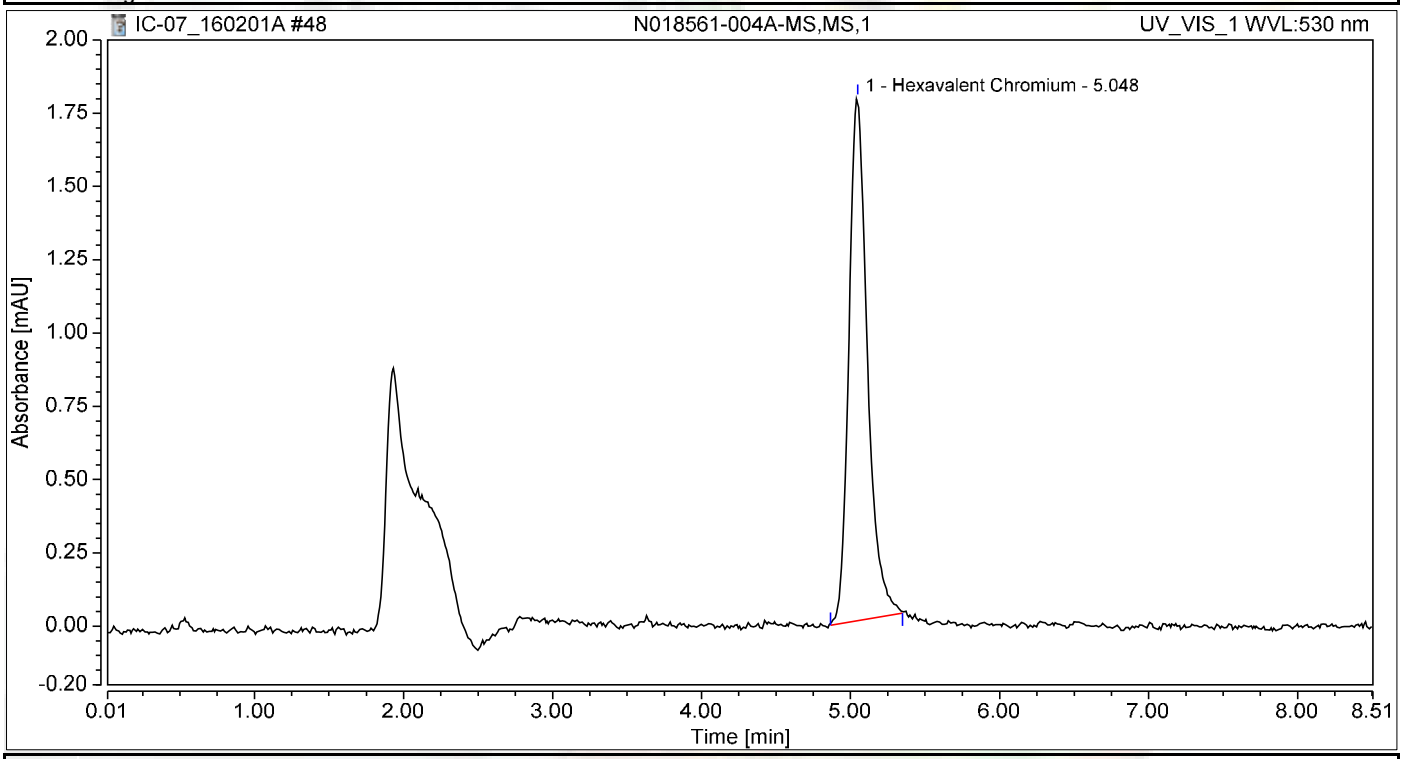
Chromatogram and Results

Injection Details

Injection Name:	**N018561-004A-MS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

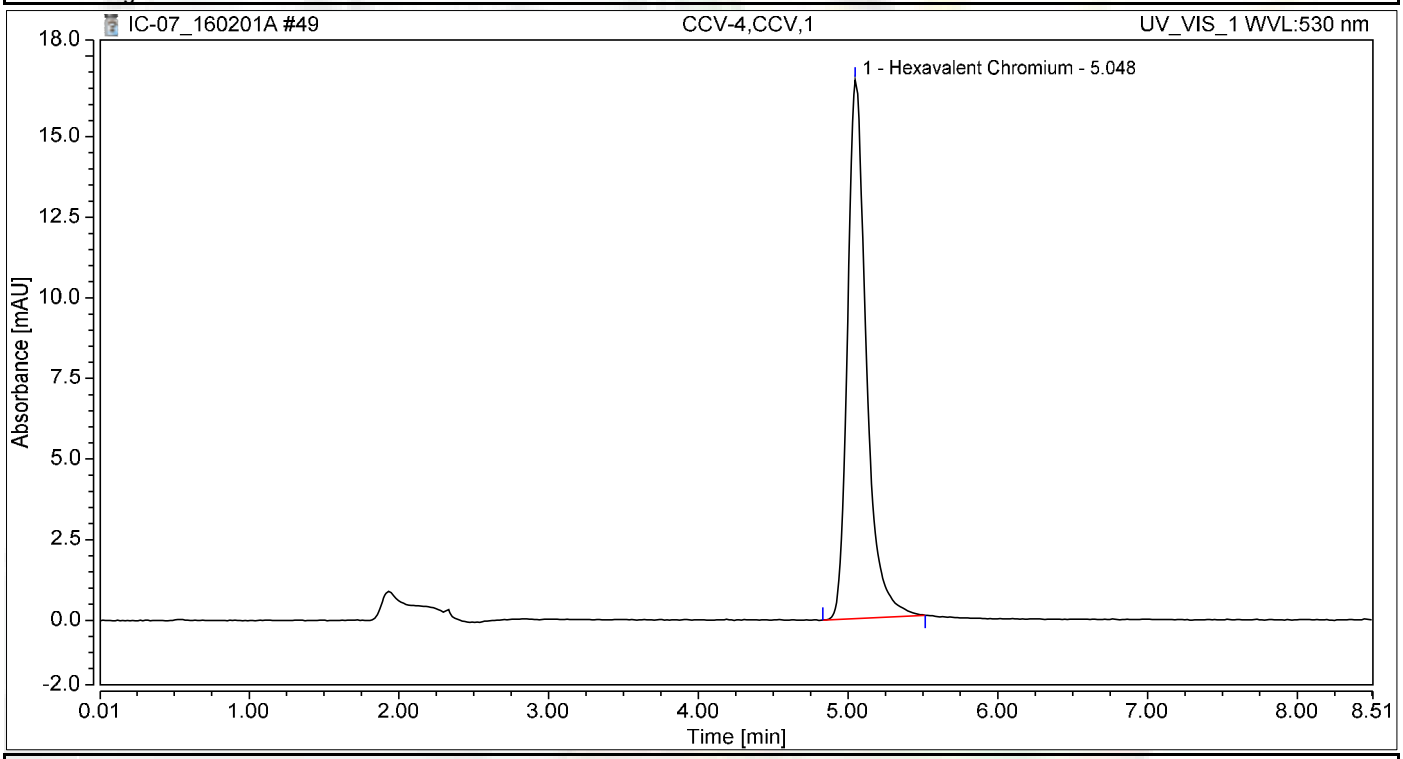
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.256	1.785	100.00	100.00	1.0604
Total:			**0.256**	**1.785**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

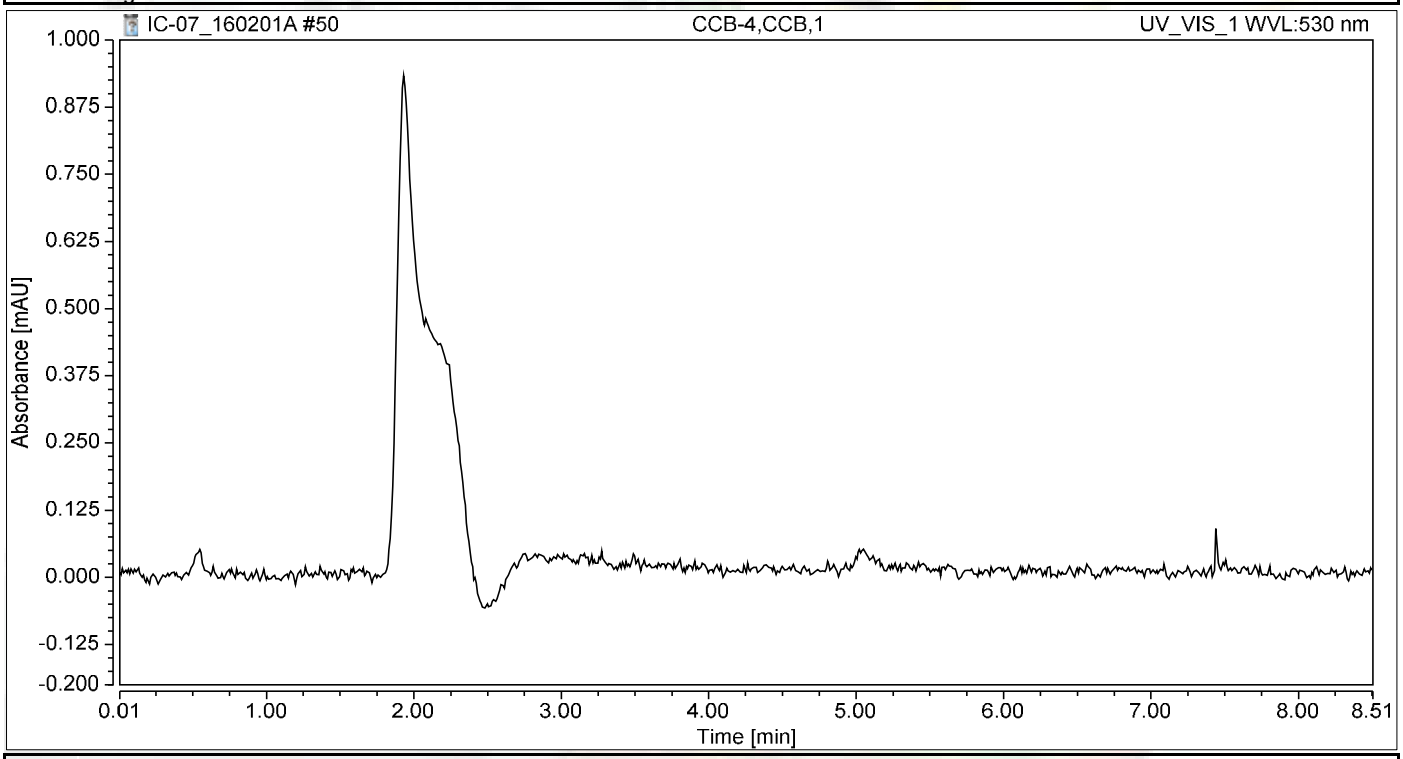
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	2.424	16.704	100.00	100.00	10.0521
Total:			**2.424**	**16.704**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

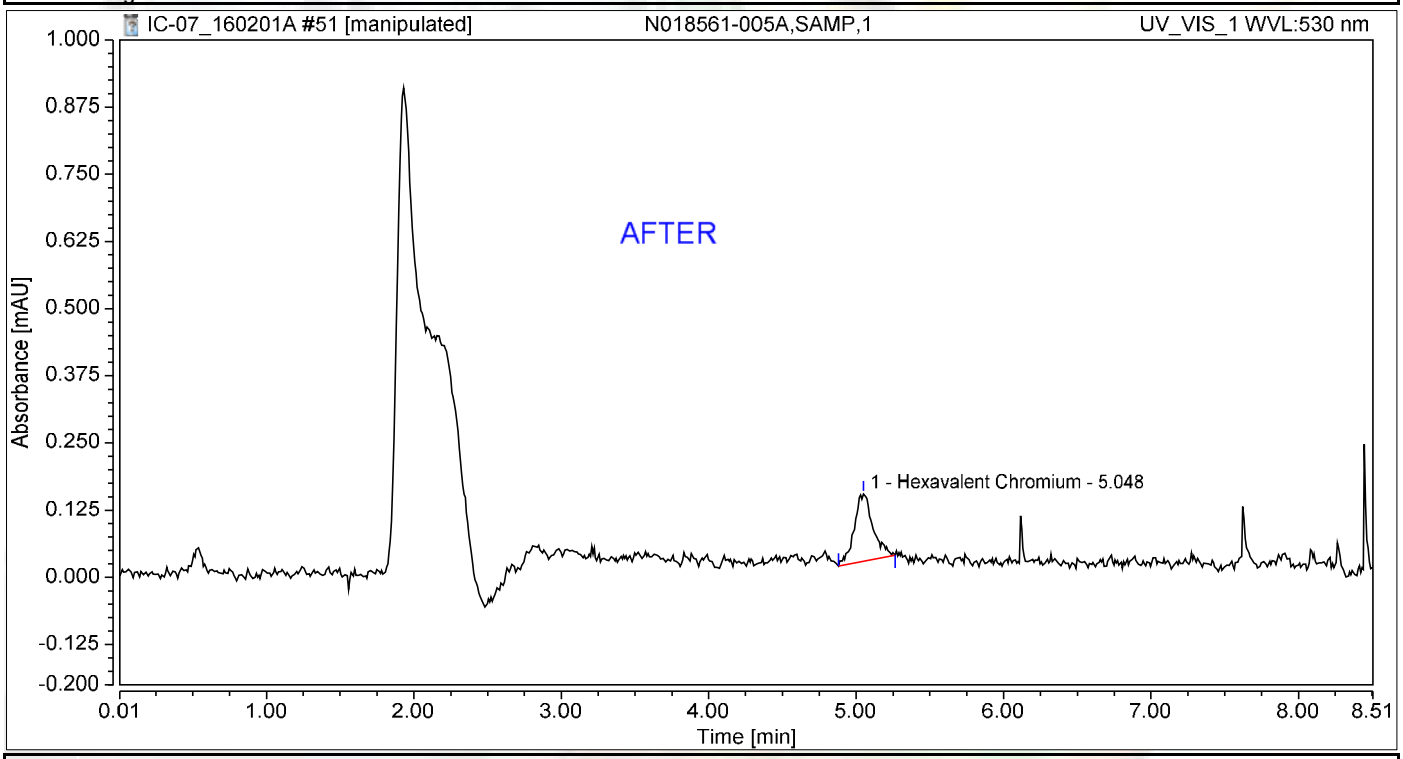
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018561-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.018	0.125	100.00	100.00	0.0760
Total:			**0.018**	**0.125**	**100.00**	**100.00**	

Nancy 2/11/201

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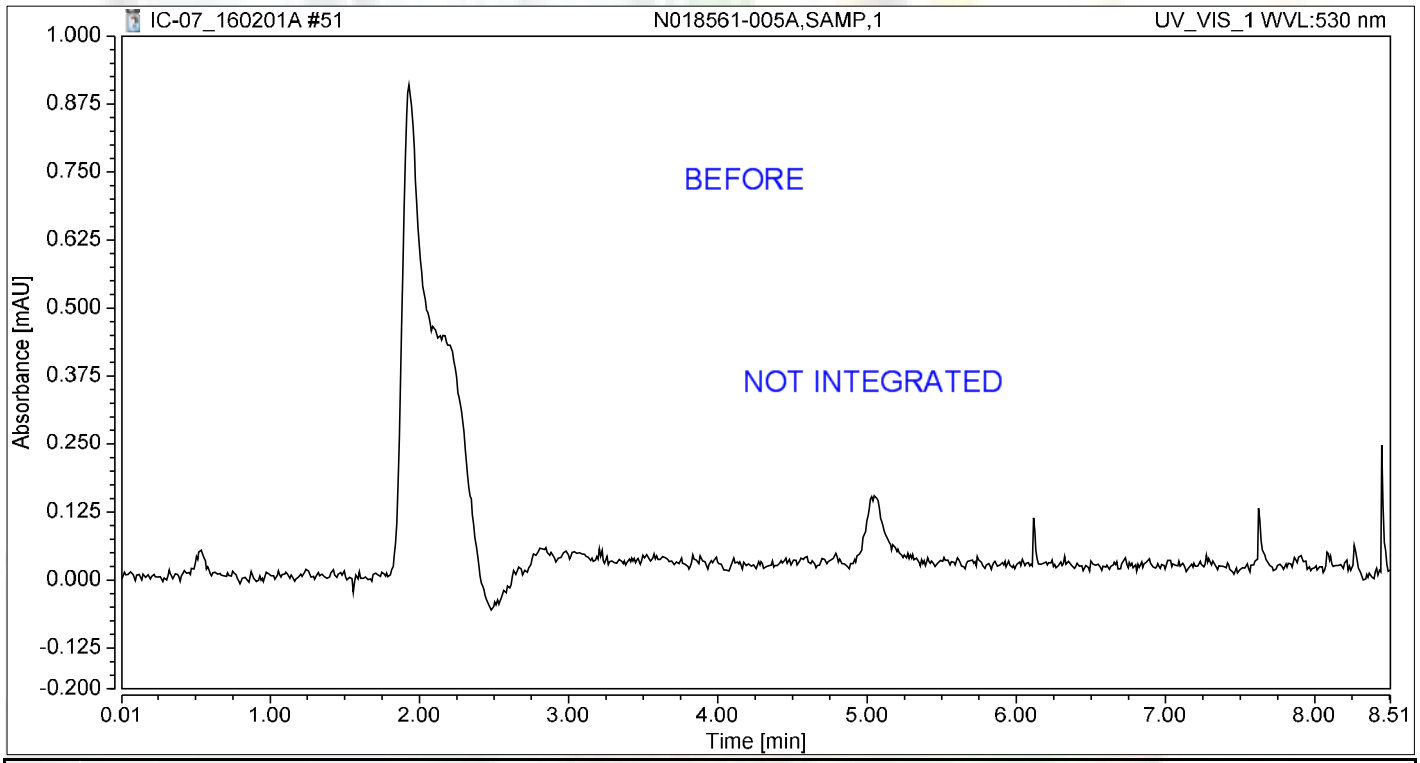
Chromatogram and Results

Injection Details

Injection Name:	**N018561-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

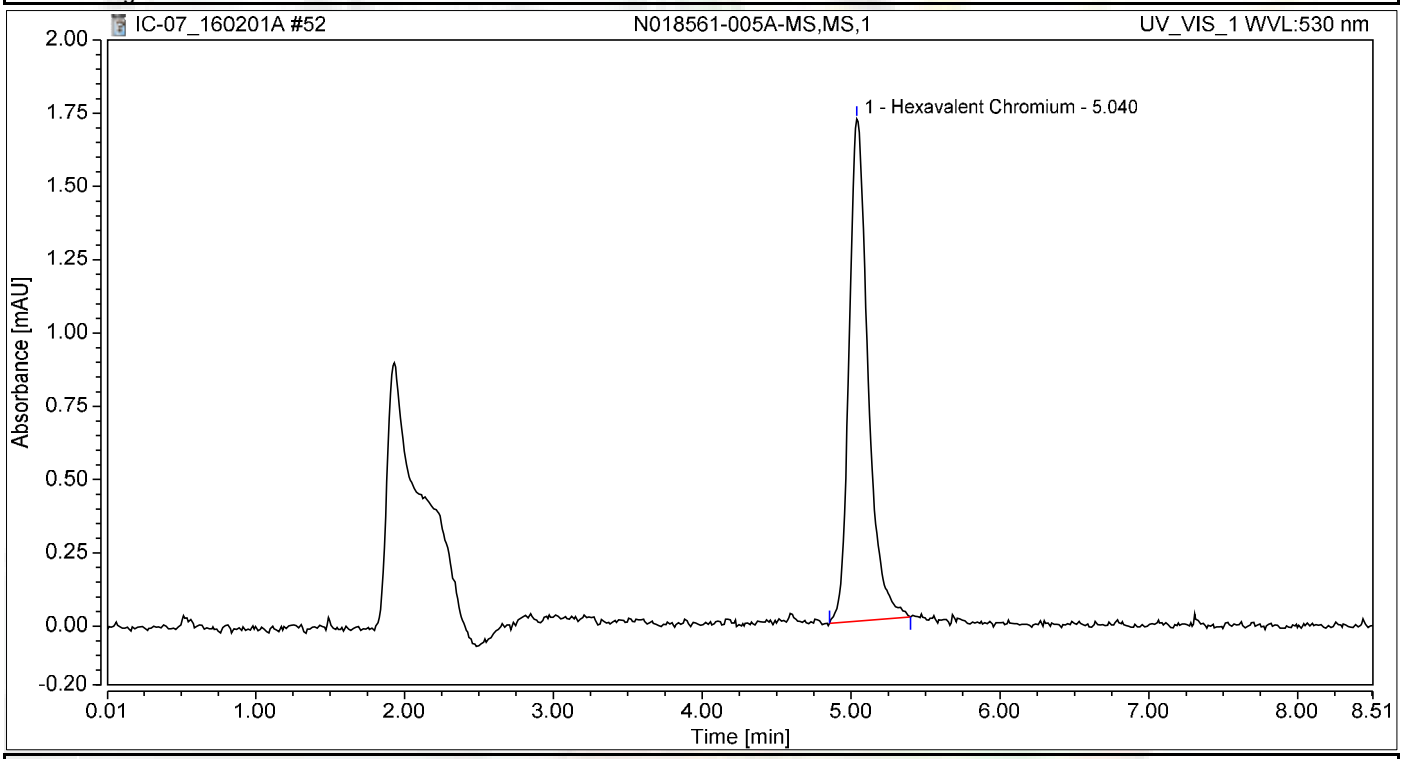
Reb 2/11/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018561-005A-MS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

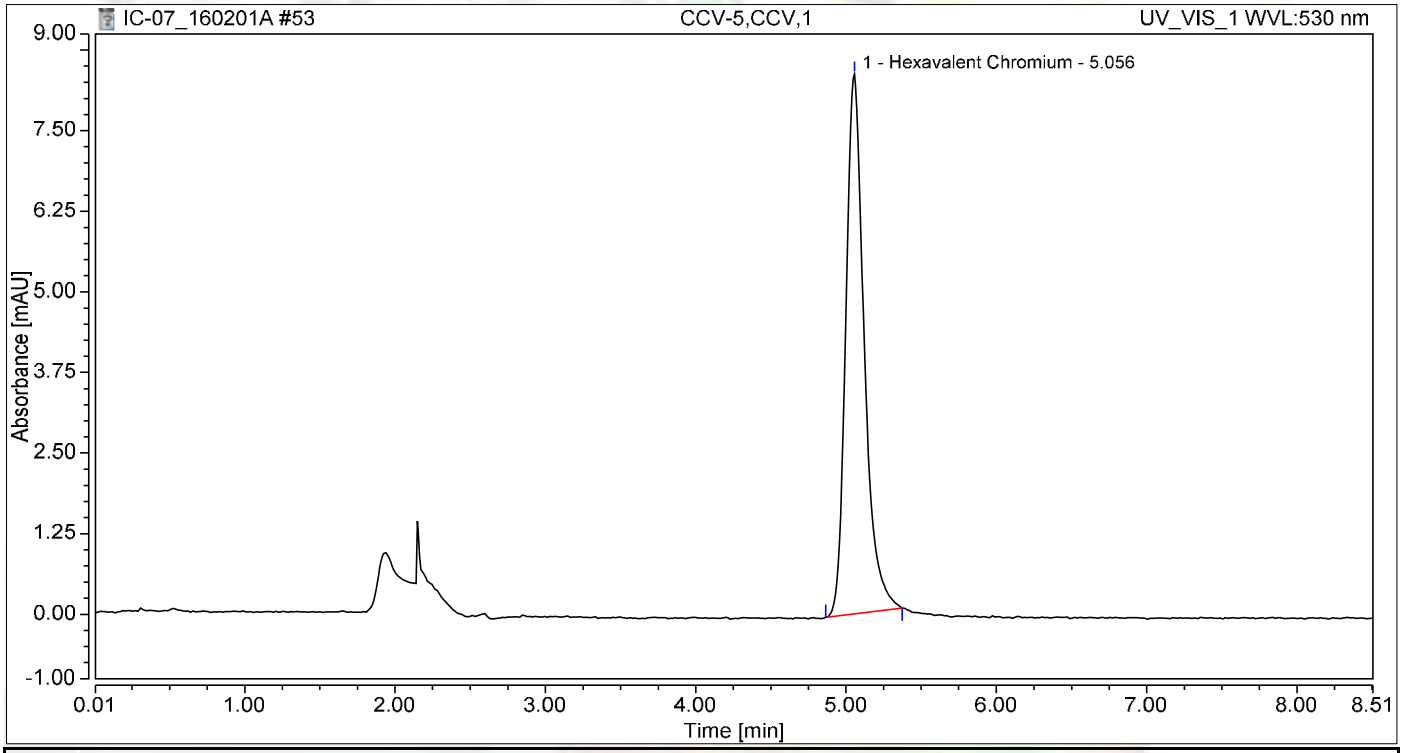
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.714	100.00	100.00	1.0446
Total:			**0.252**	**1.714**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

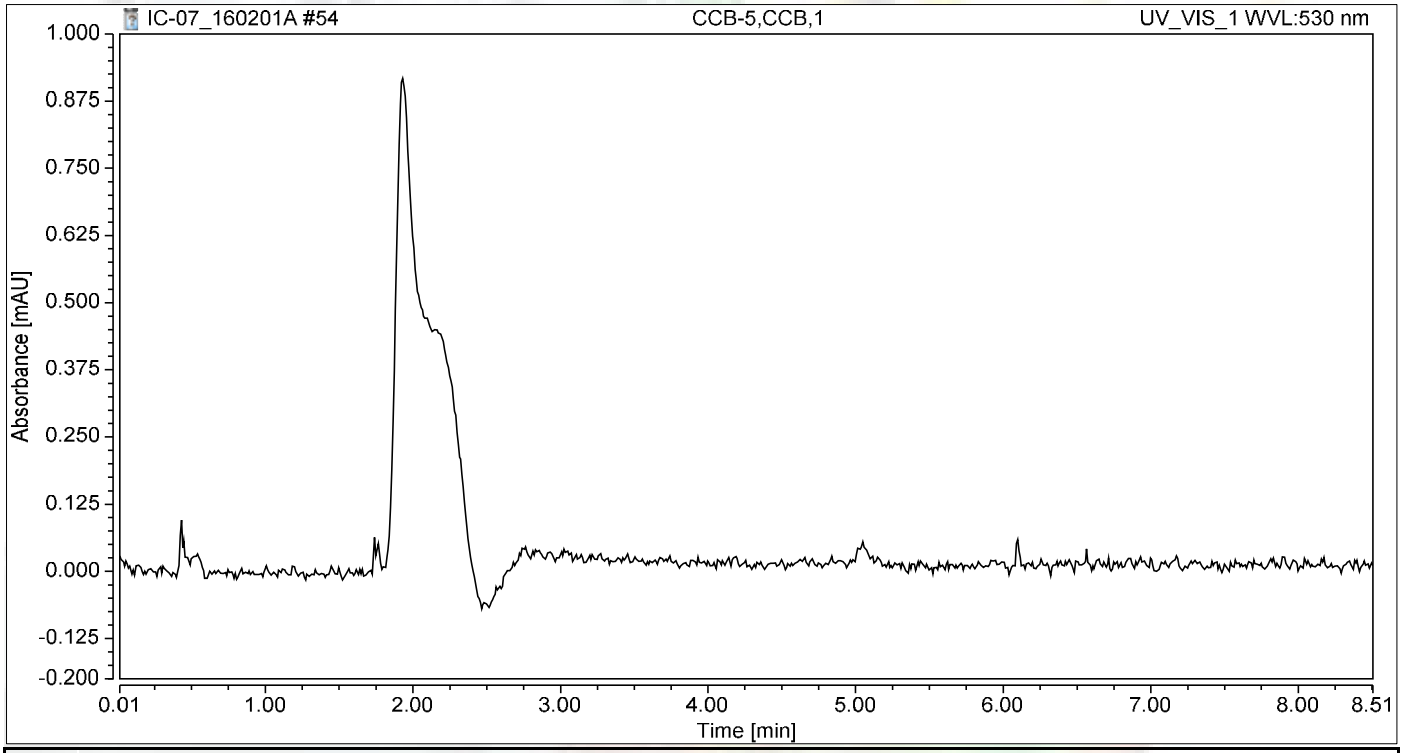
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.181	8.363	100.00	100.00	4.8960
Total:			**1.181**	**8.363**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Feb/16 18:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105800 **Analyst:** REB

ASSET #: N018561 **Date Analyzed:** 2/10/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 2/11/2016 Date: —

2nd Level Reviewer Mary 2/11/201 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018561-004E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.4715*1

= 0.4715 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 0.47 mg/L

Reb 2/11/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

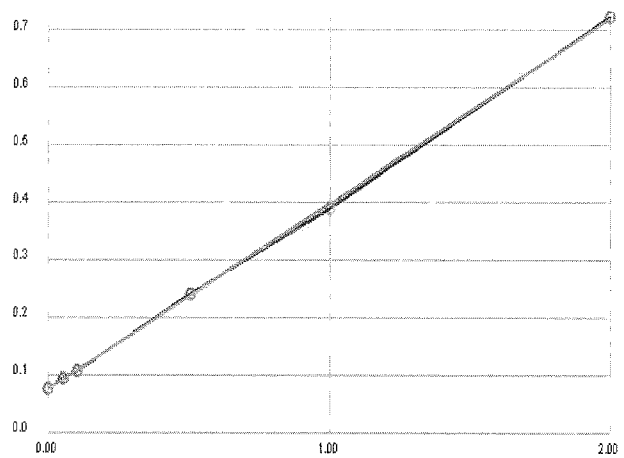
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3216x + 0.0764
Correlation	.99985



Calibrant	Energy	Set	Conc
1	0.0775	0.0000	0.0035
2	0.0933	0.0500	0.0527
3	0.1082	0.1000	0.0990
4	0.2405	0.5000	0.5104
5	0.3896	1.0000	0.9740
6	0.7229	2.0000	2.0104

Notes:

R1 Buffer - R160112D
2% CuSO4 - R160112C
R2 Colorimo R67 - R160205C
1° ISST - 150204D
2° ISST - 150730E

Reb 2/11/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ICV** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.544	0.050	0.5000	0	109	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCV** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.502	0.050	0.5000	0	100	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCV** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.466	0.050	0.5000	0	93.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **ICB** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCB** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105800**
Client ID: **CCB** Batch ID: **R105800** TestNo: **SM4500-NO3** Analysis Date: **2/10/2016** SeqNo: **2228733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 02-10-2016 18:09
Time end: 02-10-2016 20:22

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	19:52:44	-0.0021		0.0757
2	<BLANK>	19:53:39	-0.0014		0.0759
3	<CAL1>	19:54:39	0.0035	[0]	0.0775
4	<CAL2>	19:55:34	0.0527	[0.05]	0.0933
5	<CAL3>	19:56:35	0.0990	[0.1]	0.1082
6	<CAL4>	19:57:31	0.5104	[0.5]	0.2405
7	<CAL5>	19:58:31	0.9740	[1]	0.3896
8	<CAL6>	19:59:26	2.0104	[2]	0.7229
9	,BLANK,BLANK,1,	20:00:22	0.0539		0.0937
10	,ICV,ICV,1,	20:01:21	0.5443		0.2514
11	,ICB,ICB,1,	20:02:17	0.0210		0.0831
12	,MB-H2O,MBLK,1,	20:03:18	0.0135		0.0807
13	,LCS-H2O,LCS,1,	20:04:14	0.5157		0.2422
14	,N018560-002E,SAMP,1,	20:05:14	0.4790		0.2304
15	,N018560-002EDUP,DUP,1,	20:06:09	0.4815		0.2312
16	,N018560-002EMS,MS,1,	20:06:53	0.9756		0.3901
17	,N018560-002EMSD,MSD,1,	20:07:41	0.9687		0.3879
18	,N018560-003E,SAMP,1,	20:08:24	0.4812		0.2311
19	,N018560-004E,SAMP,1,	20:09:12	0.4488		0.2207
20	,N018560-005E,SAMP,1,	20:09:55	0.4575		0.2235
21	,BLANK,BLANK,1	20:10:45	0.0225		0.0836
22	,CCV-1,CCV,1,	20:11:27	0.5023		0.2379
23	,CCB-1,CCB,1,	20:12:10	0.0095		0.0794
24	,N018560-006E,SAMP,1,	20:12:58	0.4498		0.2210
25	,N018560-007E,SAMP,5, not reported	20:13:41	0.1009		0.1088
26	,N018560-008E,SAMP,1,	20:14:23	0.5732		0.2607

Reb 2/11/2016

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
27	,N018560-009E,SAMP,1,	20:15:13	0.4665		0.2264
28	,N018560-010E,SAMP,1,	20:15:55	0.4631		0.2253
29	,N018561-004E,SAMP,1,	20:16:38	0.4715		0.2280
30	,N018561-005E,SAMP,1,	20:17:27	0.4463		0.2199
31	,N018560-007E,SAMP,1,	20:18:09	0.4669		0.2265
32	,BLANK,BLANK,1	20:18:53	-0.0011		0.0760
33	,CCV-2,CCV,1,	20:19:40	0.4659		0.2262
34	,CCB-2,CCB,1,	20:20:24	0.0051		0.0780

Reb 2/11/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 02/10/2016
Time Analyzed: 08:22 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160112D
Color reagent: R160205C
2% Copper Sulfate: R160112C
Ammonium Hydroxide: CINV-151130B

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018560-002E		8.06						
2)	N018560-003E		8.58						
3)	N018560-004E		8.30						
4)	N018560-005E		8.85						
5)	N018560-006E		8.50						
6)	N018560-007E		7.91						
7)	N018560-008E		8.47						
8)	N018560-009E		8.42						
9)	N018560-010E		7.93						
10)	N018561-004E		8.70						
11)	N018561-005E		8.96						
12)									
13)									
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 2/11/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56137 **Instrument ID:** ICP-02
ASSET #: N018561 **Analyst:** CEI
Method: **Date Analyzed:** 2/7/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.		X				
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For N018561-004B & 005B
% Rec of Fe in LCS ~~and N018633-007B-MS are~~ is high bias. However, N018561-004B & 005B are ND.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/10/2016 Date: —
2nd Level Reviewer 2/11/201 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018561-004B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.01125 * 1 * (25/25) * 1000

Iron , ug/L = 11.25

Reporting results in two significant figures,

Iron , ug/L = 11

Since PQL of Iron , in ug/L = 20

Iron , ug/L = ND

% RSD SUMMARY

RSD SUMMARY: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.8	15	PASS
Standard1	ICAL	1	Fe	0.02	1.29	15	PASS
Standard2	ICAL	1	Fe	0.05	0.18	15	PASS
Standard3	ICAL	1	Fe	2	0.73	15	PASS
Standard4	ICAL	1	Fe	5	0.17	15	PASS
Standard5	ICAL	1	Fe	7.5	0.16	15	PASS
Standard6	ICAL	1	Fe	10	0.16	15	PASS
Standard7	ICAL	1	Fe	20	0.038	15	PASS
ICV	ICV	1	Fe	10.19	0.046	15	PASS
ICB	ICB	1	Fe	0.00017	115.92	15	<PQL
ICB	ICB	1	Fe	0.00044	47.63	15	<PQL
LLCCV1	CCV1	1	Fe	0.024	0.21	20	PASS
LLCCV1	CCV1	1	Fe	0.022	0.97	20	PASS
ICSA1	ICSA	1	Fe	174.06	0.17	15	PASS
ICSAB1	ICSAB	1	Fe	181.46	0.5	15	PASS
CCV1	CCV	1	Fe	10.24	0.25	15	PASS
CCB1	CCB	1	Fe	0.0001	369.58	15	<PQL
CCV2	CCV	1	Fe	10.29	0.13	15	PASS
CCB2	CCB	1	Fe	0.00037	357.42	15	<PQL
CCV3	CCV	1	Fe	10.22	0.15	15	PASS
CCB3	CCB	1	Fe	0.00063	73.76	15	<PQL
MB-56137	MBLK	1	Fe	0.00086	24.75	15	<PQL
CCV4	CCV	1	Fe	10.16	0.093	15	PASS
CCB4	CCB	1	Fe	0.00051	84.94	15	<PQL
LCS-56137	LCS	1	Fe	0.12	0.93	15	PASS
N018561-004B	SAMP	1	Fe	0.011	10.76	15	PASS
N018561-004B	SAMP	5	Fe	0.0026	24.58	15	<PQL
N018561-004B-PS	PS	1	Fe	0.081	0.72	15	PASS
N018561-004B-MS	MS	1	Fe	0.11	1.035	15	PASS
N018561-004B-MSD	MSD	1	Fe	0.11	0.52	15	PASS
N018561-005B	SAMP	1	Fe	0.013	6.65	15	PASS
N018632-011B	SAMP	1	Fe	0.057	0.34	15	PASS
N018632-012B	SAMP	1	Fe	0.022	0.99	15	PASS
N018633-001B	SAMP	1	Fe	0.017	0.85	15	PASS
CCV5	CCV	1	Fe	10.1	0.23	15	PASS
CCB5	CCB	1	Fe	-0.00024	149.36	15	<PQL
LLCCV2	CCV2	1	Fe	0.021	2.78	20	PASS
ICSA2	ICSA	1	Fe	171.95	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.76	0.16	15	PASS
N018633-002B	SAMP	1	Fe	0.023	1.19	15	PASS
N018633-003B	SAMP	1	Fe	0.0086	4.2	15	PASS
N018633-004B	SAMP	1	Fe	0.013	4.47	15	PASS

RSD SUMMARY: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018633-005B	SAMP	1	Fe	0.0078	7.031	15	PASS
N018633-006B	SAMP	1	Fe	0.0079	11.69	15	PASS
N018633-007B	SAMP	1	Fe	0.14	0.62	15	PASS
N018633-007B-MS	MS	1	Fe	0.3	0.58	15	PASS
N018633-008B	SAMP	1	Fe	0.0066	6.43	15	PASS
N018633-009B	SAMP	1	Fe	0.017	2.46	15	PASS
N018633-010B	SAMP	1	Fe	0.0076	8.22	15	PASS
CCV6	CCV	1	Fe	10.068	0.18	15	PASS
CCB6	CCB	1	Fe	0.00054	113.87	15	<PQL
N018633-011B	SAMP	1	Fe	0.021	1.15	15	PASS
N018633-012B	SAMP	1	Fe	0.016	5.78	15	PASS
N018634-001B	SAMP	1	Fe	0.0074	3.8	15	PASS
N018634-002B	SAMP	1	Fe	0.013	4.58	15	PASS
N018634-003B	SAMP	1	Fe	0.0073	12.91	15	PASS
N018634-004B	SAMP	1	Fe	0.011	5.065	15	PASS
CCV7	CCV	1	Fe	10.051	0.23	15	PASS
CCB7	CCB	1	Fe	0.00061	33.49	15	<PQL
LLCCV3	CCV2	1	Fe	0.022	2.6	20	PASS
ICSA3	ICSA	1	Fe	171.35	0.088	15	PASS
ICSAB3	ICSAB	1	Fe	184.16	0.18	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160207B

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/07/2016	01:40:12 PM
2	Standard1	ICAL	1	02/07/2016	01:45:02 PM
3	Standard2	ICAL	1	02/07/2016	01:49:20 PM
4	Standard3	ICAL	1	02/07/2016	01:54:09 PM
5	Standard4	ICAL	1	02/07/2016	01:59:01 PM
6	Standard5	ICAL	1	02/07/2016	02:04:53 PM
7	Standard6	ICAL	1	02/07/2016	02:10:15 PM
8	Standard7	ICAL	1	02/07/2016	02:15:40 PM
9	ICV	ICV	1	02/07/2016	02:19:39 PM
1	ICB	ICB	1	02/07/2016	02:25:05 PM
1	ICB	ICB	1	02/07/2016	02:30:05 PM
2	LLCCV1	CCV1	1	02/07/2016	02:41:35 PM
2	LLCCV1	CCV1	1	02/07/2016	02:45:41 PM
4	ICSA1	ICSA	1	02/07/2016	02:52:35 PM
5	ICSAB1	ICSAB	1	02/07/2016	02:58:31 PM
38	MB-56131	MBLK	1	02/07/2016	03:04:05 PM
39	LCS1-56131	LCS	1	02/07/2016	03:08:26 PM
43	N018644-001B	SAMP	1	02/07/2016	03:20:46 PM
44	N018644-002B	SAMP	1	02/07/2016	03:25:36 PM
45	N018645-002E	SAMP	1	02/07/2016	03:31:29 PM
46	N018644-001B	SAMP	5	02/07/2016	03:36:20 PM
47	N018644-001B-PS	PS	1	02/07/2016	03:42:11 PM
48	N018644-001B-MS	MS	1	02/07/2016	03:48:03 PM
49	N018644-001B-MSD	MSD	1	02/07/2016	03:53:55 PM
40	N018599-001I	SAMP	1	02/07/2016	03:59:48 PM
7	CCV1	CCV	1	02/07/2016	04:05:38 PM
1	CCB1	CCB	1	02/07/2016	04:18:23 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
41	N018599-002I	SAMP	1	02/07/2016	04:22:41 PM
42	N018636-001C	SAMP	1	02/07/2016	04:28:04 PM
50	MB-56083	MBLK	1	02/07/2016	04:32:54 PM
51	LCS-56083	LCS	1	02/07/2016	04:37:14 PM
52	N018548-002C	SAMP	1	02/07/2016	04:43:07 PM
53	N018548-002C	SAMP	5	02/07/2016	04:47:59 PM
54	N018548-002C-PS	PS	1	02/07/2016	04:52:49 PM
55	N018548-002C-MS	MS	1	02/07/2016	04:58:13 PM
56	N018548-002C-MSD	MSD	1	02/07/2016	05:04:05 PM
57	N018548-003C	SAMP	1	02/07/2016	05:09:58 PM
7	CCV2	CCV	1	02/07/2016	05:14:48 PM
1	CCB2	CCB	1	02/07/2016	05:20:13 PM
58	N018548-004C	SAMP	1	02/07/2016	05:24:31 PM
59	N018548-005C	SAMP	1	02/07/2016	05:29:23 PM
60	N018548-006C	SAMP	1	02/07/2016	05:34:14 PM
61	N018548-007C	SAMP	1	02/07/2016	05:39:06 PM
62	N018548-008C	SAMP	1	02/07/2016	05:43:58 PM
63	N018548-009C	SAMP	1	02/07/2016	05:48:50 PM
64	N018548-010C	SAMP	1	02/07/2016	05:53:41 PM
65	N018549-002C	SAMP	1	02/07/2016	05:58:32 PM
66	N018549-003C	SAMP	1	02/07/2016	06:03:23 PM
67	N018549-003C-MS	MS	1	02/07/2016	06:08:14 PM
7	CCV3	CCV	1	02/07/2016	06:14:06 PM
1	CCB3	CCB	1	02/07/2016	06:19:30 PM
68	N018549-004C	SAMP	1	02/07/2016	06:23:49 PM
69	N018549-005C	SAMP	1	02/07/2016	06:28:40 PM
70	N018560-002C	SAMP	1	02/07/2016	06:33:31 PM
71	N018560-003C	SAMP	1	02/07/2016	06:38:22 PM
72	N018560-004C	SAMP	1	02/07/2016	06:43:13 PM
73	N018560-005C	SAMP	1	02/07/2016	06:48:04 PM
74	N018560-006C	SAMP	1	02/07/2016	06:52:55 PM
75	N018560-007C	SAMP	1	02/07/2016	06:57:47 PM
76	N018560-008C	SAMP	1	02/07/2016	07:02:39 PM
98	MB-56137	MBLK	1	02/07/2016	07:07:31 PM
7	CCV4	CCV	1	02/07/2016	07:11:52 PM
1	CCB4	CCB	1	02/07/2016	07:17:17 PM
99	LCS-56137	LCS	1	02/07/2016	07:22:06 PM
100	N018561-004B	SAMP	1	02/07/2016	07:27:59 PM
101	N018561-004B	SAMP	5	02/07/2016	07:32:52 PM
102	N018561-004B-PS	PS	1	02/07/2016	07:37:43 PM
103	N018561-004B-MS	MS	1	02/07/2016	07:43:35 PM
104	N018561-004B-MSD	MSD	1	02/07/2016	07:49:30 PM
105	N018561-005B	SAMP	1	02/07/2016	07:55:24 PM
106	N018632-011B	SAMP	1	02/07/2016	08:00:17 PM
107	N018632-012B	SAMP	1	02/07/2016	08:05:08 PM
108	N018633-001B	SAMP	1	02/07/2016	08:10:00 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
7	CCV5	CCV	1	02/07/2016	08:15:52 PM
1	CCB5	CCB	1	02/07/2016	08:21:17 PM
2	LLCCV2	CCV2	1	02/07/2016	08:26:06 PM
4	ICSA2	ICSA	1	02/07/2016	08:30:55 PM
5	ICSAB2	ICSAB	1	02/07/2016	08:36:52 PM
109	N018633-002B	SAMP	1	02/07/2016	08:41:58 PM
110	N018633-003B	SAMP	1	02/07/2016	08:47:50 PM
111	N018633-004B	SAMP	1	02/07/2016	08:53:42 PM
112	N018633-005B	SAMP	1	02/07/2016	08:59:36 PM
113	N018633-006B	SAMP	1	02/07/2016	09:05:29 PM
114	N018633-007B	SAMP	1	02/07/2016	09:11:21 PM
115	N018633-007B-MS	MS	1	02/07/2016	09:17:12 PM
116	N018633-008B	SAMP	1	02/07/2016	09:23:07 PM
117	N018633-009B	SAMP	1	02/07/2016	09:28:58 PM
118	N018633-010B	SAMP	1	02/07/2016	09:34:52 PM
7	CCV6	CCV	1	02/07/2016	09:39:43 PM
1	CCB6	CCB	1	02/07/2016	09:45:09 PM
119	N018633-011B	SAMP	1	02/07/2016	09:49:58 PM
120	N018633-012B	SAMP	1	02/07/2016	09:54:51 PM
121	N018634-001B	SAMP	1	02/07/2016	10:00:43 PM
122	N018634-002B	SAMP	1	02/07/2016	10:05:34 PM
123	N018634-003B	SAMP	1	02/07/2016	10:11:28 PM
124	N018634-004B	SAMP	1	02/07/2016	10:16:21 PM
7	CCV7	CCV	1	02/07/2016	10:21:14 PM
1	CCB7	CCB	1	02/07/2016	10:26:38 PM
2	LLCCV3	CCV2	1	02/07/2016	10:30:57 PM
4	ICSA3	ICSA	1	02/07/2016	10:35:47 PM
5	ICSAB3	ICSAB	1	02/07/2016	10:41:44 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/5/2016 9:14:05 A**
Prep End Date: **2/5/2016 1:30:00 P**

Initials/ Date: For: 02/10/2016

Prep Batch **56137** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56137	Aqueous		25	☐	0	0	25	1.000		
MB-56137	Aqueous		25	☐	0	0	25	1.000		
N018561-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-004B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-004B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-011B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-012B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-006B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/5/2016 9:14:05 A**
Prep End Date: **2/5/2016 1:30:00 P**

Initials/ Date: For: 02/10/2016

Prep Batch **56137** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018633-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-011B	Groundwater	<2	25	☐	0	0	25	1.000		
N018633-012B	Groundwater	<2	25	☐	0	0	25	1.000		
N018634-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018634-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018634-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018634-004B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160207B

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	02/07/2016	01:40:12 PM	Fe	273.953	-155	0.00	mg/L	
Standard1	02/07/2016	01:45:02 PM	Fe	273.953	625	0.0200	mg/L	
Standard2	02/07/2016	01:49:20 PM	Fe	273.953	1558	0.050	mg/L	
Standard3	02/07/2016	01:54:09 PM	Fe	273.953	58758	2.000	mg/L	
Standard4	02/07/2016	01:59:01 PM	Fe	273.953	148579	5.000	mg/L	
Standard5	02/07/2016	02:04:53 PM	Fe	273.953	214187	7.500	mg/L	
Standard6	02/07/2016	02:10:15 PM	Fe	273.953	288464	10.000	mg/L	
Standard7	02/07/2016	02:15:40 PM	Fe	273.953	559227	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10187.982	20	10000	0	102	90	110				

Sample ID: **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22.305	20	20.00	0	112	80	120				

Sample ID: **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10236.948	20	10000	0	102	90	110				

Sample ID: **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10294.361	20	10000	0	103	90	110				

Sample ID: **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10220.227	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10157.728	20	10000	0	102	90	110				

Sample ID: **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10100.257	20	10000	0	101	90	110				

Sample ID: **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224968**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	21.253	20	20.00	0	106	70	130				

Sample ID: **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10067.929	20	10000	0	101	90	110				

Sample ID: **CCV7** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCV** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10051.397	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LLCCV3** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	21.530	20	20.00	0	108	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.439	20									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.097	20									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.373	20									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.626	20									

Sample ID: **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **CCB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.515	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCB5**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **105743**
Client ID: **CCB**	Batch ID: **R105743**	TestNo: **EPA 6010B**		Analysis Date: **2/7/2016**	SeqNo: **2224967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.243948	20									

Sample ID: **CCB6**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **105743**
Client ID: **CCB**	Batch ID: **R105743**	TestNo: **EPA 6010B**		Analysis Date: **2/7/2016**	SeqNo: **2224982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.537	20									

Sample ID: **CCB7**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **105743**
Client ID: **CCB**	Batch ID: **R105743**	TestNo: **EPA 6010B**		Analysis Date: **2/7/2016**	SeqNo: **2224990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.605	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSA** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	490771.553	50	500000	0	98.2	80	120				
Calcium	478957.006	500	500000	0	95.8	80	120				
Iron	174063.017	20	200000	0	87.0	80	120				
Magnesium	485191.492	100	500000	0	97.0	80	120				

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSAB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536970.146	50	500000	0	107	80	120				
Calcium	515642.596	500	500000	0	103	80	120				
Iron	181457.281	20	200000	0	90.7	80	120				
Magnesium	506834.537	100	500000	0	101	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSA** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	484213.590	50	500000	0	96.8	80	120				
Calcium	474938.389	500	500000	0	95.0	80	120				
Iron	171946.084	20	200000	0	86.0	80	120				
Magnesium	474424.053	100	500000	0	94.9	80	120				

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSAB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528860.318	50	500000	0	106	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSAB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	515463.580	500	500000	0	103	80	120				
Iron	184764.087	20	200000	0	92.4	80	120				
Magnesium	516389.108	100	500000	0	103	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSA** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	483320.190	50	500000	0	96.7	80	120				
Calcium	474176.316	500	500000	0	94.8	80	120				
Iron	171347.098	20	200000	0	85.7	80	120				
Magnesium	473516.564	100	500000	0	94.7	80	120				

Sample ID: **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ICSAB** Batch ID: **R105743** TestNo: **EPA 6010B** Analysis Date: **2/7/2016** SeqNo: **2224993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528073.693	50	500000	0	106	80	120				
Calcium	513582.277	500	500000	0	103	80	120				
Iron	184159.609	20	200000	0	92.1	80	120				
Magnesium	513521.358	100	500000	0	103	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.0017	100.17	65-125	PASS
Standard2	ICAL	1	1.21	120.9	65-125	PASS
Standard3	ICAL	1	1.0029	100.29	65-125	PASS
Standard4	ICAL	1	1.14	114.42	65-125	PASS
Standard5	ICAL	1	1.21	121.15	65-125	PASS
Standard6	ICAL	1	1.037	103.7	65-125	PASS
Standard7	ICAL	1	1.03	102.97	65-125	PASS
ICV	ICV	1	1.055	105.5	65-125	PASS
ICB	ICB	1	1.0065	100.65	65-125	PASS
ICB	ICB	1	1.0041	100.41	65-125	PASS
LLCCV1	CCV1	1	1.0082	100.82	65-125	PASS
LLCCV1	CCV1	1	1.0062	100.62	65-125	PASS
ICSA1	ICSA	1	0.92	92.4	65-125	PASS
ICSAB1	ICSAB	1	0.95	94.99	65-125	PASS
CCV1	CCV	1	1.033	103.26	65-125	PASS
CCB1	CCB	1	1	99.76	65-125	PASS
CCV2	CCV	1	1.031	103.13	65-125	PASS
CCB2	CCB	1	1	99.53	65-125	PASS
CCV3	CCV	1	1.027	102.68	65-125	PASS
CCB3	CCB	1	1	99.55	65-125	PASS
MB-56137	MBLK	1	1	99.9	65-125	PASS
CCV4	CCV	1	1.028	102.8	65-125	PASS
CCB4	CCB	1	0.99	99.46	65-125	PASS
LCS-56137	LCS	1	1.16	115.86	65-125	PASS
N018561-004B	SAMP	1	1	99.93	65-125	PASS
N018561-004B	SAMP	5	1	99.56	65-125	PASS
N018561-004B-PS	PS	1	1.012	101.22	65-125	PASS
N018561-004B-MS	MS	1	1	99.71	65-125	PASS
N018561-004B-MSD	MSD	1	1	99.84	65-125	PASS
N018561-005B	SAMP	1	1.0064	100.64	65-125	PASS
N018632-011B	SAMP	1	1.029	102.86	65-125	PASS
N018632-012B	SAMP	1	1.023	102.32	65-125	PASS
N018633-001B	SAMP	1	1.021	102.06	65-125	PASS
CCV5	CCV	1	1.035	103.46	65-125	PASS
CCB5	CCB	1	1.0035	100.35	65-125	PASS
LLCCV2	CCV2	1	1	100	65-125	PASS
ICSA2	ICSA	1	0.92	91.52	65-125	PASS
ICSAB2	ICSAB	1	0.94	93.51	65-125	PASS
N018633-002B	SAMP	1	0.98	97.98	65-125	PASS
N018633-003B	SAMP	1	1.018	101.81	65-125	PASS

INTERNAL STANDARD: 160207B

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018633-004B	SAMP	1	0.96	96.49	65-125	PASS
N018633-005B	SAMP	1	0.97	97.28	65-125	PASS
N018633-006B	SAMP	1	0.95	95.29	65-125	PASS
N018633-007B	SAMP	1	0.99	98.94	65-125	PASS
N018633-007B-MS	MS	1	0.98	97.74	65-125	PASS
N018633-008B	SAMP	1	1	99.84	65-125	PASS
N018633-009B	SAMP	1	0.97	97.25	65-125	PASS
N018633-010B	SAMP	1	0.98	97.75	65-125	PASS
CCV6	CCV	1	1.04	104.01	65-125	PASS
CCB6	CCB	1	1.0031	100.31	65-125	PASS
N018633-011B	SAMP	1	1	99.8	65-125	PASS
N018633-012B	SAMP	1	0.88	87.9	65-125	PASS
N018634-001B	SAMP	1	0.99	99.21	65-125	PASS
N018634-002B	SAMP	1	1.0002	100.02	65-125	PASS
N018634-003B	SAMP	1	0.96	96.054	65-125	PASS
N018634-004B	SAMP	1	0.97	97.39	65-125	PASS
CCV7	CCV	1	1.042	104.24	65-125	PASS
CCB7	CCB	1	1.0037	100.37	65-125	PASS
LLCCV3	CCV2	1	1.0063	100.63	65-125	PASS
ICSA3	ICSA	1	0.92	91.76	65-125	PASS
ICSAB3	ICSAB	1	0.94	93.94	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018561
Test Method: EPA 6010B
Analysis Date: 02/07/16

Matrix: Groundwater
Batch No.: 56137

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018561-004B-DT 5X	Iron	ug/L	0	NA	0		10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N018561-004B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105743**
Client ID: **ZZZZZZ** Batch ID: **56137** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	80.550	20	100.0	0	80.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6010B

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56157 **Instrument ID:** ICP-02
ASSET #: N018561 **Analyst:** CEI
Method: **Date Analyzed:** 2/9/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
Batch is closed by ICSA2/ICSAB2
For N018560-004C & 005C only.
% Rec of Fe in N018560-009C MS/MSD failed. Hwever LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 2/11/2016 Date:
2nd Level Reviewer 2/11/201 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018561-004C** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.09361 * 1 * (25/25) * 1000

Iron , ug/L = 93.61

Reporting results in two significant figures,

Iron , ug/L = 94

% RSD SUMMARY

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	15.023	15	<PQL
Standard1	ICAL	1	Fe	0.02	10.089	15	PASS
Standard2	ICAL	1	Fe	0.05	1.078	15	PASS
Standard3	ICAL	1	Fe	2	0.72	15	PASS
Standard4	ICAL	1	Fe	5	0.94	15	PASS
Standard5	ICAL	1	Fe	7.5	0.55	15	PASS
Standard6	ICAL	1	Fe	10	0.59	15	PASS
Standard7	ICAL	1	Fe	20	0.095	15	PASS
ICV	ICV	1	Fe	10.31	0.63	15	PASS
ICB	ICB	1	Fe	0.00033	34.9	15	<PQL
LLCCV1	CCV1	1	Fe	0.022	1.92	20	PASS
ICSA1	ICSA	1	Fe	161.49	0.2	15	PASS
ICSAB1	ICSAB	1	Fe	181.85	0.089	15	PASS
MB-56157	MBLK	1	Fe	0.0027	3.86	15	PASS
LCS-56157	LCS	1	Fe	0.11	1.054	15	PASS
N018560-009C	SAMP	1	Fe	0.17	1.4	15	PASS
N018560-009C	SAMP	5	Fe	0.038	0.59	15	PASS
N018560-009C-PS	PS	1	Fe	0.27	0.52	15	PASS
N018560-009C-MS	MS	1	Fe	0.2	0.32	15	PASS
N018560-009C-MSD	MSD	1	Fe	0.2	0.27	15	PASS
N018560-010C	SAMP	1	Fe	0.094	0.36	15	PASS
N018561-004C	SAMP	1	Fe	0.094	0.31	15	PASS
N018561-005C	SAMP	1	Fe	0.12	1.44	15	PASS
CCV1	CCV	1	Fe	10.34	0.43	15	PASS
CCB1	CCB	1	Fe	0.00055	63.94	15	<PQL
CCV2	CCV	1	Fe	10.27	0.89	15	PASS
CCB2	CCB	1	Fe	0.00007	552.77	15	<PQL
CCV3	CCV	1	Fe	10.29	0.19	15	PASS
CCB3	CCB	1	Fe	-0.0002	359.8	15	<PQL
LLCCV2	CCV2	1	Fe	0.023	1.31	20	PASS
ICSA2	ICSA	1	Fe	160.62	0.14	15	PASS
ICSAB2	ICSAB	1	Fe	180.31	0.072	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160209A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/09/2016	09:15:07 AM
2	Standard1	ICAL	1	02/09/2016	09:19:29 AM
3	Standard2	ICAL	1	02/09/2016	09:24:18 AM
4	Standard3	ICAL	1	02/09/2016	09:29:08 AM
5	Standard4	ICAL	1	02/09/2016	09:34:01 AM
6	Standard5	ICAL	1	02/09/2016	09:39:53 AM
7	Standard6	ICAL	1	02/09/2016	09:47:05 AM
8	Standard7	ICAL	1	02/09/2016	09:53:11 AM
9	ICV	ICV	1	02/09/2016	09:59:37 AM
1	ICB	ICB	1	02/09/2016	10:05:28 AM
2	LLCCV1	CCV1	1	02/09/2016	10:09:46 AM
4	ICSA1	ICSA	1	02/09/2016	10:14:35 AM
5	ICSAB1	ICSAB	1	02/09/2016	10:20:32 AM
38	MB-56157	MBLK	1	02/09/2016	10:26:30 AM
39	LCS-56157	LCS	1	02/09/2016	10:30:50 AM
40	N018560-009C	SAMP	1	02/09/2016	10:36:42 AM
41	N018560-009C	SAMP	5	02/09/2016	10:41:32 AM
42	N018560-009C-PS	PS	1	02/09/2016	10:46:21 AM
43	N018560-009C-MS	MS	1	02/09/2016	10:52:11 AM
44	N018560-009C-MSD	MSD	1	02/09/2016	10:58:01 AM
45	N018560-010C	SAMP	1	02/09/2016	11:03:52 AM
46	N018561-004C	SAMP	1	02/09/2016	11:08:43 AM
47	N018561-005C	SAMP	1	02/09/2016	11:13:35 AM
7	CCV1	CCV	1	02/09/2016	11:18:25 AM
1	CCB1	CCB	1	02/09/2016	11:24:15 AM
50	MB-56126	MBLK	1	02/09/2016	11:28:32 AM
51	LCS1-56126	LCS	1	02/09/2016	11:32:52 AM
52	N018617-011B	SAMP	1	02/09/2016	11:38:44 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
53	N018617-011B	SAMP	5	02/09/2016	11:44:34 AM
54	N018617-011B-PS	PS	1	02/09/2016	11:49:23 AM
55	N018617-011B-MS	MS	1	02/09/2016	11:55:14 AM
56	N018617-011B-MSD	MSD	1	02/09/2016	12:01:07 PM
57	N018617-012B	SAMP	1	02/09/2016	12:06:59 PM
58	N018618-001B	SAMP	1	02/09/2016	12:11:47 PM
59	N018618-002B	SAMP	1	02/09/2016	12:17:38 PM
7	CCV2	CCV	1	02/09/2016	12:22:29 PM
1	CCB2	CCB	1	02/09/2016	12:28:19 PM
60	N018618-003B	SAMP	1	02/09/2016	12:32:36 PM
61	N018618-004B	SAMP	1	02/09/2016	12:38:28 PM
62	N018618-005B	SAMP	1	02/09/2016	12:43:19 PM
63	N018618-006B	SAMP	1	02/09/2016	12:48:09 PM
64	N018628-001B	SAMP	1	02/09/2016	12:52:59 PM
65	N018628-002B	SAMP	1	02/09/2016	12:58:50 PM
66	N018632-001B	SAMP	1	02/09/2016	01:04:42 PM
67	N018632-001B-MS	MS	1	02/09/2016	01:09:32 PM
68	N018632-002B	SAMP	1	02/09/2016	01:15:23 PM
69	N018632-003B	SAMP	1	02/09/2016	01:21:13 PM
7	CCV3	CCV	1	02/09/2016	01:27:04 PM
1	CCB3	CCB	1	02/09/2016	01:32:54 PM
2	LLCCV2	CCV2	1	02/09/2016	01:37:12 PM
4	ICSA2	ICSA	1	02/09/2016	01:42:01 PM
5	ICSAB2	ICSAB	1	02/09/2016	01:47:58 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/7/2016 1:26:31 P**
Prep End Date: **2/7/2016 5:30:00 P**

Initials/ Date: 2/10/2016

Prep Batch **56157** Prep Code: **3010_W** Technician: **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56157	Aqueous		25	☐	0	0	25	1.000		
MB-56157	Aqueous		25	☐	0	0	25	1.000		
N018560-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018560-010C	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-005C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-150916D	ICP Solution C	LCS/MS/MSD	0.5
MWST-151102E	ICP Solution A	LCS/MS/MSD	0.5
MWST-151201A	ICP Solution B	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160209A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	02/09/2016	09:15:07 AM	Fe	273.953	-71	0.00	mg/L	
Standard1	02/09/2016	09:19:29 AM	Fe	273.953	547	0.0200	mg/L	
Standard2	02/09/2016	09:24:18 AM	Fe	273.953	1272	0.050	mg/L	
Standard3	02/09/2016	09:29:08 AM	Fe	273.953	49142	2.000	mg/L	
Standard4	02/09/2016	09:34:01 AM	Fe	273.953	121811	5.000	mg/L	
Standard5	02/09/2016	09:39:53 AM	Fe	273.953	183745	7.500	mg/L	
Standard6	02/09/2016	09:47:05 AM	Fe	273.953	240597	10.000	mg/L	
Standard7	02/09/2016	09:53:11 AM	Fe	273.953	458706	20.000	mg/L	0.9996

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	ICV	SampType:	ICV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ICV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10312.988	20	10000	0	103	90	110				

Sample ID	LLCCV1	SampType:	CCV1	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ZZZZZZ	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	21.948	20	20.00	0	110	80	120				

Sample ID	CCV1	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10335.905	20	10000	0	103	90	110				

Sample ID	CCV2	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226657

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10265.818	20	10000	0	103	90	110				

Sample ID	CCV3	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCV	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226669

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10284.755	20	10000	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ZZZZZZ** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22.566	20	20.00	0	113	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	ICB	SampType:	ICB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ICB	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.334	20									

Sample ID	CCB1	SampType:	CCB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCB	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226646

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.550	20									

Sample ID	CCB2	SampType:	CCB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCB	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226658

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID	CCB3	SampType:	CCB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	CCB	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226670

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.203454	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSA** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	476491.864	50	500000	0	95.3	80	120				
Calcium	485268.826	500	500000	0	97.1	80	120				
Iron	161491.519	20	200000	0	80.7	80	120				
Magnesium	457865.596	100	500000	0	91.6	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSAB** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	538824.926	50	500000	0	108	80	120				
Calcium	544176.877	500	500000	0	109	80	120				
Iron	181847.378	20	200000	0	90.9	80	120				
Magnesium	512414.214	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSA** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	477492.448	50	500000	0	95.5	80	120				
Calcium	481907.291	500	500000	0	96.4	80	120				
Iron	160617.521	20	200000	0	80.3	80	120				
Magnesium	444262.489	100	500000	0	88.9	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **105767**
Client ID: **ICSAB** Batch ID: **R105767** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2226673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	539466.486	50	500000	0	108	80	120				
Calcium	540941.196	500	500000	0	108	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	105767
Client ID:	ICSAB	Batch ID:	R105767	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2226673

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	180314.544	20	200000	0	90.2	80	120				
Magnesium	495873.747	100	500000	0	99.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.78	65-125	PASS
Standard2	ICAL	1	1.18	118.4	65-125	PASS
Standard3	ICAL	1	1.13	112.69	65-125	PASS
Standard4	ICAL	1	1.028	102.77	65-125	PASS
Standard5	ICAL	1	1.11	110.89	65-125	PASS
Standard6	ICAL	1	0.99	98.79	65-125	PASS
Standard7	ICAL	1	0.98	98.13	65-125	PASS
ICV	ICV	1	1	99.86	65-125	PASS
ICB	ICB	1	1	99.75	65-125	PASS
LLCCV1	CCV1	1	1.0023	100.23	65-125	PASS
ICSA1	ICSA	1	0.93	93.31	65-125	PASS
ICSAB1	ICSAB	1	0.85	84.67	65-125	PASS
MB-56157	MBLK	1	1.01	101.03	65-125	PASS
LCS-56157	LCS	1	1	99.57	65-125	PASS
N018560-009C	SAMP	1	1.013	101.28	65-125	PASS
N018560-009C	SAMP	5	1.0057	100.57	65-125	PASS
N018560-009C-PS	PS	1	0.95	95.41	65-125	PASS
N018560-009C-MS	MS	1	0.94	93.69	65-125	PASS
N018560-009C-MSD	MSD	1	0.93	93.28	65-125	PASS
N018560-010C	SAMP	1	1.0034	100.34	65-125	PASS
N018561-004C	SAMP	1	0.98	98.47	65-125	PASS
N018561-005C	SAMP	1	0.98	98.065	65-125	PASS
CCV1	CCV	1	1	99.65	65-125	PASS
CCB1	CCB	1	1.008	100.8	65-125	PASS
CCV2	CCV	1	1.016	101.57	65-125	PASS
CCB2	CCB	1	1.026	102.62	65-125	PASS
CCV3	CCV	1	1.018	101.83	65-125	PASS
CCB3	CCB	1	1.02	101.97	65-125	PASS
LLCCV2	CCV2	1	1.02	101.96	65-125	PASS
ICSA2	ICSA	1	0.95	95.1	65-125	PASS
ICSAB2	ICSAB	1	0.87	86.81	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018561
Test Method: EPA 6010B
Analysis Date: 02/09/16

Matrix: Groundwater
Batch No.: 56157

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018560-009C-DT 5X	Iron	ug/L	192.2205	NA	173.9650	10.49%	10

Note: NA - Not Applicable

ASSET Laboratories

Date: *10-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	**N018560-009C-PS**	SampType:	**PS**	TestCode:	**6010_WPGE**	Units:	**ug/L**	Prep Date:		RunNo:	**105767**
Client ID:	**ZZZZZZ**	Batch ID:	**56157**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**2/9/2016**	SeqNo:	**2226639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	271.395	20	100.0	174.0	97.4	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56037 **Instrument ID:** ICPMS-02
ASSET #: N018561 **Analyst:** CEI
Method: **Date Analyzed:** 2/2/2016

[ ] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments: CCVs are within criteria

%Rec of Mo in ICSAB2 failed, high bias. However samples affected ~~have results 10X blank detection~~.
%Rec of Ba in N018549-003B MS failed, low bias. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 02/09/2016 Date: —
2nd Level Reviewer 2/11/201 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Arsenic concentration, in ug/L in the original sample as follows:

Arsenic , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018561-004B** , the concentration in ug/L is calculated as follows:

Arsenic , ug/L = 2.29303 * 1 * (25/25)

Arsenic , ug/L = 2.293030

Reporting results in two significant figures,

Arsenic , ug/L = 2.3

% RSD SUMMARY

PERCENT RSD SUMMARY: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	9.6	15	PASS	0.098	8.25	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.51	2.45	15	PASS	0.51	2.098	15	PASS
Std3-5/50 ppb	ICAL	1	5.055	0.88	15	PASS	5.051	0.5	15	PASS
Std4-10/100 ppb	ICAL	1	10.13	0.65	15	PASS	10.024	0.19	15	PASS
Std5-20/200 ppb	ICAL	1	20.015	0.29	15	PASS	20.032	0.53	15	PASS
Std6-40/400 ppb	ICAL	1	40.081	0.68	15	PASS	39.82	1.24	15	PASS
Std7-100/1000 ppb	ICAL	1	100.94	0.47	15	PASS	100.8	0.8	15	PASS
Std8-200/2000 ppb	ICAL	1	199.51	0.95	15	PASS	199.63	0.25	15	PASS
ICV	ICV	1	98.097	0.42	15	PASS	9.8	0.97	15	PASS
ICB	ICB	1	0.02	4.4	15	PASS	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.14	1.2	20	PASS	1.017	1.23	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.18	1.4	15	PASS
ICSAB1	ICSAB	1	19.79	0.56	15	PASS	20.13	1.31	15	PASS
MB-56037	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56037	LCS	1	100.51	0.49	15	PASS	9.75	0.45	15	PASS
N018548-002B	SAMP	1	139.42	0.18	15	PASS	0.014	142.29	15	<PQL
CCV1	CCV	1	20.41	0.21	15	PASS	19.76	0.26	15	PASS
CCB1	CCB	1	0.0075	19.78	15	<PQL	<0.000	N/A	15	<PQL
N018548-003B	SAMP	1	142.1	0.65	15	PASS	0.019	45.91	15	<PQL
N018548-004B	SAMP	1	140.097	0.49	15	PASS	0.0037	65.61	15	<PQL
N018548-005B	SAMP	1	140.085	0.39	15	PASS	0.11	4.19	15	PASS
N018548-006B	SAMP	1	140.72	0.3	15	PASS	0.069	9.054	15	PASS
N018548-007B	SAMP	1	137.98	0.18	15	PASS	0.13	6.24	15	PASS
N018548-008B	SAMP	1	140.72	0.77	15	PASS	<0.000	N/A	15	<PQL
N018548-009B	SAMP	1	142.78	0.4	15	PASS	0.094	1.16	15	PASS
N018548-010B	SAMP	1	142.98	0.81	15	PASS	0.08	2.28	15	PASS
N018549-002B	SAMP	1	140.56	0.46	15	PASS	0.056	6.3	15	PASS
N018549-003B	SAMP	1	145.48	1.14	15	PASS	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.75	0.52	15	PASS	19.59	0.17	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018549-004B	SAMP	1	137.43	0.63	15	PASS	0.0078	65.44	15	<PQL
N018549-005B	SAMP	1	142.39	0.51	15	PASS	0.032	16.16	15	<PQL
N018561-002B	SAMP	1	158.79	0.78	15	PASS	0.059	0.99	15	PASS
N018561-003B	SAMP	1	126.068	0.5	15	PASS	0.065	5.67	15	PASS
N018561-004B	SAMP	1	130.8	0.46	15	PASS	0.013	8.8	15	PASS
N018561-005B	SAMP	1	143.36	0.77	15	PASS	0.082	10.2	15	PASS
N018548-002B	SAMP	5	28.14	0.58	15	PASS	<0.000	N/A	15	<PQL
N018548-002B-PS	PS	1	241.56	0.72	15	PASS	9.38	0.48	15	PASS
N018548-002B-MS	MS	1	240.8	0.23	15	PASS	9.34	0.62	15	PASS
N018548-002B-MSD	MSD	1	241.78	0.53	15	PASS	9.32	0.26	15	PASS

PERCENT RSD SUMMARY: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV3	CCV	1	20.81	0.032	15	PASS	19.44	0.78	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018549-003B-MS	MS	1	203.71	0.67	15	PASS	9.39	0.68	15	PASS
N018548-002B	SAMP	25	5.66	1.32	15	PASS	<0.000	N/A	15	<PQL
N018548-002B-PS	PS	5	47.57	0.58	15	PASS	1.88	1.87	15	PASS
N018548-002B-MS	MS	5	47.5	0.85	15	PASS	1.88	1.36	15	PASS
N018548-002B-MSD	MSD	5	47.27	0.15	15	PASS	1.86	0.68	15	PASS
N018549-003B	SAMP	5	29.12	0.25	15	PASS	<0.000	N/A	15	<PQL
N018549-003B-MS	MS	5	40.68	0.47	15	PASS	1.91	1.57	15	PASS
CCV4	CCV	1	20.66	0.55	15	PASS	19.63	0.29	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	20.87	0.14	15	PASS	19.61	0.78	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.004	138.73	15	<PQL
LLCCV1	CCV2	1	1.097	2.063	20	PASS	1.035	0.49	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.19	2.1	15	PASS
ICSAB2	ICSAB	1	20.38	0.87	15	PASS	20.47	0.71	15	PASS

PERCENT RSD SUMMARY: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	5.89	15	PASS	0.099	19.52	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.51	1.82	15	PASS	0.48	4.5	15	PASS
Std3-5/50 ppb	ICAL	1	5.052	1.6	15	PASS	5.034	0.61	15	PASS
Std4-10/100 ppb	ICAL	1	10.018	1.55	15	PASS	9.99	0.74	15	PASS
Std5-20/200 ppb	ICAL	1	20.31	0.71	15	PASS	19.74	1.19	15	PASS
Std6-40/400 ppb	ICAL	1	39.96	0.93	15	PASS	40.24	0.47	15	PASS
Std7-100/1000 ppb	ICAL	1	98.13	0.68	15	PASS	99.95	0.94	15	PASS
Std8-200/2000 ppb	ICAL	1	200.91	0.58	15	PASS	200.00062	0.51	15	PASS
ICV	ICV	1	91.25	0.49	15	PASS	9.82	1.24	15	PASS
ICB	ICB	1	0.0061	34.031	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.59	2.72	20	PASS	0.088	11.94	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	16.62	1.41	15	PASS	17.45	0.19	15	PASS
MB-56037	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56037	LCS	1	93.055	0.27	15	PASS	9.72	0.18	15	PASS
N018548-002B	SAMP	1	<0.000	N/A	15	<PQL	2.3	2.72	15	PASS
CCV1	CCV	1	19.91	0.95	15	PASS	19.73	1.22	15	PASS
CCB1	CCB	1	0.0036	98.23	15	<PQL	<0.000	N/A	15	<PQL
N018548-003B	SAMP	1	0.63	5.13	15	PASS	2.43	0.82	15	PASS
N018548-004B	SAMP	1	<0.000	N/A	15	<PQL	2.32	1.9	15	PASS
N018548-005B	SAMP	1	0.73	2.49	15	PASS	2.32	1.2	15	PASS
N018548-006B	SAMP	1	0.49	5.45	15	PASS	2.23	2.61	15	PASS
N018548-007B	SAMP	1	<0.000	N/A	15	<PQL	2.32	0.62	15	PASS
N018548-008B	SAMP	1	<0.000	N/A	15	<PQL	2.32	2.17	15	PASS
N018548-009B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.39	15	PASS
N018548-010B	SAMP	1	<0.000	N/A	15	<PQL	2.39	1.97	15	PASS
N018549-002B	SAMP	1	0.21	3.58	15	PASS	2.33	0.43	15	PASS
N018549-003B	SAMP	1	0.69	2.82	15	PASS	2.31	0.82	15	PASS
CCV2	CCV	1	19.84	0.25	15	PASS	19.59	0.57	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018549-004B	SAMP	1	0.19	8.017	15	PASS	2.2	1.86	15	PASS
N018549-005B	SAMP	1	0.96	0.98	15	PASS	2.33	1.71	15	PASS
N018561-002B	SAMP	1	27.12	0.2	15	PASS	1.78	1.95	15	PASS
N018561-003B	SAMP	1	1.21	1.61	15	PASS	2.21	2.39	15	PASS
N018561-004B	SAMP	1	<0.000	N/A	15	<PQL	2.29	0.35	15	PASS
N018561-005B	SAMP	1	<0.000	N/A	15	<PQL	2.38	1.075	15	PASS
N018548-002B	SAMP	5	<0.000	N/A	15	<PQL	0.43	3.95	15	PASS
N018548-002B-PS	PS	1	92.031	0.78	15	PASS	12.025	0.78	15	PASS
N018548-002B-MS	MS	1	91.37	0.21	15	PASS	12.012	0.79	15	PASS
N018548-002B-MSD	MSD	1	91.26	0.56	15	PASS	11.94	0.9	15	PASS

PERCENT RSD SUMMARY: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV3	CCV	1	19.82	0.8	15	PASS	19.4	0.94	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018549-003B-MS	MS	1	94.65	0.3	15	PASS	12.92	1.33	15	PASS
N018548-002B	SAMP	25	<0.000	N/A	15	<PQL	0.059	21.062	15	<PQL
N018548-002B-PS	PS	5	18.75	1.92	15	PASS	2.37	2.52	15	PASS
N018548-002B-MS	MS	5	18.57	0.52	15	PASS	2.31	2.95	15	PASS
N018548-002B-MSD	MSD	5	18.69	0.53	15	PASS	2.33	1.099	15	PASS
N018549-003B	SAMP	5	0.18	9.28	15	PASS	0.45	0.42	15	PASS
N018549-003B-MS	MS	5	19.39	0.59	15	PASS	2.38	2.29	15	PASS
CCV4	CCV	1	20.23	0.062	15	PASS	19.4	1.36	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	20.14	1.37	15	PASS	19.35	0.95	15	PASS
CCB5	CCB	1	0.015	104.89	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.57	1.29	20	PASS	0.071	15.51	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	16.96	0.89	15	PASS	20.59	0.52	15	PASS

PERCENT RSD SUMMARY: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	17.044	15	<PQL	0.087	12.1	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.54	9.82	15	PASS	0.5	2.052	15	PASS
Std3-5/50 ppb	ICAL	1	5.14	2.51	15	PASS	5.025	1.58	15	PASS
Std4-10/100 ppb	ICAL	1	10.24	1.69	15	PASS	10.0085	1.57	15	PASS
Std5-20/200 ppb	ICAL	1	20.46	2.021	15	PASS	20.0032	0.31	15	PASS
Std6-40/400 ppb	ICAL	1	40.3	0.53	15	PASS	39.81	0.73	15	PASS
Std7-100/1000 ppb	ICAL	1	102.43	0.47	15	PASS	99.33	0.87	15	PASS
Std8-200/2000 ppb	ICAL	1	198.66	0.68	15	PASS	200.37	0.71	15	PASS
ICV	ICV	1	9.51	1.45	15	PASS	9.79	1.65	15	PASS
ICB	ICB	1	0.0093	117.49	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.51	5.32	20	PASS	0.49	2.43	20	PASS
ICSA1	ICSA	1	0.018	20.04	15	<PQL	0.011	44.69	15	<PQL
ICSAB1	ICSAB	1	16.38	1.3	15	PASS	23.77	0.21	15	PASS
MB-56037	MBLK	1	0.0065	76.014	15	<PQL	<0.000	N/A	15	<PQL
LCS-56037	LCS	1	9.0094	1.43	15	PASS	10.025	1.73	15	PASS
N018548-002B	SAMP	1	1.59	3.25	15	PASS	5.61	2.5	15	PASS
CCV1	CCV	1	19.48	1.5	15	PASS	20.36	0.39	15	PASS
CCB1	CCB	1	0.011	166.22	15	<PQL	0.017	47.13	15	<PQL
N018548-003B	SAMP	1	1.77	4.43	15	PASS	5.77	0.56	15	PASS
N018548-004B	SAMP	1	1.67	5.66	15	PASS	5.76	0.69	15	PASS
N018548-005B	SAMP	1	1.78	3.96	15	PASS	5.74	1.45	15	PASS
N018548-006B	SAMP	1	1.7	5.13	15	PASS	5.65	1.11	15	PASS
N018548-007B	SAMP	1	1.64	5.46	15	PASS	5.48	1.54	15	PASS
N018548-008B	SAMP	1	1.7	5.86	15	PASS	5.67	0.95	15	PASS
N018548-009B	SAMP	1	1.77	3.47	15	PASS	5.84	0.99	15	PASS
N018548-010B	SAMP	1	1.76	2.71	15	PASS	5.65	0.73	15	PASS
N018549-002B	SAMP	1	1.64	5.85	15	PASS	5.68	1.23	15	PASS
N018549-003B	SAMP	1	1.75	8.34	15	PASS	5.85	1.12	15	PASS
CCV2	CCV	1	19.62	1.83	15	PASS	20.53	1.5	15	PASS
CCB2	CCB	1	0.0058	59.54	15	<PQL	0.073	17.16	15	<PQL
N018549-004B	SAMP	1	1.65	7.67	15	PASS	5.55	1.12	15	PASS
N018549-005B	SAMP	1	1.66	7.35	15	PASS	5.75	0.72	15	PASS
N018561-002B	SAMP	1	1.034	5.98	15	PASS	4.85	1.023	15	PASS
N018561-003B	SAMP	1	1.83	8.37	15	PASS	5.092	0.89	15	PASS
N018561-004B	SAMP	1	1.74	1.15	15	PASS	5.25	1.77	15	PASS
N018561-005B	SAMP	1	1.82	1.96	15	PASS	5.84	1.28	15	PASS
N018548-002B	SAMP	5	0.36	3.69	15	PASS	1.06	1.019	15	PASS
N018548-002B-PS	PS	1	10.9	3.088	15	PASS	17.027	1.74	15	PASS
N018548-002B-MS	MS	1	10.99	1.42	15	PASS	17.055	0.92	15	PASS
N018548-002B-MSD	MSD	1	10.95	3.54	15	PASS	17.13	0.53	15	PASS

PERCENT RSD SUMMARY: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV3	CCV	1	19.49	0.57	15	PASS	20.53	1.32	15	PASS
CCB3	CCB	1	0.0028	243.94	15	<PQL	0.093	10.69	15	PASS
N018549-003B-MS	MS	1	12.37	3.054	15	PASS	14.81	1.022	15	PASS
N018548-002B	SAMP	25	0.073	10.49	15	PASS	0.31	4.77	15	PASS
N018548-002B-PS	PS	5	2.22	10.79	15	PASS	3.13	1.26	15	PASS
N018548-002B-MS	MS	5	2.25	4.19	15	PASS	3.07	1.42	15	PASS
N018548-002B-MSD	MSD	5	2.17	4.73	15	PASS	3.14	1.56	15	PASS
N018549-003B	SAMP	5	0.36	6.71	15	PASS	1.11	2.083	15	PASS
N018549-003B-MS	MS	5	2.34	5.27	15	PASS	3.15	3.49	15	PASS
CCV4	CCV	1	19.82	2.78	15	PASS	20.55	1.052	15	PASS
CCB4	CCB	1	0.00093	386.59	15	<PQL	0.062	10.7	15	PASS
CCV5	CCV	1	19.69	0.97	15	PASS	20.69	0.97	15	PASS
CCB5	CCB	1	0.011	73.13	15	<PQL	0.084	7.41	15	PASS
LLCCV1	CCV2	1	0.5	6.21	20	PASS	0.5	1.84	20	PASS
ICSA2	ICSA	1	0.013	59.47	15	<PQL	0.011	56.28	15	<PQL
ICSAB2	ICSAB	1	18.11	1.77	15	PASS	24.54	1.25	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0202001.D	RINSE	RINSE	1	02/02/16 12:37 PM
A0202002.D	Cal Blank	IBLK	1	02/02/16 12:43 PM
A0202003.D	Std1-0.1/1 ppb	ICAL	1	02/02/16 12:48 PM
A0202004.D	Std2-0.5/5 ppb	ICAL	1	02/02/16 12:54 PM
A0202005.D	Std3-5/50 ppb	ICAL	1	02/02/16 12:59 PM
A0202006.D	Std4-10/100 ppb	ICAL	1	02/02/16 1:05 PM
A0202007.D	Std5-20/200 ppb	ICAL	1	02/02/16 1:10 PM
A0202008.D	Std6-40/400 ppb	ICAL	1	02/02/16 1:16 PM
A0202009.D	Std7-100/1000 ppb	ICAL	1	02/02/16 1:21 PM
A0202010.D	Std8-200/2000 ppb	ICAL	1	02/02/16 1:27 PM
A0202011.D	ICV	ICV	1	02/02/16 1:31 PM
A0202012.D	ICB	ICB	1	02/02/16 1:33 PM
A0202013.D	LLICV	CCV1	1	02/02/16 1:41 PM
A0202014.D	ICSA1	ICSA	1	02/02/16 1:46 PM
A0202015.D	ICSAB1	ICSAB	1	02/02/16 1:52 PM
A0202016.D	MB-56070	MBLK	1	02/02/16 1:54 PM
A0202017.D	LCS-56070	LCS	1	02/02/16 2:02 PM
A0202018.D	N018517-001B	SAMP	5	02/02/16 2:07 PM
A0202019.D	N018517-001B	SAMP	25	02/02/16 2:13 PM
A0202020.D	N018517-001BPS	PS	5	02/02/16 2:19 PM
A0202021.D	N018517-001B-MS	MS	5	02/02/16 2:24 PM
A0202022.D	N018517-001B-MSD	MSD	5	02/02/16 2:30 PM
A0202023.D	MB-56037	MBLK	1	02/02/16 2:32 PM
A0202024.D	LCS-56037	LCS	1	02/02/16 2:34 PM
A0202025.D	N018548-002B	SAMP	1	02/02/16 2:47 PM
A0202026.D	CCV1	CCV	1	02/02/16 2:52 PM
A0202027.D	CCB1	CCB	1	02/02/16 2:54 PM
A0202028.D	N018548-003B	SAMP	1	02/02/16 3:04 PM
A0202029.D	N018548-004B	SAMP	1	02/02/16 3:09 PM
A0202030.D	N018548-005B	SAMP	1	02/02/16 3:15 PM
A0202031.D	N018548-006B	SAMP	1	02/02/16 3:21 PM
A0202032.D	N018548-007B	SAMP	1	02/02/16 3:26 PM
A0202033.D	N018548-008B	SAMP	1	02/02/16 3:32 PM
A0202034.D	N018548-009B	SAMP	1	02/02/16 3:37 PM
A0202035.D	N018548-010B	SAMP	1	02/02/16 3:44 PM
A0202036.D	N018549-002B	SAMP	1	02/02/16 3:49 PM
A0202037.D	N018549-003B	SAMP	1	02/02/16 3:55 PM
A0202038.D	CCV2	CCV	1	02/02/16 4:00 PM
A0202039.D	CCB2	CCB	1	02/02/16 4:06 PM
A0202040.D	N018549-004B	SAMP	1	02/02/16 4:12 PM
A0202041.D	N018549-005B	SAMP	1	02/02/16 4:17 PM
A0202042.D	N018561-002B	SAMP	1	02/02/16 4:23 PM

INJECTION LOG: 160202A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0202043.D	N018561-003B	SAMP	1	02/02/16 4:28 PM
A0202044.D	N018561-004B	SAMP	1	02/02/16 4:34 PM
A0202045.D	N018561-005B	SAMP	1	02/02/16 4:40 PM
A0202046.D	N018548-002B	SAMP	5	02/02/16 4:46 PM
A0202047.D	N018548-002B-PS	PS	1	02/02/16 4:51 PM
A0202048.D	N018548-002B-MS	MS	1	02/02/16 4:57 PM
A0202049.D	N018548-002B-MSD	MSD	1	02/02/16 5:03 PM
A0202050.D	CCV3	CCV	1	02/02/16 5:08 PM
A0202051.D	CCB3	CCB	1	02/02/16 5:14 PM
A0202052.D	N018549-003B-MS	MS	1	02/02/16 5:20 PM
A0202053.D	N018548-002B	SAMP	25	02/02/16 5:25 PM
A0202054.D	N018548-002B-PS	PS	5	02/02/16 5:31 PM
A0202055.D	N018548-002B-MS	MS	5	02/02/16 5:37 PM
A0202056.D	N018548-002B-MSD	MSD	5	02/02/16 5:42 PM
A0202057.D	N018549-003B	SAMP	5	02/02/16 5:48 PM
A0202058.D	N018549-003B-MS	MS	5	02/02/16 5:53 PM
A0202059.D	N018517-001B	SAMP	125	02/02/16 5:59 PM
A0202060.D	N018517-001BPS	PS	25	02/02/16 6:05 PM
A0202061.D	N018517-001B-MS	MS	25	02/02/16 6:10 PM
A0202062.D	CCV4	CCV	1	02/02/16 6:16 PM
A0202063.D	CCB4	CCB	1	02/02/16 6:22 PM
A0202064.D	N018517-001B-MSD	MSD	25	02/02/16 6:27 PM
A0202065.D	CCV5	CCV	1	02/02/16 6:33 PM
A0202066.D	CCB5	CCB	1	02/02/16 6:39 PM
A0202067.D	LLCCV1	CCV2	1	02/02/16 6:43 PM
A0202068.D	ICSA2	ICSA	1	02/02/16 6:50 PM
A0202069.D	ICSAB2	ICSAB	1	02/02/16 6:57 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/29/2016 8:05:05 A**
Prep End Date: **1/29/2016 12:15:00**

Initials/ Date: For: 02/09/2016

Prep Batch **56037** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units: **mL / mL** Temp. (°C): **94.7** Location: **01-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56037	Aqueous		25	☐	0	0	25	1.000		
MB-56037	Aqueous		25	☐	0	0	25	1.000		
N018548-002B	Water	<2	25	☐	0	0	25	1.000		
N018548-002B-MS	Water	<2	25	☐	0	0	25	1.000		
N018548-002B-MS	Water	<2	25	☐	0	0	25	1.000		
N018548-003B	Water	<2	25	☐	0	0	25	1.000		
N018548-004B	Water	<2	25	☐	0	0	25	1.000		
N018548-005B	Water	<2	25	☐	0	0	25	1.000		
N018548-006B	Water	<2	25	☐	0	0	25	1.000		
N018548-007B	Water	<2	25	☐	0	0	25	1.000		
N018548-008B	Water	<2	25	☐	0	0	25	1.000		
N018548-009B	Water	<2	25	☐	0	0	25	1.000		
N018548-010B	Water	<2	25	☐	0	0	25	1.000		
N018549-002B	Water	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-150907	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **1/29/2016 8:05:05 A**
Prep End Date: **1/29/2016 12:15:00**

Initials/ Date: For: 02/09/2016

Prep Batch **56037** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**01-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018549-003B	Water	<2	25	☐	0	0	25	1.000		
N018549-003B-MS	Water	<2	25	☐	0	0	25	1.000		
N018549-004B	Water	<2	25	☐	0	0	25	1.000		
N018549-005B	Water	<2	25	☐	0	0	25	1.000		
N018561-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018561-005B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-150907	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 2 Feb 2016 12:15:11 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	227052.00	0.00	
24 Mg	946230.00	0.00	
25 Mg	127320.00	0.00	
26 Mg	148239.00	0.00	
59 Co	1605310.00	0.00	
115 In	2585560.00	0.00	
206 Pb	673351.00	0.00	
207 Pb	586516.00	0.00	
208 Pb	1441950.00	0.00	

RSD (%)

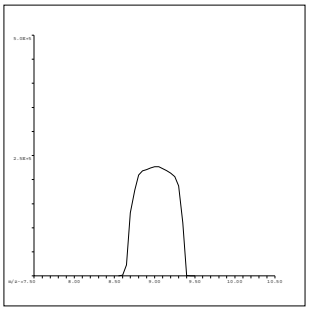
Element	Actual	Required	Flag
9 Be	0.61	5.00	
24 Mg	0.54	5.00	
25 Mg	1.24	5.00	
26 Mg	0.57	5.00	
59 Co	0.60	5.00	
115 In	0.64	5.00	
206 Pb	1.07	5.00	
207 Pb	1.11	5.00	
208 Pb	0.54	5.00	

Ion Ratio

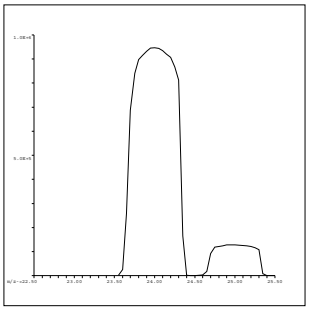
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

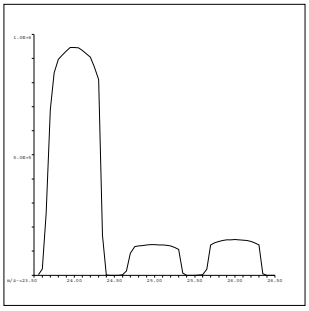
Element	Actual	Required	Flag



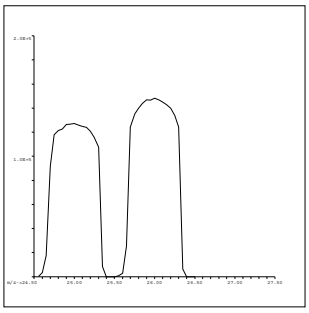
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



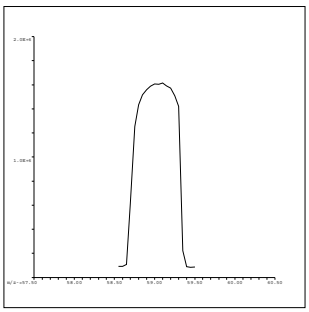
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



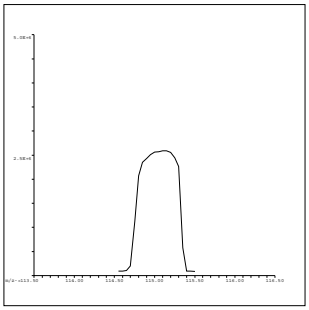
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



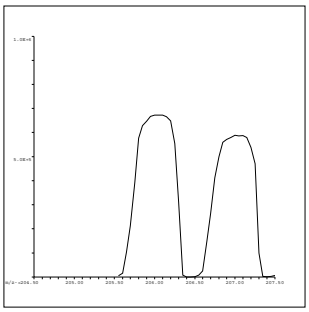
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



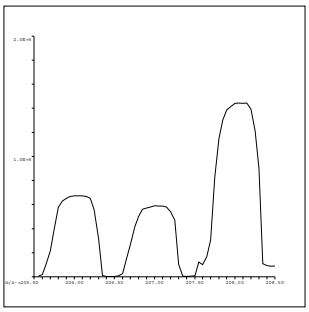
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



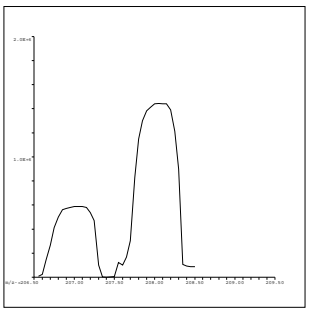
115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.05
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.05
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.05
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160202A

Instrument ID: ICPMS-02

Analyte	Data File	A0202002.D	A0202003.D	A0202004.D	A0202005.D	A0202006.D	A0202007.D	A0202008.D	A0202009.D	A0202010.D	
	Acq. Date-Time	02/02/2016 12:43 PM	02/02/2016 12:48 PM	02/02/2016 12:54 PM	02/02/2016 12:59 PM	02/02/2016 01:05 PM	02/02/2016 01:10 PM	02/02/2016 01:16 PM	02/02/2016 01:21 PM	02/02/2016 01:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	292442.4		287260	288186.7	286965	286768.1	290227.2	295409.7	295289.8	
55 Mn [2]	CPS	356.7		6302.4	59321.7	116775.6	236217.4	470110.2	1174436.3	2403407.3	0.9999
52 Cr [2]	CPS	491.1		11426.5	109881.4	216677.1	432192.7	868865.2	2238297.8	4430974.5	1.0000
72 Ge (ISTD) [1]	CPS	224986.9		226718.8	225251.7	226839.2	226815.4	226501.1	226580.7	228006.2	
78 Se [1]	CPS	1.1		521.1	4949.9	9929	19841.7	39023.4	99232.4	193667.8	0.9999
72 Ge (ISTD) [2]	CPS	195710.5	194940.1	194533.7	193187.8	193143.6	193883.7	194938.4	194591.1	194497.4	
75 As [2]	CPS	122.7	352	1242.3	11726.5	23154.3	45796.4	93738.1	232247.7	464330.7	1.0000
103 Rh (ISTD) [2]	CPS	6002799.1		5922535.7	5970733.9	5895450.3	5960075.8	5995163.6	5975324.6	5888481.4	
95 Mo [2]	CPS	574.5		6899.6	65159.7	127591.3	257228.8	514419.8	1278348.2	2540619.4	1.0000
159 Tb (ISTD) [3]	CPS	16754434.1		16767152	16705741.1	16583411.3	16681906.3	16675255.4	16914192.1	16770914.6	
137 Ba [3]	CPS	405.9		13614.6	130606.6	259386.3	515167	1030803.4	2632435	5158835	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218357**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.823	0.10	10.00	0	98.2	90	110				
Barium	98.097	1.0	100.0	0	98.1	90	110				
Manganese	91.250	0.50	100.0	0	91.2	90	110				
Molybdenum	9.787	0.50	10.00	0	97.9	90	110				
Selenium	9.506	0.50	10.00	0	95.1	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.088	0.10	0.1000	0	88.1	80	120				
Barium	1.141	1.0	1.000	0	114	80	120				
Manganese	0.592	0.50	0.5000	0	118	80	120				
Molybdenum	0.488	0.50	0.5000	0	97.7	80	120				
Selenium	0.508	0.50	0.5000	0	102	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.727	0.10	20.00	0	98.6	90	110				
Barium	20.409	1.0	20.00	0	102	90	110				
Manganese	19.911	0.50	20.00	0	99.6	90	110				
Molybdenum	20.360	0.50	20.00	0	102	90	110				
Selenium	19.479	0.50	20.00	0	97.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.587	0.10	20.00	0	97.9	90	110				
Barium	20.745	1.0	20.00	0	104	90	110				
Manganese	19.842	0.50	20.00	0	99.2	90	110				
Molybdenum	20.534	0.50	20.00	0	103	90	110				
Selenium	19.617	0.50	20.00	0	98.1	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.404	0.10	20.00	0	97.0	90	110				
Barium	20.807	1.0	20.00	0	104	90	110				
Manganese	19.823	0.50	20.00	0	99.1	90	110				
Molybdenum	20.530	0.50	20.00	0	103	90	110				
Selenium	19.490	0.50	20.00	0	97.5	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.402	0.10	20.00	0	97.0	90	110				
Barium	20.663	1.0	20.00	0	103	90	110				
Manganese	20.229	0.50	20.00	0	101	90	110				
Molybdenum	20.553	0.50	20.00	0	103	90	110				
Selenium	19.823	0.50	20.00	0	99.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.351	0.10	20.00	0	96.8	90	110				
Barium	20.870	1.0	20.00	0	104	90	110				
Manganese	20.143	0.50	20.00	0	101	90	110				
Molybdenum	20.691	0.50	20.00	0	103	90	110				
Selenium	19.695	0.50	20.00	0	98.5	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.071	0.10	0.1000	0	71.1	70	130				
Barium	1.097	1.0	1.000	0	110	70	130				
Manganese	0.566	0.50	0.5000	0	113	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.5	70	130				
Selenium	0.502	0.50	0.5000	0	100	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.802	1.0	10.00	0	98.0	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.017	1.0	1.000	0	102	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.759	1.0	20.00	0	98.8	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.586	1.0	20.00	0	97.9	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCV** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218327**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.436	1.0	20.00	0	97.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	CCV	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218339

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.634	1.0	20.00	0	98.2	90	110				

Sample ID	CCV5	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	CCV	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218342

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.606	1.0	20.00	0	98.0	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	ZZZZZZ	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218344

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.035	1.0	1.000	0	104	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.073	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	CCB	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.093	0.50									
Selenium	ND	0.50									

Sample ID	CCB4	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	CCB	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218409

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.062	0.50									
Selenium	ND	0.50									

Sample ID	CCB5	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	CCB	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218412

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.084	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo	Client ID	Batch ID	TestNo	Analysis Date	SeqNo
ICB	**ICB**	**6020DIS_CrP**	**µg/L**		**105652**	**ICB**	**R105652**	**EPA 6020**	**2/2/2016**	**2218289**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo	Client ID	Batch ID	TestNo	Analysis Date	SeqNo
CCB1	**CCB**	**6020DIS_CrP**	**µg/L**		**105652**	**CCB**	**R105652**	**EPA 6020**	**2/2/2016**	**2218304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo	Client ID	Batch ID	TestNo	Analysis Date	SeqNo
CCB2	**CCB**	**6020DIS_CrP**	**µg/L**		**105652**	**CCB**	**R105652**	**EPA 6020**	**2/2/2016**	**2218316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo	Client ID	Batch ID	TestNo	Analysis Date	SeqNo
CCB3	**CCB**	**6020DIS_CrP**	**µg/L**		**105652**	**CCB**	**R105652**	**EPA 6020**	**2/2/2016**	**2218328**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo	Client ID	Batch ID	TestNo	Analysis Date	SeqNo
CCB4	**CCB**	**6020DIS_CrP**	**µg/L**		**105652**	**CCB**	**R105652**	**EPA 6020**	**2/2/2016**	**2218340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **CCB5** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **CCB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSA** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218360**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSAB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	17.450	0.10	20.00	0	87.2	80	120				
Barium	19.795	1.0	20.00	0	99.0	80	120				
Manganese	16.624	0.50	20.00	0	83.1	80	120				
Molybdenum	23.775	0.50	20.00	0	119	80	120				
Selenium	16.382	0.50	20.00	0	81.9	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSA** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	ICSAB	Batch ID:	R105652	TestNo:	EPA 6020			Analysis Date:	2/2/2016	SeqNo:	2218415

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.591	0.10	20.00	0	103	80	120				
Barium	20.376	1.0	20.00	0	102	80	120				
Manganese	16.960	0.50	20.00	0	84.8	80	120				
Molybdenum	24.540	0.50	20.00	0	123	80	120				S
Selenium	18.106	0.50	20.00	0	90.5	80	120				

Mo on ICSAB2 is biased high ,however, CCVs are within criteria.

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Nancy 2/11/201

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSA** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.181	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSAB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.126	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSA** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ICSAB** Batch ID: **R105652** TestNo: **EPA 6020** Analysis Date: **2/2/2016** SeqNo: **2218346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.472	1.0	20.00	0	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	16754434.1	16754434.1	100	PASS	70-130	292442.4	292442.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	16656252.1	16754434.1	99.41	PASS	70-130	288409.8	292442.4	98.62	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	16767152	16754434.1	100.08	PASS	70-130	287260	292442.4	98.23	PASS	70-130
Std3-5/50 ppb	ICAL	1	16705741.1	16754434.1	99.71	PASS	70-130	288186.7	292442.4	98.54	PASS	70-130
Std4-10/100 ppb	ICAL	1	16583411.3	16754434.1	98.98	PASS	70-130	286965	292442.4	98.13	PASS	70-130
Std5-20/200 ppb	ICAL	1	16681906.3	16754434.1	99.57	PASS	70-130	286768.1	292442.4	98.06	PASS	70-130
Std6-40/400 ppb	ICAL	1	16675255.4	16754434.1	99.53	PASS	70-130	290227.2	292442.4	99.24	PASS	70-130
Std7-100/1000 ppb	ICAL	1	16914192.1	16754434.1	100.95	PASS	70-130	295409.7	292442.4	101.02	PASS	70-130
Std8-200/2000 ppb	ICAL	1	16770914.6	16754434.1	100.1	PASS	70-130	295289.8	292442.4	100.97	PASS	70-130
ICV	ICV	1	18062537.7	16754434.1	107.81	PASS	70-130	305080.2	292442.4	104.32	PASS	70-130
ICB	ICB	1	19725056	16754434.1	117.73	PASS	70-130	329892.9	292442.4	112.81	PASS	70-130
LLICV	CCV1	1	20050602.8	16754434.1	119.67	PASS	70-130	346156.5	292442.4	118.37	PASS	70-130
ICSA1	ICSA	1	15052327	16754434.1	89.84	PASS	70-130	303954.7	292442.4	103.94	PASS	70-130
ICSAB1	ICSAB	1	13745767	16754434.1	82.043	PASS	70-130	299663.2	292442.4	102.47	PASS	70-130
MB-56037	MBLK	1	17362051.3	16754434.1	103.63	PASS	70-130	281957.4	292442.4	96.41	PASS	70-130
LCS-56037	LCS	1	17957158.5	16754434.1	107.18	PASS	70-130	290578.3	292442.4	99.36	PASS	70-130
N018548-002B	SAMP	1	17003043.1	16754434.1	101.48	PASS	70-130	308742.7	292442.4	105.57	PASS	70-130
CCV1	CCV	1	17824191.5	16754434.1	106.38	PASS	70-130	309972.1	292442.4	105.99	PASS	70-130
CCB1	CCB	1	17355800.3	16754434.1	103.59	PASS	70-130	287106.3	292442.4	98.18	PASS	70-130
N018548-003B	SAMP	1	16492459.9	16754434.1	98.44	PASS	70-130	292747.3	292442.4	100.1	PASS	70-130
N018548-004B	SAMP	1	16604877.1	16754434.1	99.11	PASS	70-130	295926.2	292442.4	101.19	PASS	70-130
N018548-005B	SAMP	1	16800921.6	16754434.1	100.28	PASS	70-130	298037.3	292442.4	101.91	PASS	70-130
N018548-006B	SAMP	1	16819632.5	16754434.1	100.39	PASS	70-130	300411.9	292442.4	102.73	PASS	70-130
N018548-007B	SAMP	1	17305552.8	16754434.1	103.29	PASS	70-130	312075.6	292442.4	106.71	PASS	70-130
N018548-008B	SAMP	1	16716408.6	16754434.1	99.77	PASS	70-130	301311.6	292442.4	103.03	PASS	70-130
N018548-009B	SAMP	1	16990476.3	16754434.1	101.41	PASS	70-130	303928.3	292442.4	103.93	PASS	70-130
N018548-010B	SAMP	1	17225332.4	16754434.1	102.81	PASS	70-130	304846.3	292442.4	104.24	PASS	70-130
N018549-002B	SAMP	1	17228017	16754434.1	102.83	PASS	70-130	306189.4	292442.4	104.7	PASS	70-130
N018549-003B	SAMP	1	17176602.9	16754434.1	102.52	PASS	70-130	304673.8	292442.4	104.18	PASS	70-130
CCV2	CCV	1	18323047.5	16754434.1	109.36	PASS	70-130	312445.9	292442.4	106.84	PASS	70-130
CCB2	CCB	1	18255622.8	16754434.1	108.96	PASS	70-130	311197.8	292442.4	106.41	PASS	70-130
N018549-004B	SAMP	1	16936976.1	16754434.1	101.09	PASS	70-130	291970.7	292442.4	99.84	PASS	70-130
N018549-005B	SAMP	1	17230445.6	16754434.1	102.84	PASS	70-130	296553.6	292442.4	101.41	PASS	70-130
N018561-002B	SAMP	1	16943355.2	16754434.1	101.13	PASS	70-130	292056	292442.4	99.87	PASS	70-130
N018561-003B	SAMP	1	16832439.1	16754434.1	100.47	PASS	70-130	287313.1	292442.4	98.25	PASS	70-130
N018561-004B	SAMP	1	17640397.4	16754434.1	105.29	PASS	70-130	309584.6	292442.4	105.86	PASS	70-130
N018561-005B	SAMP	1	17585687.5	16754434.1	104.96	PASS	70-130	309551.5	292442.4	105.85	PASS	70-130
N018548-002B	SAMP	5	17896998.1	16754434.1	106.82	PASS	70-130	309021.9	292442.4	105.67	PASS	70-130
N018548-002B-PS	PS	1	16431298.9	16754434.1	98.071	PASS	70-130	287750.6	292442.4	98.4	PASS	70-130
N018548-002B-MS	MS	1	16721720.3	16754434.1	99.8	PASS	70-130	290853.2	292442.4	99.46	PASS	70-130
N018548-002B-MSD	MSD	1	16640292	16754434.1	99.32	PASS	70-130	291279.7	292442.4	99.6	PASS	70-130

INTERNAL STANDARD: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV3	CCV	1	18440127.5	16754434.1	110.06	PASS	70-130	312251.9	292442.4	106.77	PASS	70-130
CCB3	CCB	1	18285260.3	16754434.1	109.14	PASS	70-130	311383.8	292442.4	106.48	PASS	70-130
N018549-003B-MS	MS	1	16968177.7	16754434.1	101.28	PASS	70-130	304083.6	292442.4	103.98	PASS	70-130
N018548-002B	SAMP	25	17675174	16754434.1	105.5	PASS	70-130	302253.2	292442.4	103.35	PASS	70-130
N018548-002B-PS	PS	5	17087422.2	16754434.1	101.99	PASS	70-130	286084.2	292442.4	97.83	PASS	70-130
N018548-002B-MS	MS	5	17149808.8	16754434.1	102.36	PASS	70-130	281428.6	292442.4	96.23	PASS	70-130
N018548-002B-MSD	MSD	5	17236020.7	16754434.1	102.87	PASS	70-130	282262.7	292442.4	96.52	PASS	70-130
N018549-003B	SAMP	5	17538293.2	16754434.1	104.68	PASS	70-130	286219	292442.4	97.87	PASS	70-130
N018549-003B-MS	MS	5	17435552.9	16754434.1	104.07	PASS	70-130	286869.7	292442.4	98.094	PASS	70-130
CCV4	CCV	1	17579556.3	16754434.1	104.92	PASS	70-130	286663.1	292442.4	98.024	PASS	70-130
CCB4	CCB	1	17547994.9	16754434.1	104.74	PASS	70-130	284077.8	292442.4	97.14	PASS	70-130
CCV5	CCV	1	17504055.2	16754434.1	104.47	PASS	70-130	289466.4	292442.4	98.98	PASS	70-130
CCB5	CCB	1	17526572.2	16754434.1	104.61	PASS	70-130	287382.8	292442.4	98.27	PASS	70-130
LLCCV1	CCV2	1	16879653.8	16754434.1	100.75	PASS	70-130	278028.6	292442.4	95.071	PASS	70-130
ICSA2	ICSA	1	15528192	16754434.1	92.68	PASS	70-130	293702.5	292442.4	100.43	PASS	70-130
ICSAB2	ICSAB	1	16257618.2	16754434.1	97.035	PASS	70-130	326524.1	292442.4	111.65	PASS	70-130

INTERNAL STANDARD: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	195710.5	195710.5	100	PASS	70-130	224986.9	224986.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	194940.1	195710.5	99.61	PASS	70-130	226870.1	224986.9	100.84	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	194533.7	195710.5	99.4	PASS	70-130	226718.8	224986.9	100.77	PASS	70-130
Std3-5/50 ppb	ICAL	1	193187.8	195710.5	98.71	PASS	70-130	225251.7	224986.9	100.12	PASS	70-130
Std4-10/100 ppb	ICAL	1	193143.6	195710.5	98.69	PASS	70-130	226839.2	224986.9	100.82	PASS	70-130
Std5-20/200 ppb	ICAL	1	193883.7	195710.5	99.067	PASS	70-130	226815.4	224986.9	100.81	PASS	70-130
Std6-40/400 ppb	ICAL	1	194938.4	195710.5	99.61	PASS	70-130	226501.1	224986.9	100.67	PASS	70-130
Std7-100/1000 ppb	ICAL	1	194591.1	195710.5	99.43	PASS	70-130	226580.7	224986.9	100.71	PASS	70-130
Std8-200/2000 ppb	ICAL	1	194497.4	195710.5	99.38	PASS	70-130	228006.2	224986.9	101.34	PASS	70-130
ICV	ICV	1	200436.7	195710.5	102.41	PASS	70-130	241346.3	224986.9	107.27	PASS	70-130
ICB	ICB	1	218270.8	195710.5	111.53	PASS	70-130	246978.6	224986.9	109.77	PASS	70-130
LLICV	CCV1	1	233432.8	195710.5	119.27	PASS	70-130	281931.6	224986.9	125.31	PASS	70-130
ICSA1	ICSA	1	228939.6	195710.5	116.98	PASS	70-130	255602.8	224986.9	113.61	PASS	70-130
ICSAB1	ICSAB	1	218735.6	195710.5	111.76	PASS	70-130	255723.4	224986.9	113.66	PASS	70-130
MB-56037	MBLK	1	197936.3	195710.5	101.14	PASS	70-130	237625	224986.9	105.62	PASS	70-130
LCS-56037	LCS	1	203135.1	195710.5	103.79	PASS	70-130	249763.5	224986.9	111.01	PASS	70-130
N018548-002B	SAMP	1	200913.2	195710.5	102.66	PASS	70-130	252847.6	224986.9	112.38	PASS	70-130
CCV1	CCV	1	212236.5	195710.5	108.44	PASS	70-130	256442.7	224986.9	113.98	PASS	70-130
CCB1	CCB	1	199360.4	195710.5	101.86	PASS	70-130	241869	224986.9	107.5	PASS	70-130
N018548-003B	SAMP	1	190933.8	195710.5	97.56	PASS	70-130	232854.3	224986.9	103.5	PASS	70-130
N018548-004B	SAMP	1	194302.7	195710.5	99.28	PASS	70-130	230222.4	224986.9	102.33	PASS	70-130
N018548-005B	SAMP	1	196461.3	195710.5	100.38	PASS	70-130	224045.5	224986.9	99.58	PASS	70-130
N018548-006B	SAMP	1	197854.8	195710.5	101.1	PASS	70-130	224356.4	224986.9	99.72	PASS	70-130
N018548-007B	SAMP	1	206353.8	195710.5	105.44	PASS	70-130	231026.5	224986.9	102.68	PASS	70-130
N018548-008B	SAMP	1	199489.9	195710.5	101.93	PASS	70-130	224584.3	224986.9	99.82	PASS	70-130
N018548-009B	SAMP	1	202417.2	195710.5	103.43	PASS	70-130	225165.5	224986.9	100.08	PASS	70-130
N018548-010B	SAMP	1	202986.7	195710.5	103.72	PASS	70-130	230742.6	224986.9	102.56	PASS	70-130
N018549-002B	SAMP	1	202132	195710.5	103.28	PASS	70-130	229532.5	224986.9	102.02	PASS	70-130
N018549-003B	SAMP	1	203400.3	195710.5	103.93	PASS	70-130	228926.7	224986.9	101.75	PASS	70-130
CCV2	CCV	1	217547.7	195710.5	111.16	PASS	70-130	254756.6	224986.9	113.23	PASS	70-130
CCB2	CCB	1	218558.2	195710.5	111.67	PASS	70-130	263832.8	224986.9	117.27	PASS	70-130
N018549-004B	SAMP	1	195483	195710.5	99.88	PASS	70-130	232777.4	224986.9	103.46	PASS	70-130
N018549-005B	SAMP	1	199613	195710.5	101.99	PASS	70-130	232218.5	224986.9	103.21	PASS	70-130
N018561-002B	SAMP	1	196309.6	195710.5	100.31	PASS	70-130	225483.7	224986.9	100.22	PASS	70-130
N018561-003B	SAMP	1	199697.5	195710.5	102.04	PASS	70-130	229426.8	224986.9	101.97	PASS	70-130
N018561-004B	SAMP	1	210895.4	195710.5	107.76	PASS	70-130	243184.2	224986.9	108.09	PASS	70-130
N018561-005B	SAMP	1	207187.9	195710.5	105.86	PASS	70-130	234179.4	224986.9	104.09	PASS	70-130
N018548-002B	SAMP	5	217172.5	195710.5	110.97	PASS	70-130	253419.5	224986.9	112.64	PASS	70-130
N018548-002B-PS	PS	1	194858.4	195710.5	99.56	PASS	70-130	226673.3	224986.9	100.75	PASS	70-130
N018548-002B-MS	MS	1	193721.8	195710.5	98.98	PASS	70-130	226210.5	224986.9	100.54	PASS	70-130
N018548-002B-MSD	MSD	1	195525.6	195710.5	99.91	PASS	70-130	225983.5	224986.9	100.44	PASS	70-130

INTERNAL STANDARD: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV3	CCV	1	218824.1	195710.5	111.81	PASS	70-130	267684.1	224986.9	118.98	PASS	70-130
CCB3	CCB	1	220144.7	195710.5	112.48	PASS	70-130	267168.7	224986.9	118.75	PASS	70-130
N018549-003B-MS	MS	1	205489.2	195710.5	105	PASS	70-130	238186.5	224986.9	105.87	PASS	70-130
N018548-002B	SAMP	25	216806.6	195710.5	110.78	PASS	70-130	261297.6	224986.9	116.14	PASS	70-130
N018548-002B-PS	PS	5	202748.9	195710.5	103.6	PASS	70-130	244796.4	224986.9	108.8	PASS	70-130
N018548-002B-MS	MS	5	199834	195710.5	102.11	PASS	70-130	239587.6	224986.9	106.49	PASS	70-130
N018548-002B-MSD	MSD	5	200968.7	195710.5	102.69	PASS	70-130	241591.2	224986.9	107.38	PASS	70-130
N018549-003B	SAMP	5	204500.4	195710.5	104.49	PASS	70-130	244859.2	224986.9	108.83	PASS	70-130
N018549-003B-MS	MS	5	205177.1	195710.5	104.84	PASS	70-130	244787.8	224986.9	108.8	PASS	70-130
CCV4	CCV	1	206828.1	195710.5	105.68	PASS	70-130	251721.6	224986.9	111.88	PASS	70-130
CCB4	CCB	1	205728.1	195710.5	105.12	PASS	70-130	248812.3	224986.9	110.59	PASS	70-130
CCV5	CCV	1	207879.9	195710.5	106.22	PASS	70-130	256036.9	224986.9	113.8	PASS	70-130
CCB5	CCB	1	206754.2	195710.5	105.64	PASS	70-130	255300.6	224986.9	113.47	PASS	70-130
LLCCV1	CCV2	1	194639.4	195710.5	99.45	PASS	70-130	243707.3	224986.9	108.32	PASS	70-130
ICSA2	ICSA	1	232744.1	195710.5	118.92	PASS	70-130	265188.6	224986.9	117.87	PASS	70-130
ICSAB2	ICSAB	1	208301.6	195710.5	106.43	PASS	70-130	234854.1	224986.9	104.39	PASS	70-130

INTERNAL STANDARD: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	6002799.1	6002799.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	5979835.3	6002799.1	99.62	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	5922535.7	6002799.1	98.66	PASS	70-130
Std3-5/50 ppb	ICAL	1	5970733.9	6002799.1	99.47	PASS	70-130
Std4-10/100 ppb	ICAL	1	5895450.3	6002799.1	98.21	PASS	70-130
Std5-20/200 ppb	ICAL	1	5960075.8	6002799.1	99.29	PASS	70-130
Std6-40/400 ppb	ICAL	1	5995163.6	6002799.1	99.87	PASS	70-130
Std7-100/1000 ppb	ICAL	1	5975324.6	6002799.1	99.54	PASS	70-130
Std8-200/2000 ppb	ICAL	1	5888481.4	6002799.1	98.096	PASS	70-130
ICV	ICV	1	6207742.1	6002799.1	103.41	PASS	70-130
ICB	ICB	1	6773012.7	6002799.1	112.83	PASS	70-130
LLICV	CCV1	1	6999736.3	6002799.1	116.61	PASS	70-130
ICSA1	ICSA	1	5065715.1	6002799.1	84.39	PASS	70-130
ICSAB1	ICSAB	1	4926241.3	6002799.1	82.066	PASS	70-130
MB-56037	MBLK	1	5666693.5	6002799.1	94.4	PASS	70-130
LCS-56037	LCS	1	5834800.7	6002799.1	97.2	PASS	70-130
N018548-002B	SAMP	1	5430949.4	6002799.1	90.47	PASS	70-130
CCV1	CCV	1	6237760.5	6002799.1	103.91	PASS	70-130
CCB1	CCB	1	5730891	6002799.1	95.47	PASS	70-130
N018548-003B	SAMP	1	5177046.8	6002799.1	86.24	PASS	70-130
N018548-004B	SAMP	1	5265867.5	6002799.1	87.72	PASS	70-130
N018548-005B	SAMP	1	5365865.2	6002799.1	89.39	PASS	70-130
N018548-006B	SAMP	1	5369048.5	6002799.1	89.44	PASS	70-130
N018548-007B	SAMP	1	5570025.9	6002799.1	92.79	PASS	70-130
N018548-008B	SAMP	1	5331486.8	6002799.1	88.82	PASS	70-130
N018548-009B	SAMP	1	5410001.4	6002799.1	90.12	PASS	70-130
N018548-010B	SAMP	1	5462110.7	6002799.1	90.99	PASS	70-130
N018549-002B	SAMP	1	5457127.9	6002799.1	90.91	PASS	70-130
N018549-003B	SAMP	1	5433250.9	6002799.1	90.51	PASS	70-130
CCV2	CCV	1	6229991.2	6002799.1	103.78	PASS	70-130
CCB2	CCB	1	6279712.9	6002799.1	104.61	PASS	70-130
N018549-004B	SAMP	1	5209704.8	6002799.1	86.79	PASS	70-130
N018549-005B	SAMP	1	5312796.9	6002799.1	88.51	PASS	70-130
N018561-002B	SAMP	1	5231795.7	6002799.1	87.16	PASS	70-130
N018561-003B	SAMP	1	5330438.5	6002799.1	88.8	PASS	70-130
N018561-004B	SAMP	1	5593583.8	6002799.1	93.18	PASS	70-130
N018561-005B	SAMP	1	5515615.3	6002799.1	91.88	PASS	70-130
N018548-002B	SAMP	5	5877546.5	6002799.1	97.91	PASS	70-130
N018548-002B-PS	PS	1	5169735.7	6002799.1	86.12	PASS	70-130
N018548-002B-MS	MS	1	5156248.3	6002799.1	85.9	PASS	70-130
N018548-002B-MSD	MSD	1	5169020.7	6002799.1	86.11	PASS	70-130

INTERNAL STANDARD: 160202A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
CCV3	CCV	1	6216441.9	6002799.1	103.56	PASS	70-130
CCB3	CCB	1	6235637.9	6002799.1	103.88	PASS	70-130
N018549-003B-MS	MS	1	5381066.4	6002799.1	89.64	PASS	70-130
N018548-002B	SAMP	25	5974659.1	6002799.1	99.53	PASS	70-130
N018548-002B-PS	PS	5	5540363.9	6002799.1	92.3	PASS	70-130
N018548-002B-MS	MS	5	5485078	6002799.1	91.38	PASS	70-130
N018548-002B-MSD	MSD	5	5511833.9	6002799.1	91.82	PASS	70-130
N018549-003B	SAMP	5	5583750.5	6002799.1	93.019	PASS	70-130
N018549-003B-MS	MS	5	5593834.6	6002799.1	93.19	PASS	70-130
CCV4	CCV	1	5866879.7	6002799.1	97.74	PASS	70-130
CCB4	CCB	1	5781722.8	6002799.1	96.32	PASS	70-130
CCV5	CCV	1	5844417.6	6002799.1	97.36	PASS	70-130
CCB5	CCB	1	5823181.2	6002799.1	97.008	PASS	70-130
LLCCV1	CCV2	1	5600830.5	6002799.1	93.3	PASS	70-130
ICSA2	ICSA	1	4866804	6002799.1	81.076	PASS	70-130
ICSAB2	ICSAB	1	5288772	6002799.1	88.11	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018561
Test Method: EPA 6020
Analysis Date: 2/2/2016

Matrix: Groundwater
Batch No.: 56037

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to several analytes. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018548-002B DT 5X	Arsenic	ug/L	2.141314	NA	2.299317	6.87%	10
N018548-002B DT 5X	Barium	ug/L	140.7228	PASS	139.4204	0.93%	10
N018548-002B DT 5X	Chromium	ug/L	0	NA	0		10
N018548-002B DT 5X	Manganese	ug/L	0	NA	0		10
N018548-002B DT 5X	Molybdenum	ug/L	5.299928	NA	5.605258	5.45%	10
N018548-002B DT 5X	Selenium	ug/L	1.793963	NA	1.589998	12.83%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018548-002B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105652**
Client ID: **ZZZZZZ** Batch ID: **56037** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/2/2016** SeqNo: **2218393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.025	0.10	10.00	2.299	97.3	80	120				
Barium	241.556	1.0	100.0	139.4	102	80	120				
Manganese	92.031	0.50	100.0	0	92.0	80	120				
Molybdenum	17.027	0.50	10.00	5.605	114	80	120				
Selenium	10.899	0.50	10.00	1.590	93.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018561
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	N018548-002B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105652
Client ID:	ZZZZZZ	Batch ID:	56037	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/2/2016	SeqNo:	2218324

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.385	1.0	10.00	0	93.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock - PMP

ASSET Laboratories Work Order: N018628

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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February 19, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018628

RE: PG&E Topock - PMP

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 02, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *19-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP
Lab Order: N018628

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N018617-011B-MS, N018617-011B-MSD and N018632-001B-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium on QC samples N018628-001B-MS2 and N018628-001B-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *19-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP
Lab Order: N018628
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018628-001A	PE-01-0116	Water	2/2/2016 7:32:00 AM	2/2/2016	2/19/2016
N018628-001B	PE-01-0116	Water	2/2/2016 7:32:00 AM	2/2/2016	2/19/2016
N018628-001C	PE-01-0116	Water	2/2/2016 7:32:00 AM	2/2/2016	2/19/2016
N018628-001D	PE-01-0116	Water	2/2/2016 7:32:00 AM	2/2/2016	2/19/2016
N018628-002A	TW-3D-0116	Water	2/2/2016 7:51:00 AM	2/2/2016	2/19/2016
N018628-002B	TW-3D-0116	Water	2/2/2016 7:51:00 AM	2/2/2016	2/19/2016
N018628-002C	TW-3D-0116	Water	2/2/2016 7:51:00 AM	2/2/2016	2/19/2016
N018628-002D	TW-3D-0116	Water	2/2/2016 7:51:00 AM	2/2/2016	2/19/2016

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ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160203A**	QC Batch: **R105645**			PrepDate			Analyst: **LR**
Specific Conductance	4100	0.10	0.10		umhos/cm	1	2/3/2016 02:10 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160203A**	QC Batch: **R105645**			PrepDate			Analyst: **LR**
Specific Conductance	7800	0.10	0.10		umhos/cm	1	2/3/2016 02:10 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018628-001A DUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **105645**
Client ID: **ZZZZZZ** Batch ID: **R105645** TestNo: **EPA 120.1** Analysis Date: **2/3/2016** SeqNo: **2217348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	4110.000	0.10						4120	0.243	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160203C**	QC Batch: **R105650**			PrepDate			Analyst: **LR**
pH	7.6	0.10	0.10	H	pH Units	1	2/3/2016 02:00 PM
Temp. at time of pH Analysis	17	0.10	0.10	H	°C	1	2/3/2016 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160203C**	QC Batch: **R105650**			PrepDate			Analyst: **LR**
pH	7.3	0.10	0.10	H	pH Units	1	2/3/2016 02:00 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/3/2016 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018643-002A DUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **105650**
Client ID: **ZZZZZZ** Batch ID: **R105650** TestNo: **SM4500-H+B** Analysis Date: **2/3/2016** SeqNo: **2217484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.380	0.10						7.360	0.271	10	H
Temp. at time of pH Analysis	16.700	0.10						16.80	0.597	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160203E**	QC Batch: **56107**				PrepDate	**2/3/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	2600	33	33		mg/L	1	2/3/2016 02:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160203E**	QC Batch: **56107**				PrepDate	**2/3/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4700	50	50		mg/L	1	2/3/2016 02:30 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID **MB-56107** SampType: **MBLK** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **2/3/2016** RunNo: **105670**
Client ID: **PBW** Batch ID: **56107** TestNo: **SM2540C** Analysis Date: **2/3/2016** SeqNo: **2219098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID **LCS-56107** SampType: **LCS** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **2/3/2016** RunNo: **105670**
Client ID: **LCSW** Batch ID: **56107** TestNo: **SM2540C** Analysis Date: **2/3/2016** SeqNo: **2219099**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	984.000	10	1000	0	98.4	80	120				

Sample ID **N018628-002A-DUP** SampType: **DUP** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **2/3/2016** RunNo: **105670**
Client ID: **ZZZZZZ** Batch ID: **56107** TestNo: **SM2540C** Analysis Date: **2/3/2016** SeqNo: **2219102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4640.000	50						4725	1.82	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC6_160203A** QC Batch: **R105697** PrepDate							Analyst: **RB**
Hexavalent Chromium	3.9	0.015	0.20		µg/L	1	2/3/2016 02:42 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **ICP7_160207B** QC Batch: **56150** PrepDate **2/5/2016**							Analyst: **CEI**
Chromium	3.3	0.086	1.0		µg/L	1	2/7/2016 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM							
			SM 3500-CR B				
RunID: **WETCHEM_160216D**	QC Batch: **R105908**			PrepDate			Analyst: **QBM**
Chromium, Hexavalent	730	2.8	20		µg/L	2	2/16/2016
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160209A**	QC Batch: **56150**			PrepDate	**2/5/2016**		Analyst: **CEI**
Chromium	720	0.43	5.0		µg/L	5	2/9/2016 02:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R105697** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **PBW** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R105697** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **LCSW** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.877	0.20	5.000	0	97.5	90	110				

Sample ID **N018616-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ZZZZZZ** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.728	0.20						1.687	2.42	20	

Sample ID **N018616-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ZZZZZZ** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.935	0.20	5.000	1.687	105	90	110				

Sample ID **N018616-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ZZZZZZ** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.057	0.20	5.000	1.687	107	90	110	6.935	1.74	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018628-001CMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ZZZZZZ** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.753	0.20	5.000	3.876	97.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID **LCS-R105908** SampType: **LCS** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **LCSW** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2233999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	98.731	10	100.0	0	98.7	85	115				

Sample ID **MB-R105908** SampType: **MBLK** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **PBW** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2234000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	10									

Sample ID **N018478-019ADUP** SampType: **DUP** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **ZZZZZZ** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2234002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	745.108	20						750.2	0.679	20	

Sample ID **N018644-002CMS** SampType: **MS** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **ZZZZZZ** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2234005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1245.186	20	500.0	733.4	102	85	115				

Sample ID **N018644-002CMSD** SampType: **MSD** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **ZZZZZZ** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2234006**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	1244.304	20	500.0	733.4	102	85	115	1245	0.0709	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-56150	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/5/2016	RunNo:	105741
Client ID:	PBW	Batch ID:	56150	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-56150	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/5/2016	RunNo:	105741
Client ID:	LCSW	Batch ID:	56150	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224646

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.056	1.0	10.00	0	90.6	85	115				

Sample ID	N018628-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/5/2016	RunNo:	105741
Client ID:	ZZZZZZ	Batch ID:	56150	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224655

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.713	1.0	10.00	3.306	84.1	75	125				

Sample ID	N018628-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/5/2016	RunNo:	105741
Client ID:	ZZZZZZ	Batch ID:	56150	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224656

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.788	1.0	10.00	3.306	84.8	75	125	11.71	0.638	20	

Sample ID	N018632-008B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/5/2016	RunNo:	105741
Client ID:	ZZZZZZ	Batch ID:	56150	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224669

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.060	1.0	10.00	9.695	83.6	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160205C**	QC Batch: **R105783**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	2/5/2016 03:50 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	2/5/2016 03:50 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	2/5/2016 03:50 PM
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	2/5/2016 03:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160205C**	QC Batch: **R105783**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	130	1.2	5.0		mg/L	1	2/5/2016 03:50 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	2/5/2016 03:50 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	2/5/2016 03:50 PM
Alkalinity, Total (As CaCO3)	130	1.2	5.0		mg/L	1	2/5/2016 03:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R105783** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105783**
Client ID: **LCSW** Batch ID: **R105783** TestNo: **SM 2320 B** Analysis Date: **2/5/2016** SeqNo: **2227748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	95.588	5.0	100.0	0	95.6	85	115				
Alkalinity, Total (As CaCO3)	97.689	5.0	100.0	0	97.7	85	115				

Sample ID **MB-R105783** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105783**
Client ID: **PBW** Batch ID: **R105783** TestNo: **SM 2320 B** Analysis Date: **2/5/2016** SeqNo: **2227749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N018628-002ADUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105783**
Client ID: **ZZZZZZ** Batch ID: **R105783** TestNo: **SM 2320 B** Analysis Date: **2/5/2016** SeqNo: **2227752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	131.303	5.0						132.4	0.797	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	131.303	5.0						132.4	0.797	30	

Sample ID **N018644-002AMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105783**
Client ID: **ZZZZZZ** Batch ID: **R105783** TestNo: **SM 2320 B** Analysis Date: **2/5/2016** SeqNo: **2227755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	228.992	5.0	100.0	130.3	98.7	75	125				
Alkalinity, Total (As CaCO3)	228.992	5.0	100.0	130.3	98.7	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **N018644-002AMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **105783**
Client ID: **ZZZZZZ** Batch ID: **R105783** TestNo: **SM 2320 B** Analysis Date: **2/5/2016** SeqNo: **2227756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	227.941	5.0	100.0	130.3	97.7	75	125	229.0	0.460	20	
Alkalinity, Total (As CaCO3)	227.941	5.0	100.0	130.3	97.7	75	125	229.0	0.460	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018628
Project: PG&E Topock - PMP
Lab ID: N018628-001

Client Sample ID: PE-01-0116
Collection Date: 2/2/2016 7:32:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **IC2_160210A** QC Batch: **R105806**				PrepDate			Analyst: **QBM**
Chloride	980	6.3	100		mg/L	200	2/10/2016 03:22 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **IC2_160210A** QC Batch: **R105806**				PrepDate			Analyst: **QBM**
Sulfate	350	1.6	25		mg/L	50	2/10/2016 04:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018628
Project: PG&E Topock - PMP
Lab ID: N018628-002

Client Sample ID: TW-3D-0116
Collection Date: 2/2/2016 7:51:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **IC2_160210A** QC Batch: **R105806**				PrepDate			Analyst: **QBM**
Chloride	2200	16	250		mg/L	500	2/10/2016 04:55 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **IC2_160210A** QC Batch: **R105806**				PrepDate			Analyst: **QBM**
Sulfate	500	3.3	50		mg/L	100	2/10/2016 05:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **MB-R105806_CL** SampType: **MBLK** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **PBW** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **LCS-R105806_CL** SampType: **LCS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **LCSW** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.490	0.50	2.500	0	99.6	90	110				

Sample ID **N018628-001ADUP** SampType: **DUP** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	963.400	100						975.6	1.26	20	

Sample ID **N018628-001AMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229118**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1466.400	100	500.0	975.6	98.2	80	120				

Sample ID **N018628-002AMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3533.500	250	1250	2234	104	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **N018628-002AMSD** SampType: **MSD** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3566.000	250	1250	2234	107	80	120	3534	0.916	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **MB-R105806_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **PBW** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **LCS-R105806_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **LCSW** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.892	0.50	5.000	0	97.8	90	110				

Sample ID **N018628-001ADUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	356.000	25						353.7	0.662	20	

Sample ID **N018628-001AMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	610.550	25	250.0	353.7	103	80	120				

Sample ID **N018628-002AMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	990.500	50	500.0	495.3	99.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **N018628-002AMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ZZZZZZ** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	971.800	50	500.0	495.3	95.3	80	120	990.5	1.91	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160205B** QC Batch: **R105756** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	2/5/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160205B**	QC Batch: **R105756**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	3.2	0.11	0.25		mg/L	5	2/5/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R105756** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **PBW** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R105756** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **LCSW** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.519	0.050	0.5000	0	104	85	115				

Sample ID **N018548-002E-DUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **ZZZZZZ** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.465	0.050						0.4520	2.84	20	

Sample ID **N018548-002E-MS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **ZZZZZZ** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.975	0.050	0.5000	0.4520	105	75	125				

Sample ID **N018548-002E-MSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **ZZZZZZ** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.047	0.050	0.5000	0.4520	119	75	125	0.9747	7.15	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160209B**	QC Batch: **56126**				PrepDate	**2/4/2016**	Analyst: **CEI**
Calcium	100000	31	500		ug/L	1	2/9/2016 12:52 PM
Iron	ND	17	20		ug/L	1	2/9/2016 12:52 PM
Magnesium	23000	86	100		ug/L	1	2/9/2016 12:52 PM
Sodium	670000	290	12000		ug/L	25	2/10/2016 02:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160209B**	QC Batch: **56126**				PrepDate	**2/4/2016**	Analyst: **CEI**
Calcium	220000	31	500		ug/L	1	2/9/2016 12:58 PM
Iron	ND	17	20		ug/L	1	2/9/2016 12:58 PM
Magnesium	30000	86	100		ug/L	1	2/9/2016 12:58 PM
Sodium	1300000	580	25000		ug/L	50	2/10/2016 03:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56126** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105772**
Client ID: **PBW** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/9/2016** SeqNo: **2227095**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	500									
Iron	ND	20									
Magnesium	ND	100									

Sample ID **LCS1-56126** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105772**
Client ID: **LCSW** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/9/2016** SeqNo: **2227096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10328.794	500	10000	0	103	85	115				
Iron	105.894	20	100.0	0	106	85	115				
Magnesium	10314.899	100	10000	0	103	85	115				

Sample ID **N018617-011B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/9/2016** SeqNo: **2227100**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	129285.275	500	10000	117400	119	75	125				
Iron	120.982	20	100.0	74.92	46.1	75	125				S
Magnesium	27601.984	100	10000	18780	88.3	75	125				

Sample ID **N018617-011B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/9/2016** SeqNo: **2227101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	128319.504	500	10000	117400	109	75	125	129300	0.750	20	
Iron	120.084	20	100.0	74.92	45.2	75	125	121.0	0.745	20	S
Magnesium	27533.497	100	10000	18780	87.6	75	125	27600	0.248	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N018632-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/9/2016** SeqNo: **2227114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	87537.318	500	10000	73990	136	75	125				S
Iron	142.918	20	100.0	47.79	95.1	75	125				
Magnesium	23189.396	100	10000	12640	105	75	125				

Sample ID **MB-56126** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105801**
Client ID: **PBW** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/10/2016** SeqNo: **2228867**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	ND	500									

Sample ID **LCS2-56126** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105801**
Client ID: **LCSW** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/10/2016** SeqNo: **2228868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	18457.897	500	20000	0	92.3	85	115				

Sample ID **N018628-001B-MS2** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105801**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/10/2016** SeqNo: **2228878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	667421.688	12000	20000	672700	-26.5	75	125				S

Sample ID **N018628-001B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105801**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/10/2016** SeqNo: **2228879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	670433.314	12000	20000	672700	-11.5	75	125	667400	0.450	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N018632-003B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **2/4/2016** RunNo: **105801**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/10/2016** SeqNo: **2228880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	150826.716	12000	20000	127700	116	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:32:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160207B**	QC Batch: **56150**				PrepDate	**2/5/2016**	Analyst: **CEI**
Manganese	72	0.023	0.50		µg/L	1	2/7/2016 06:37 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *19-Feb-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0116
Lab Order:	N018628	**Collection Date:**	2/2/2016 7:51:00 AM
Project:	PG&E Topock - PMP	**Matrix:**	WATER
Lab ID:	N018628-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_160207B**	QC Batch: **56150**				PrepDate	**2/5/2016**	Analyst: **CEI**
Manganese	12	0.023	0.50		µg/L	1	2/7/2016 09:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56150** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/5/2016** RunNo: **105741**
Client ID: **PBW** Batch ID: **56150** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **LCS-56150** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/5/2016** RunNo: **105741**
Client ID: **LCSW** Batch ID: **56150** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	105.335	0.50	100.0	0	105	85	115				

Sample ID **N018628-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/5/2016** RunNo: **105741**
Client ID: **ZZZZZZ** Batch ID: **56150** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	163.153	0.50	100.0	72.13	91.0	75	125				

Sample ID **N018628-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/5/2016** RunNo: **105741**
Client ID: **ZZZZZZ** Batch ID: **56150** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	163.253	0.50	100.0	72.13	91.1	75	125	163.2	0.0613	20	

Sample ID **N018632-008B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/5/2016** RunNo: **105741**
Client ID: **ZZZZZZ** Batch ID: **56150** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/7/2016** SeqNo: **2224750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.211	0.50	100.0	0	89.2	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.3072691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Lisa Kellog
Address: 1410 Rocky Ridge Dr. #330	Company: Arcadis	Address: 2999 Oak Road, Suite 300
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Walnut Creek, CA 94597
Phone: 916.786.3302 Fax:	Address: 1410 Rocky Ridge Dr. #330	Email to: lisa.kellog@arcadis.com PO#
Submitted By: Jason Maher	Roseville, CA 95661	Phone: 951.677.0577 Fax:
Title:	Phone: 916.786.3302 Fax:	
Signature: Date: 2/2/16	Sampled By: Nam Tay	
I hereby authorize ASSET Labs to perform the tests indicated below:	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.	
Project Name: PG&E Topock - PMP	Signature: Date 2/2/16	
Project Number:		

EDD Requirement		QA/QC		Sampe Receipt Condition	Y	N
Excel EDD	☐	RTNE	☐			
Geotracker	☐	RWQCB	☐	1. Chilled	✓	☐
Labspec	☐	CalTrans	☐	2. Headspace	☐	☐
Others	☐	Level III	☐	3. Container Intact	☐	☐
Specify:		LEVEL IV	☐	4. Seal Present	☐	☐
		Regulatory	☐	5. IR number	2	
Global ID:		Specify State:		6. Method of Cooling	Ice	
				Sample Temp:	2 f	

Matrix			
Ground	☐	Sediment	☐
Potable	☐	Soil	☐
NPDES	☐	Other Solid	☐
Surface	☐		

Courier:

Tracking No.

Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Water	Solid	Others	pH SM4500H+B (1 L Poly Non-Preserve)	Specific Cond EPA 120.1	TDS SM 2540C	Anions Cl, SO4	Alkalinity Speciated (HCO3, CO3, OH	Diss Metals ICP (Ca, Fe, Mg, Na) (500 mL Poly w/ HNO3)	Gas Metals ICP-MS Metals (Mn, Cl)	Cr+6 by EPA 218.6 250mL Poly with Ammonium Buffer Soln	Cr+6 by SM 3500B 250mL Poly with Ammonium Buffer Soln	NO2/NO3 SM4500NO3E	Turn Around Time	No. of container	Container Type	PRESERVATION	Remarks
1	HW80628-1	PE-01-0116	2/2/16	0732	X			X	X	X	X	X	X	X		X		X	E	4	P	
2	1 -2	TW-3D-0116	2/2/16	0751	X			X	X	X	X	X	X	X			X	X	E	4	P	
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Relinquished by (Signature and Printed Name):	Date / Time	Received by (Signature and Printed Name):	Date / Time
	2/2/16		2/2/16 1385
Relinquished by (Signature and Printed Name):	Date / Time	Received by (Signature and Printed Name):	Date / Time
	2/2/16 1916		2/2/16 1916
Relinquished by (Signature and Printed Name):	Date / Time	Received by (Signature and Printed Name):	Date / Time

Turn Around Time (TAT)

- ☐ A < 24 Hrs or Same Day TAT
- ☐ B = Next Workday
- ☐ C = 2 Workdays
- ☐ D = 3 Workdays
- ☑ E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00 PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 Days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H = HCl	N = HNO_3	S = H_2SO_4	C = 4°C	T = Tube	V = VOA	P = Pint
Z = $Zn(AC)_2$	O = NaOH	T = $Na_2S_2O_3$		J = Jar	B = Tedlar	G = Glass
Others/Specify:				M = Metal	P = Plastic	C = Cas

White = Laboratory Copy

Yellow = Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/2/2016	Workorder:	N018628
Rep sample Temp (Deg C):	2.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Samples for pH was pastholding time upon receipt.

Checklist Completed By: MBC MBC 2/3/2016

Reviewed By: gsg 02/05/16

ASSET Laboratories

WORK ORDER Summary

03-Feb-16

WorkOrder: N018628

Client ID: ARCUS02

Project: PG&E Topock - PMP

QC Level: Level IV

Date Received: 2/2/2016

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018628-001A	PE-01-0116	2/2/2016 7:32:00 AM	2/16/2016	Water	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/16/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/16/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			2/16/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			2/16/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			2/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			2/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			2/16/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N018628-001B			2/16/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/16/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/16/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018628-001C			2/16/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018628-001D			2/16/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018628-002A	TW-3D-0116	2/2/2016 7:51:00 AM	2/16/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			2/16/2016		SM4500-H+B	pH	☐	☐	☐	WW
			2/16/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			2/16/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			2/16/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			2/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			2/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-Feb-16

WorkOrder: N018628

Client ID: ARCUS02

Project: PG&E Topock - PMP

QC Level: Level IV

Date Received: 2/2/2016

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018628-002A	TW-3D-0116	2/2/2016 7:51:00 AM	2/16/2016	Water	SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N018628-002B			2/16/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			2/16/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			2/16/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018628-002C			2/16/2016		SM 3500-Cr B	HEXAVALENT CHROMIUM	☐	☐	☐	WW
N018628-002D			2/16/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018628-003A	FOLDER		2/16/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018628**

NAME	TEST METHOD
Quennie Manimtim	EPA 300.0, SM 3500-Cr B
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540C, SM 2320B

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105645 **Analyst:** LSR

ASSET #: N018628 **Date Analyzed:** 2/3/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/10/2016

2nd Level Reviewer Nancy 2/19/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 2/3/16 1410

Analyst: LSR

Standard	Std ID	Reading	Comments
9.78 us/cm	CINV - 150619A	9.71 us/cm @18.4°C	% Rec: (90-110%)
1414	- 150601B	1448 @18.5°C	
99997	- 160111B	10070 @18.3°C	
99797	- 150112B	100500 @18.3°C	

	Sample ID	Matrix	Reading	Comments
1	N018648 - 001A	Water	4120 us/cm @18.1°C	
2	N018628 - 002A		7760 @18.0°C	
3	N018644 - 001A		3940 @18.3°C	
4	2A		7560 @18.5°C	
5	N018645 - 001A		7340 @18.2°C	
6	2B		7480 @18.0°C	
7	N018628 - 001A DUP		4110 @18.0°C	
8				
9	1413 us/cm	CINV - 150527A	1445 us/cm @18.4°C	
10	10000	- 150409A	10340 @18.4°C	
up	99996	- 150430A	97700 @18.4°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Date: _____

Analyst: _____

Julia Ramit 2/10/2016

Standard	Std ID	Reading	Comments
			% Rec: (90-110%)

	Sample ID	Matrix	Reading	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
up				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

ivanced Technology Laboratories, Inc.
3151 W. Post Rd, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105650 **Instrument ID:** pH meter

ASSET #: N018628 **Analyst:** LSR

Date Analyzed: 2/3/2016

Method: SM 150.1_4500H+B

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?			X			
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/10/2016

2nd Level Reviewer 2/19/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

pH Logbook

Date: 2/2/16
Analyst:

Standard	Std ID	pH	Comments
Buffer 7	150828 B	7.01 @ 20.4 ~~4.00 @ 20.0%~~	
Buffer 4	150828 A	4.00 @ 20.0%	Slope @ 96.2%
Buffer 10	150708 A	10.05 @ 19.5%	

	Sample ID	Matrix	pH	Comments
1	N0615-001A	Solid	9.08/1.62	
2				
3				
4				
5				
6				
7				
8				
9				
10				
Dup				Accept: 10% water, 20% soil
	Buffer 7, 4, 10			Accept: +/-0.1 pH units from expected value

(Circle one)

Date: 2/3/16 1400
Analyst: BN

Standard	Std ID	pH	Comments
Buffer 7	CINV-150828B	7.03 @ 17.5°C	SLOPE: 95.2%
Buffer 4	↓ A	4.00 @ 17.5°C	
Buffer 10	CINV-150708A	10.05 @ 17.6°C	

	Sample ID	Matrix	pH	Comments
1	N018628-001A	Water	7.62 @ 17.1°C	
2	↓ 2A	↓	7.31 @ 17.6°C	
3	N018636-001A		7.26 @ 17.3°C	
4	N018643-001A		7.67 @ 16.9°C	
5	↓ 2A		7.36 @ 16.8°C	
6	↓ 2A DUP	↓	7.38 @ 16.7°C	
7				
8				
9				Julia Ramit 2/10/2016
10				
Dup				Accept: 10% water, 20% soil
	Buffer 7, 4, 10	CINV-150624A	7.03 @ 18.5°C	Accept: +/-0.1 pH units from expected value

(Circle one)

Logbook #8

SM 2540C

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56107 **Analyst:** LSR

ASSET #: N018628 **Date Analyzed:** 2/3/2016

Method: EPA 160.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/11/2016

2nd Level Reviewer Nancy 2/19/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: Water

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018628-001A,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(55.1252–55.0486)*1000000}{30}$$
$$= 2553.3333 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 2600 mg/L

Julia Ramit 2/11/2016

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/3/2016 2:30:09 P**
Prep End Date: **2/4/2016 11:15:00 A**

Initials/ Date: Lilia Ramit 2/11/2016

Prep Batch **56107** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **180**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56107	Water		100	☐	0	0	100	1.000		
MB-56107	Water		100	☐	0	0	100	1.000		
N018628-001A	Water		30	☐	0	0	100	3.333		
N018628-002A	Water		20	☐	0	0	100	5.000		
N018628-002A-DU	Water		20	☐	0	0	100	5.000		
N018632-001D	Groundwater		100	☐	0	0	100	1.000		
N018632-002D	Groundwater		100	☐	0	0	100	1.000		
N018644-001A	Water		40	☐	0	0	100	2.500		
N018644-002A	Water		20	☐	0	0	100	5.000		
N018645-001A	Water		20	☐	0	0	100	5.000		
N018645-002B	Water		20	☐	0	0	100	5.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160118A	1000 ppm NaCl	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/3/2016 2:30:09 P**
Prep End Date:

Initials/ Date: Lilia Ramit 2/11/2016

Prep Factor Units
mL / mL

Prep Batch **56107** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56107	Water	IW 3F160118A	100	☐	0	0	100	1.000		
MB-56107	Water		100	☐	0	0	100	1.000		
N018628-001A	Water	4120	100 /30	☐	0	0	100	1.000		
N018628-002A	Water	7760	100 /20	☐	0	0	100	1.000		
N018628-002A-DU	Water	↓	100 /20	☐	0	0	100	1.000		
N018632-001D	Groundwater	785	100	☐	0	0	100	1.000		
N018632-002D	Groundwater	1432	100	☐	0	0	100	1.000		
N018644-001A	Water	3940	100 /40	☐	0	0	100	1.000		
N018644-002A	Water	7560	100 /20	☐	0	0	100	1.000		
N018645-001A	Water	7340	100 /20	☐	0	0	100	1.000		
N018645-002B	Water	7480	100 /20	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #:
T50440

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/3/16 1436 8	MB 56107	100	54.9510 54.9512	54.9515 54.9514	
47	LCS 56107	100	77.1159 77.1163	77.2151 77.2147	
2	N018628-001A	30	55.0487 55.0486	55.1253 55.1252	
42	2A	20	54.2365 54.2368	54.3317 54.3313	
C	2A DUP	20	55.6815 55.6819	55.7747 55.7747	
43	N018632-001D	100	75.8742 75.8742	75.9301 75.9300	
41	2D	100	76.7934 76.7936	76.8900 76.8898	
1A	N018644-001A	40	76.7929 76.7931	76.8913 76.8915	
61	2A	20	53.9043 53.9046	54.0016 54.0013	
AD	N018645-001A	20	63.8520 63.8521	63.9404 63.9402	

Julia Ramit 2/11/2016

ASSET Laboratories

Logbook#1

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/3/16 BC	N018645-002B	20	62.4606 62.4609	62.5472 62.5470	

Julia Ramit 2/11/2016

ASSET Laboratories

Logbook#1

TOTAL DISSOLVED SOLIDS, TDS

TDS, mg/L = (A-B) X 10000*PF

where:
A = weight in grams of dish + residue after drying
B = weight of dish in grams
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight of dish in grams (B)	weight in grams of dish + residue after drying (A)	(A-B)*10000	prep fact (PF)	TDS, mg/L	CONDUCTIVITY	RATIO
Date Finished:2/4/16								
MB-56107	100	54.9512	54.9514	2	1	2		
LCS-56107	100	77.1163	77.2147	984	1	984		
N018628-001A	30	55.0486	55.1252	766	3.33333333	2553.33333	4120	0.620
N018628-002A	20	54.2368	54.3313	945	5	4725	7760	0.609
N018628-002A DUP	20	55.6819	55.7747	928	5	4640	7760	0.598
N018632-001D	100	75.8742	75.93	558	1	558	785	0.711
N018632-002D	100	76.7936	76.8898	962	1	962	1432	0.672
N018644-001A	40	76.7931	76.8915	984	2.5	2460	3940	0.624
N018644-002A	20	53.9046	54.0013	967	5	4835	7560	0.640
N018645-001A	20	63.8521	63.9402	881	5	4405	7340	0.600
N018645-002B	20	62.4609	62.547	861	5	4305	7480	0.576

Silia Ramit 2/11/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R105697
ASSET #: N018628

Instrument ID: IC-06
Analyst: REB
Date Analyzed: 2/3/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?	X					
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.			X			
30. Before and after manual integration chromatogram included in the package			X			
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 2/18/2016 Date: —

2nd Level Reviewer Nancy 2/19/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018628-001C** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 3.8765* 1

= 3.8765

Reporting result in two significant figures,

Cr^{+6}, µg/L = 3.9

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-06

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:47 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:59 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:09 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:34 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:44 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:53 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:03 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:13 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	STD-0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:52 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:02 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:19 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-06_160202A**	*Created On:*	**24/Jul/12 17:25:10**
Directory:	**Instrument Data\IC-6\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 15:37:00**
No. of Injections:	**16**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		02/02/2016 11:47	Finished	BLANK
2	BLANK	2	1000	Unknown		02/02/2016 11:59	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:09	Finished	iBLANK
4	0.2 ppb	4	1000	Calibration Standard	02	02/02/2016 12:22	Finished	0.2ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	03	02/02/2016 12:34	Finished	1.0ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	04	02/02/2016 12:44	Finished	5.0ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	05	02/02/2016 12:53	Finished	10ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	06	02/02/2016 13:03	Finished	15ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	07	02/02/2016 13:13	Finished	20ppb, IWST160202A
10	ICV,ICV,1	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST160202B
11	STD-0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2 ppb
12	ICB,ICB,1	12	1000	Unknown		02/02/2016 13:52	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:02	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:19	Finished	LCS(5ppb), IWST-160202B
15	Eluent: R160201B	20	1000	Unknown		02/02/2016 15:20	Finished	Eluent
16	PCR: R160201C	21	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160203A

Instrument ID: IC-06

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:47 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:59 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:09 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:34 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:44 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:53 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:03 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:13 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/03/16 10:05 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	02/03/16 10:16 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	02/03/16 10:26 AM	Reported
13	STD-0.2ppb	CCV2	1	Hexavalent Chromium	02/03/16 10:36 AM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/03/16 10:46 AM	Reported
15	MB-R105697	MBLK	1	Hexavalent Chromium	02/03/16 10:56 AM	Reported
16	LCS-R105697	LCS	1	Hexavalent Chromium	02/03/16 11:06 AM	Reported
17	N018616-001A	SAMP	1	Hexavalent Chromium	02/03/16 11:36 AM	Reported
18	N018616-001ADUP	DUP	1	Hexavalent Chromium	02/03/16 11:47 AM	Reported
19	N018616-001AMS	MS	1	Hexavalent Chromium	02/03/16 11:57 AM	Reported
20	N018616-001AMSD	MSD	1	Hexavalent Chromium	02/03/16 12:07 PM	Reported
21	N018616-002A	SAMP	20	Hexavalent Chromium	02/03/16 12:17 PM	Reported
22	N018616-003A	SAMP	1	Hexavalent Chromium	02/03/16 12:27 PM	Reported
23	N018616-004A	SAMP	5	Hexavalent Chromium	02/03/16 12:37 PM	Reported
24	N018616-005A	SAMP	1	Hexavalent Chromium	02/03/16 12:47 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/03/16 12:57 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/03/16 1:07 PM	Reported
27	N018616-006A	SAMP	1	Hexavalent Chromium	02/03/16 1:17 PM	Reported
28	N018616-007A	SAMP	1	Hexavalent Chromium	02/03/16 1:27 PM	Reported
29	N018616-008A	SAMP	10	Hexavalent Chromium	02/03/16 1:37 PM	Reported
30	N018616-009A	SAMP	1	Hexavalent Chromium	02/03/16 1:47 PM	Reported
31	N018616-010A	SAMP	1	Hexavalent Chromium	02/03/16 1:57 PM	Reported
32	N018616-011A	SAMP	1	Hexavalent Chromium	02/03/16 2:07 PM	Reported
33	N018616-012A	SAMP	1	Hexavalent Chromium	02/03/16 2:17 PM	Reported
34	N018628-001C	SAMP	1	Hexavalent Chromium	02/03/16 2:42 PM	Reported
35	N018628-001CMS	MS	1	Hexavalent Chromium	02/03/16 2:53 PM	Reported
36	CCV-3	CCV	1	Hexavalent Chromium	02/03/16 3:03 PM	Reported
37	CCB-3	CCB	1	Hexavalent Chromium	02/03/16 3:13 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-06_160203A**	*Created On:*	**24/Jul/12 17:25:10**
Directory:	**Instrument Data\IC-6\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 15:43:59**
No. of Injections:	**40**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		02/02/2016 11:47	Finished	BLANK
2	BLANK	2	1000	Unknown		02/02/2016 11:59	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:09	Finished	iBLANK
4	0.2 ppb	4	1000	Calibration Standard	02	02/02/2016 12:22	Finished	0.2ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	03	02/02/2016 12:34	Finished	1.0ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	04	02/02/2016 12:44	Finished	5.0ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	05	02/02/2016 12:53	Finished	10ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	06	02/02/2016 13:03	Finished	15ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	07	02/02/2016 13:13	Finished	20ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/03/2016 10:05	Finished	BLANK
11	BLANK	2	1000	Unknown		02/03/2016 10:16	Finished	BLANK
12	CCV-1,CCV,1	3	1000	Unknown		02/03/2016 10:26	Finished	CCV @ 5ppb, IWST160202A
13	STD-0.2ppb,CCV2,1	4	1000	Unknown		02/03/2016 10:36	Finished	PQL @ 0.2 ppb
14	CCB-1,CCB,1	5	1000	Unknown		02/03/2016 10:46	Finished	CCV R160128A
15	MB-H2O,MBLK,1	6	1000	Unknown		02/03/2016 10:56	Finished	MB R160110A
16	LCS-H2O,LCS,1	7	1000	Unknown		02/03/2016 11:06	Finished	LCS(5ppb), IWST-160202B
17	N018616-001A,SAMP,1	8	1000	Unknown		02/03/2016 11:36	Finished	SAMP, 10mL
18	N018616-001ADUP,DUP,1	9	1000	Unknown		02/03/2016 11:47	Finished	DUP, 10mL
19	N018616-001AMS,MS,1	10	1000	Unknown		02/03/2016 11:57	Finished	MS (5ppb), IWST-160202B, 10ml
20	N018616-001AMSD,MSD,1	11	1000	Unknown		02/03/2016 12:07	Finished	MSD (5ppb), IWST-160202B, 10m
21	N018616-002A,SAMP,20	12	1000	Unknown		02/03/2016 12:17	Finished	SAMP, 0.5 to 10mL
22	N018616-003A,SAMP,1	13	1000	Unknown		02/03/2016 12:27	Finished	SAMP, 10mL
23	N018616-004A,SAMP,5	14	1000	Unknown		02/03/2016 12:37	Finished	SAMP, 2 to 10mL
24	N018616-005A,SAMP,1	15	1000	Unknown		02/03/2016 12:47	Finished	SAMP, 10mL
25	CCV-2,CCV,1	16	1000	Unknown		02/03/2016 12:57	Finished	CCV @ 10ppb, IWST160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/03/2016 13:07	Finished	CCB
27	N018616-006A,SAMP,1	18	1000	Unknown		02/03/2016 13:17	Finished	SAMP, 10mL
28	N018616-007A,SAMP,1	19	1000	Unknown		02/03/2016 13:27	Finished	SAMP, 10mL
29	N018616-008A,SAMP,10	20	1000	Unknown		02/03/2016 13:37	Finished	SAMP, 1 to 10mL
30	N018616-009A,SAMP,1	21	1000	Unknown		02/03/2016 13:47	Finished	SAMP, 10mL
31	N018616-010A,SAMP,1	22	1000	Unknown		02/03/2016 13:57	Finished	SAMP, 10mL
32	N018616-011A,SAMP,1	23	1000	Unknown		02/03/2016 14:07	Finished	SAMP, 10mL
33	N018616-012A,SAMP,1	24	1000	Unknown		02/03/2016 14:17	Finished	SAMP, 10mL
34	N018628-001C,SAMP,1	25	1000	Unknown		02/03/2016 14:42	Finished	SAMP, 10mL
35	N018628-001CMS,MS,1	26	1000	Unknown		02/03/2016 14:53	Finished	MS (5ppb), IWST-160202B, 10ml
36	CCV-3,CCV,1	27	1000	Unknown		02/03/2016 15:03	Finished	CCV @ 5ppb, IWST160202A
37	CCB-3,CCB,1	28	1000	Unknown		02/03/2016 15:13	Finished	CCB
38	SHUTDOWN	29	1000	Unknown		02/03/2016 15:33	Finished	SHUTDOWN
39	Eluent: R160201B	30	1000	Unknown		n.a.	Finished	Eluent
40	PCR: R160201C	31	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 02/03/16 MEB 03/16
Time Prepared: ~~04:00 pm~~ 05:00 pm
Prepared By: MEB

Reagent ID:
Sulfuric Acid: CIW-151130D
Diphenylcarbazide: CIW-151130T
NH4OH + NH4SO4 eluent: R160204A
NH4OH + NH4SO4 buffer: R160128A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018628-001C	9.51	—	—	—	—	R160128A
2)	2C	9.49	—	—	—	—	
3)	N018631-001A	9.30	—	—	—	—	
4)	N018632-001A	9.38	—	—	—	—	
5)	2A	9.19	9.31	~250mL	~250mL	+4drops 6NNaOH	
6)	3A	8.99	9.37			+5drops	
7)	4A	9.07	9.30			+4drops	
8)	5A	8.90	9.37			+5drops	
9)	6A	8.75	9.38			+6drops	
10)	7A	9.31	—	—	—	—	
11)	8A	9.38	—	—	—	—	
12)	9A	9.30	—	—	—	—	
13)	10A	9.22	9.34	~250mL	~250mL	+3drops 6NNaOH	
14)	11A	9.33	—	—	—	—	
15)	12A	9.22	9.38	~250mL	~250mL	+3drops 6NNaOH	
	N018637-001A	9.24	9.30			+2drops	

Sample Preparation

Date Prepared: 02/03/16
Time Prepared: 05:00 pm
Prepared By: MEB

Reagent ID:
Sulfuric Acid: CIW-151130D
Diphenylcarbazide: CIW-151130T
NH4OH + NH4SO4 eluent: R160204A, R160208C
NH4OH + NH4SO4 buffer: R160128A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018633-002A	9.21	9.38	~250mL	~250mL	+3drops 6NNaOH	R160128A
2)	3A	9.17	9.37			+4drops	
3)	4A	9.18	9.30			+3drops	
4)	5A	9.27	9.39			+2drops	
5)	6A	9.18	9.38			+3drops	
6)	7A	9.15	9.44			+3drops	
7)	8A	9.17	9.31			+3drops	
8)	9A	9.18	9.33			+3drops	
9)	10A	9.32	—	—	—	—	
10)	11A	9.22	9.33	~250mL	~250mL	+3drops 6NNaOH	
11)	12A	9.19	9.34			+3drops	
12)	N018635-001A	9.29	9.38			+2drops	
13)	2A	9.30	—	—	—	—	
14)	3A	9.35	—	—	—	—	
15)	4A	9.38	—	—	—	—	
	5A	9.08	9.37	~250mL	~250mL	+3drops 6NNaOH	

Logbook No. 10

Reb 2/18/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-06
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0640	0.2378	1.1735	2.3637	3.5429	4.7053	1.0000

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ICV** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2220561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.010	0.20	5.000	0	100	90	110				

Sample ID **STD-0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ZZZZZZ** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2220562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.190	0.20	0.2000	0	95.0	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **CCV** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.759	0.20	5.000	0	95.2	95	105				

Sample ID **STD-0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ZZZZZZ** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.165	0.20	0.2000	0	82.4	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **CCV** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.846	0.20	10.00	0	98.5	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCV-3	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	105697
Client ID:	CCV	Batch ID:	R105697	TestNo:	EPA 218.6			Analysis Date:	2/3/2016	SeqNo:	2220588

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.919	0.20	5.000	0	98.4	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **ICB** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2220563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **CCB** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **CCB** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **105697**
Client ID: **CCB** Batch ID: **R105697** TestNo: **EPA 218.6** Analysis Date: **2/3/2016** SeqNo: **2220589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-06

Analytical Sequence

Date Analyzed: 2/3/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.158	
CCV-2	5.158	
CCV-3	5.158	
Average	5.158	
Actual RT Window	5.078 - 5.238	
Applied RT Window	4.958 - 5.358	
MB-R105697	N.A.	N.A.
LCS-R105697	5.158	PASS
N018616-001A	5.142	PASS
N018616-001ADUP	5.133	PASS
N018616-001AMS	5.133	PASS
N018616-001AMSD	5.125	PASS
N018616-002A	5.158	PASS
N018616-003A	N.A.	N.A.
N018616-004A	5.158	PASS
N018616-005A	5.150	PASS
N018616-006A	5.150	PASS
N018616-007A	N.A.	N.A.
N018616-008A	5.158	PASS
N018616-009A	N.A.	N.A.
N018616-010A	N.A.	N.A.
N018616-011A	N.A.	N.A.
N018616-012A	N.A.	N.A.
N018628-001C	5.108	PASS
N018628-001CMS	5.100	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Rob 2/11/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-06

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:47 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:59 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:09 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:34 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:44 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:53 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:03 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:13 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	STD-0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:52 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:02 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:19 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-06_160202A**	*Created On:*	**24/Jul/12 17:25:10**
Directory:	**Instrument Data\IC-6\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 15:37:00**
No. of Injections:	**16**	*Updated By:*	**ics 5000**

Injection Details

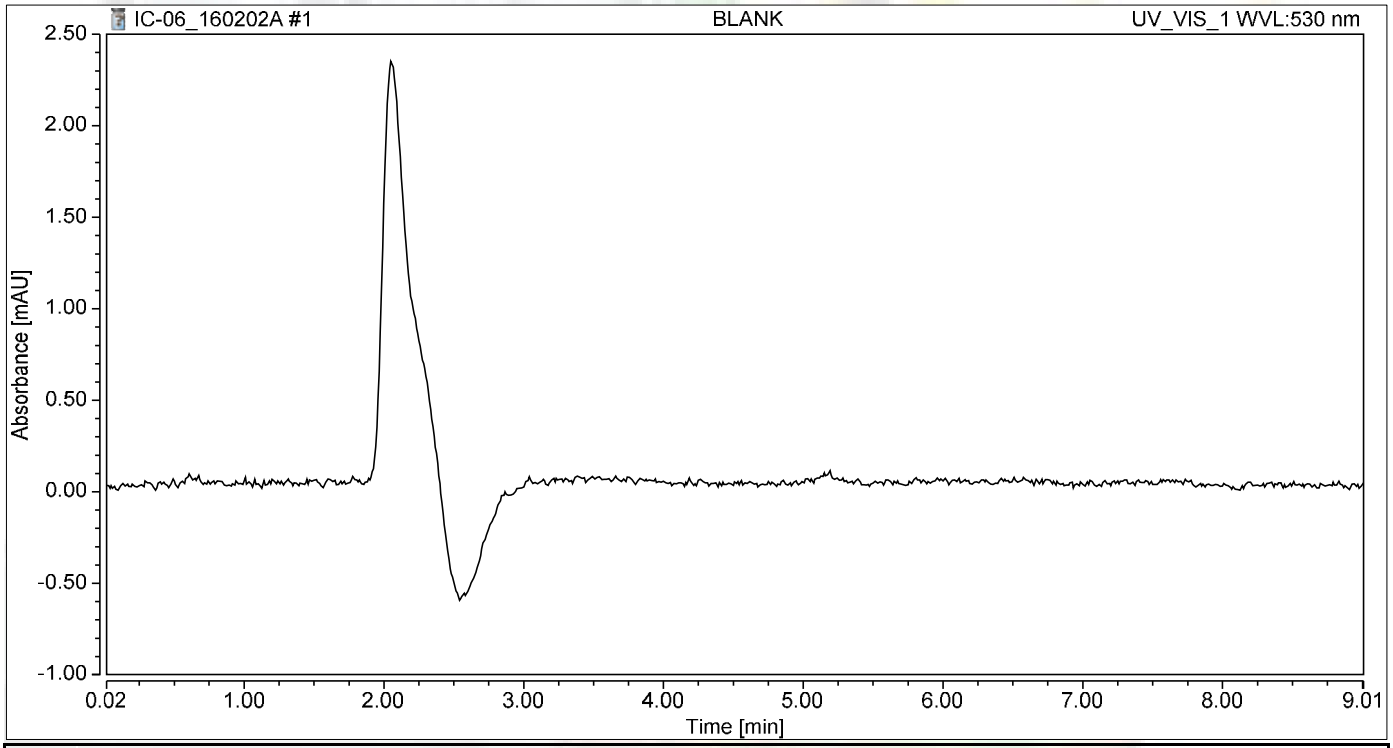
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		02/02/2016 11:47	Finished	BLANK
2	BLANK	2	1000	Unknown		02/02/2016 11:59	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:09	Finished	iBLANK
4	0.2 ppb	4	1000	Calibration Standard	02	02/02/2016 12:22	Finished	0.2ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	03	02/02/2016 12:34	Finished	1.0ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	04	02/02/2016 12:44	Finished	5.0ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	05	02/02/2016 12:53	Finished	10ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	06	02/02/2016 13:03	Finished	15ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	07	02/02/2016 13:13	Finished	20ppb, IWST160202A
10	ICV,ICV,1	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST160202B
11	STD-0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2 ppb
12	ICB,ICB,1	12	1000	Unknown		02/02/2016 13:52	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:02	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:19	Finished	LCS(5ppb), IWST-160202B
15	Eluent: R160201B	20	1000	Unknown		02/02/2016 15:20	Finished	Eluent
16	PCR: R160201C	21	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.99**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

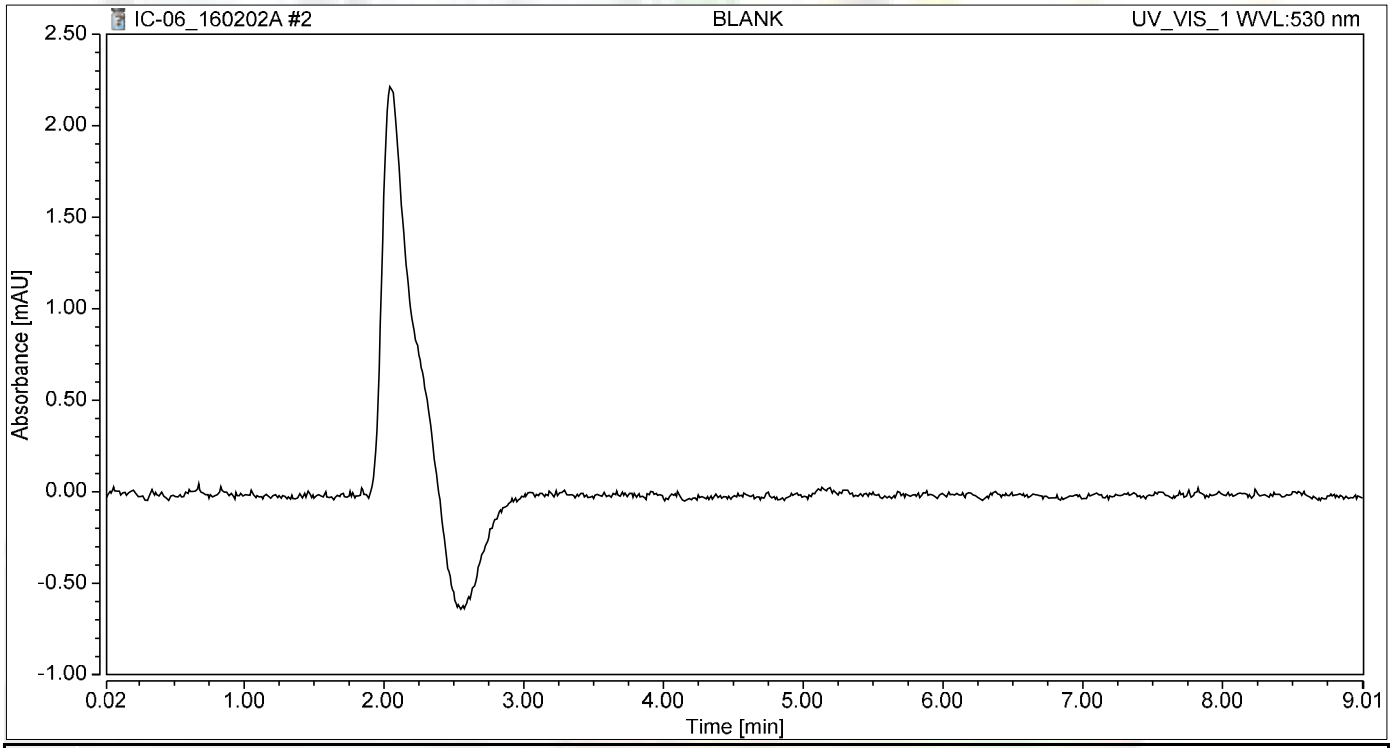
not reported

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.99**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

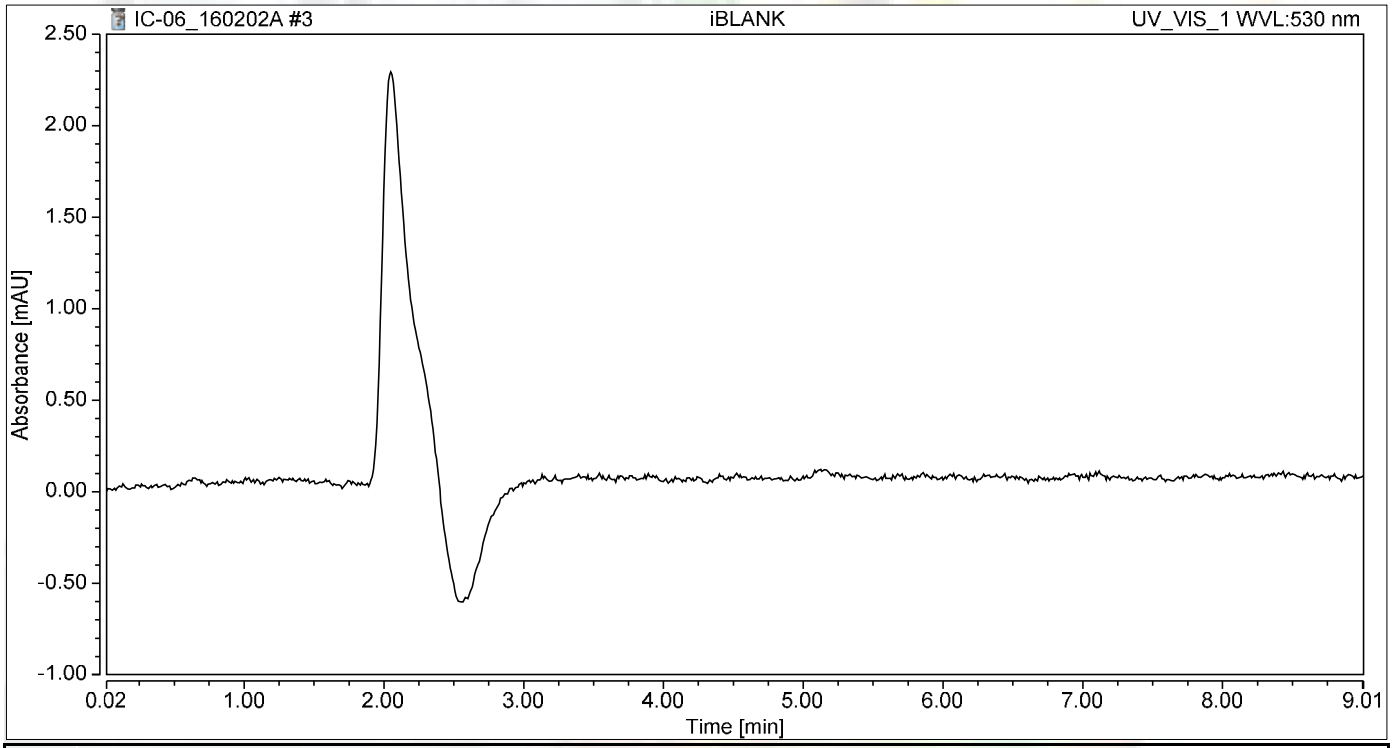
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.99**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

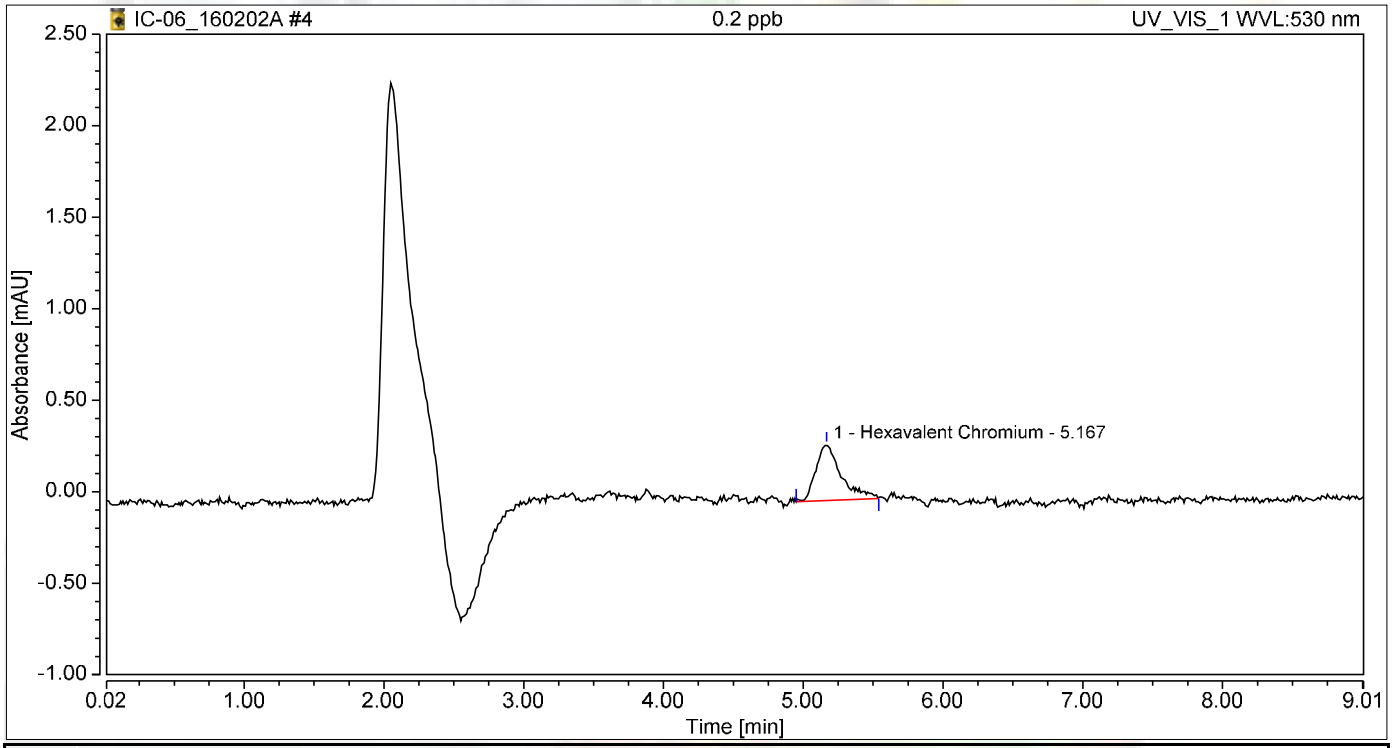
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.99**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

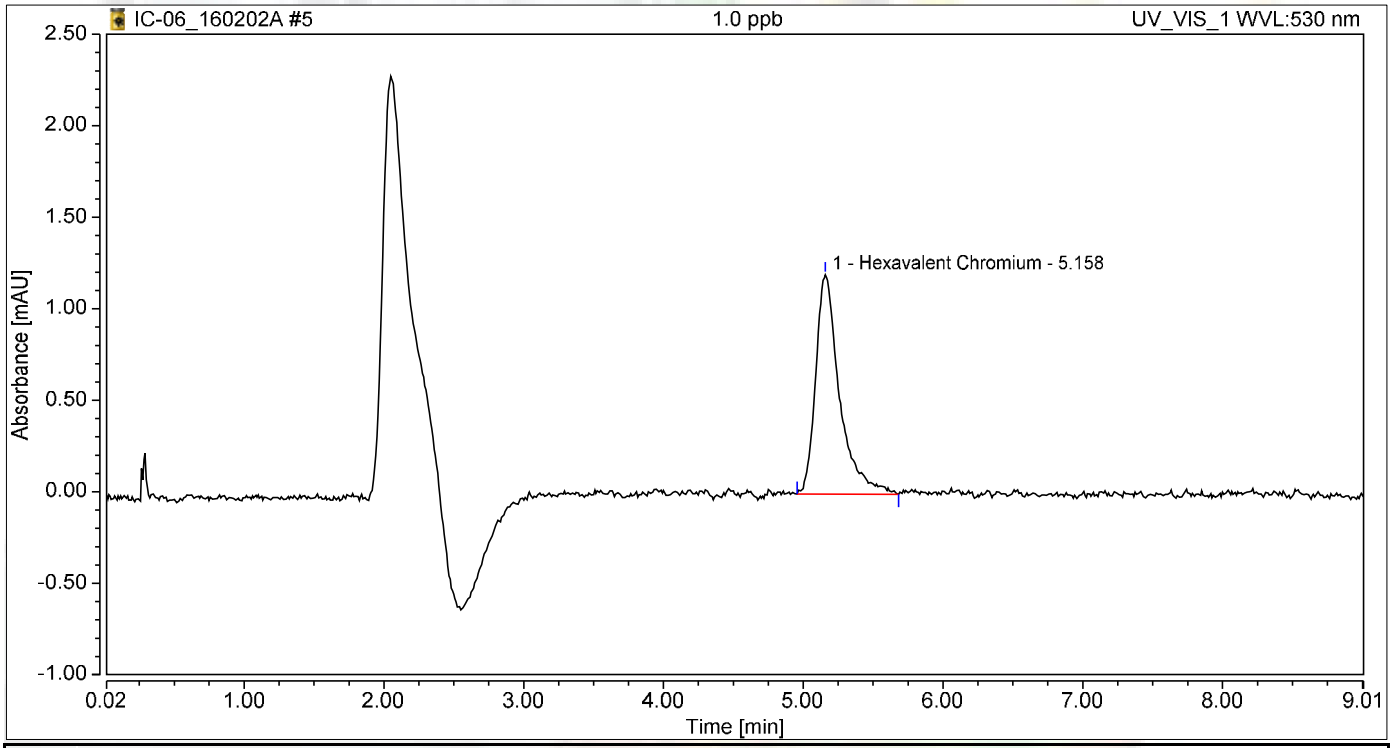
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.167	0.064	0.305	100.00	100.00	0.2376
Total:			**0.064**	**0.305**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.99**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

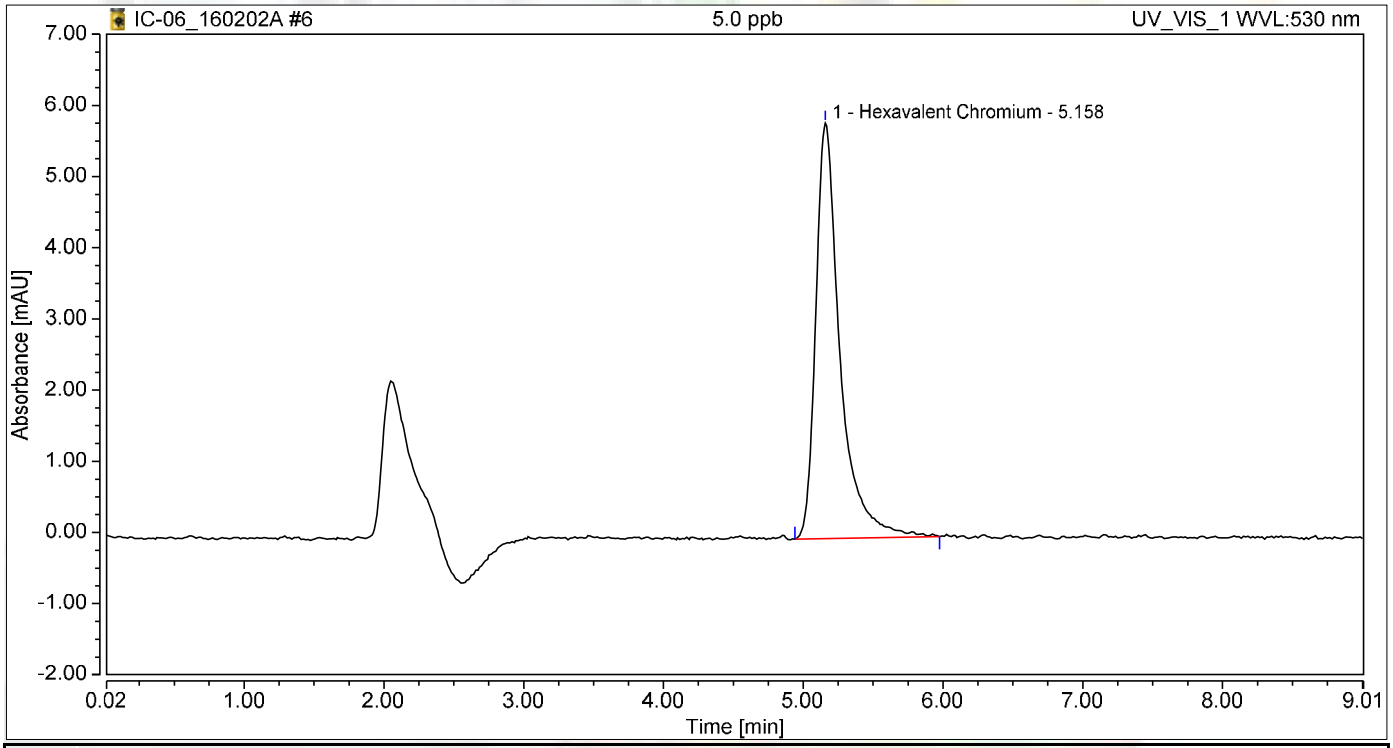
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	0.238	1.201	100.00	100.00	0.9768
Total:			**0.238**	**1.201**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.99**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

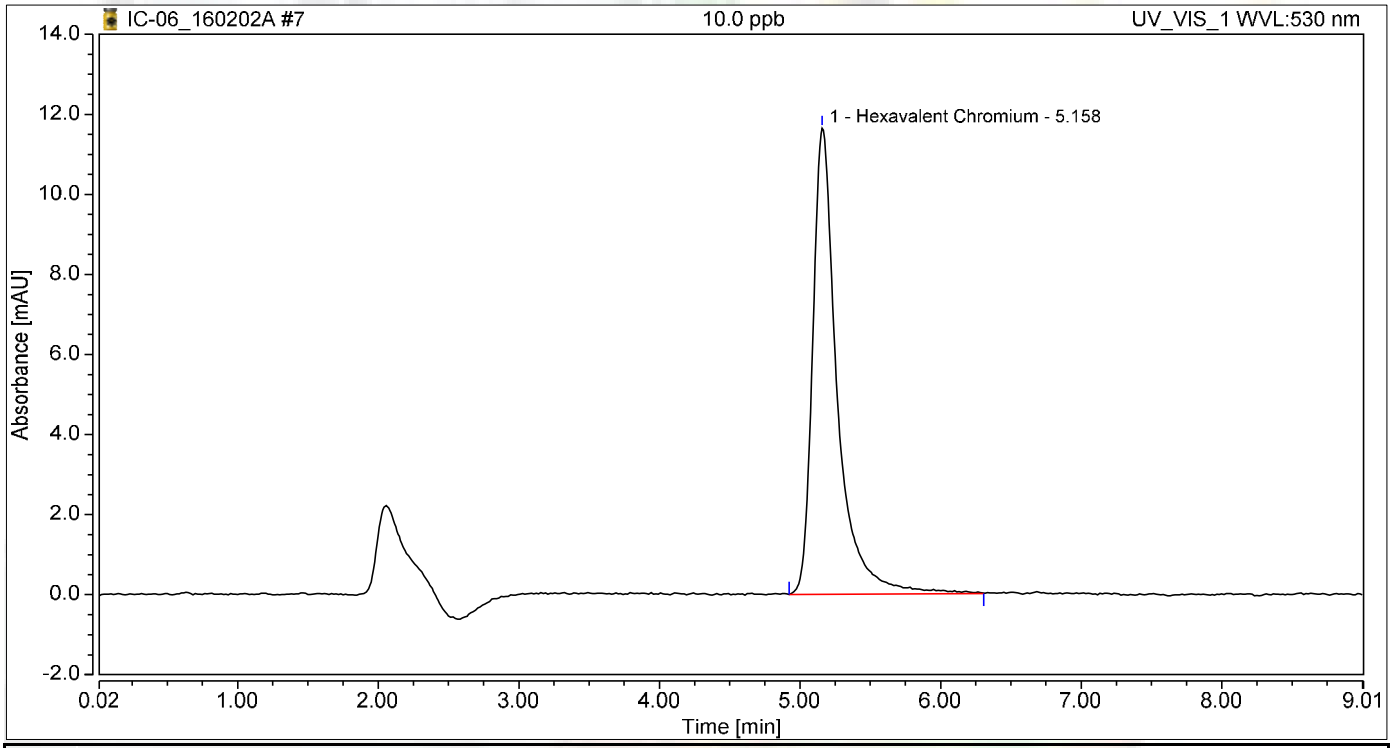
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.174	5.836	100.00	100.00	4.9564
Total:			**1.174**	**5.836**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.99**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

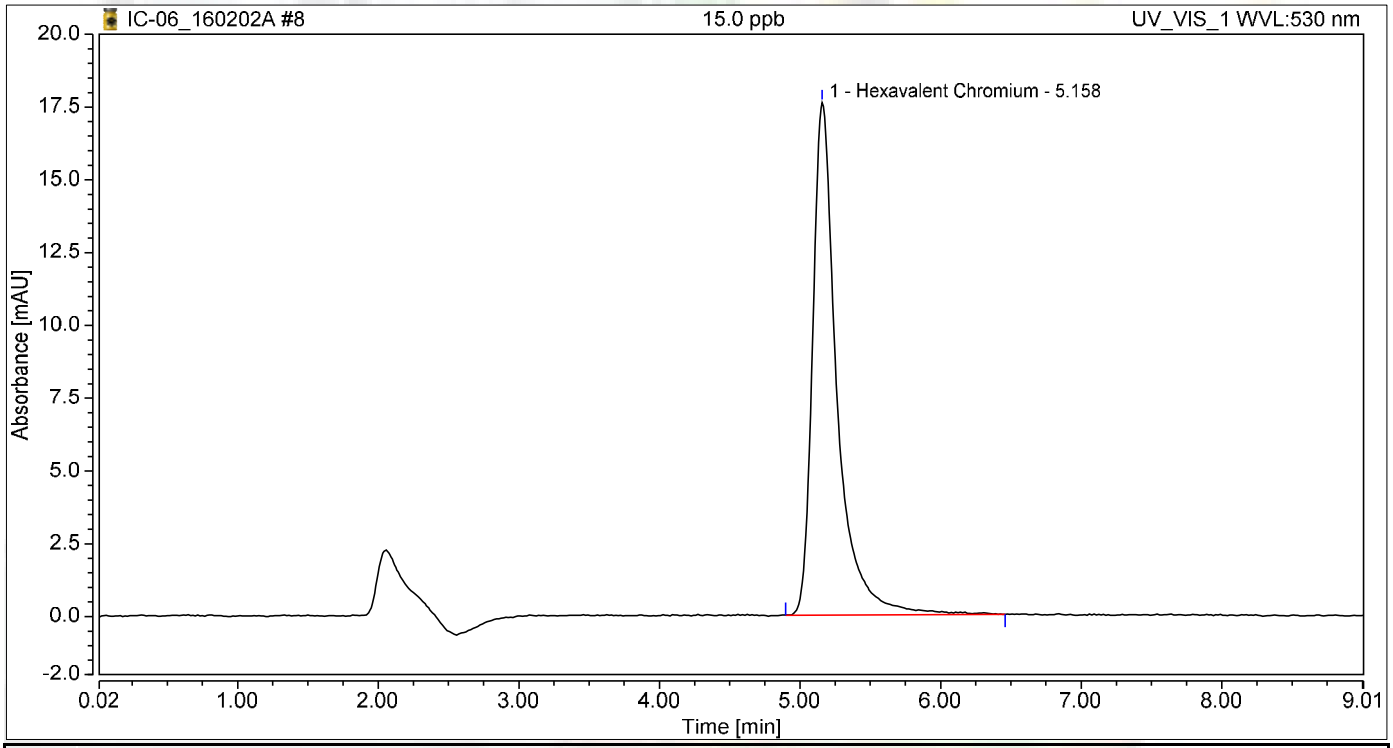
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	2.364	11.639	100.00	100.00	10.0182
Total:			**2.364**	**11.639**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.99**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

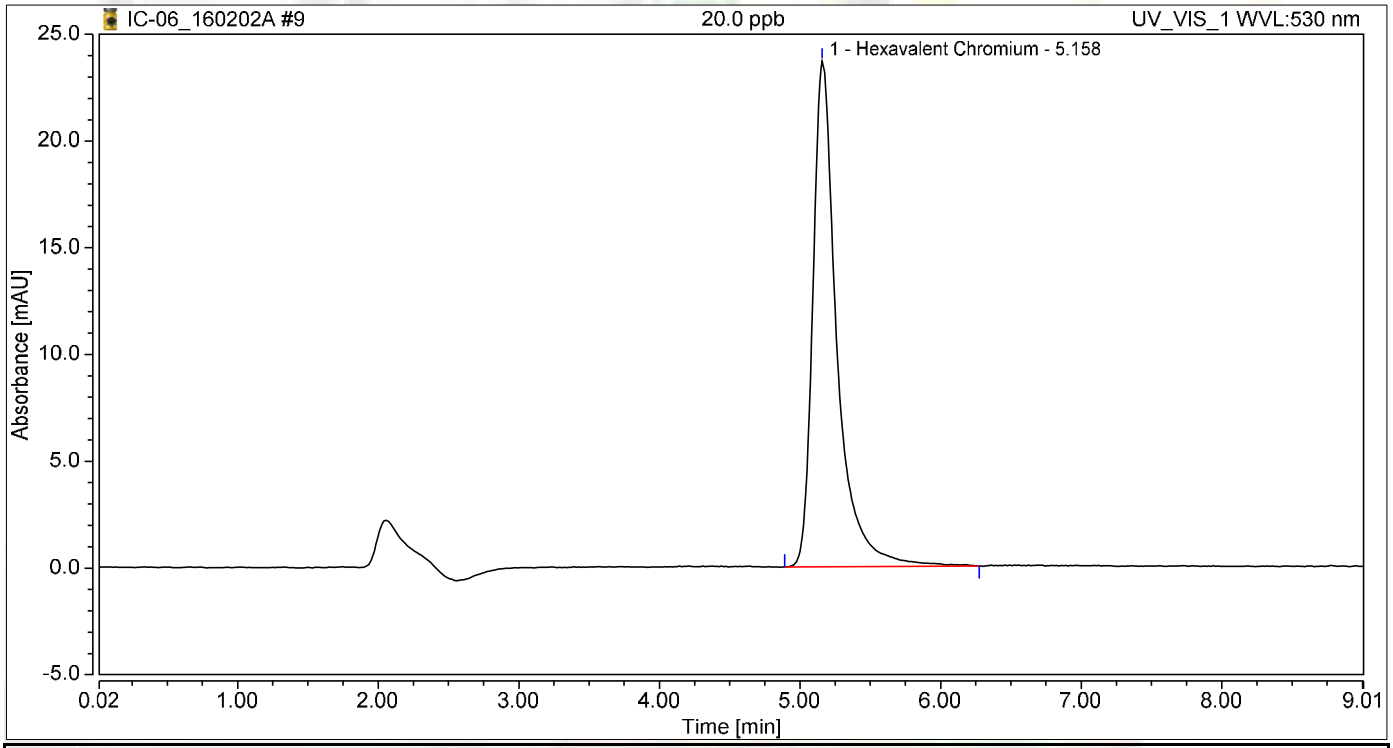
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	3.543	17.601	100.00	100.00	15.0335
Total:			**3.543**	**17.601**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.99**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**07**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



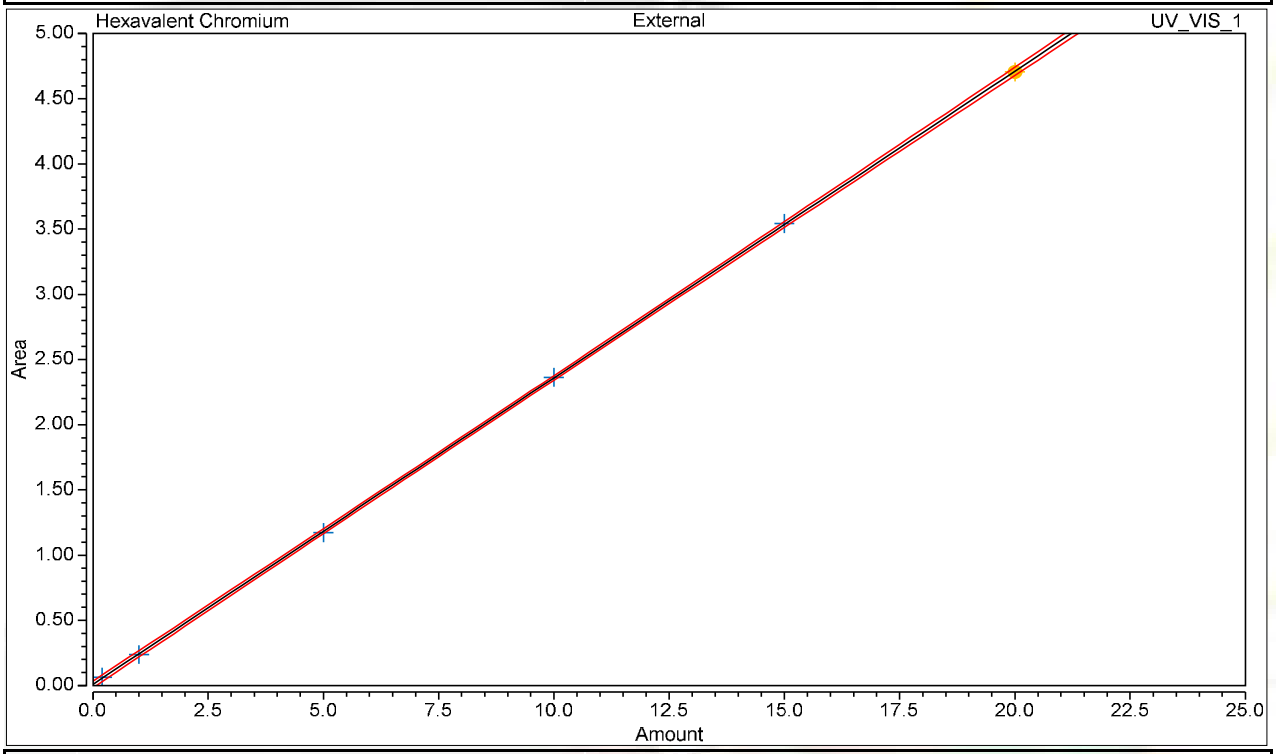
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	4.705	23.686	100.00	100.00	19.9775
Total:			**4.705**	**23.686**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin, WithOffset	*Offset (C0)*	0.0081
Evaluation Type	Area	*Slope (C1)*	0.2351
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99998

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

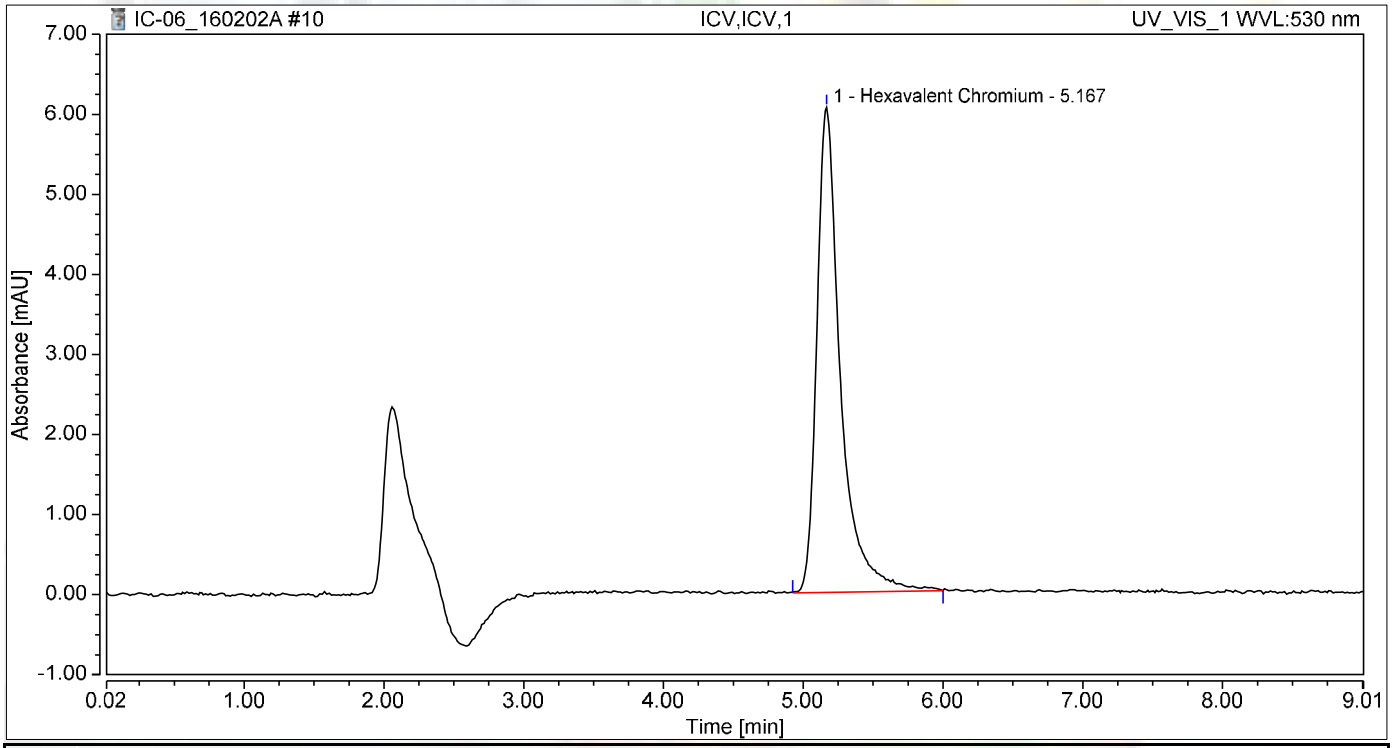
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	02	0.2000	0.0640	0.064	0.305
5	1.0 ppb	03	1.0000	0.2378	0.238	1.201
6	5.0 ppb	04	5.0000	1.1735	1.174	5.836
7	10.0 ppb	05	10.0000	2.3637	2.364	11.639
8	15.0 ppb	06	15.0000	3.5429	3.543	17.601
9	20.0 ppb	07	20.0000	4.7053	4.705	23.686

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1**	*Run Time (min):*	**8.99**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

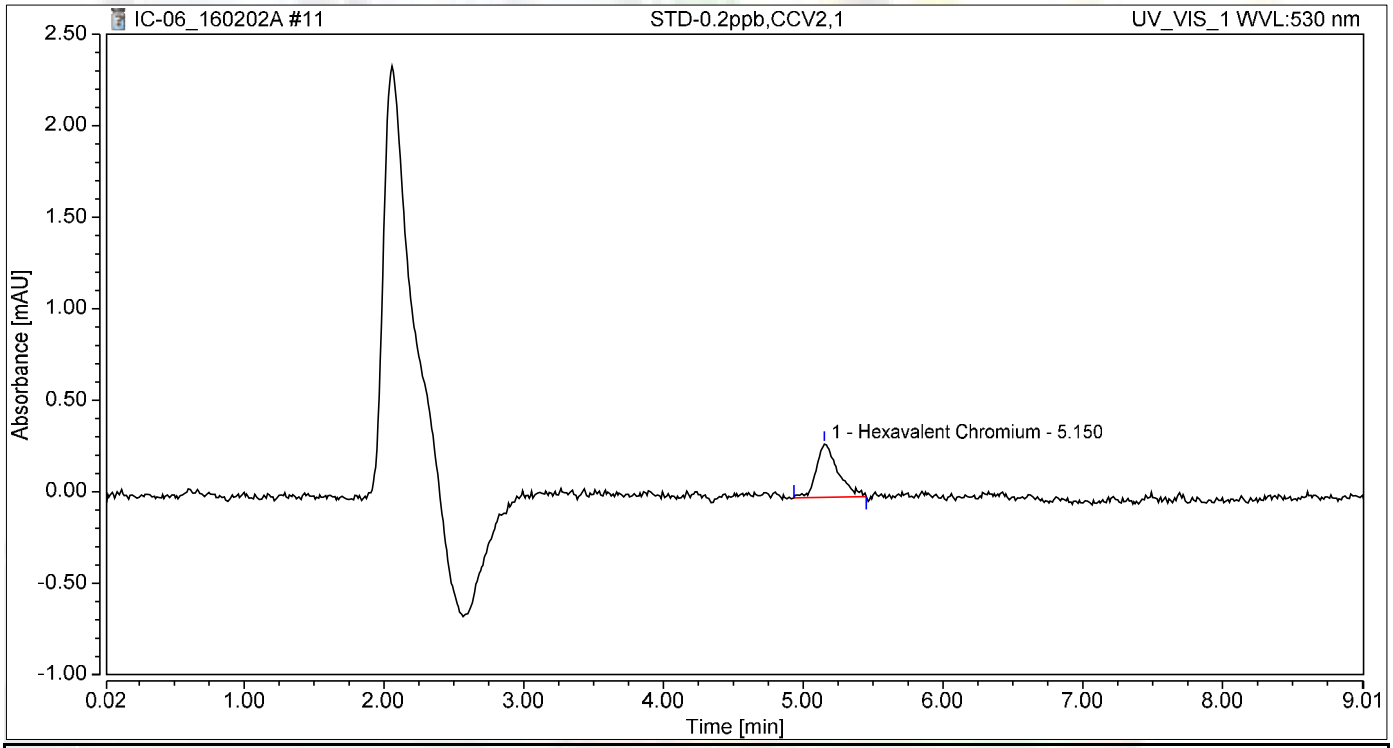
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.167	1.186	6.059	100.00	100.00	5.0100
Total:			**1.186**	**6.059**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD-0.2ppb,CCV2,1**	*Run Time (min):*	**8.99**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

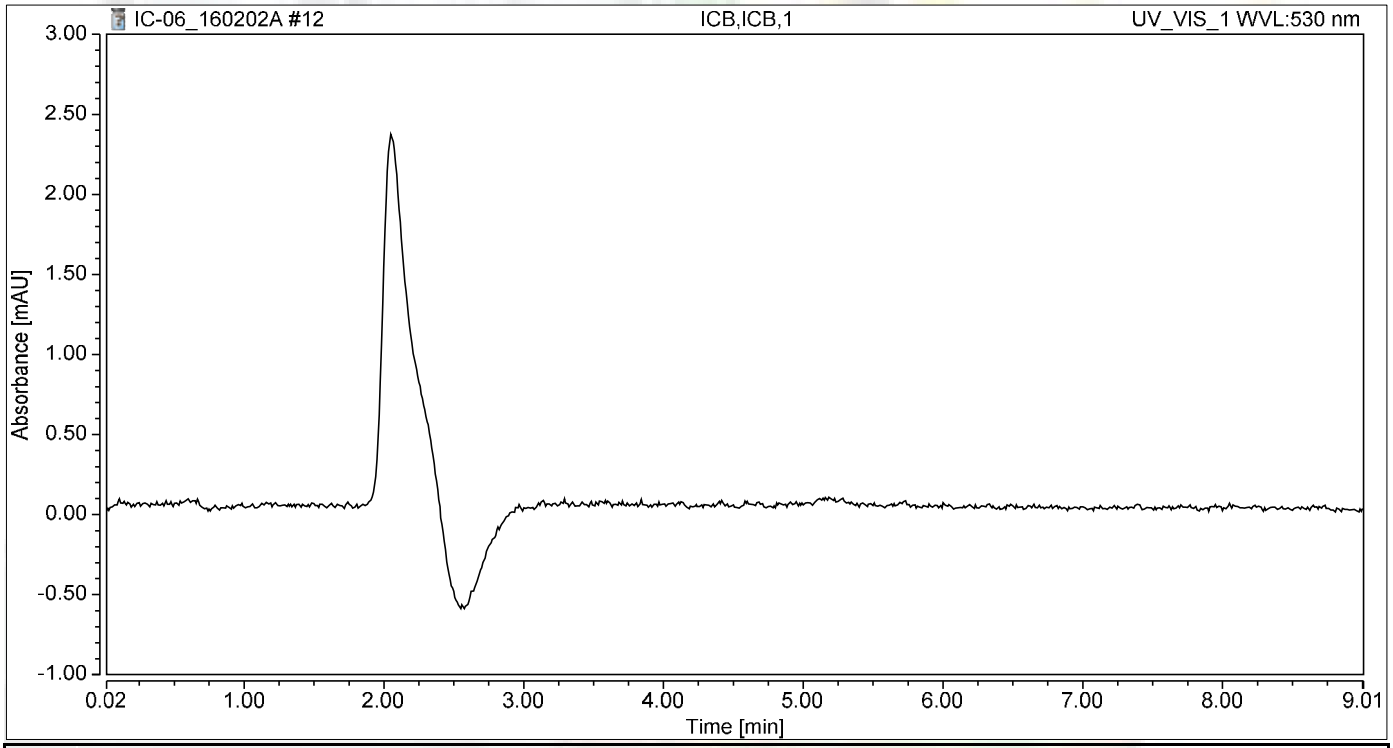
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.150	0.053	0.292	100.00	100.00	0.1899
Total:			**0.053**	**0.292**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1**	*Run Time (min):*	**8.99**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

Reb 2/18/2016

INJECTION LOG: 160203A

Instrument ID: IC-06

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:47 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:59 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:09 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:34 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:44 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:53 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:03 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:13 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/03/16 10:05 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	02/03/16 10:16 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	02/03/16 10:26 AM	Reported
13	STD-0.2ppb	CCV2	1	Hexavalent Chromium	02/03/16 10:36 AM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/03/16 10:46 AM	Reported
15	MB-R105697	MBLK	1	Hexavalent Chromium	02/03/16 10:56 AM	Reported
16	LCS-R105697	LCS	1	Hexavalent Chromium	02/03/16 11:06 AM	Reported
17	N018616-001A	SAMP	1	Hexavalent Chromium	02/03/16 11:36 AM	Reported
18	N018616-001ADUP	DUP	1	Hexavalent Chromium	02/03/16 11:47 AM	Reported
19	N018616-001AMS	MS	1	Hexavalent Chromium	02/03/16 11:57 AM	Reported
20	N018616-001AMSD	MSD	1	Hexavalent Chromium	02/03/16 12:07 PM	Reported
21	N018616-002A	SAMP	20	Hexavalent Chromium	02/03/16 12:17 PM	Reported
22	N018616-003A	SAMP	1	Hexavalent Chromium	02/03/16 12:27 PM	Reported
23	N018616-004A	SAMP	5	Hexavalent Chromium	02/03/16 12:37 PM	Reported
24	N018616-005A	SAMP	1	Hexavalent Chromium	02/03/16 12:47 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/03/16 12:57 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/03/16 1:07 PM	Reported
27	N018616-006A	SAMP	1	Hexavalent Chromium	02/03/16 1:17 PM	Reported
28	N018616-007A	SAMP	1	Hexavalent Chromium	02/03/16 1:27 PM	Reported
29	N018616-008A	SAMP	10	Hexavalent Chromium	02/03/16 1:37 PM	Reported
30	N018616-009A	SAMP	1	Hexavalent Chromium	02/03/16 1:47 PM	Reported
31	N018616-010A	SAMP	1	Hexavalent Chromium	02/03/16 1:57 PM	Reported
32	N018616-011A	SAMP	1	Hexavalent Chromium	02/03/16 2:07 PM	Reported
33	N018616-012A	SAMP	1	Hexavalent Chromium	02/03/16 2:17 PM	Reported
34	N018628-001C	SAMP	1	Hexavalent Chromium	02/03/16 2:42 PM	Reported
35	N018628-001CMS	MS	1	Hexavalent Chromium	02/03/16 2:53 PM	Reported
36	CCV-3	CCV	1	Hexavalent Chromium	02/03/16 3:03 PM	Reported
37	CCB-3	CCB	1	Hexavalent Chromium	02/03/16 3:13 PM	Reported

2/19/2016

Injection Log Summary

Sequence Details

Name:	**IC-06_160203A**	*Created On:*	**24/Jul/12 17:25:10**
Directory:	**Instrument Data\IC-6\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 15:43:59**
No. of Injections:	**40**	*Updated By:*	**ics 5000**

Injection Details

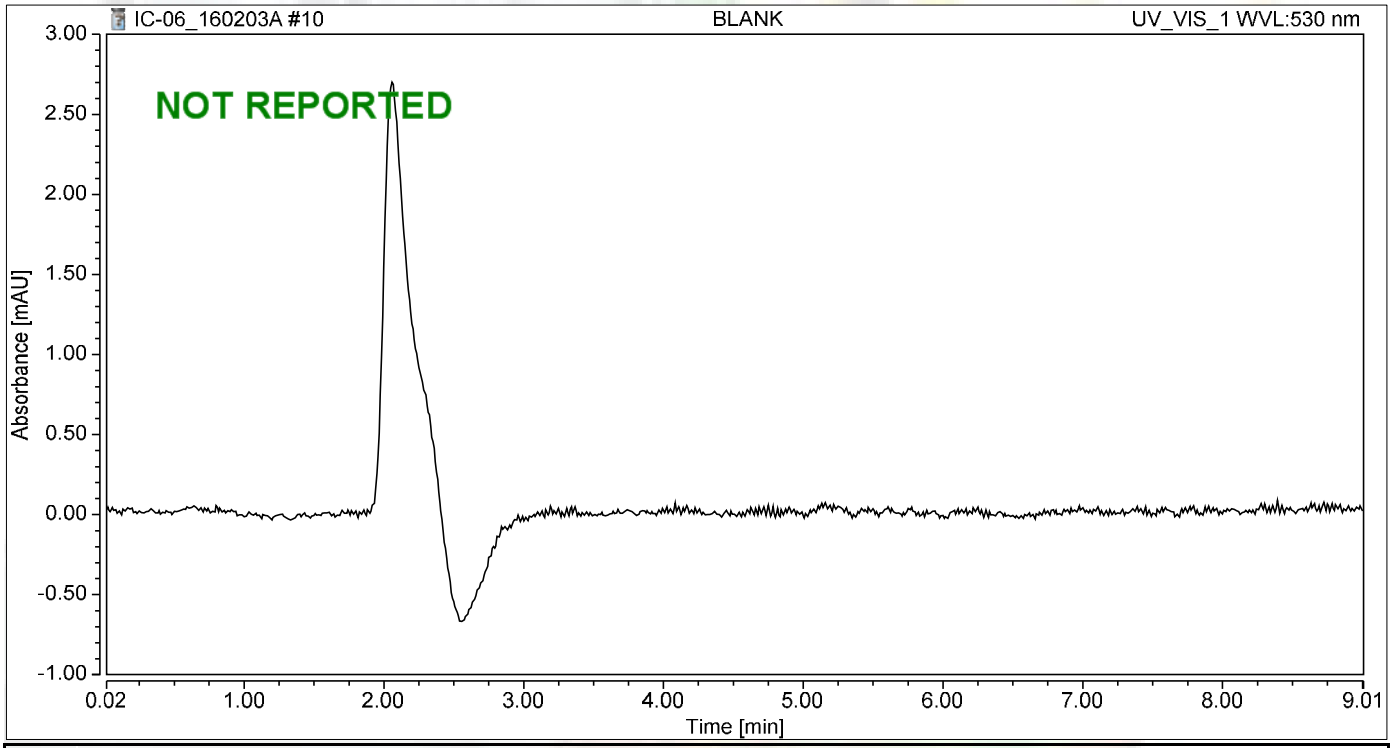
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		02/02/2016 11:47	Finished	BLANK
2	BLANK	2	1000	Unknown		02/02/2016 11:59	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:09	Finished	iBLANK
4	0.2 ppb	4	1000	Calibration Standard	02	02/02/2016 12:22	Finished	0.2ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	03	02/02/2016 12:34	Finished	1.0ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	04	02/02/2016 12:44	Finished	5.0ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	05	02/02/2016 12:53	Finished	10ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	06	02/02/2016 13:03	Finished	15ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	07	02/02/2016 13:13	Finished	20ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/03/2016 10:05	Finished	BLANK
11	BLANK	2	1000	Unknown		02/03/2016 10:16	Finished	BLANK
12	CCV-1,CCV,1	3	1000	Unknown		02/03/2016 10:26	Finished	CCV @ 5ppb, IWST160202A
13	STD-0.2ppb,CCV2,1	4	1000	Unknown		02/03/2016 10:36	Finished	PQL @ 0.2 ppb
14	CCB-1,CCB,1	5	1000	Unknown		02/03/2016 10:46	Finished	CCV R160128A
15	MB-H2O,MBLK,1	6	1000	Unknown		02/03/2016 10:56	Finished	MB R160110A
16	LCS-H2O,LCS,1	7	1000	Unknown		02/03/2016 11:06	Finished	LCS(5ppb), IWST-160202B
17	N018616-001A,SAMP,1	8	1000	Unknown		02/03/2016 11:36	Finished	SAMP, 10mL
18	N018616-001ADUP,DUP,1	9	1000	Unknown		02/03/2016 11:47	Finished	DUP, 10mL
19	N018616-001AMS,MS,1	10	1000	Unknown		02/03/2016 11:57	Finished	MS (5ppb), IWST-160202B, 10ml
20	N018616-001AMSD,MSD,1	11	1000	Unknown		02/03/2016 12:07	Finished	MSD (5ppb), IWST-160202B, 10m
21	N018616-002A,SAMP,20	12	1000	Unknown		02/03/2016 12:17	Finished	SAMP, 0.5 to 10mL
22	N018616-003A,SAMP,1	13	1000	Unknown		02/03/2016 12:27	Finished	SAMP, 10mL
23	N018616-004A,SAMP,5	14	1000	Unknown		02/03/2016 12:37	Finished	SAMP, 2 to 10mL
24	N018616-005A,SAMP,1	15	1000	Unknown		02/03/2016 12:47	Finished	SAMP, 10mL
25	CCV-2,CCV,1	16	1000	Unknown		02/03/2016 12:57	Finished	CCV @ 10ppb, IWST160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/03/2016 13:07	Finished	CCB
27	N018616-006A,SAMP,1	18	1000	Unknown		02/03/2016 13:17	Finished	SAMP, 10mL
28	N018616-007A,SAMP,1	19	1000	Unknown		02/03/2016 13:27	Finished	SAMP, 10mL
29	N018616-008A,SAMP,10	20	1000	Unknown		02/03/2016 13:37	Finished	SAMP, 1 to 10mL
30	N018616-009A,SAMP,1	21	1000	Unknown		02/03/2016 13:47	Finished	SAMP, 10mL
31	N018616-010A,SAMP,1	22	1000	Unknown		02/03/2016 13:57	Finished	SAMP, 10mL
32	N018616-011A,SAMP,1	23	1000	Unknown		02/03/2016 14:07	Finished	SAMP, 10mL
33	N018616-012A,SAMP,1	24	1000	Unknown		02/03/2016 14:17	Finished	SAMP, 10mL
34	N018628-001C,SAMP,1	25	1000	Unknown		02/03/2016 14:42	Finished	SAMP, 10mL
35	N018628-001CMS,MS,1	26	1000	Unknown		02/03/2016 14:53	Finished	MS (5ppb), IWST-160202B, 10ml
36	CCV-3,CCV,1	27	1000	Unknown		02/03/2016 15:03	Finished	CCV @ 5ppb, IWST160202A
37	CCB-3,CCB,1	28	1000	Unknown		02/03/2016 15:13	Finished	CCB
38	SHUTDOWN	29	1000	Unknown		02/03/2016 15:33	Finished	SHUTDOWN
39	Eluent: R160201B	30	1000	Unknown		n.a.	Finished	Eluent
40	PCR: R160201C	31	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.99**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 10:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

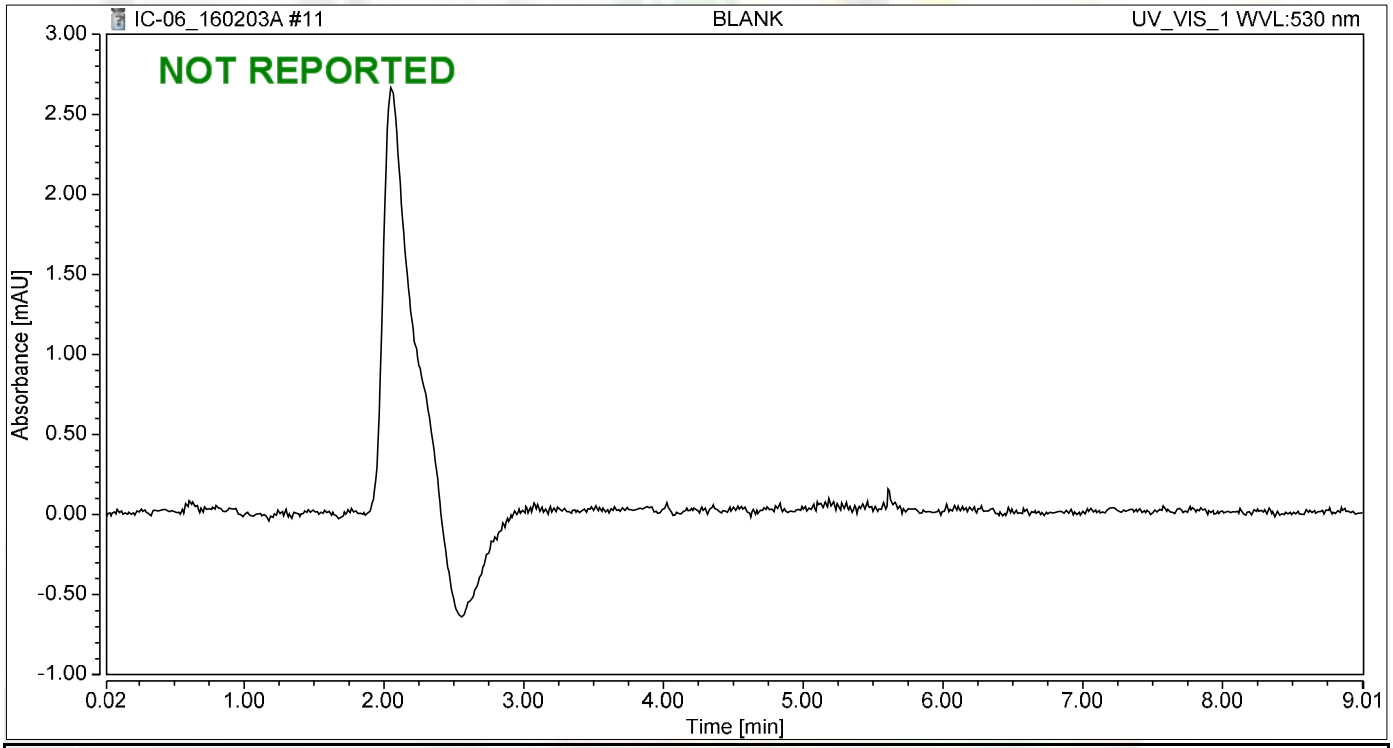
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.99**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 10:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

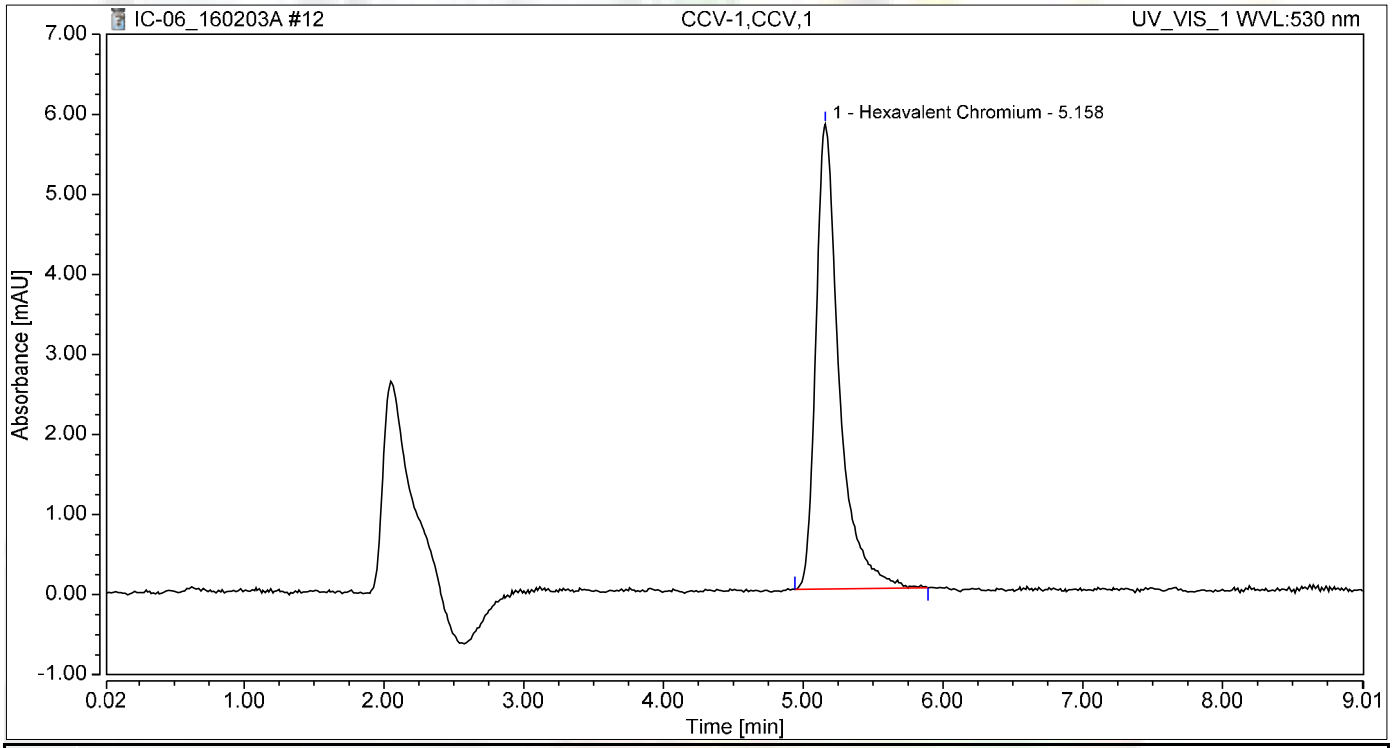
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1**	*Run Time (min):*	**8.99**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 10:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

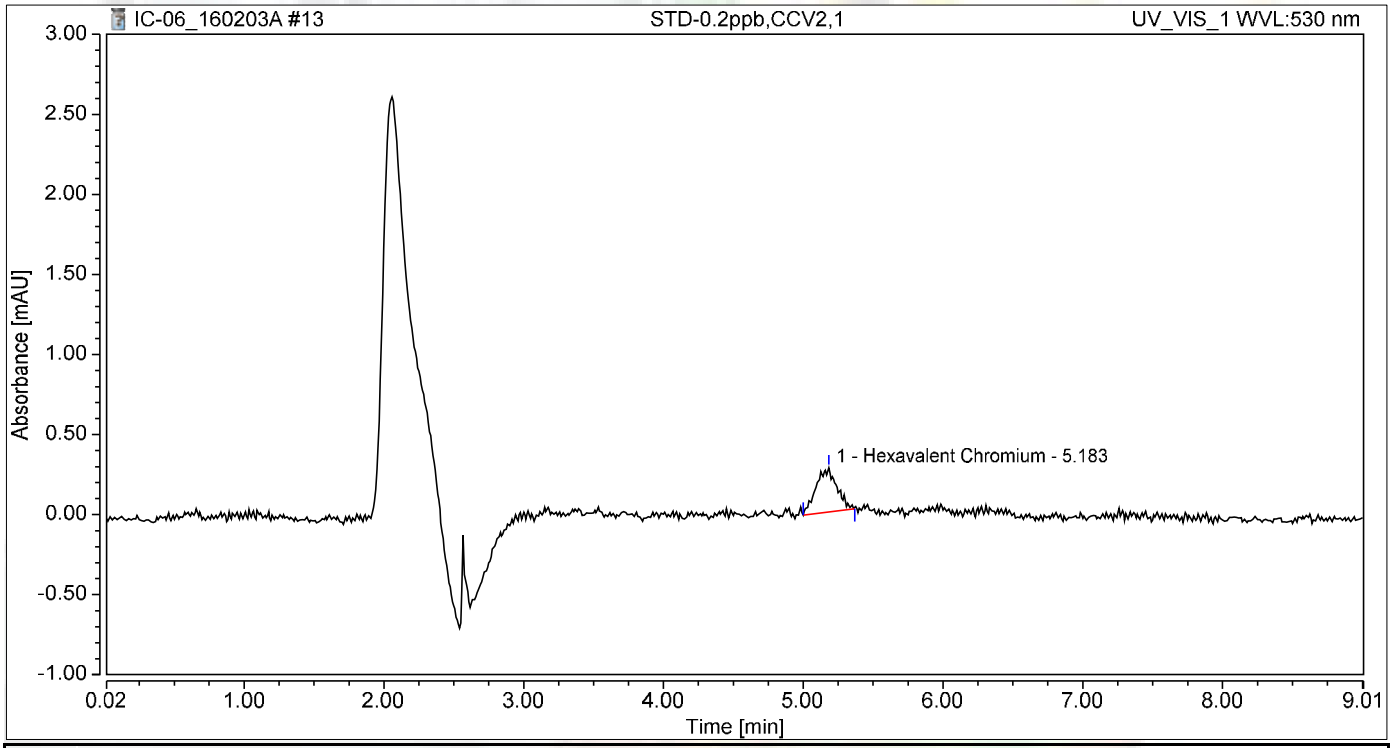
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.127	5.807	100.00	100.00	4.7593
Total:			**1.127**	**5.807**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD-0.2ppb,CCV2,1**	*Run Time (min):*	**8.99**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 10:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

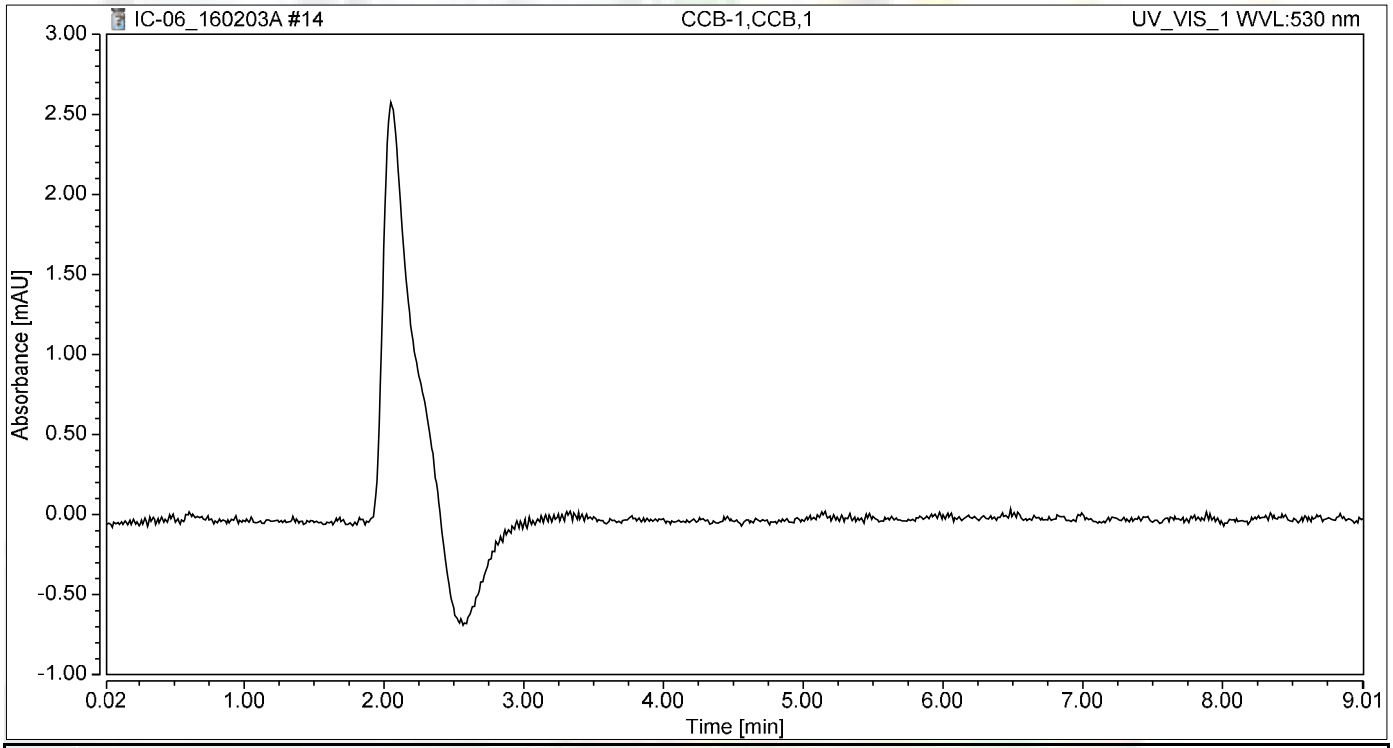
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.183	0.047	0.276	100.00	100.00	0.1648
Total:			**0.047**	**0.276**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.99**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 10:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

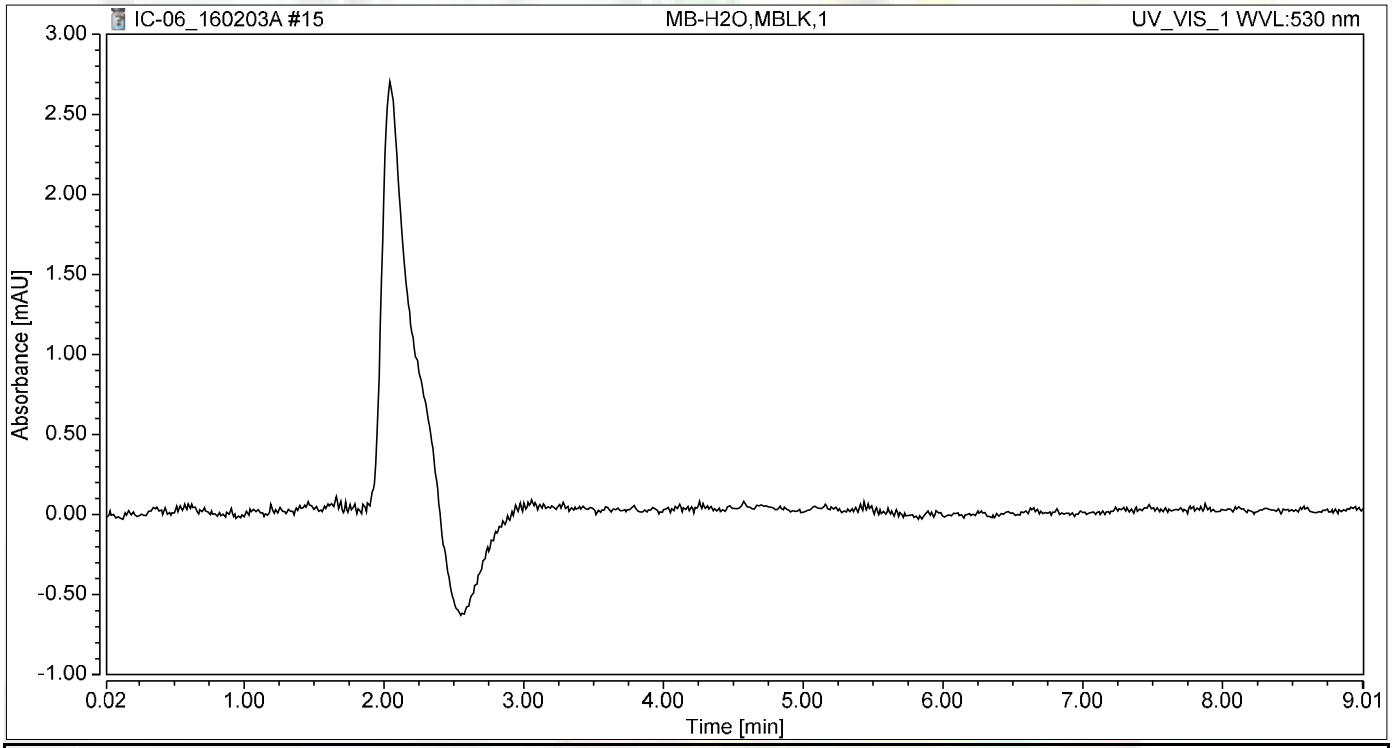
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.99**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 10:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

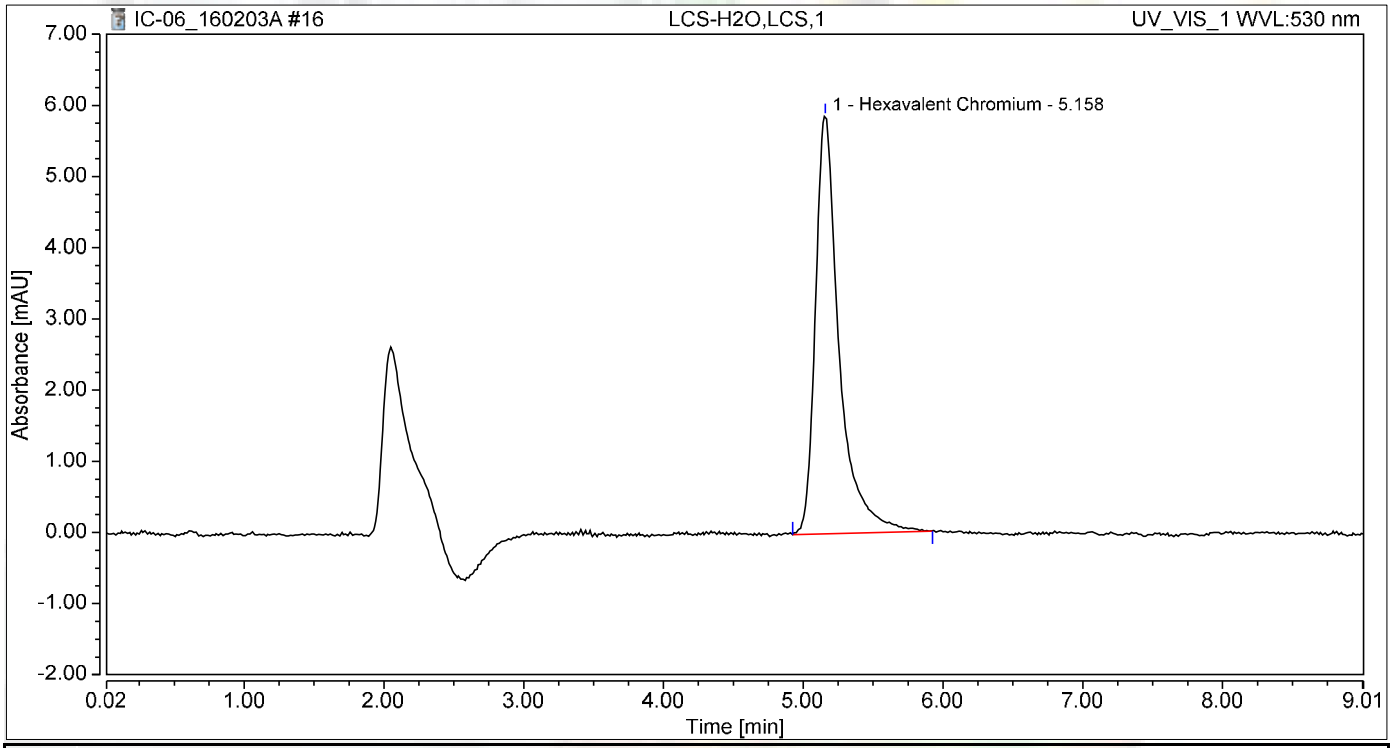
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.99**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 11:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

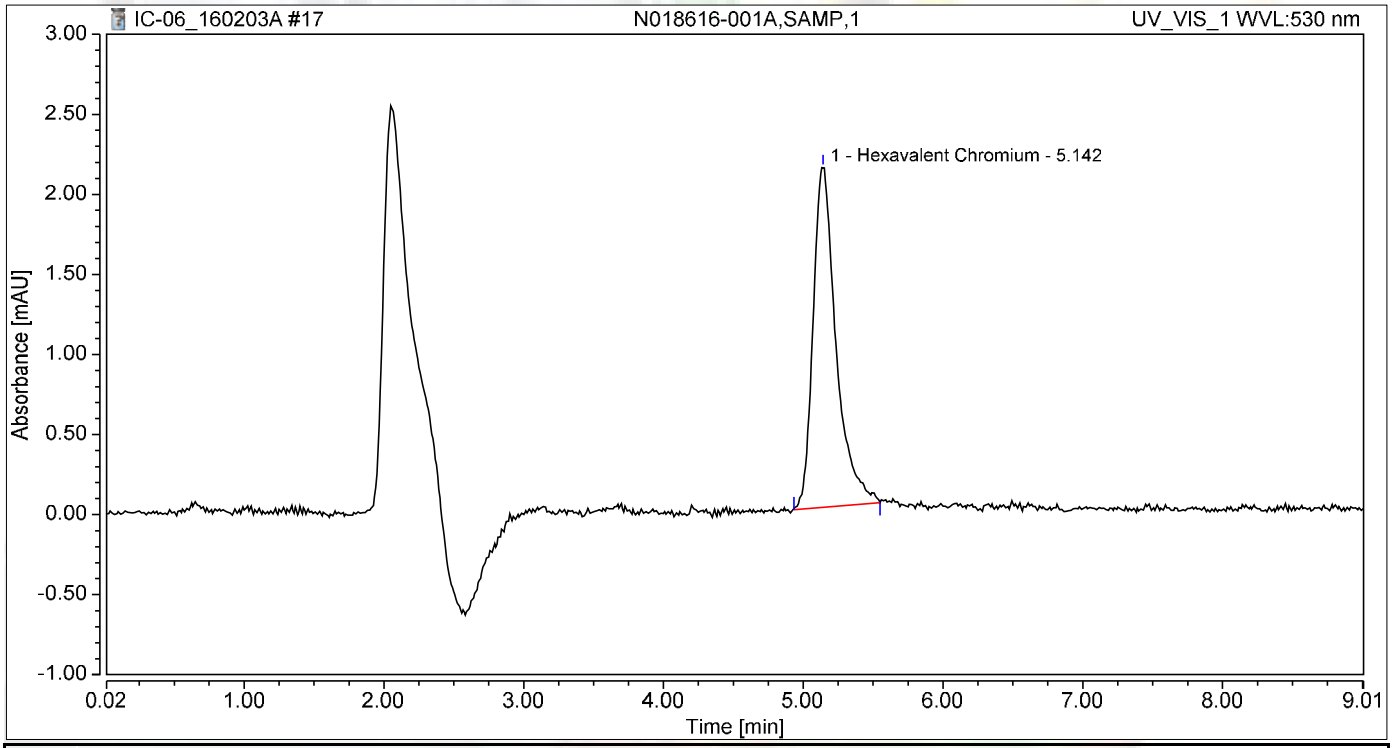
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.155	5.866	100.00	100.00	4.8767
Total:			**1.155**	**5.866**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-001A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 11:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

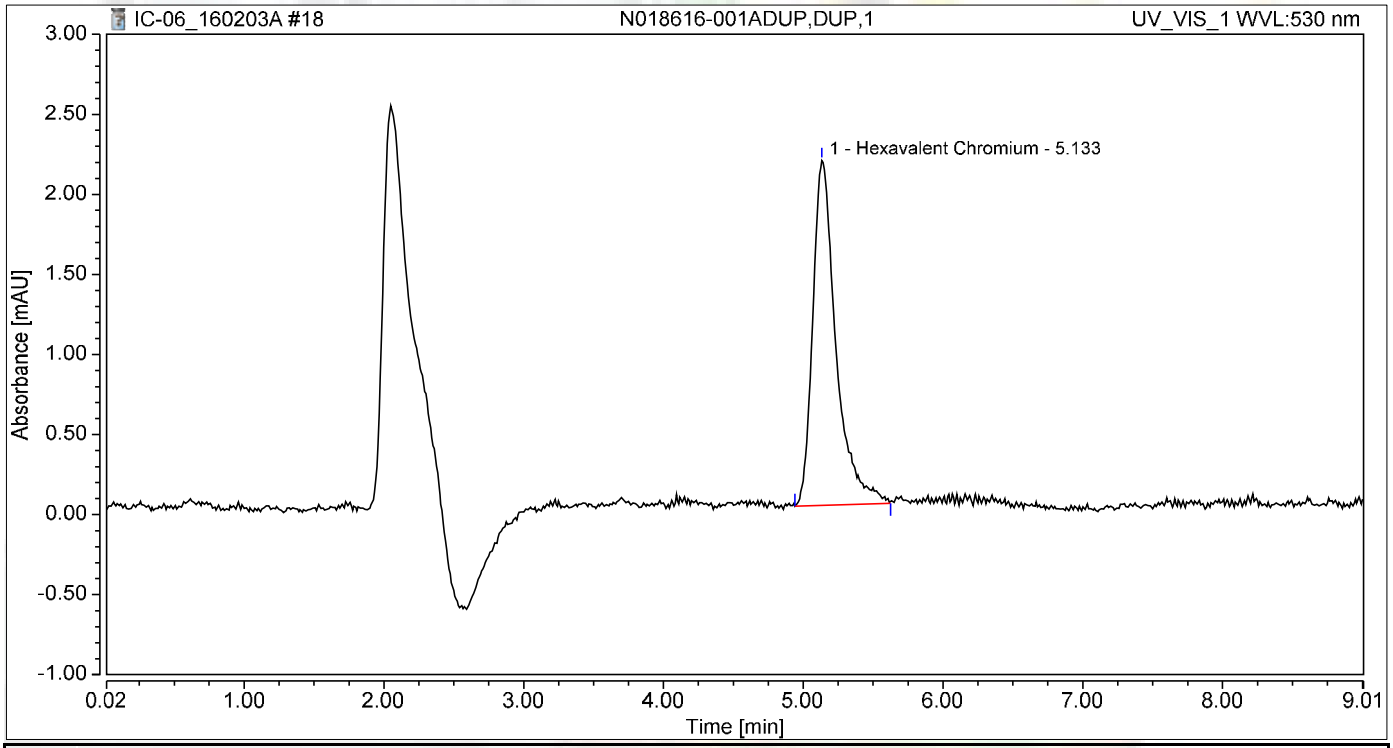
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.142	0.405	2.123	100.00	100.00	1.6866
Total:			**0.405**	**2.123**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-001ADUP,DUP,1**	*Run Time (min):*	**8.99**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 11:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

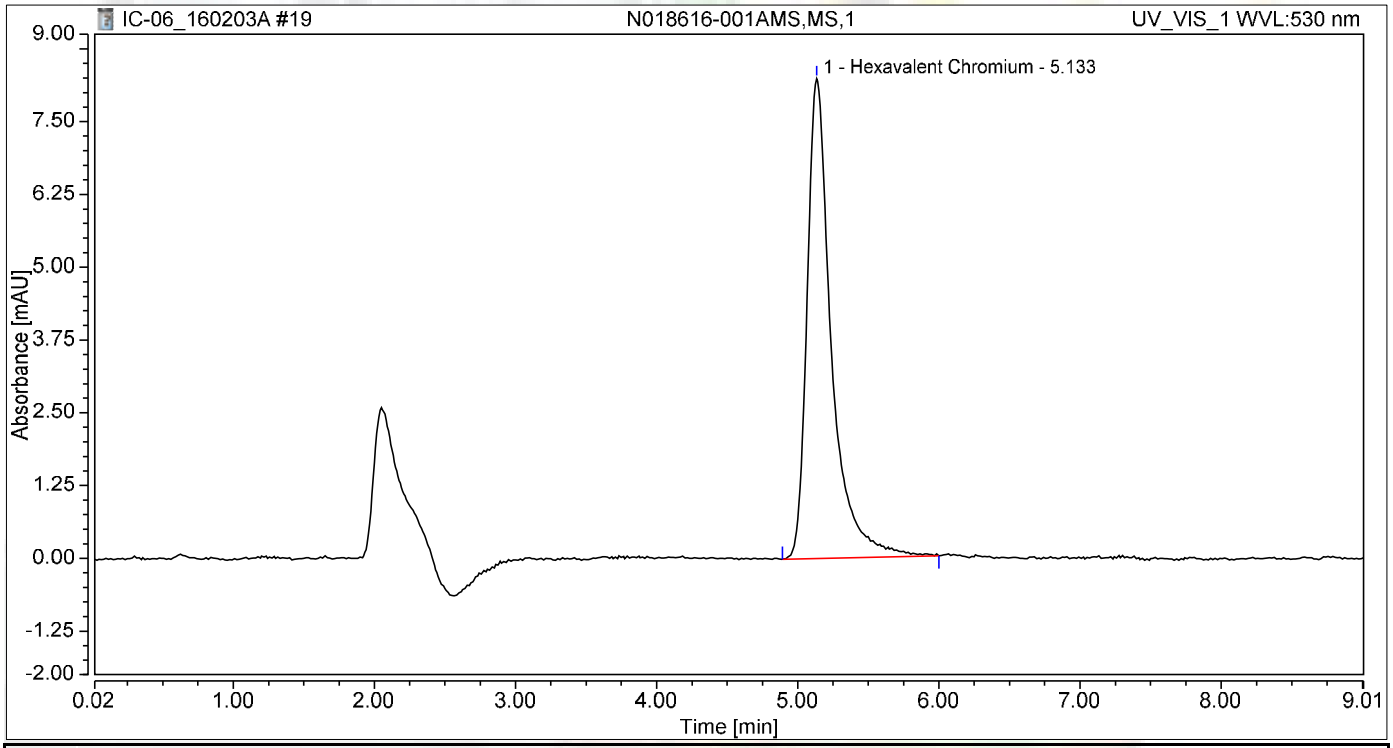
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.133	0.414	2.155	100.00	100.00	1.7279
Total:			**0.414**	**2.155**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-001AMS,MS,1**	*Run Time (min):*	**8.99**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

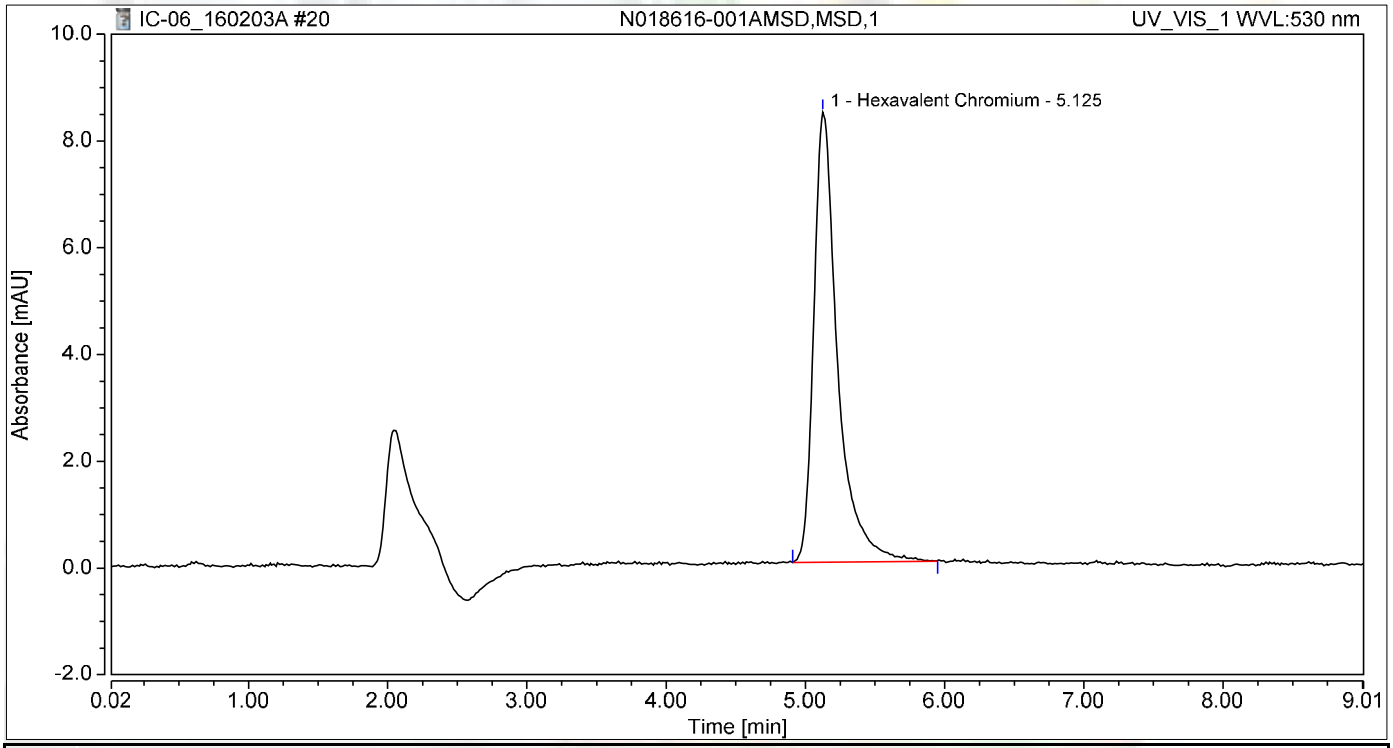
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.133	1.639	8.237	100.00	100.00	6.9353
Total:			**1.639**	**8.237**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-001AMSD,MSD,1**	*Run Time (min):*	**8.99**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 12:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

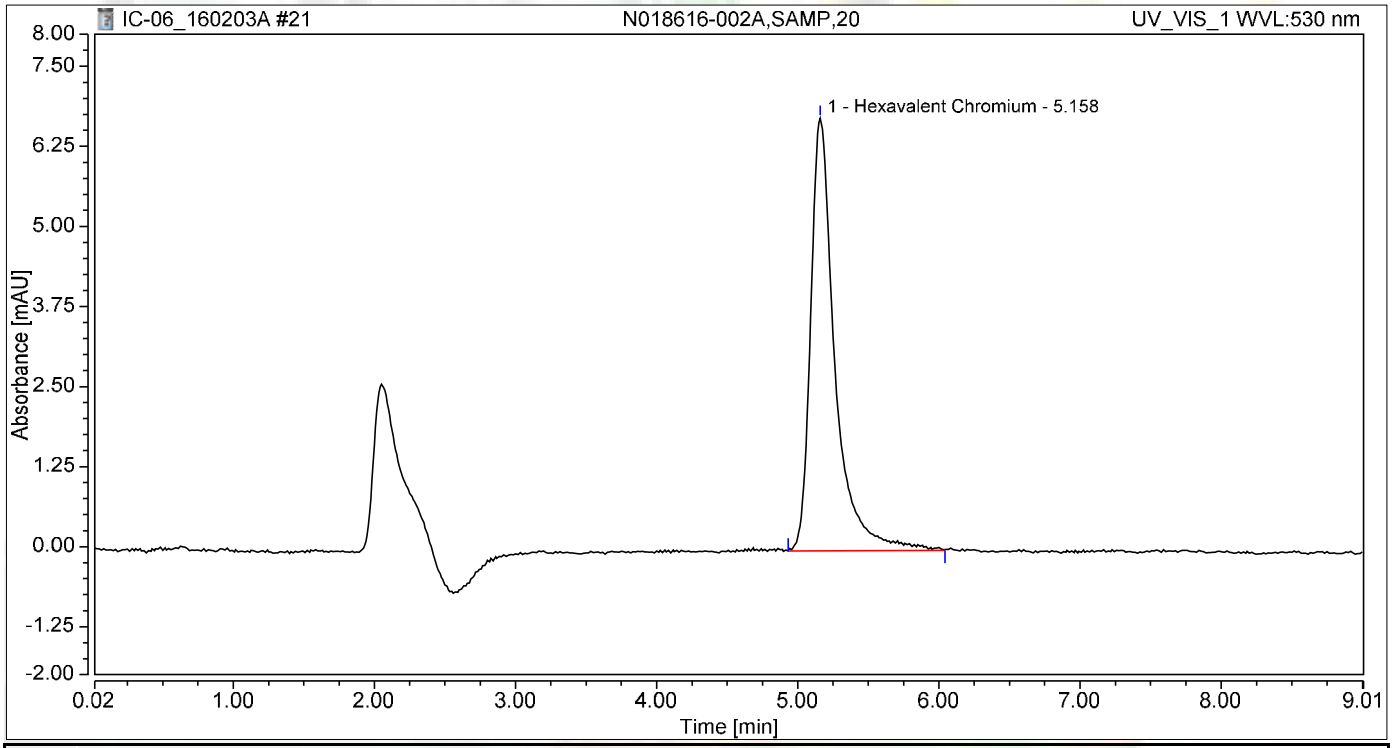
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.125	1.667	8.433	100.00	100.00	7.0572
Total:			**1.667**	**8.433**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-002A,SAMP,20**	*Run Time (min):*	**8.99**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 12:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

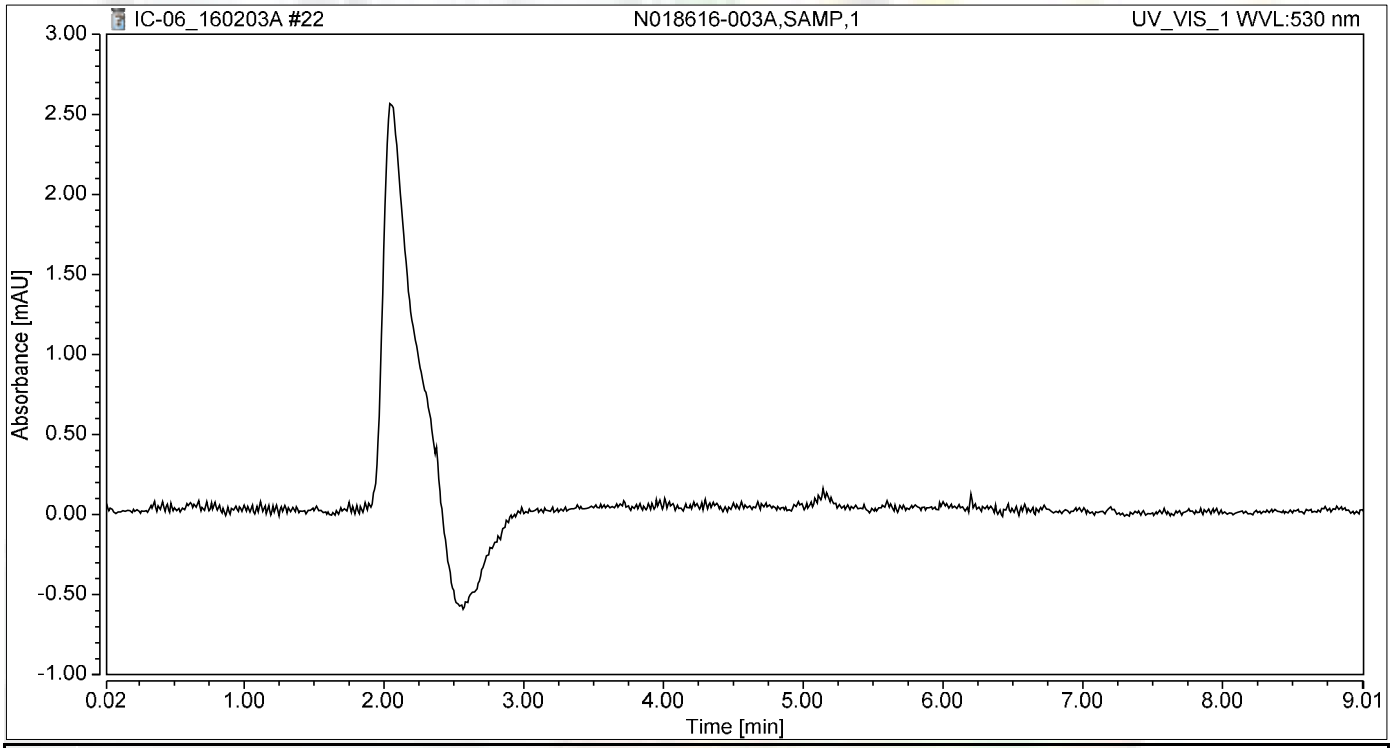
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.342	6.753	100.00	100.00	5.6737
Total:			**1.342**	**6.753**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-003A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 12:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

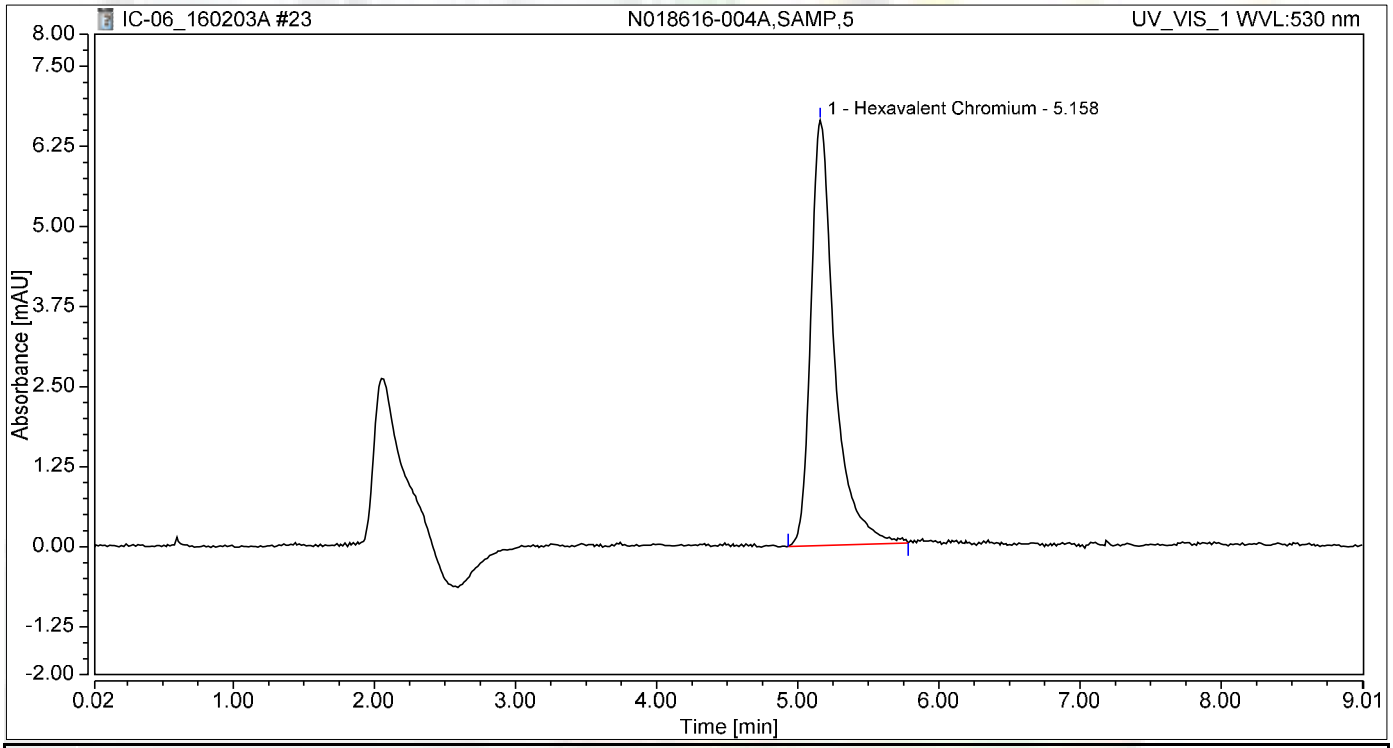
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-004A,SAMP,5**	*Run Time (min):*	**8.99**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 12:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

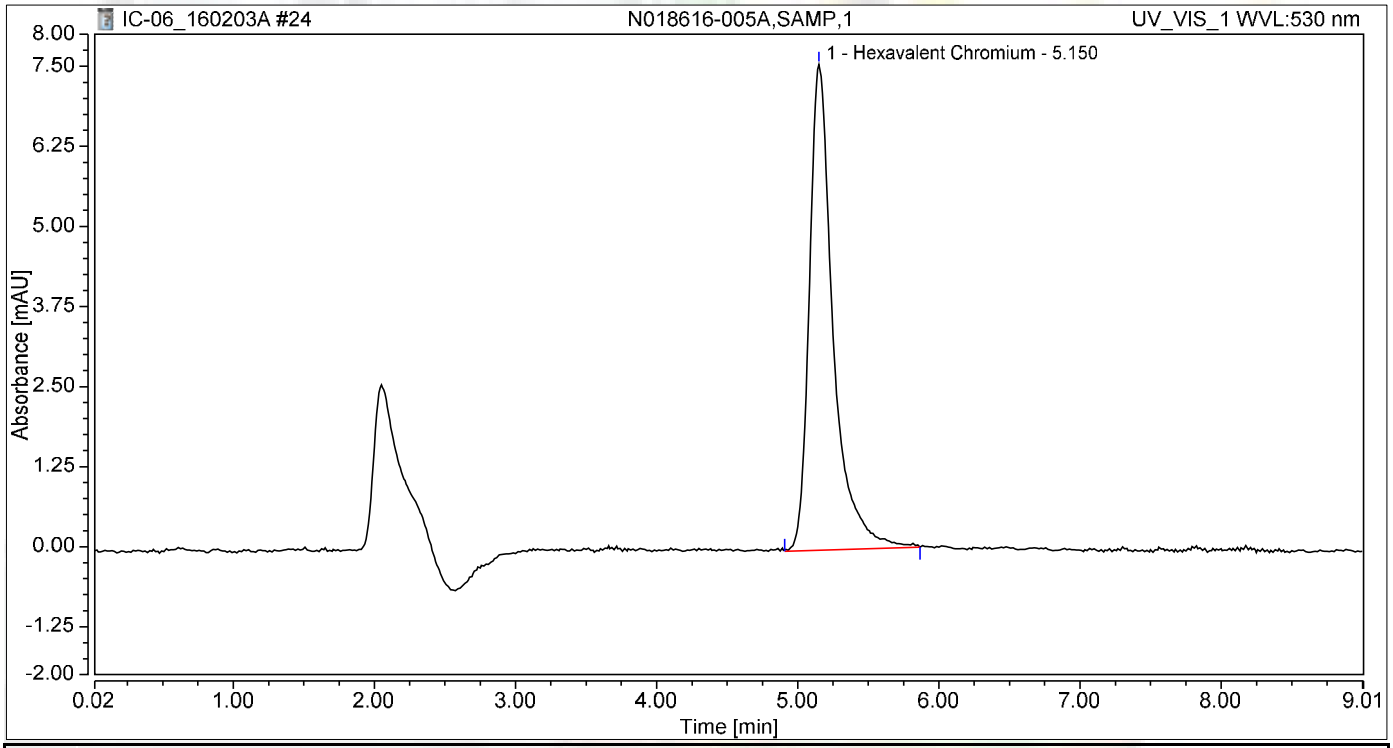
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.284	6.635	100.00	100.00	5.4248
Total:			**1.284**	**6.635**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-005A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 12:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

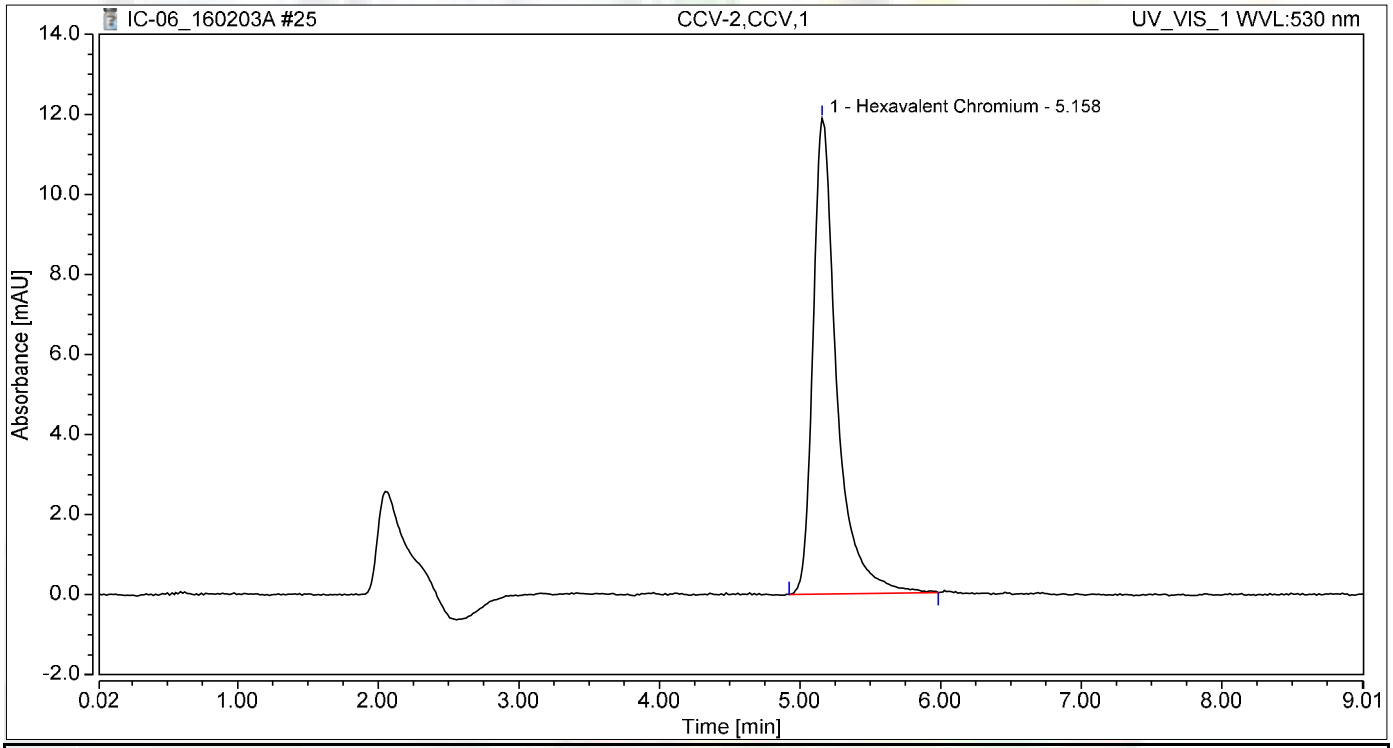
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.150	1.483	7.580	100.00	100.00	6.2723
Total:			**1.483**	**7.580**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.99**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 12:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

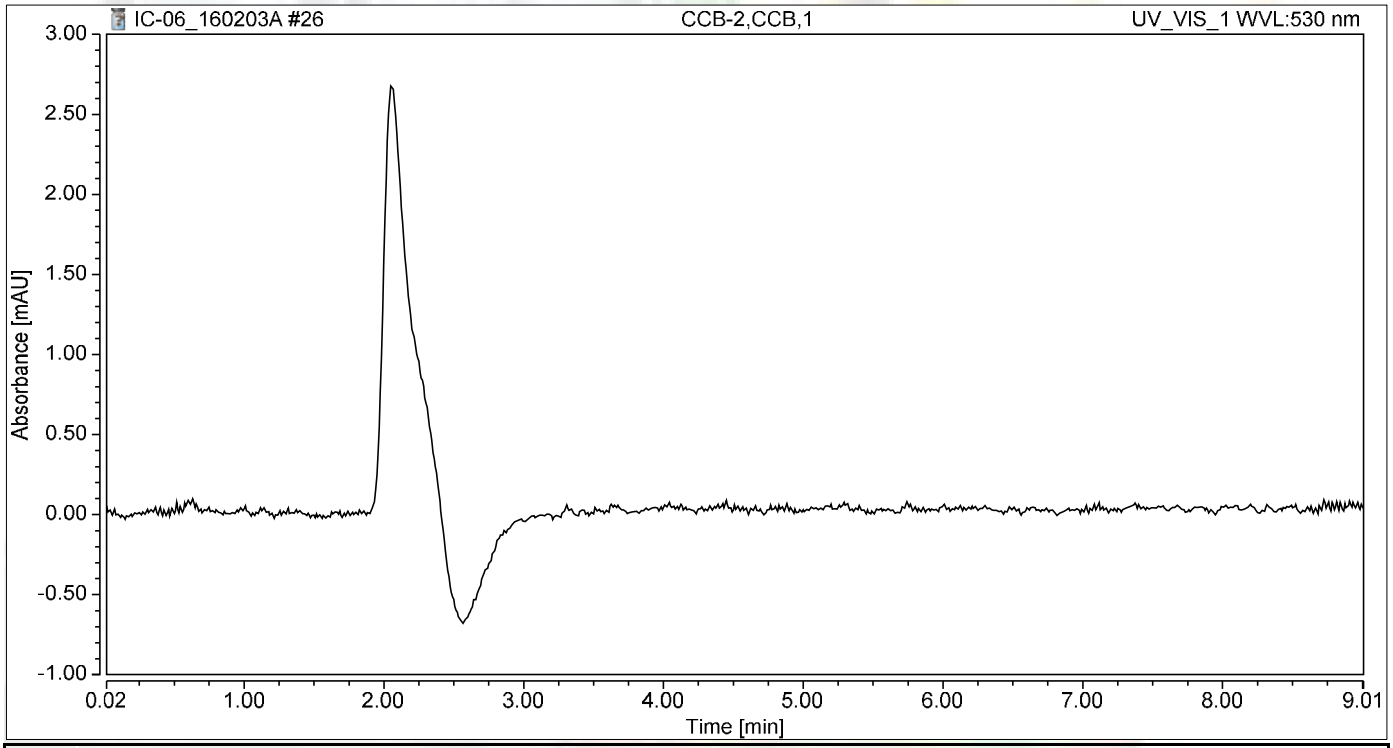
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	2.323	11.889	100.00	100.00	9.8461
Total:			**2.323**	**11.889**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.99**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 13:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

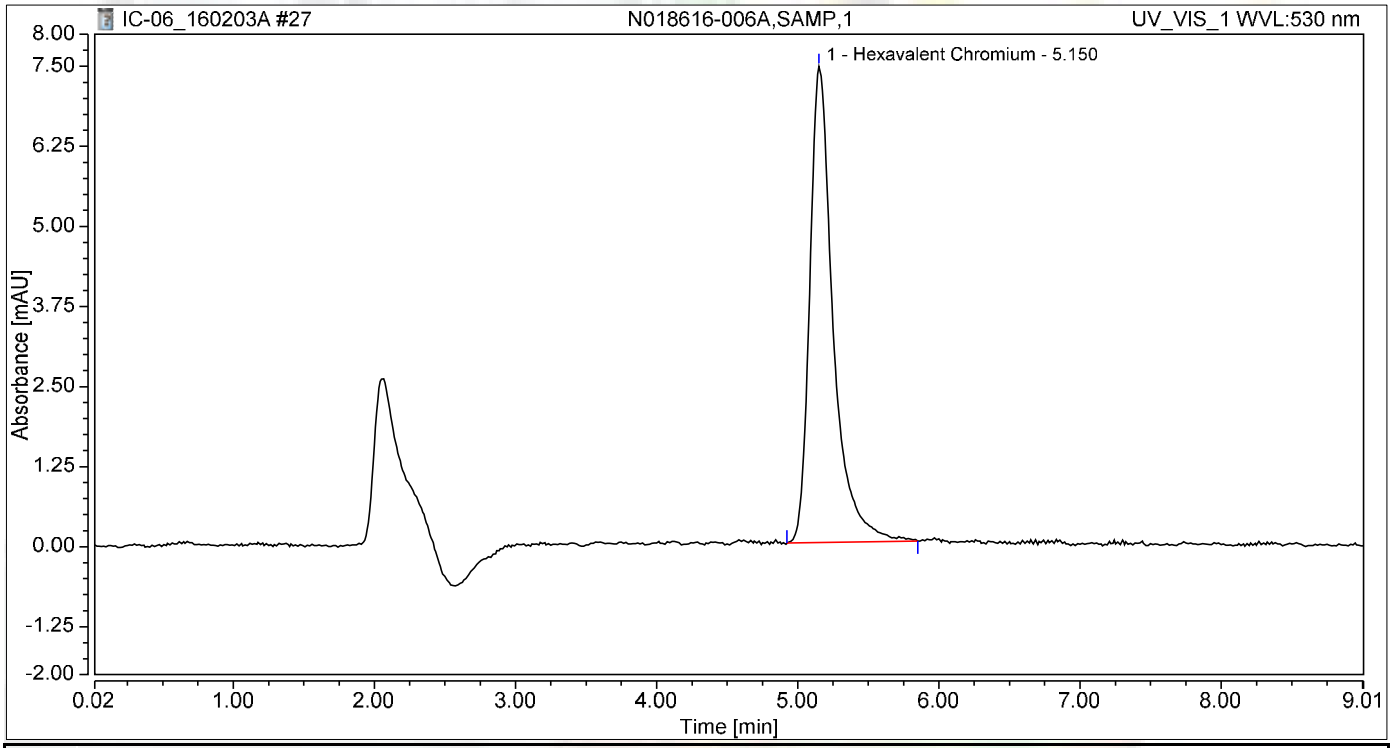
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-006A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 13:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

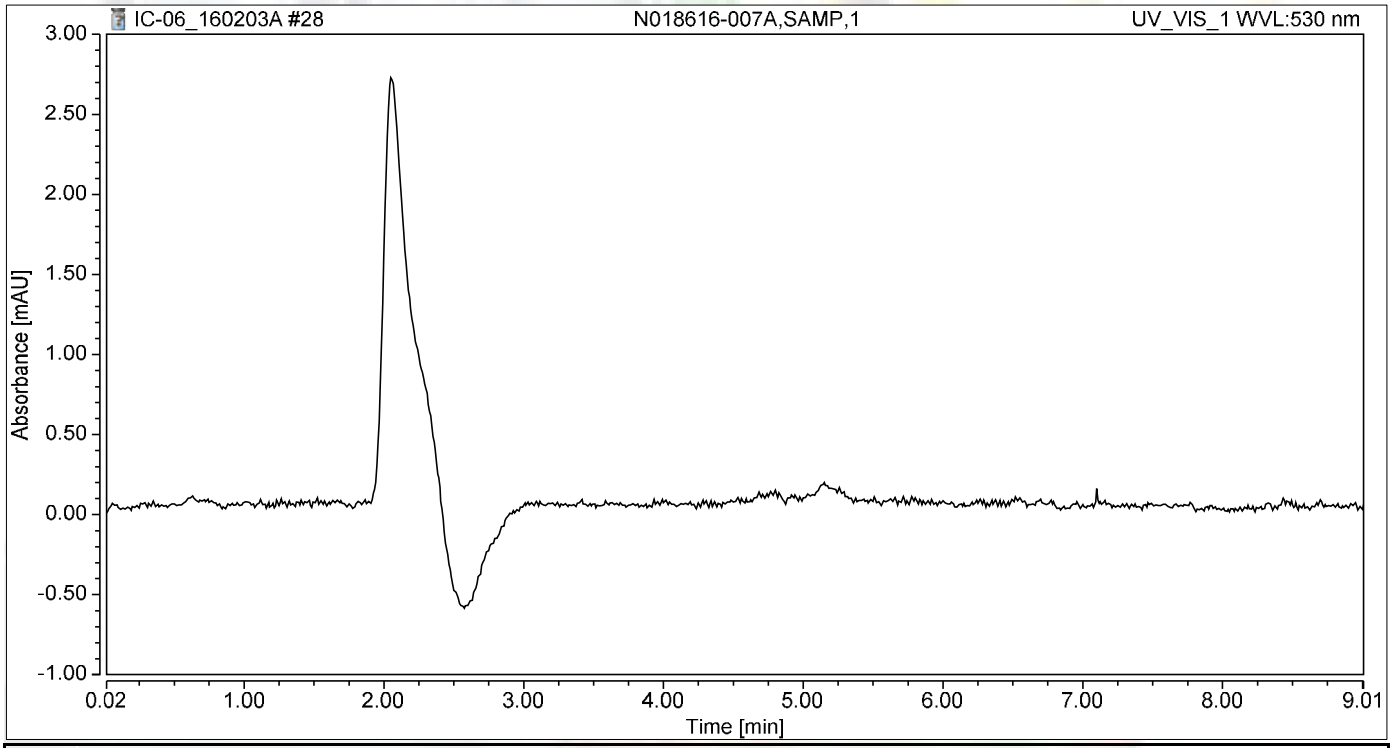
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.150	1.423	7.433	100.00	100.00	6.0190
Total:			**1.423**	**7.433**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-007A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 13:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

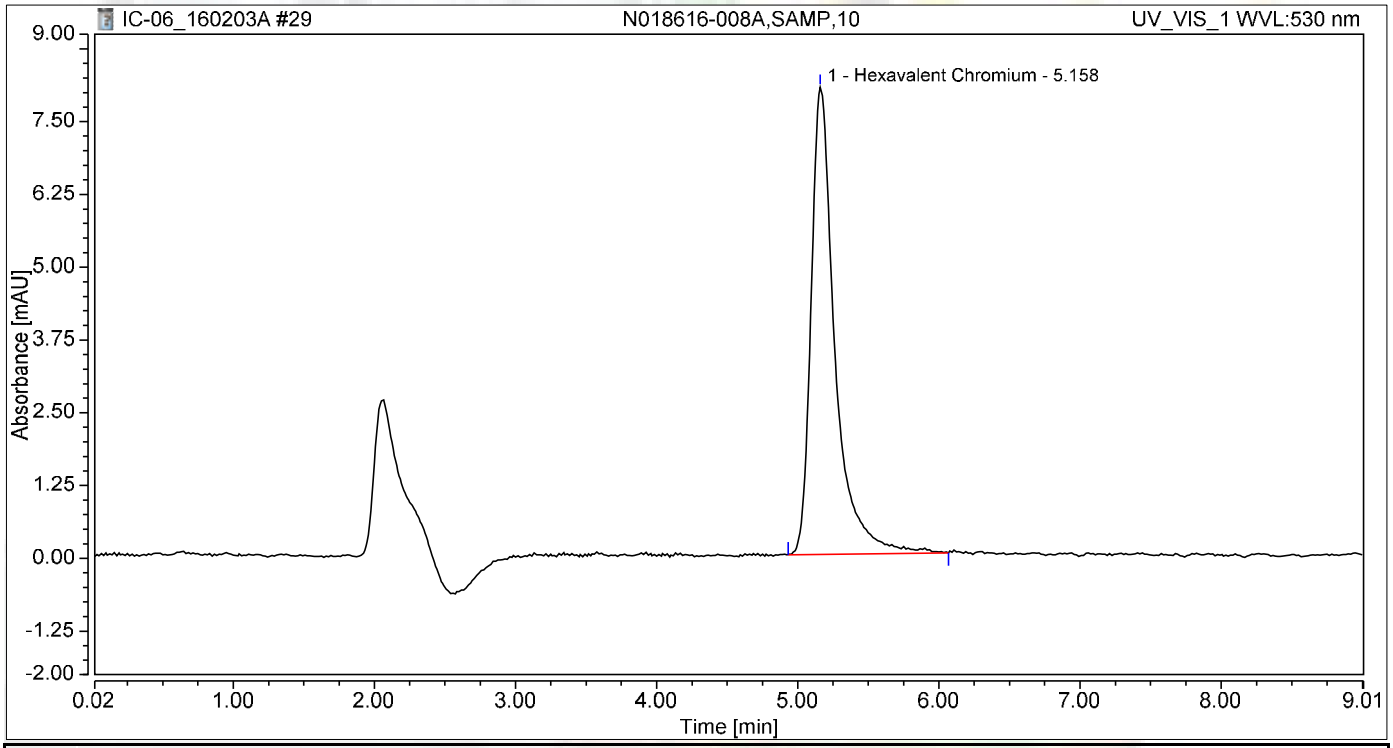
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-008A,SAMP,10**	*Run Time (min):*	**8.99**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 13:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

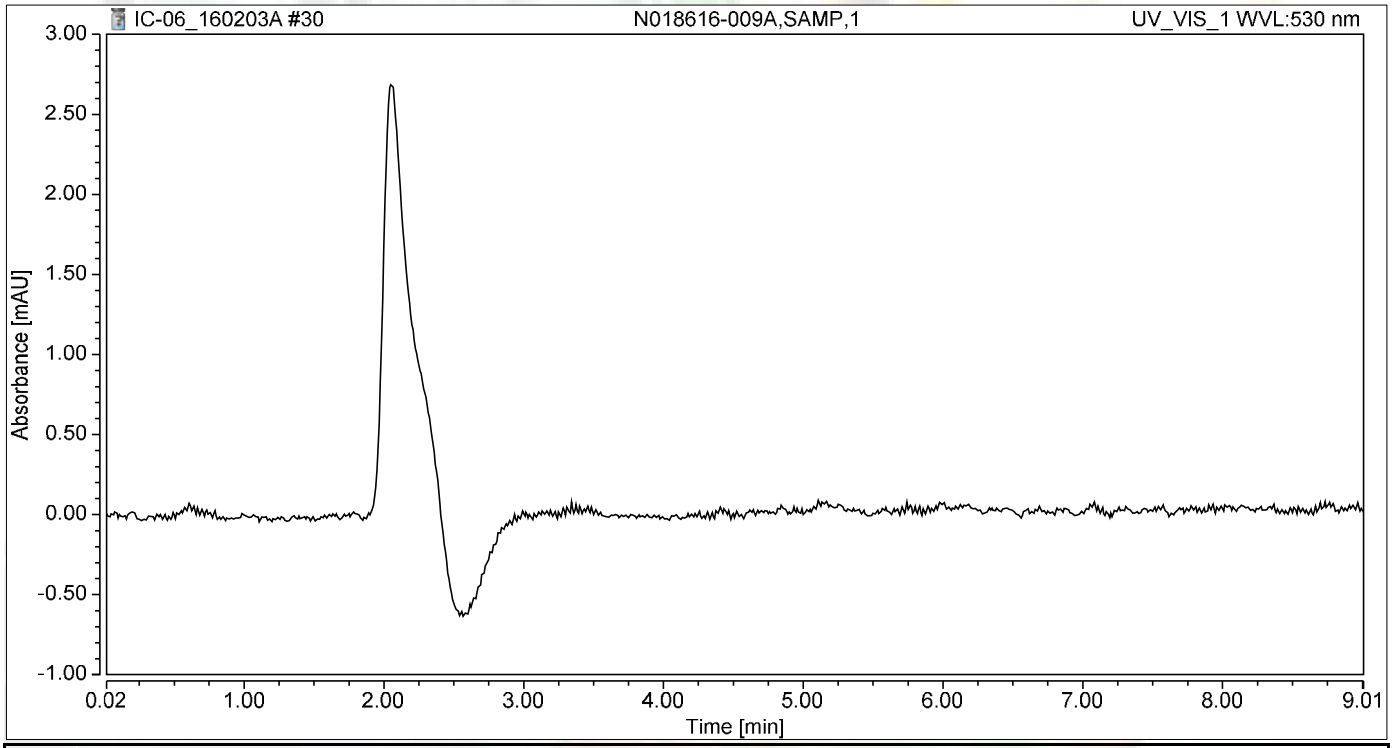
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.565	8.020	100.00	100.00	6.6194
Total:			**1.565**	**8.020**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-009A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 13:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

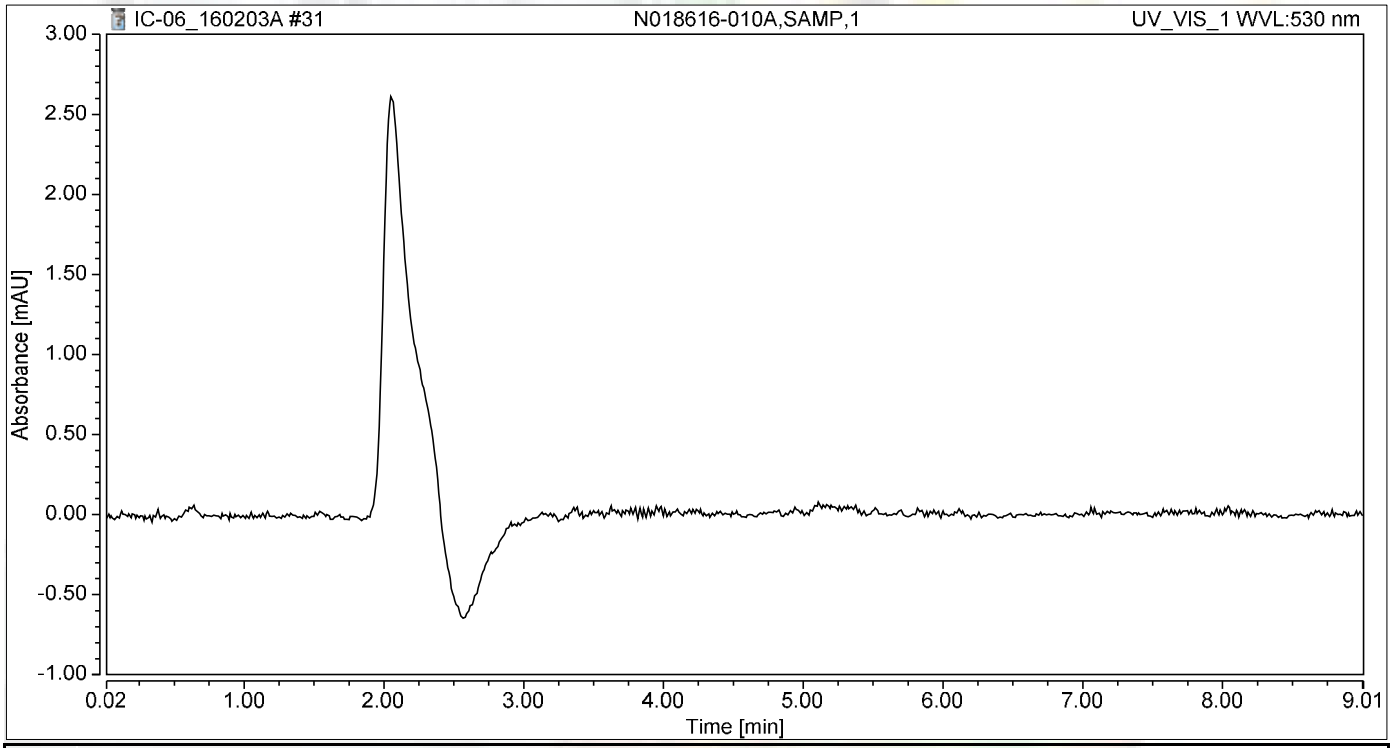
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-010A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 13:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

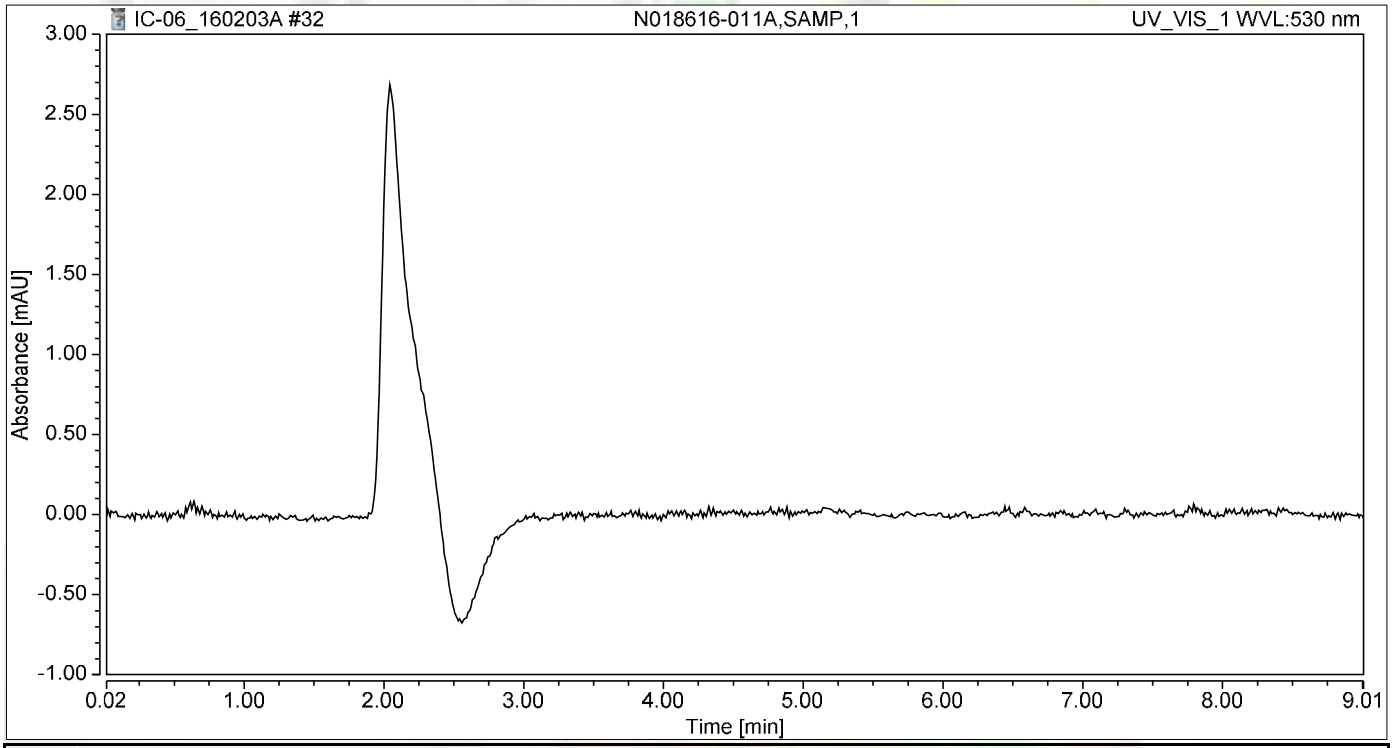
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-011A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

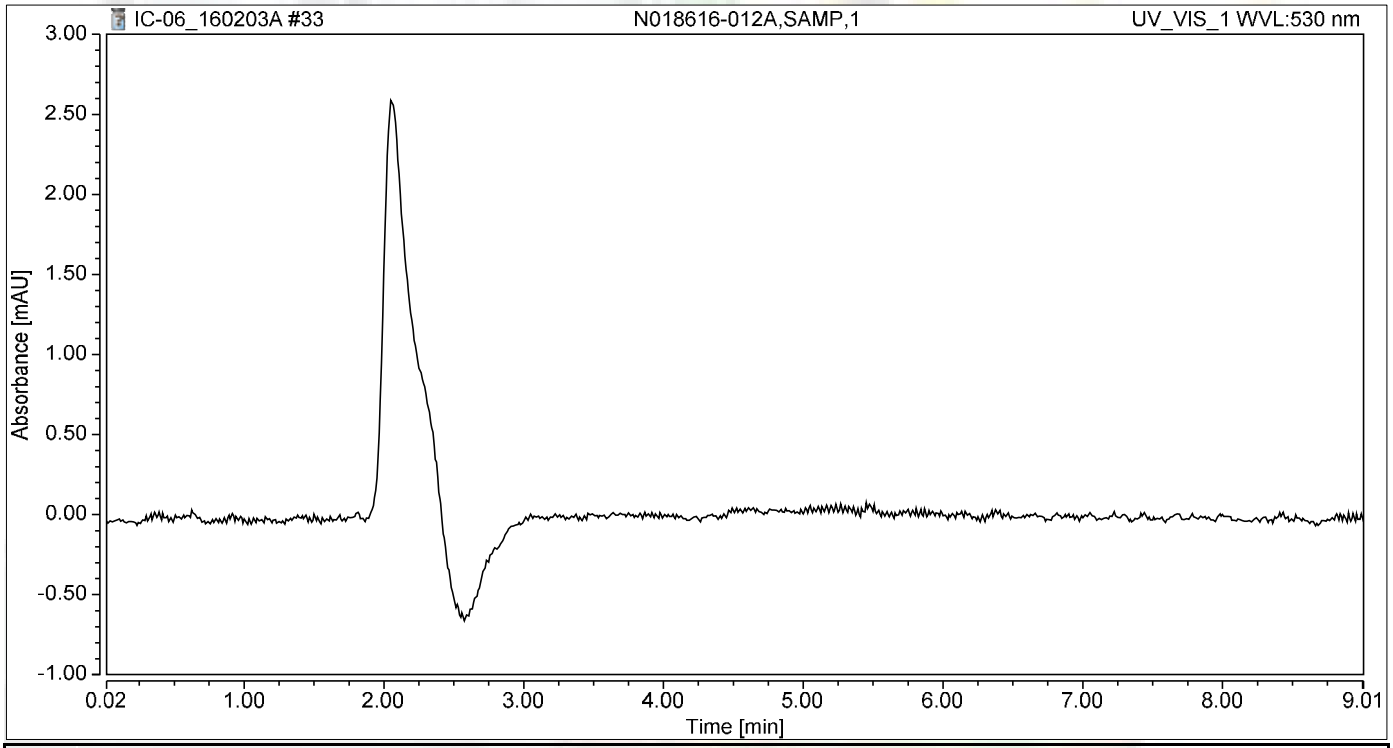
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018616-012A,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 14:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

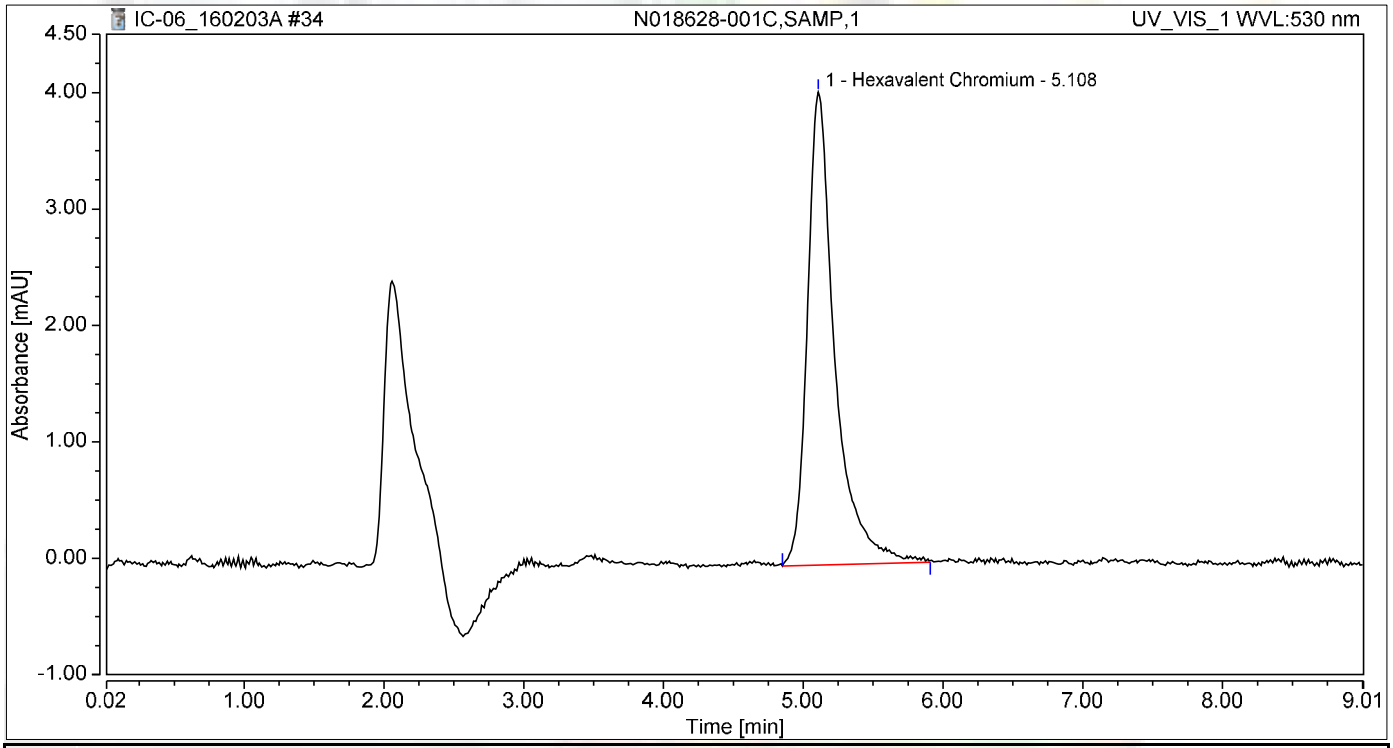
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018628-001C,SAMP,1**	*Run Time (min):*	**8.99**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 14:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

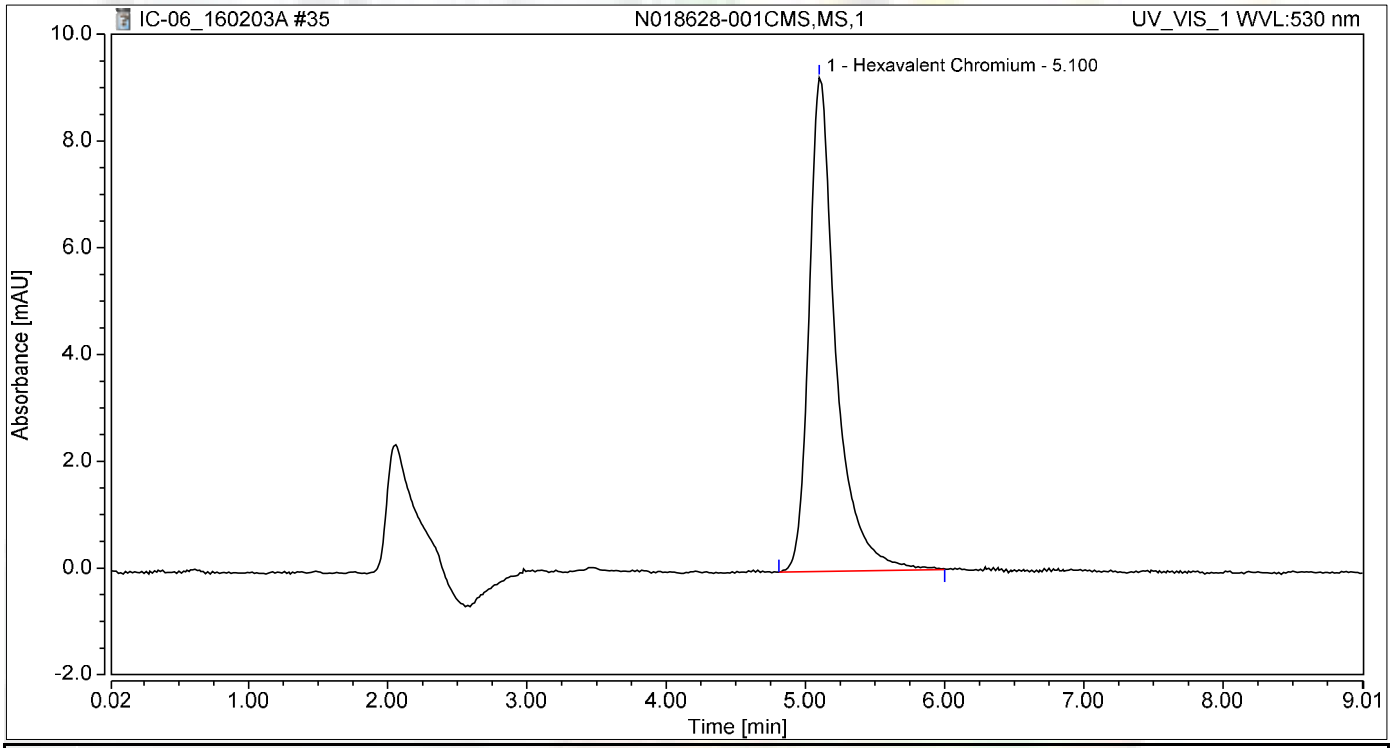
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.108	0.920	4.060	100.00	100.00	3.8765
Total:			**0.920**	**4.060**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018628-001CMS,MS,1**	*Run Time (min):*	**8.99**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 14:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

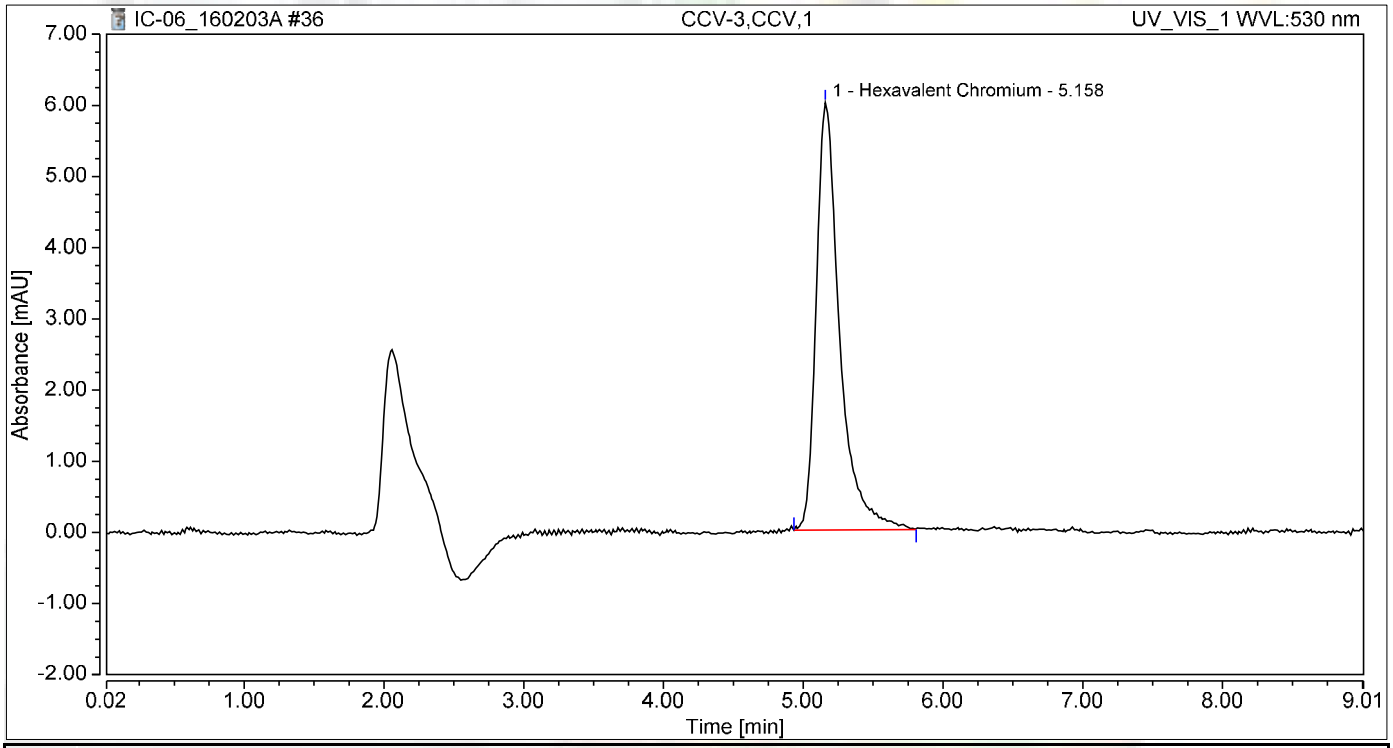
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.100	2.066	9.255	100.00	100.00	8.7530
Total:			**2.066**	**9.255**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.99**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

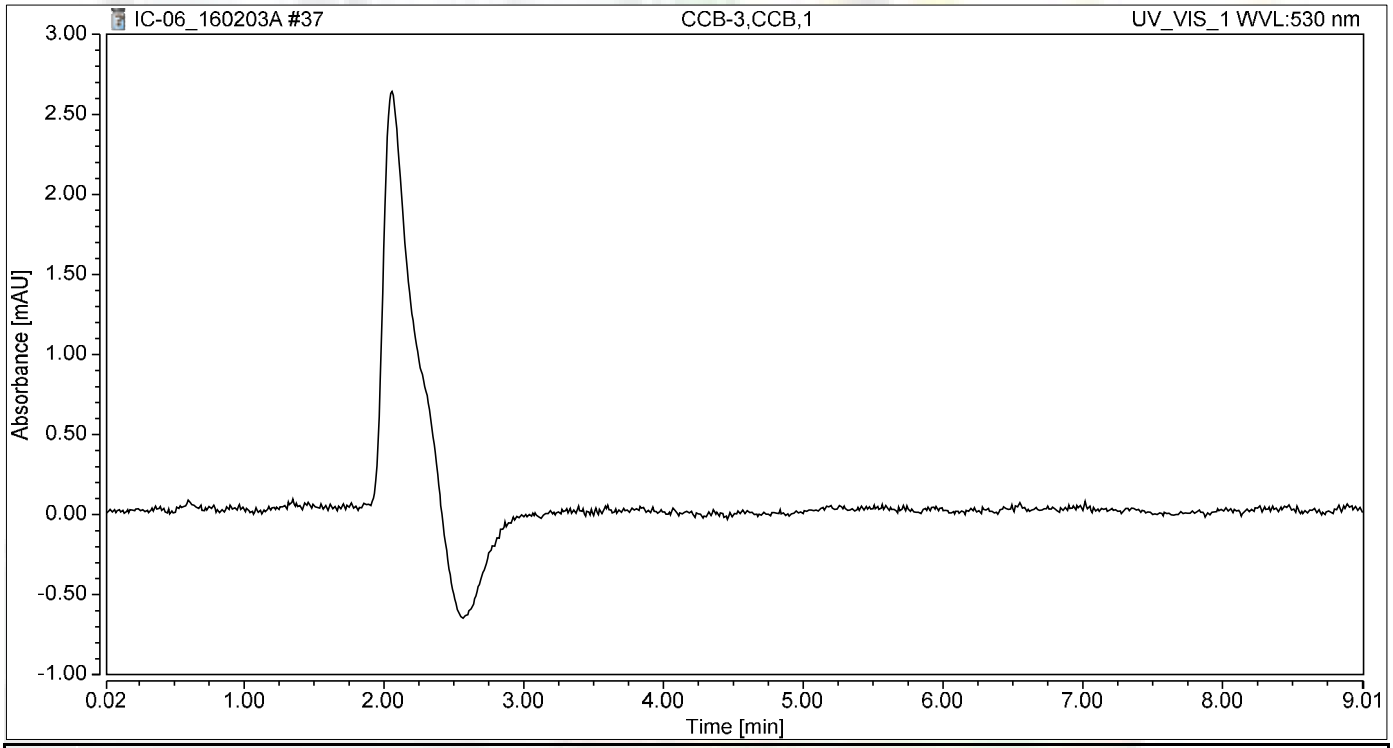
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
1	Hexavalent Chromium	5.158	1.165	6.009	100.00	100.00	4.9185
Total:			**1.165**	**6.009**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.99**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-06_Cr6_218_6**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 2320B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105783 **Analyst:** LSR

ASSET #: N018628 **Date Analyzed:** 2/5/2016

Method: EPA 2320

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 2/12/2016

2nd Level Reviewer Mary 2/19/2016 Date: —

SAMPLE CALCULATION

Sample ID: **N018628-001A @ pH 7.85**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (11.90 mL)

= **0.02101 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$ volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (9.65) (0.02101 N) (1) * 1000

= 202.7465 mg/**L**

Reporting results in two significant figures,

= **200 mg/L** as CaCO3

Julia Ramit 2/12/2016

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02101 N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (9.65 mL) (0.02101) (1) * 1000

= 202.7465 **mg/L** as CaCO3

Where:

$P_{vol.}$ - Volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - Volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = 202.7465 **mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = 200 **mg/L**

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SAMPLE	PH SAMPLE	AMOUNT	V@8.3	VT TO 4.5	Sample Type
MB-1	5.62	50	0.00	0.050	MBLK
LCS-1	8.71	50	0.05	4.65	LCS
N018628-001A	7.85	50	0.00	9.65	SAMP
N018628-002A	7.50	50	0.00	6.30	SAMP
N018644-001A	7.76	50	0.00	9.65	SAMP
N018644-002A	7.47	50	0.00	6.20	SAMP
N018651-001D	9.36	50	2.40	7.35	SAMP
N018651-002D	9.41	50	6.80	19.50	SAMP
N018651-003D	1.20	50	0.00	0.00	SAMP
N018651-004D	9.09	50	3.25	13.00	SAMP
N018651-005D	8.42	50	0.20	7.00	SAMP
N018651-007D	2.15	50	0.00	0.00	SAMP
N018651-008D	8.67	50	1.10	9.75	SAMP
N018628-002ADUP	7.51	50	0.00	6.25	DUP
N018644-002AMS	7.93	50	0.00	10.90	MS
N018644-002AMSD	7.92	50	0.00	10.85	MSD

Standardization:		
Spike amt:	**5**	ml
Titrant used:	**11.9**	ml
N H2SO4	**0.02101**	Normal
Date Analyzed:	**2/5/16**	
Time:	**3:50 PM**	
Analyzed By:	**LSR**	
Sodium Carbonate:	**CINV-150202G**	
Sodium Bicarbonate:	**CINV-150601A**	
Sulfuric Acid:	**R160202A**	

Silia Ramit 2/12/2016

Date Analyzed:	2/5/16		**Reagents:**					**Standardization:**					**P = 0**
Time Started:	3:50 PM			Sodium Carbonate:		CINV-150202G			Spike amt:	5	**mL**		**P < 1/2 T**
Analyzed By:	**LSR**			Hydrochloric Acid:		0			Titrant used:	11.9	**mL**		**P = 1/2 T**
				Sulfuric Acid:		R160202A							**P > 1/2 T**
									N H2SO4	0.02101	**N**		**P = T**
Sample ID	**Sample Vol/Wt.**	**Sample pH**	**Std. Code**	**Spike Amount**	**Spike Conc.**	**Normality, Titrant**	**Vol. Used to pH 8.3, ml.**	**Vol. Used pH 8.3 to 4.5, ml.**	**Total Vol. Used, ml.**	**DF (50ml/Vsamp.)**	**P Alkalinity**	**T Alkalinity**	**Comments**
MB-1	50	5.62				0.02101	0.00	0.05	0.05	1	0.00	1.05	
LCS-1	50	8.71				0.02101	0.05	4.60	4.65	1	1.05	97.69	
N018628-001A	50	7.85				0.02101	0.00	9.65	9.65	1	0.00	202.73	
N018628-002A	50	7.5				0.02101	0.00	6.30	6.30	1	0.00	132.35	
N018644-001A	50	7.76				0.02101	0.00	9.65	9.65	1	0.00	202.73	
N018644-002A	50	7.47				0.02101	0.00	6.20	6.20	1	0.00	130.25	
N018651-001D	50	9.36				0.02101	2.40	4.95	7.35	1	50.42	154.41	
N018651-002D	50	9.41				0.02101	6.80	12.70	19.50	1	142.86	409.66	
N018651-003D	50	1.2				0.02101	0.00	0.00	0.00	1	0.00	0.00	
N018651-004D	50	9.09				0.02101	3.25	9.75	13.00	1	68.28	273.11	
N018651-005D	50	8.42				0.02101	0.20	6.80	7.00	1	4.20	147.06	
N018651-007D	50	2.15				0.02101	0.00	0.00	0.00	1	0.00	0.00	
N018651-008D	50	8.67				0.02101	1.10	8.65	9.75	1	23.11	204.83	
N018628-002ADU	50	7.51				0.02101	0.00	6.25	6.25	1	0.00	131.30	
N018644-002AMS	50	7.93				0.02101	0.00	10.90	10.90	1	0.00	228.99	
N018644-002AMS	50	7.92				0.02101	0.00	10.85	10.85	1	0.00	227.94	

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Speciated, Alkalinity as CaCO3

SM 2320B

Date Analyzed:	2/5/16
Time:	3:50 PM
Analyzed By:	LSR

SAMPLE ID	OH	CO3	HCO3	TOTAL	CHECK	COMMENT	REMARKS
MB-1	0.00	0.00	1.05	1.05	1.05		P = 0
LCS-1	0.00	2.10	95.59	97.69	97.69		P < 1/2 T
N018628-001A	0.00	0.00	202.73	202.73	202.73		P = 0
N018628-002A	0.00	0.00	132.35	132.35	132.35		P = 0
N018644-001A	0.00	0.00	202.73	202.73	202.73		P = 0
N018644-002A	0.00	0.00	130.25	130.25	130.25		P = 0
N018651-001D	0.00	100.84	53.57	154.41	154.41		P < 1/2 T
N018651-002D	0.00	285.71	123.95	409.66	409.66		P < 1/2 T
N018651-003D	0.00	0.00	0.00	0.00	0.00		P = 0
N018651-004D	0.00	136.55	136.55	273.11	273.11		P < 1/2 T
N018651-005D	0.00	8.40	138.66	147.06	147.06		P < 1/2 T
N018651-007D	0.00	0.00	0.00	0.00	0.00		P = 0
N018651-008D	0.00	46.22	158.61	204.83	204.83		P < 1/2 T
N018628-002ADUP	0.00	0.00	131.30	131.30	131.30		P = 0
N018644-002AMS	0.00	0.00	228.99	228.99	228.99		P = 0
N018644-002AMSD	0.00	0.00	227.94	227.94	227.94		P = 0

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Alkalinity Preparation and Runlog

Book #5

Matrix: H_2O

Date Extracted: 2/5/16
Time Extracted: 2/5/16
Extracted By: LSK

Date Analyzed: 2/5/16
Time Analyzed: 1552
Analyzed By: LSK

Reagent Lot # / Reagent ID
Sodium Carbonate: CINV1502029
Hydrochloric Acid: -
Sulfuric Acid: R160202A
$NaHCO_3$: 150601A

pH meter CALIBRATION:
SLOPE: 94.7%
pH 4 - 4.01 - CINV150828B
7 - 7.01 - ↓ A
10 - 10.05 - CINV150708A

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added	Spike Conc.	Norm. Titrant	Vol. At pH = 8.3	Vol. At pH = 4.5	Dilution (F/I)	Calculations	Comments
	STANDARDIZATION											
	#1	50 mL	10.93	1WST160205A	5 mL	0.05N	-	-	11.90	50/50	N H_2SO_4 = (2.65 g/L)(5 mL) / (53) (V titrant)	= 0.021008403
	#2	↓	10.93	↓	↓	↓	-	-	11.90	↓		
1)	MBLK	50 mL	5.62	-	-	-	0.02101	-	0.05	50/50		
2)	LCS		8.71	1WST160205B	1 mL	0.05N		0.05	4.65			
3)	N018628-001A		7.85	-	-	-		0	9.65			
4)	↓ 2A		7.50	-	-	-		0	6.30			
5)	N018644-001A		7.76	-	-	-		0	9.65			
6)	↓ 2A		7.47	-	-	-		0	6.20			
7)	N018651-001D		9.36	-	-	-		2.40	7.35			
8)	2D		9.41	-	-	-		6.80	19.50			
9)	3D		1.20	-	-	-		0	0			
10)	4D		9.09	-	-	-		3.25	13.00			
11)	5D		8.42	-	-	-		0.20	7.00			
12)	7D		2.15	-	-	-		0	0			
13)	↓ 8D		8.67	-	-	-		1.10	9.75			
14)	N018628-002A DUP		7.51	-	-	-		0	6.25			
15)	N018644-002A MS		7.93	1WST160205B	1 mL	0.05N		0	10.90			
16)	↓ -002A MSD	↓	7.92	↓	↓	↓	↓	0	10.85	↓		
17)												
18)												
19)				P = (V pH 8.3)(N H_2SO_4)(50,000) / Vsx								
20)												
	MS											
	MSD			T = (V pH 4.5)(N H_2SO_4)(50,000) / Vsx								
	LCS											

Julia Ramit 2/12/2016

EPA 300.0

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R105806
ASSET #: N018618 / N018628 / N018632 / N018633 / N018634 / N018665
Method:

[X] EPA 300.0
[ ] EPA 7199

Instrument ID: IC-02
Analyst: QBM
Date Analyzed: 2/10/2016

[ ] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)			X			
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?			X			
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?			X			
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)			X			
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)			X			
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?		X				
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:
Dilution of N018665-007C for NO3. ~~Sample failed at 1X in 169265~~. Sample reanalyzed past holding time.
First analysis was done within method holding time (2/5/2016). Sample was re-analyzed due to distorted nitrate peak.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 2/11/2016

2nd Level Reviewer Nancy 2/19/2016 Date: ____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 300.0
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Nitrate concentration, in mg/L, in the original sample as follows:

Chloride, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N018628-002A** concentration in mg/L is calculated as follows:

Chloride, mg/L = 4.467 * 500

= 2233.5

Reporting result in two significant figures,

Chloride, mg/L = 2200

ANALYSIS RUN LOG

DIONEX SCHEDULE - C:\DX\SCHEDULE\160209.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\160209.M	..\16020901.D01	1	1	1
2	,BLANK,	..\160209.M	..\16020901.D02	1	1	1
3	AUTOCAL1R	..\160209.M	..\16020901.D03	1	1	1
4	AUTOCAL2R	..\160209.M	..\16020901.D04	1	1	1
5	AUTOCAL3R	..\160209.M	..\16020901.D05	1	1	1
6	AUTOCAL4R	..\160209.M	..\16020901.D06	1	1	1
7	AUTOCAL5R	..\160209.M	..\16020901.D07	1	1	1
8	AUTOCAL6R	..\160209.M	..\16020901.D08	1	1	1
9	,ICV,ICV,1,	..\160209.M	..\16020901.D09	1	1	1
10	,ICB,ICB,1,	..\160209.M	..\16020901.D10	1	1	1
11	,MB-H2O,MBLK,1,	..\160209.M	..\16020901.D11	1	1	1
12	,LCS-H2O,LCS,1,	..\160209.M	..\16020901.D12	1	1	1
13	,N018666-001C,SAMP,	..\160209.M	..\16020901.D13	1	1	1
14	,N018616-001C,SAMP,	..\160209.M	..\16020901.D14	1	1	1
15	,N018616-002C,SAMP,	..\160209.M	..\16020901.D15	1	1	1
16	,N018616-003C,SAMP,	..\160209.M	..\16020901.D16	1	1	1
17	,N018616-004C,SAMP,	..\160209.M	..\16020901.D17	1	1	1
18	,N018616-005C,SAMP,	..\160209.M	..\16020901.D18	1	1	1
19	,N018616-006C,SAMP,	..\160209.M	..\16020901.D19	1	1	1
20	,N018616-007C,SAMP,	..\160209.M	..\16020901.D20	1	1	1
21	,CCV-1,CCV,1,	..\160209.M	..\16020901.D21	1	1	1
22	,CCB-1,CCB,1,	..\160209.M	..\16020901.D22	1	1	1
23	,N018666-001CDUP,DU	..\160209.M	..\16020901.D23	1	1	1
24	,N018666-001CMS,MS,	..\160209.M	..\16020901.D24	1	1	1
25	,N018666-001CMSD,MS	..\160209.M	..\16020901.D25	1	1	1
26	,N018616-008C,SAMP,	..\160209.M	..\16020901.D26	1	1	1
27	,N018616-010C,SAMP,	..\160209.M	..\16020901.D27	1	1	1
28	,N018616-012C,SAMP,	..\160209.M	..\16020901.D28	1	1	1
29	,N018617-001C,SAMP,	..\160209.M	..\16020901.D29	1	1	1
30	,N018617-003C,SAMP,	..\160209.M	..\16020901.D30	1	1	1
31	,N018617-004C,SAMP,	..\160209.M	..\16020901.D31	1	1	1
32	,N018616-007CMS,MS,	..\160209.M	..\16020901.D32	1	1	1
33	,CCV-2,CCV,1,	..\160209.M	..\16020901.D33	1	1	1
34	,CCB-2,CCB,1,	..\160209.M	..\16020901.D34	1	1	1
35	,N018617-005C,SAMP,	..\160209.M	..\16020901.D35	1	1	1
36	,N018617-007C,SAMP,	..\160209.M	..\16020901.D36	1	1	1
37	,N018617-008C,SAMP,	..\160209.M	..\16020901.D37	1	1	1
38	,N018617-009C,SAMP,	..\160209.M	..\16020901.D38	1	1	1
39	,N018617-010C,SAMP,	..\160209.M	..\16020901.D39	1	1	1
40	,CCV-3,CCV,1,	..\160209.M	..\16020901.D40	1	1	1
41	,CCB-3,CCB,1,	..\160209.M	..\16020901.D41	1	1	1
42	SHUTDOWN	..\SHUTDOWN		1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST150206A, B, C, D, E, F and ISST-151104A

2/10/2016

DIONEX SCHEDULE - C:\DX\SCHEDULE\160210.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\160209.M	..\16021001.D01	1	1	1
2	,CCV-1,CCV,1,	..\160209.M	..\16021001.D02	1	1	1
3	,CCB-1,CCB,1,	..\160209.M	..\16021001.D03	1	1	1
4	,MB-H2O,MBLK,1,	..\160209.M	..\16021001.D04	1	1	1
5	,LCS-H2O,LCS,1,	..\160209.M	..\16021001.D05	1	1	1
6	,N018665-007C,SAMP,	..\160209.M	..\16021001.D06	1	1	1
7	,N018665-007CDUP,DU	..\160209.M	..\16021001.D07	1	1	1
8	,N018665-007CMS,MS,	..\160209.M	..\16021001.D08	1	1	1
9	,N018665-007CMSD,MS	..\160209.M	..\16021001.D09	1	1	1
10	,N018618-002C,SAMP,	..\160209.M	..\16021001.D10	1	1	1
11	,N018618-003C,SAMP,	..\160209.M	..\16021001.D11	1	1	1
12	,N018618-004C,SAMP,	..\160209.M	..\16021001.D12	1	1	1
13	,N018618-005C,SAMP,	..\160209.M	..\16021001.D13	1	1	1
14	,CCV-2,CCV,1,	..\160209.M	..\16021001.D14	1	1	1
15	,CCB-2,CCB,1,	..\160209.M	..\16021001.D15	1	1	1
16	,N018628-001A,SAMP,	..\160209.M	..\16021001.D16	1	1	1
17	,N018628-001ADUP,DU	..\160209.M	..\16021001.D17	1	1	1
18	,N018628-001AMS,MS,	..\160209.M	..\16021001.D18	1	1	1
19	,N018628-001A,SAMP,	..\160209.M	..\16021001.D19	1	1	1
20	,N018628-001ADUP,DU	..\160209.M	..\16021001.D20	1	1	1
21	,N018628-001AMS,MS,	..\160209.M	..\16021001.D21	1	1	1
22	,N018628-002A,SAMP,	..\160209.M	..\16021001.D22	1	1	1
23	,N018628-002AMS,MS,	..\160209.M	..\16021001.D23	1	1	1
24	,N018628-002AMSD,MS	..\160209.M	..\16021001.D24	1	1	1
25	,N018628-002A,SAMP,	..\160209.M	..\16021001.D25	1	1	1
26	,CCV-3,CCV,1,	..\160209.M	..\16021001.D26	1	1	1
27	,CCB-3,CCB,1,	..\160209.M	..\16021001.D27	1	1	1
28	,N018628-002AMS,MS,	..\160209.M	..\16021001.D28	1	1	1
29	,N018628-002AMSD,MS	..\160209.M	..\16021001.D29	1	1	1
30	,N018618-006C,SAMP,	..\160209.M	..\16021001.D30	1	1	1
31	,N018632-001C,SAMP,	..\160209.M	..\16021001.D31	1	1	1
32	,N018632-002C,SAMP,	..\160209.M	..\16021001.D32	1	1	1
33	,N018633-007C,SAMP,	..\160209.M	..\16021001.D33	1	1	1
34	,N018633-008C,SAMP,	..\160209.M	..\16021001.D34	1	1	1
35	,N018633-009C,SAMP,	..\160209.M	..\16021001.D35	1	1	1
36	,N018633-010C,SAMP,	..\160209.M	..\16021001.D36	1	1	1
37	,N018634-005C,SAMP,	..\160209.M	..\16021001.D37	1	1	1
38	,CCV-4,CCV,1,	..\160209.M	..\16021001.D38	1	1	1
39	,CCB-4,CCB,1,	..\160209.M	..\16021001.D39	1	1	1
40	,N018634-006C,SAMP,	..\160209.M	..\16021001.D40	1	1	1
41	,N018634-007C,SAMP,	..\160209.M	..\16021001.D41	1	1	1
42	,N018634-008C,SAMP,	..\160209.M	..\16021001.D42	1	1	1
43	,N018634-009C,SAMP,	..\160209.M	..\16021001.D43	1	1	1
44	,N018634-010C,SAMP,	..\160209.M	..\16021001.D44	1	1	1
45	,CCV-5,CCV,1,	..\160209.M	..\16021001.D45	1	1	1
46	,CCB-5,CCB,1,	..\160209.M	..\16021001.D46	1	1	1
47	SHUTDOWN	..\SHUTDOWN		1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST150206A, B, C, D, E, F and ISST-151104A

2/11/2016

INITIAL CALIBRATION DATA SUMMARY

DIONEX METHOD PARAMETERS - 160209.MET

Method Comment:
Column ID:
Analyst ID:

System Parameters

System Name: ANIONS

Number of Detectors	1
Run Time (minutes)	13.00
Sampling Rate (seconds)	0.20
Detector 1 Type	COND
Detector 1 real time plot scale maximum (mV)	100.000
minimum	-10.000
Detector 1 Output Equivalent to 1 Volt (in mV)	100.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes

Data File Name: C:\DX\DATA\14120201.D02

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	Yes
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	Yes
Print Unknown Peaks	Yes
Print Chromatogram	Yes
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	0.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	0.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Format File Name: C:\DX\METHOD\DEFAULT.PRF

Integration Parameters

Starting Peak Width (seconds)	5.0
Peak Threshold	0.500
Peak Area Reject	2000
Area Reject for Reference Peaks	3000

Data Events

Time	Description
0.50	Start peak detection
0.51	Force baseline at start of this peak
0.51	Split peak
0.51	Force common baseline following this peak
0.52	End peaks on baseline penetration

2/10/2016

Calibration Parameters

Number Of Levels for Calibration.....	6
Force Calibration Curve Through Origin.....	No
Calibration Fit Type.....	Linear
Replace Or Average Calibrations.....	Replace
External or Internal Calibration.....	External
Calculate Unknowns by Area or Height.....	Area
Default Sample Volume.....	1.0
Default Dilution Factor.....	1.0
Default Response Factor for Unknown Peaks.....	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	

2/10/2016

Component Table -- Last Modified: 11:49 on Tue, 09 Feb 2016

Component # 1 Fluoride Retention Time 2.57
Reference Comp. Fluoride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 3.36002E-002
K1 = 2.68828E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	20206	2107
3	5.00000E-001	164998	18594
4	1.00000E+000	349570	38271
5	2.50000E+000	896879	105299
6	5.00000E+000	1859814	225378

Component # 2 Chloride Retention Time 3.76
Reference Comp. Chloride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 1.00060E-001
K1 = 3.58886E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	123281	13969
3	1.00000E+000	246967	27786
4	2.50000E+000	650440	74025
5	5.00000E+000	1323857	157172
6	1.00000E+001	2782336	346261

Component # 3 Nitrite Retention Time 4.55
Reference Comp. Nitrite Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 2.54894E-002
K1 = 1.92737E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	23285	2502
3	5.00000E-001	242777	20607
4	1.00000E+000	489086	41625
5	2.50000E+000	1269782	116031
6	5.00000E+000	2591236	244495

Component # 4 Bromide Retention Time 5.45
Reference Comp. Bromide Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = -5.28760E-003
K1 = 8.55649E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	2.00000E-001	24077	2127
3	5.00000E-001	59098	5247
4	1.00000E+000	116890	9306
5	2.50000E+000	294762	25528
6	5.00000E+000	584089	51750

2/10/2016

Component # 5 Nitrate Retention Time 6.15
Reference Comp. Nitrate Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 3.38928E-002
K1 = 1.43643E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	38271	2962
3	5.00000E-001	317899	25032
4	1.00000E+000	645173	50812
5	2.50000E+000	1674383	140075
6	5.00000E+000	3483036	298740

Component # 6 Phosphate Retention Time 7.91
Reference Comp. Phosphate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = -8.29236E-004
K1 = 4.14022E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	1.00000E-001	25296	1580
3	5.00000E-001	114346	6995
4	1.00000E+000	254150	14094
5	2.50000E+000	595108	35940
6	5.00000E+000	1210253	73166

Component # 7 Sulfate Retention Time 9.00
Reference Comp. Sulfate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = 1.29577E-001
K1 = 4.93707E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	95370	5420
3	2.00000E+000	390187	21323
4	5.00000E+000	957494	54902
5	1.00000E+001	1933976	114724
6	2.00000E+001	4061093	246336

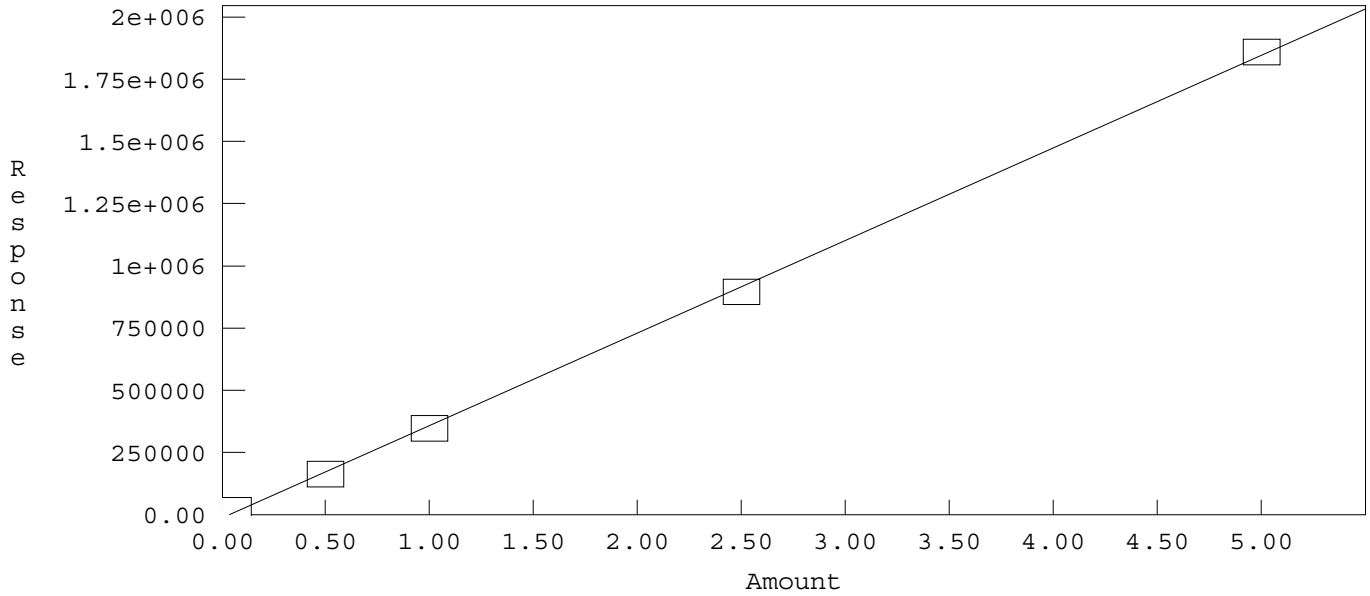
Timed Events File: C:\DX\METHOD\AS4ASC2.TE

Step	Time	Description
Init		ACI Autosmp OFF
Init		ACI Autooff OFF
Init		ACI Pmpstrt ON
Init		ACI Inject OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
1	0.0	ACI Autosmp ON
2	2.3	ACI Autosmp OFF
2	2.3	ACI Autooff ON
3	2.4	ACI Inject ON
3	2.4	Start Sampling

2/10/2016

Method: 160209.MET - Last Updated: 11:49 on Tue, 09 Feb 2016

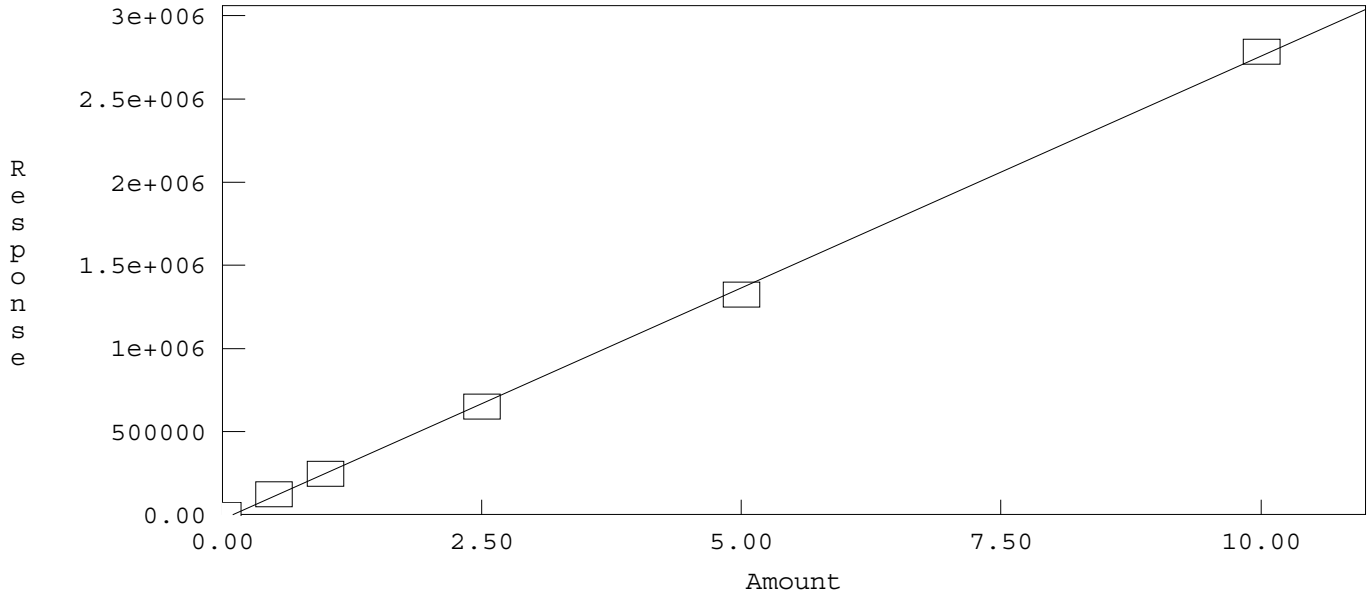
Component: Fluoride
Fit Type: Linear
r^2 = 0.999577
Amt = Resp * 2.688e-006 + 0.0336
Resp = Amt * 3.72e+005 + -1.25e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160209.MET

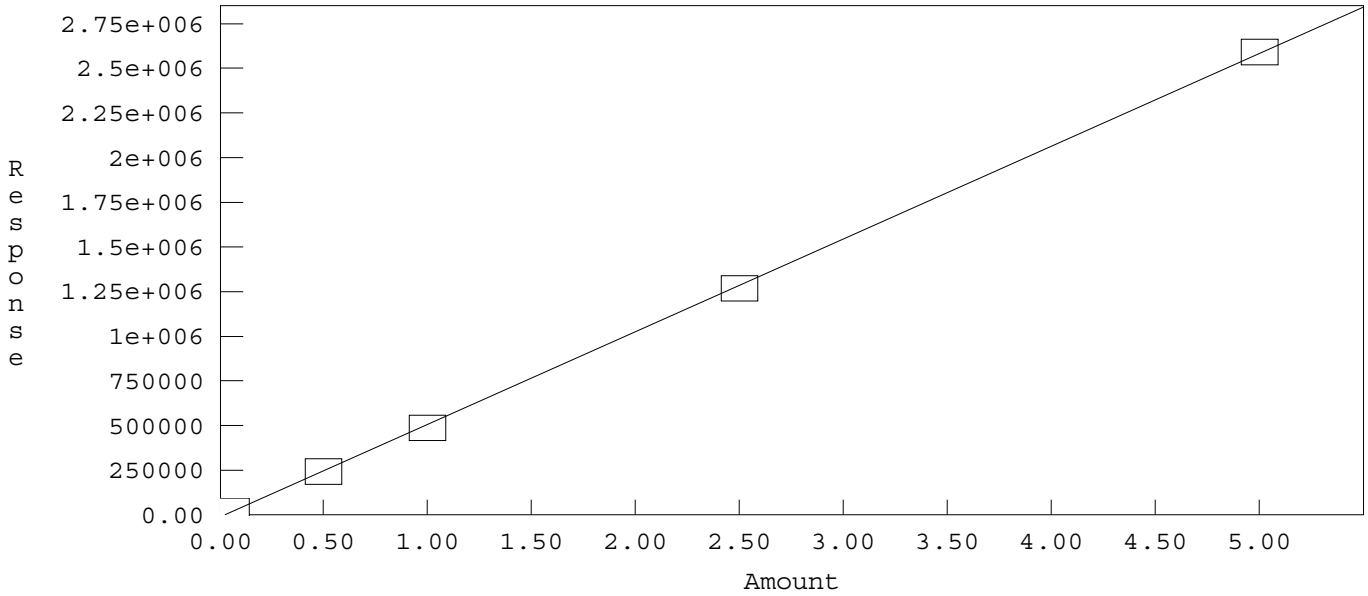
Component: Chloride
Fit Type: Linear
r^2 = 0.999367
Amt = Resp * 3.589e-006 + 0.1001
Resp = Amt * 2.786e+005 + -2.788e+004
Standardization: External
Calibration: Area

2/10/2016



Method: C:\DX\METHOD\160209.MET

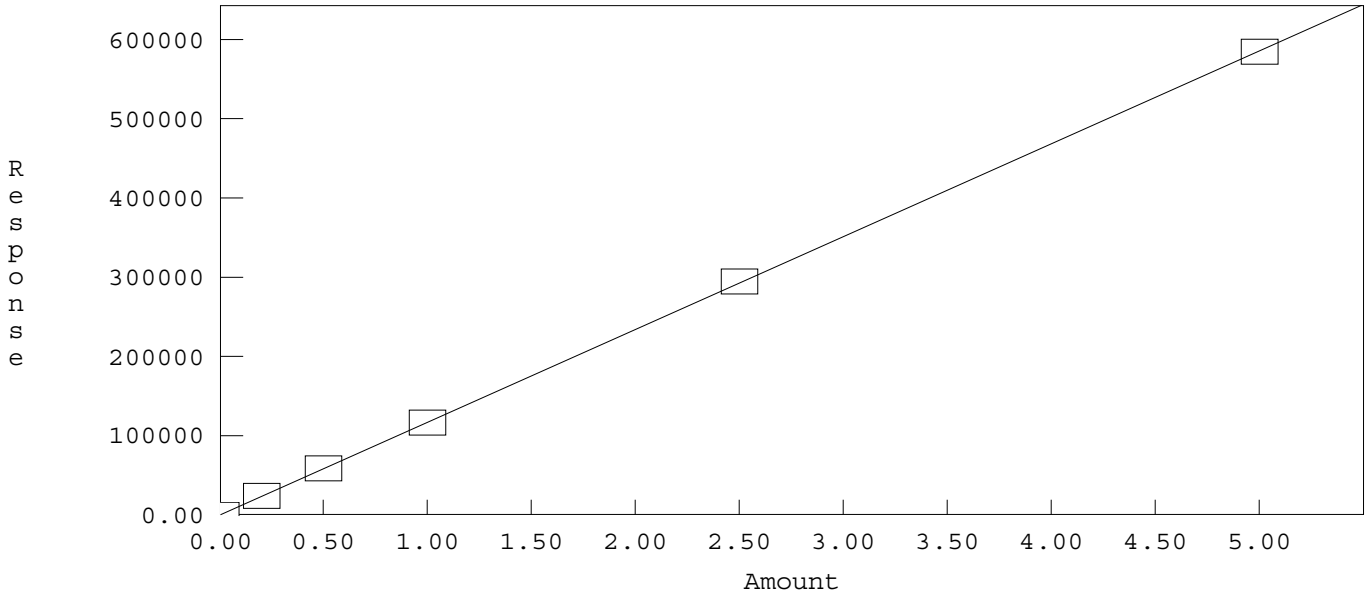
Component: Nitrite
Fit Type: Linear
r^2 = 0.999828
Amt = Resp * 1.927e-006 + 0.02549
Resp = Amt * 5.188e+005 + -1.322e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160209.MET

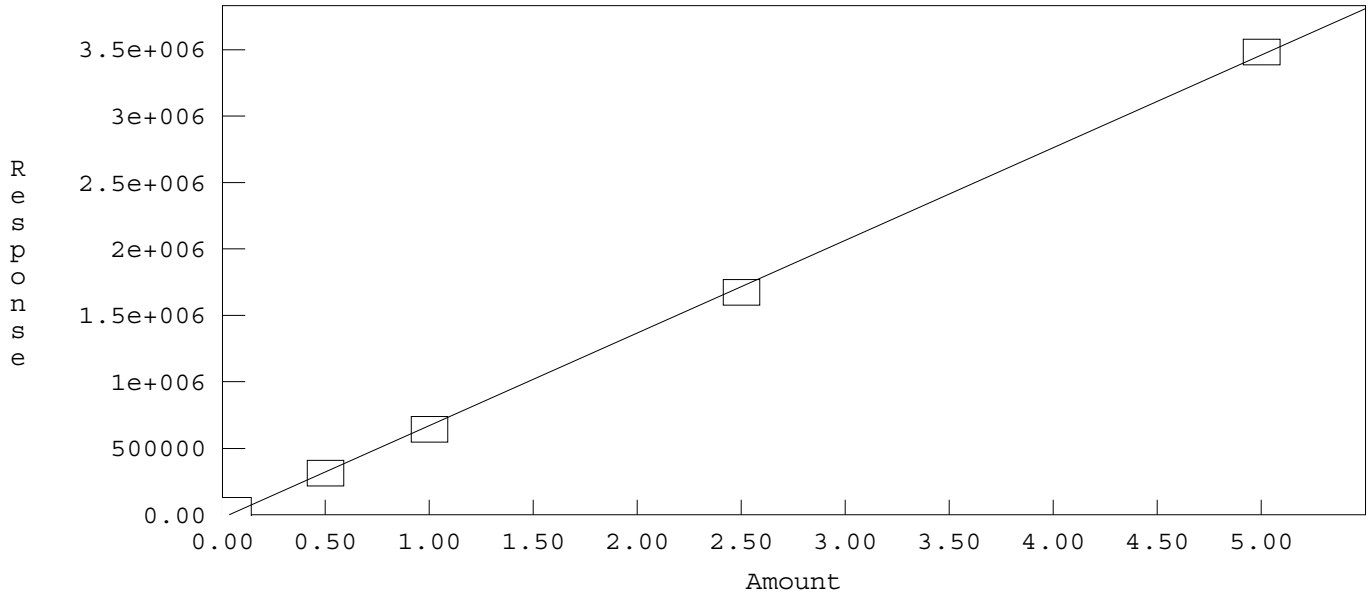
Component: Bromide
Fit Type: Linear
r^2 = 0.999979
Amt = Resp * 8.556e-006 + -0.005288
Resp = Amt * 1.169e+005 + 618
Standardization: External
Calibration: Area

2/10/2016



Method: C:\DX\METHOD\160209.MET

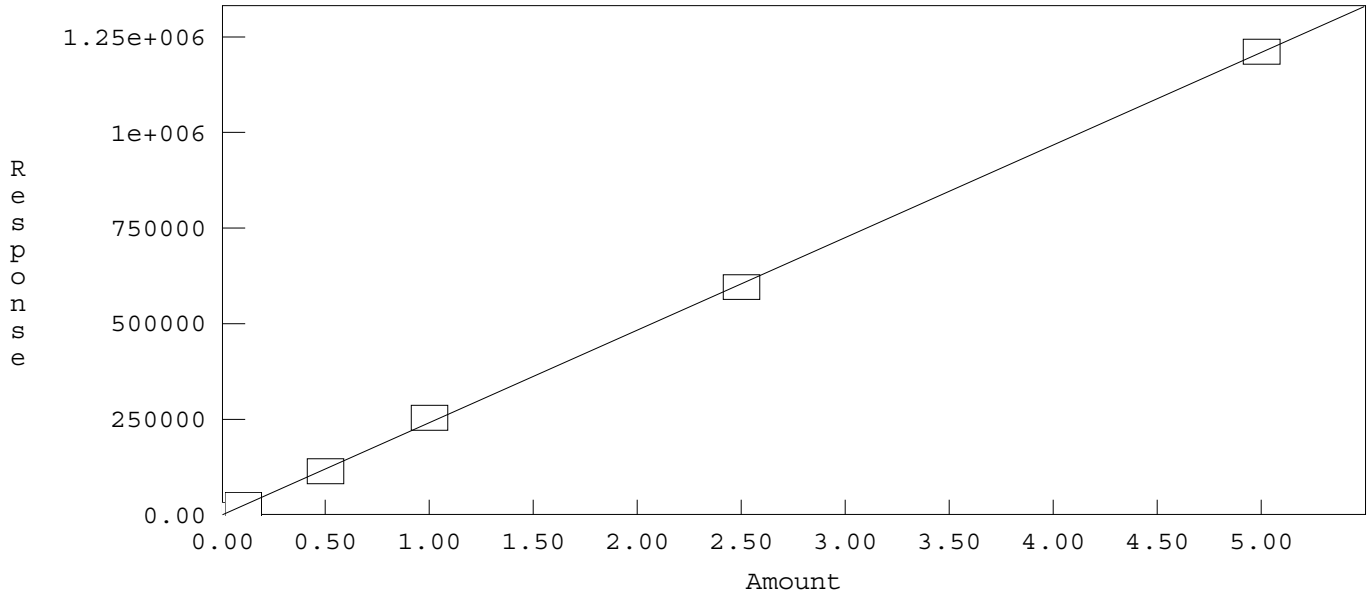
Component: Nitrate
Fit Type: Linear
r^2 = 0.999502
Amt = Resp * 1.436e-006 + 0.03389
Resp = Amt * 6.962e+005 + -2.36e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160209.MET

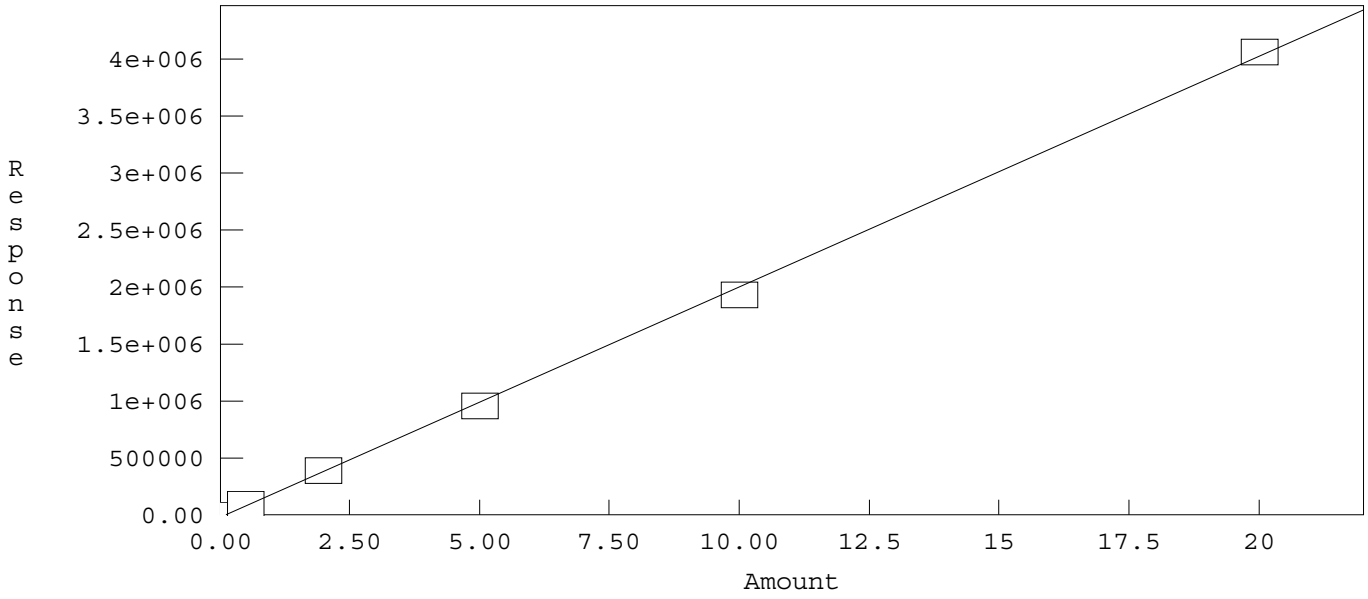
Component: Phosphate
Fit Type: Linear
r^2 = 0.999740
Amt = Resp * 4.14e-006 + -0.0008292
Resp = Amt * 2.415e+005 + 200.3
Standardization: External
Calibration: Area

2/10/2016



Method: C:\DX\METHOD\160209.MET

Component: Sulfate
Fit Type: Linear
r^2 = 0.999367
Amt = Resp * 4.937e-006 + 0.1296
Resp = Amt * 2.025e+005 + -2.625e+004
Standardization: External
Calibration: Area



2/10/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ICV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/9/2016** SeqNo: **2229108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.489	0.50	2.500	0	99.6	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.474	0.50	2.500	0	99.0	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.454	0.50	2.500	0	98.2	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.459	0.50	2.500	0	98.4	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.425	0.50	2.500	0	97.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	CCV-5	SampType:	CCV	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	105806
Client ID:	CCV	Batch ID:	R105806	TestNo:	EPA 300.0			Analysis Date:	2/10/2016	SeqNo:	2229136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.415	0.50	2.500	0	96.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ICV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/9/2016** SeqNo: **2229164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.882	0.50	5.000	0	97.6	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	5.006	0.50	5.000	0	100	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.952	0.50	5.000	0	99.0	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	5.096	0.50	5.000	0	102	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCV** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.894	0.50	5.000	0	97.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	CCV-5	SampType:	CCV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105806
Client ID:	CCV	Batch ID:	R105806	TestNo:	EPA 300.0			Analysis Date:	2/10/2016	SeqNo:	2229189

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.837	0.50	5.000	0	96.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICB** SampType: **ICB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ICB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/9/2016** SeqNo: **2229109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-1** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-2** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-3** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229123**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-4** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	CCB-5	SampType:	CCB	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	105806
Client ID:	CCB	Batch ID:	R105806	TestNo:	EPA 300.0			Analysis Date:	2/10/2016	SeqNo:	2229137

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **ICB** SampType: **ICB** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **ICB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/9/2016** SeqNo: **2229165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **CCB-1** SampType: **CCB** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **CCB-2** SampType: **CCB** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229175**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **CCB-3** SampType: **CCB** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **CCB-4** SampType: **CCB** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **105806**
Client ID: **CCB** Batch ID: **R105806** TestNo: **EPA 300.0** Analysis Date: **2/10/2016** SeqNo: **2229188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	CCB-5	SampType:	CCB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	105806
Client ID:	CCB	Batch ID:	R105806	TestNo:	EPA 300.0			Analysis Date:	2/10/2016	SeqNo:	2229190

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 2/10/2016

Sample Name		Retention Time	Evaluation
CCV-1	Sulfate	9.01	
CCV-2	Sulfate	8.99	
CCV-3	Sulfate	9.02	
CCV-4	Sulfate	9	
CCV-5	Sulfate	8.95	
	Average	8.994	
	Lower Limit	8.794	
	Upper Limit	9.194	
MB-R105806_SO4	Sulfate	N.A.	N.A.
LCS-R105806_SO4	Sulfate	8.97	PASS
N018628-001A	Sulfate	8.96	PASS
N018628-001ADUP	Sulfate	8.97	PASS
N018628-001AMS	Sulfate	9.01	PASS
N018628-002A	Sulfate	8.94	PASS
N018628-002AMS	Sulfate	8.97	PASS
N018628-002AMSD	Sulfate	8.93	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 2/10/2016

Sample Name		Retention Time	Evaluation
CCV-1	Chloride	3.79	
CCV-2	Chloride	3.77	
CCV-3	Chloride	3.77	
CCV-4	Chloride	3.75	
CCV-5	Chloride	3.75	
	Average	3.766	
	Lower Limit	3.566	
	Upper Limit	3.966	
MB-R105806_CL	Chloride	N.A.	N.A.
LCS-R105806_CL	Chloride	3.74	PASS
N018628-001A	Chloride	3.77	PASS
N018628-001ADUP	Chloride	3.75	PASS
N018628-001AMS	Chloride	3.73	PASS
N018628-002A	Chloride	3.76	PASS
N018628-002AMS	Chloride	3.73	PASS
N018628-002AMSD	Chloride	3.72	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **INORGANIC IONS by Ion Chromatography**
Method Number: EPA 300.0
Analysis Date(s): 3/23/2015 & 10/12/2015
Analyst: Quennie Manimtim

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-02**

Acceptance Criteria: MDL < spike < 10X MDL

Datafile: 15032301.D06 15032301.D07 15032301.D08 15032301.D09 15032301.D10 15032301.D11 15032301.D12

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Fluoride	0.039	0.047	0.046	0.038	0.039	0.046	0.045	0.020	0.0040	3.143	**0.0125**	**0.10**	OK,meets criteria
Chloride	0.159	0.149	0.158	0.169	0.149	0.142	0.141	0.10	0.0101	3.143	**0.0317**	**0.50**	OK,meets criteria
Nitrite	0.033	0.027	0.030	0.027	0.030	0.026	0.026	0.020	0.0026	3.143	**0.0083**	**0.050**	OK,meets criteria
Nitrate	0.034	0.027	0.036	0.033	0.028	0.027	0.030	0.020	0.0036	3.143	**0.0114**	**0.050**	OK,meets criteria
Phosphate	0.050	0.053	0.060	0.046	0.049	0.062	0.044	0.050	0.0068	3.143	**0.0214**	**0.10**	OK,meets criteria
Sulfate	0.267	0.246	0.243	0.238	0.250	0.245	0.235	0.10	0.0104	3.143	**0.0327**	**0.50**	OK,meets criteria

Datafile: 15101201.D13 15101201.D14 15101201.D15 15101201.D16 15101201.D17 15101201.D18 15101201.D19

Bromide	0.074	0.045	0.102	0.055	0.057	0.071	0.061	0.10	0.0185	3.143	**0.0581**	**0.50**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

SM 3500-Cr B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105908 **Analyst:** QBM

ASSET #: N018628 **Date Analyzed:** 2/16/16

Method: 3500_Cr

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)	X					
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 2/19/2016

2nd Level Reviewer _____ 2/19/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 3500-Cr B
TEST NAME: Hexavalent Chromium by Colorimetric Method
MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in ug/L, in the original sample as follows:

Hexavalent Chromium, ug/L = A * DF

Where:

A= ug/L, UV-VIS Hexavalent Chromium calculated concentration

DF= dilution factor

For **N018628-002C,** concentration in ug/L is calculated as follows:

Hexavalent Chromium, ug/L = 365.309 * 2

= 730.618 ug/L

Reporting result in 2 significant figures,

Hexavalent Chromium, ug/L = 730

2/18/2016

INITIAL CALIBRATION DATA SUMMARY

THERMO SPECTRONIC ~ VISION32 SOFTWARE V1.25

Operator Name	(None Entered)		
Department	(None Entered)	Date of Report	2/16/2016
Organisation	(None Entered)	Time of Report	4:20:11
Information	(None Entered)		

Calibration - EPA 3500_CRB_02162016.fqc

Operator Name	(None Entered)
Instrument ID	152119

Calibration Method - EPA 3500_CRB_02162016.fqc

Description	Hexavalent Chromium by EPA 3500_CRB (Colorimetric)		
Operator Name	QBM		
Quant Mode	Single Lambda	Standards	5
Lambda 1	540.0 nm	Replicates	1
Lambda 2	Off	Initial Curve Fit	Linear
Lambda 3	Off	Conc. Units	ug/L
Integ. Time	00:00:01	Conc. Dec. Places	3
Lamp Change	325.0 nm	Flier Detection	Off
Bandwidth	2.0 nm	Valid Until	2/16/2017
Method Status	Unlocked		

Standards Table - EPA 3500_CRB_02162016.fqc

Standard	Conc.	Use	540.0nm	Errors
Standard01				
	10.000	Yes	0.009	None
Standard02				
	100.000	Yes	0.082	None
Standard03				
	250.000	Yes	0.201	None
Standard04				
	500.000	Yes	0.394	None
Standard05				
	1000.000	Yes	0.756	None

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.

Errors Key

None : No Errors Detected
I : Invalid Data

Calibration Line / Curve Statistics

Equation	A = 0.0008 x Conc + 0.0081
Selected Fit	Linear

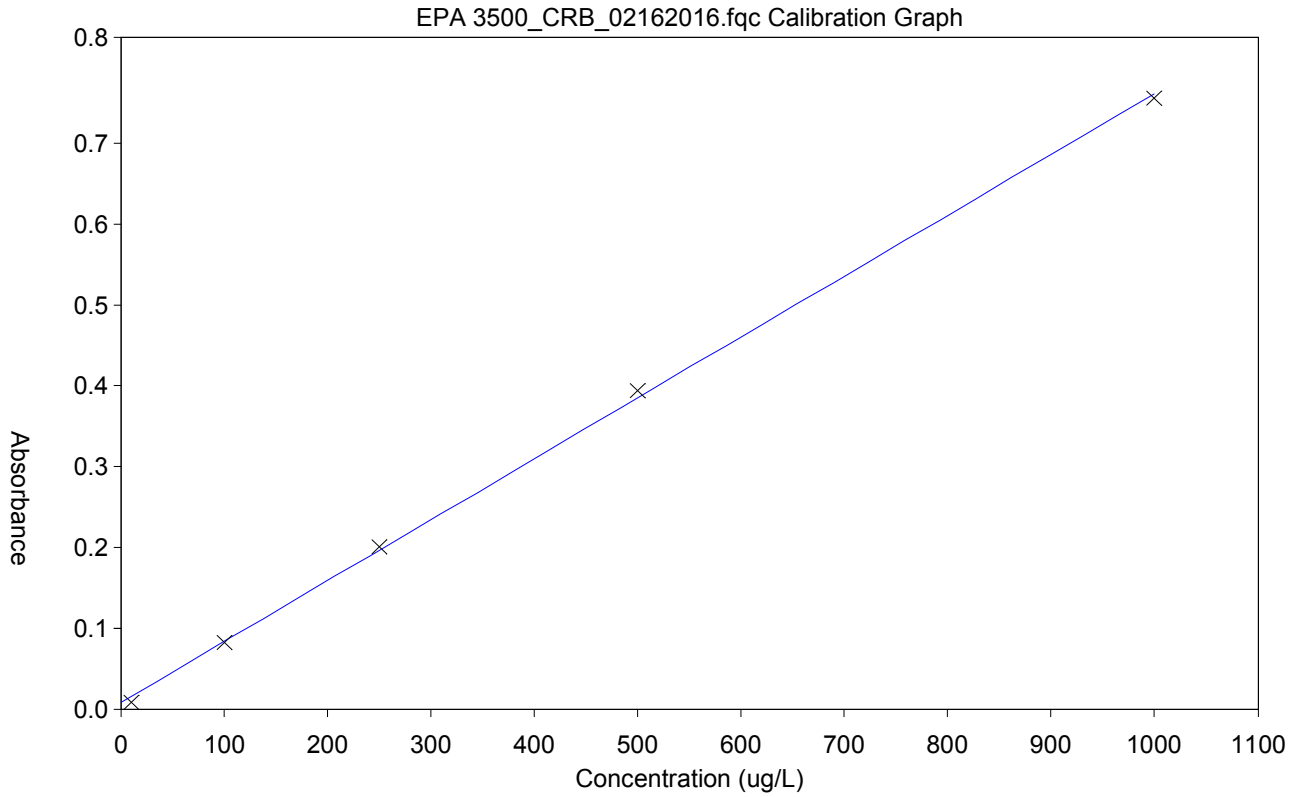
2/18/2016

THERMO SPECTRONIC ~ VISION32 SOFTWARE V1.25

Operator Name	(None Entered)		
Department	(None Entered)	Date of Report	2/16/2016
Organisation	(None Entered)	Time of Report	4:20:11
Information	(None Entered)		

Coefficient	0.999480
Sum of Residuals	0.0002

Calibration Graph



ICAL: IWST151020A
ICV/LCS/MS/MSD: IWST160119A
CCV: ISST150306A
10% H2SO4: R151214G
1,5-Diphenylcarbazide Solution: R160216B

2/18/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID **CCV-1** SampType: **CCV** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **CCV** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2233996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	512.253	10	500.0	0	102	90	110				

Sample ID **ICV** SampType: **ICV** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **105908**
Client ID: **ICV** Batch ID: **R105908** TestNo: **SM 3500-Cr B** Analysis Date: **2/16/2016** SeqNo: **2233998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	255.028	10	250.0	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID	CCB-1	SampType:	CCB	TestCode:	3500_CrBPG	Units:	µg/L	Prep Date:		RunNo:	105908
Client ID:	CCB	Batch ID:	R105908	TestNo:	SM 3500-Cr B			Analysis Date:	2/16/2016	SeqNo:	2233995

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	-8.25	10									

Sample ID	ICB	SampType:	ICB	TestCode:	3500_CrBPG	Units:	µg/L	Prep Date:		RunNo:	105908
Client ID:	ICB	Batch ID:	R105908	TestNo:	SM 3500-Cr B			Analysis Date:	2/16/2016	SeqNo:	2233997

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	-10.23	10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Calibration Method - EPA 3500_CRB_02162016.fqc 2/16/2016 16:20

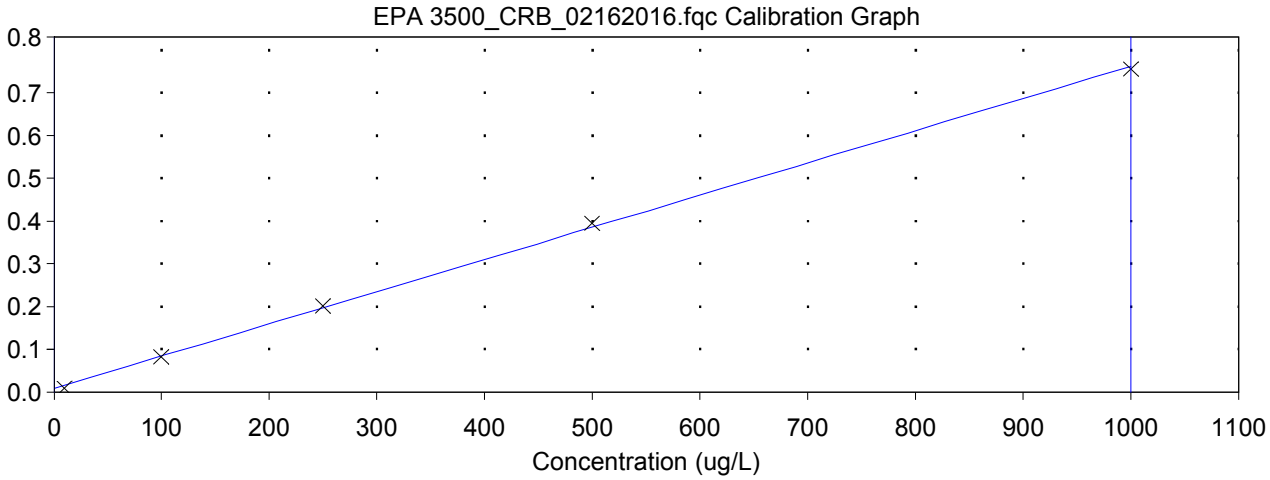
Description	Hexavalent Chromium by EPA 3500_CRB (Colorimetric)		
Operator Name	QBM		
Quant Mode	Single Lambda	Standards	5
Lambda 1	540.0 nm	Replicates	1
Lambda 2	Off	Initial Curve Fit	Linear
Lambda 3	Off	Conc. Units	ug/L
Integ. Time	00:00:01	Conc. Dec. Places	3
Lamp Change	325.0 nm	Flier Detection	Off
Bandwidth	2.0 nm	Valid Until	2/16/2017
Method Status	Unlocked		

Calibration Line / Curve Statistics

Equation	A = 0.0008 x Conc + 0.0081
Selected Fit	Linear
Coefficient	0.999480
Sum of Residuals	0.0002

Standard	Conc.	Use	540.0nm	Errors
Standard01	10.000	Yes	0.009	None
Standard02	100.000	Yes	0.082	None
Standard03	250.000	Yes	0.201	None
Standard04	500.000	Yes	0.394	None
Standard05	1000.000	Yes	0.756	None

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.



Batch : Hexavalent Chromium_02162016001.qre

	Sample	540.0nm	Conc.	Errors
1	,ICV,ICV,1,	0.200	255.028	None
2	,ICB,ICB,1,	0.000	-10.230	I
3	,MB-,MBLK,1,	0.000	-10.143	I
4	,LCS-,LCS,1,	0.082	98.731	None
5	,N018628-002C,SAMP,2,	0.283	365.309	None
6	,N018644-002C,SAMP,2,	0.284	366.705	None
7	,N018644-002CMS,MS,2,	0.477	622.593	None
8	,N018644-002CMSD,MSD,2,	0.477	622.152	None
9	,N018478-019A,SAMP,2,	0.291	375.091	None
10	,N018478-019ADUP,DUP,2,	0.289	372.554	None
11	,CCV-1,CCV,1,	0.394	512.253	None
12	,CCB-1,CCB,1,	0.002	-8.250	I

ICAL: IWST151020A
ICV/LCS/MS/MSD: IWST160119A
CCV: ISST150306A
10% H2SO4: R151214G
1,5-Diphenylcarbazide Solution: R160216B

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.

2/18/2016

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R105756 **Analyst:** REB

ASSET #: N018628 **Date Analyzed:** 2/5/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 2/18/2016 Date: —

2nd Level Reviewer Nancy 2/19/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: Water

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018628-002D**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.6472*5

= 3.236 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 3.2mg/L

Reb 2/18/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

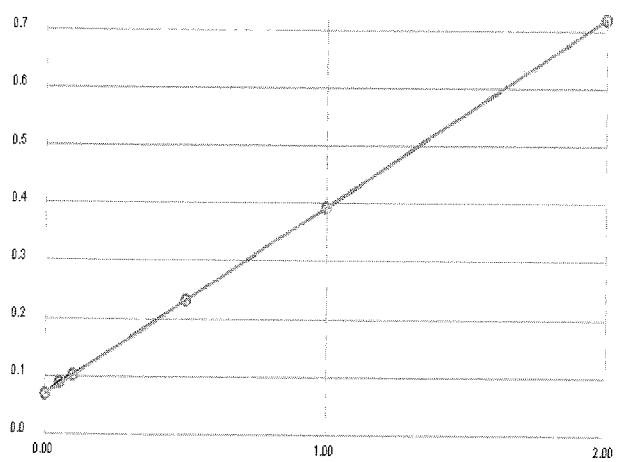
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3249x + 0.0694
Correlation	.999984



Calibrant	Energy	Set	Conc
1	0.0677	0.0000	-0.0054
2	0.0878	0.0500	0.0565
3	0.1012	0.1000	0.0978
4	0.2330	0.5000	0.5034
5	0.3934	1.0000	0.9971
6	0.7194	2.0000	2.0005

Notes:

R1 buffer - R160112D
5% CuSO4 - R160112C
R2 COLORING Rgt - R160205C

1° ISST - 150206D 2/9/16
2° ISST - ~~15020~~ 150736E

Reb 2/18/2016

198

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **ICV** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.519	0.050	0.5000	0	104	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **CCV** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.507	0.050	0.5000	0	101	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **CCV** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.493	0.050	0.5000	0	98.7	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **CCV** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.503	0.050	0.5000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **ICB** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **CCB** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **CCB** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **105756**
Client ID: **CCB** Batch ID: **R105756** TestNo: **SM4500-NO3** Analysis Date: **2/5/2016** SeqNo: **2225647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 02-05-2016 16:26
Time end: 02-05-2016 19:14

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	18:35:21	0.0125		0.0735
2	<BLANK>	18:36:22	0.0036		0.0706
3	<CAL1>	18:37:16	-0.0054	[0]	0.0677
4	<CAL2>	18:38:17	0.0565	[0.05]	0.0878
5	<CAL3>	18:39:12	0.0978	[0.1]	0.1012
6	<CAL4>	18:40:07	0.5034	[0.5]	0.2330
7	<CAL5>	18:41:08	0.9971	[1]	0.3934
8	<CAL6>	18:42:04	2.0005	[2]	0.7194
9	,BLANK,BLANK,1,	18:42:59	0.0368		0.0814
10	,ICV,ICV,1,	18:43:59	0.5185		0.2379
11	,ICB,ICB,1,	18:44:55	0.0153		0.0744
12	,MB-H2O,MBLK,1,	18:45:56	0.0060		0.0714
13	,LCS-H2O,LCS,1,	18:46:50	0.5188		0.2380
14	,N018548-002E,SAMP,1,	18:47:51	0.4520		0.2163
15	,N018548-002EDUP,DUP,1,	18:48:47	0.4650		0.2205
16	,N018548-002EMS,MS,1,	18:49:42	0.9747		0.3861
17	,N018548-002EMSD,MSD,1,	18:50:43	1.0470		0.4096
18	,N018548-003E,SAMP,1,	18:51:38	0.4887		0.2282
19	,N018548-004E,SAMP,1,	18:52:34	0.5010		0.2322
20	,N018548-005E,SAMP,1,	18:53:35	0.4582		0.2183
21	,BLANK,BLANK,1	18:54:29	0.0153		0.0744
22	,CCV-1,CCV,1,	18:55:31	0.5074		0.2343
23	,CCB-1,CCB,1,	18:56:26	0.0107		0.0729
24	,N018548-006E,SAMP,1,	18:57:26	0.4526		0.2165
25	,N018548-007E,SAMP,1,	18:58:22	0.4693		0.2219
26	,N018548-008E,SAMP,1,	18:59:05	0.4856		0.2272

Reb 2/18/2016

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
27	,N018548-009E,SAMP,1,	18:59:54	0.4696		0.2220
28	,N018548-010E,SAMP,1,	19:00:37	0.4637		0.2201
29	,N018549-002E,SAMP,1,	19:01:25	0.5237		0.2396
30	,N018549-003E,SAMP,1,	19:02:09	0.4582		0.2183
31	,N018549-004E,SAMP,1,	19:02:52	0.4659		0.2208
32	,N018549-005E,SAMP,1,	19:03:40	0.4397		0.2123
33	,BLANK,BLANK,1	19:04:23	0.0060		0.0714
34	,CCV-2,CCV,1,	19:05:05	0.4933		0.2297
35	,CCB-2,CCB,1,	19:05:55	0.0017		0.0700
36	,N018636-001D,SAMP,1,	19:06:37	0.6349		0.2757
37	,N018528-001D,SAMP,1,	19:07:20	0.0113		0.0731
38	,N018528-002D,SAMP,5,	19:08:09	0.6472		0.2797
39	,N018644-001D,SAMP,1,	19:08:51	0.0119		0.0733
40	,N018644-002D,SAMP,5,	19:09:35	0.6542		0.2820
41	,N018645-002D,SAMP,5,	19:10:23	0.6192		0.2706
42	,BLANK,BLANK,1	19:11:06	-0.0020		0.0688
43	,CCV-3,CCV,1,	19:11:54	0.5031		0.2329
44	,CCB-3,CCB,1,	19:12:38	-0.0020		0.0688

Rab 2/18/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 02/05/2016
Time Analyzed: 07:14 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160112D
Color reagent: R160205C
2% Copper Sulfate: R160112C
Ammonium Hydroxide: CINV-151130B

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018548-002E		8.59						
2)	N018548-003E		8.37						
3)	N018548-004E		8.56						
4)	N018548-005E		8.71						
5)	N018548-006E		8.28						
6)	N018548-007E		8.48						
7)	N018548-008E		7.97						
8)	N018548-009E		8.75						
9)	N018548-010E		7.57						
10)	N018549-002E		8.66						
11)	N018549-003E		8.39						
12)	N018549-004E		8.47						
13)	N018549-005E		8.78						
14)	N018636-001D		8.44						
15)	N018628-001D		8.98						
16)	N018628-002D		8.00						
17)	N018644-001D		7.83						
18)	N018644-002D		8.86						
19)	N018645-002D		8.71						
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 2/18/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56126
ASSET #: N018628

Instrument ID: ICP-02
Analyst: CEI

Method:
[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Date Analyzed: 2/9/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018628-001B to 002B only.
% Rec of Fe in N018617-011B PS/MS/MSD & % Rec of Ca in N018632-001B MS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 2/12/2016 Date: —

2nd Level Reviewer 2/19/2016 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56126
ASSET #: N018628

Instrument ID: ICP-02
Analyst: CEI

Method:
[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Date Analyzed: 2/10/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018628-001B & 002B Na & K run only.
% Rec of Na in N018628-001B PS/MS/MSD failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 2/12/2016 Date: _____

2nd Level Reviewer _____ 2/19/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Water

FORMULA:

Calculate the Calcium concentration, in ug/L , in the original sample as follows:

Calcium , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018628-001B** , the concentration in ug/L is calculated as follows:

Calcium , ug/L = 103.54900 * 1 * (25/25) * 1000

Calcium , ug/L = 103549.00

Reporting results in two significant figures,

Calcium , ug/L = 100000

% RSD SUMMARY

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Ca	0	4.71	20	PASS
Standard1	ICAL	1	Ca	0.2	10.49	20	PASS
Standard2	ICAL	1	Ca	1	0.99	20	PASS
Standard3	ICAL	1	Ca	2	0.6	20	PASS
Standard4	ICAL	1	Ca	5	0.86	20	PASS
Standard5	ICAL	1	Ca	7.5	0.21	20	PASS
Standard6	ICAL	1	Ca	10	0.19	20	PASS
Standard7	ICAL	1	Ca	20	0.4	20	PASS
ICV	ICV	1	Ca	10.045	0.41	20	PASS
ICB	ICB	1	Ca	0.012	373.38	20	<PQL
LLCCV1	CCV1	1	Ca	0.22	3.51	20	PASS
ICSA1	ICSA	1	Ca	485.27	0.56	20	PASS
ICSAB1	ICSAB	1	Ca	544.18	0.47	20	PASS
CCV1	CCV	1	Ca	10.064	0.18	20	PASS
CCB1	CCB	1	Ca	-0.0012	3381.016	20	<PQL
MB-56126	MBLK	1	Ca	0.028	104.14	20	<PQL
LCS1-56126	LCS	1	Ca	10.33	0.45	20	PASS
N018617-011B	SAMP	1	Ca	117.38	0.54	20	PASS
N018617-011B	SAMP	5	Ca	25.34	0.28	20	PASS
N018617-011B-PS	PS	1	Ca	128.41	1.18	20	PASS
N018617-011B-MS	MS	1	Ca	129.29	0.62	20	PASS
N018617-011B-MSD	MSD	1	Ca	128.32	0.58	20	PASS
N018617-012B	SAMP	1	Ca	90.86	0.027	20	PASS
N018618-001B	SAMP	1	Ca	106.53	0.47	20	PASS
N018618-002B	SAMP	1	Ca	68.86	0.41	20	PASS
CCV2	CCV	1	Ca	10.004	0.36	20	PASS
CCB2	CCB	1	Ca	0.023	105.36	20	<PQL
N018618-003B	SAMP	1	Ca	168.97	0.89	20	PASS
N018618-004B	SAMP	1	Ca	90.85	0.44	20	PASS
N018618-005B	SAMP	1	Ca	56.012	0.66	20	PASS
N018618-006B	SAMP	1	Ca	36.21	0.28	20	PASS
N018628-001B	SAMP	1	Ca	103.55	0.74	20	PASS
N018628-002B	SAMP	1	Ca	218.16	0.5	20	PASS
N018632-001B	SAMP	1	Ca	73.99	0.93	20	PASS
N018632-001B-MS	MS	1	Ca	87.54	0.74	20	PASS
N018632-002B	SAMP	1	Ca	141.72	1.21	20	PASS
N018632-003B	SAMP	1	Ca	144.29	0.18	20	PASS
CCV3	CCV	1	Ca	9.95	0.42	20	PASS
CCB3	CCB	1	Ca	0.01	63.42	20	<PQL
LLCCV2	CCV2	1	Ca	0.17	10.25	20	PASS
ICSA2	ICSA	1	Ca	481.91	0.27	20	PASS
ICSAB2	ICSAB	1	Ca	540.94	0.44	20	PASS

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018632-004B	SAMP	1	Ca	168.49	1.22	20	PASS
N018632-005B	SAMP	1	Ca	273.71	0.93	20	PASS
N018632-006B	SAMP	1	Ca	273.84	1.08	20	PASS
N018632-007B	SAMP	1	Ca	132.66	0.5	20	PASS
N018632-008B	SAMP	1	Ca	128.42	0.92	20	PASS
N018632-009B	SAMP	1	Ca	138.18	0.25	20	PASS
N018632-010B	SAMP	1	Ca	146.2	0.46	20	PASS
CCV4	CCV	1	Ca	9.83	0.24	20	PASS
CCB4	CCB	1	Ca	-0.0051	169.21	20	<PQL
CCV5	CCV	1	Ca	9.63	1.049	20	PASS
CCB5	CCB	1	Ca	-0.046	45.39	20	<PQL
CCV6	CCV	1	Ca	9.64	0.88	20	PASS
CCB6	CCB	1	Ca	-0.052	45.84	20	<PQL
LLCCV3	CCV2	1	Ca	0.14	20.62	20	<PQL
ICSA3	ICSA	1	Ca	503.15	1.15	20	PASS
ICSA3	ICSA	1	Ca	454.53	0.29	20	PASS
ICSAB3	ICSAB	1	Ca	510.95	0.31	20	PASS
CCV7	CCV	1	Ca	9.43	0.79	20	PASS
CCB7	CCB	1	Ca	-0.019	47.35	20	<PQL
CCV8	CCV	1	Ca	9.38	0.55	20	PASS
CCB8	CCB	1	Ca	-0.063	7.53	20	PASS
CCV9	CCV	1	Ca	9.52	0.68	20	PASS
CCB9	CCB	1	Ca	-0.033	53.8	20	<PQL
LLCCV4	CCV2	1	Ca	0.14	16.32	20	PASS
ICSA4	ICSA	1	Ca	449.02	0.17	20	PASS
ICSAB4	ICSAB	1	Ca	505.63	0.35	20	PASS
CalBlk	IBLK	1	Fe	0	15.023	20	PASS
Standard1	ICAL	1	Fe	0.02	10.089	20	PASS
Standard2	ICAL	1	Fe	0.05	1.078	20	PASS
Standard3	ICAL	1	Fe	2	0.72	20	PASS
Standard4	ICAL	1	Fe	5	0.94	20	PASS
Standard5	ICAL	1	Fe	7.5	0.55	20	PASS
Standard6	ICAL	1	Fe	10	0.59	20	PASS
Standard7	ICAL	1	Fe	20	0.095	20	PASS
ICV	ICV	1	Fe	10.31	0.63	20	PASS
ICB	ICB	1	Fe	0.00033	34.9	20	<PQL
LLCCV1	CCV1	1	Fe	0.022	1.92	20	PASS
ICSA1	ICSA	1	Fe	161.49	0.2	20	PASS
ICSAB1	ICSAB	1	Fe	181.85	0.089	20	PASS
CCV1	CCV	1	Fe	10.34	0.43	20	PASS
CCB1	CCB	1	Fe	0.00055	63.94	20	<PQL
MB-56126	MBLK	1	Fe	0.0095	5.43	20	PASS

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
LCS1-56126	LCS	1	Fe	0.11	0.88	20	PASS
N018617-011B	SAMP	1	Fe	0.075	1.54	20	PASS
N018617-011B	SAMP	5	Fe	0.017	2.98	20	PASS
N018617-011B-PS	PS	1	Fe	0.12	0.87	20	PASS
N018617-011B-MS	MS	1	Fe	0.12	1.3	20	PASS
N018617-011B-MSD	MSD	1	Fe	0.12	0.76	20	PASS
N018617-012B	SAMP	1	Fe	0.49	0.23	20	PASS
N018618-001B	SAMP	1	Fe	0.049	0.98	20	PASS
N018618-002B	SAMP	1	Fe	0.014	1.67	20	PASS
CCV2	CCV	1	Fe	10.27	0.89	20	PASS
CCB2	CCB	1	Fe	0.00007	552.77	20	<PQL
N018618-003B	SAMP	1	Fe	0.16	0.88	20	PASS
N018618-004B	SAMP	1	Fe	0.017	2.8	20	PASS
N018618-005B	SAMP	1	Fe	0.0097	8.78	20	PASS
N018618-006B	SAMP	1	Fe	0.026	3.52	20	PASS
N018628-001B	SAMP	1	Fe	0.012	5.58	20	PASS
N018628-002B	SAMP	1	Fe	0.007	7.49	20	PASS
N018632-001B	SAMP	1	Fe	0.048	1.48	20	PASS
N018632-001B-MS	MS	1	Fe	0.14	0.14	20	PASS
N018632-002B	SAMP	1	Fe	0.029	1.79	20	PASS
N018632-003B	SAMP	1	Fe	0.041	0.49	20	PASS
CCV3	CCV	1	Fe	10.29	0.19	20	PASS
CCB3	CCB	1	Fe	-0.0002	359.8	20	<PQL
LLCCV2	CCV2	1	Fe	0.023	1.31	20	PASS
ICSA2	ICSA	1	Fe	160.62	0.14	20	PASS
ICSAB2	ICSAB	1	Fe	180.31	0.072	20	PASS
N018632-004B	SAMP	1	Fe	0.021	9.63	20	PASS
N018632-005B	SAMP	1	Fe	0.015	4.25	20	PASS
N018632-006B	SAMP	1	Fe	0.042	1.66	20	PASS
N018632-007B	SAMP	1	Fe	0.024	1.52	20	PASS
N018632-008B	SAMP	1	Fe	0.024	2.019	20	PASS
N018632-009B	SAMP	1	Fe	0.016	3.21	20	PASS
N018632-010B	SAMP	1	Fe	0.064	0.81	20	PASS
CCV4	CCV	1	Fe	10.16	0.52	20	PASS
CCB4	CCB	1	Fe	0.00066	121.72	20	<PQL
CCV5	CCV	1	Fe	10.28	0.29	20	PASS
CCB5	CCB	1	Fe	0.00027	148.42	20	<PQL
CCV6	CCV	1	Fe	10.35	0.27	20	PASS
CCB6	CCB	1	Fe	0.00022	166.34	20	<PQL
LLCCV3	CCV2	1	Fe	0.022	1.45	20	PASS
ICSA3	ICSA	1	Fe	173.42	0.4	20	PASS
ICSA3	ICSA	1	Fe	178.08	0.025	20	PASS

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
ICSAB3	ICSAB	1	Fe	177.62	0.18	20	PASS
CCV7	CCV	1	Fe	10.16	0.86	20	PASS
CCB7	CCB	1	Fe	0.00053	72	20	<PQL
CCV8	CCV	1	Fe	10.083	0.28	20	PASS
CCB8	CCB	1	Fe	0.00026	90.4	20	<PQL
CCV9	CCV	1	Fe	10.17	0.072	20	PASS
CCB9	CCB	1	Fe	0.00066	74.43	20	<PQL
LLCCV4	CCV2	1	Fe	0.022	2.43	20	PASS
ICSA4	ICSA	1	Fe	176.51	0.13	20	PASS
ICSAB4	ICSAB	1	Fe	176.22	0.28	20	PASS
CalBlk	IBLK	1	Mg	0	8.99	20	PASS
Standard1	ICAL	1	Mg	0.1	0.75	20	PASS
Standard2	ICAL	1	Mg	1	0.92	20	PASS
Standard3	ICAL	1	Mg	2	0.77	20	PASS
Standard4	ICAL	1	Mg	5	1.1	20	PASS
Standard5	ICAL	1	Mg	7.5	0.54	20	PASS
Standard6	ICAL	1	Mg	10	0.47	20	PASS
Standard7	ICAL	1	Mg	20	0.14	20	PASS
ICV	ICV	1	Mg	10.23	0.6	20	PASS
ICB	ICB	1	Mg	-0.00007	1370.29	20	<PQL
LLCCV1	CCV1	1	Mg	0.11	0.68	20	PASS
ICSA1	ICSA	1	Mg	457.87	0.27	20	PASS
ICSAB1	ICSAB	1	Mg	512.41	0.15	20	PASS
CCV1	CCV	1	Mg	10.19	0.5	20	PASS
CCB1	CCB	1	Mg	0.001	107.12	20	<PQL
MB-56126	MBLK	1	Mg	-0.0013	31.87	20	<PQL
LCS1-56126	LCS	1	Mg	10.31	0.21	20	PASS
N018617-011B	SAMP	1	Mg	18.77	0.44	20	PASS
N018617-011B	SAMP	5	Mg	3.95	0.75	20	PASS
N018617-011B-PS	PS	1	Mg	27.65	0.18	20	PASS
N018617-011B-MS	MS	1	Mg	27.6	0.23	20	PASS
N018617-011B-MSD	MSD	1	Mg	27.53	0.34	20	PASS
N018617-012B	SAMP	1	Mg	17.71	0.099	20	PASS
N018618-001B	SAMP	1	Mg	19.031	0.5	20	PASS
N018618-002B	SAMP	1	Mg	10.69	0.41	20	PASS
CCV2	CCV	1	Mg	10.004	0.88	20	PASS
CCB2	CCB	1	Mg	-0.00002	2898.69	20	<PQL
N018618-003B	SAMP	1	Mg	28.56	0.31	20	PASS
N018618-004B	SAMP	1	Mg	15.024	0.31	20	PASS
N018618-005B	SAMP	1	Mg	9.13	0.64	20	PASS
N018618-006B	SAMP	1	Mg	5.63	0.29	20	PASS
N018628-001B	SAMP	1	Mg	22.56	0.58	20	PASS

RSD SUMMARY: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018628-002B	SAMP	1	Mg	30.45	0.16	20	PASS
N018632-001B	SAMP	1	Mg	12.64	1.14	20	PASS
N018632-001B-MS	MS	1	Mg	23.19	0.87	20	PASS
N018632-002B	SAMP	1	Mg	23.6	1.038	20	PASS
N018632-003B	SAMP	1	Mg	24.66	0.32	20	PASS
CCV3	CCV	1	Mg	10.024	0.42	20	PASS
CCB3	CCB	1	Mg	-0.00028	65.95	20	<PQL
LLCCV2	CCV2	1	Mg	0.11	1.48	20	PASS
ICSA2	ICSA	1	Mg	444.26	0.3	20	PASS
ICSAB2	ICSAB	1	Mg	495.87	0.22	20	PASS
N018632-004B	SAMP	1	Mg	26.77	0.28	20	PASS
N018632-005B	SAMP	1	Mg	42.41	0.24	20	PASS
N018632-006B	SAMP	1	Mg	42.51	0.24	20	PASS
N018632-007B	SAMP	1	Mg	21.5	0.36	20	PASS
N018632-008B	SAMP	1	Mg	20.66	0.67	20	PASS
N018632-009B	SAMP	1	Mg	22.46	0.073	20	PASS
N018632-010B	SAMP	1	Mg	23.85	0.47	20	PASS
CCV4	CCV	1	Mg	9.59	0.59	20	PASS
CCB4	CCB	1	Mg	0.0012	43.38	20	<PQL
CCV5	CCV	1	Mg	9.64	0.23	20	PASS
CCB5	CCB	1	Mg	-0.0002	202.49	20	<PQL
CCV6	CCV	1	Mg	9.65	0.25	20	PASS
CCB6	CCB	1	Mg	0.00012	357.6	20	<PQL
LLCCV3	CCV2	1	Mg	0.1	0.28	20	PASS
ICSA3	ICSA	1	Mg	464.93	0.57	20	PASS
ICSA3	ICSA	1	Mg	411.31	0.068	20	PASS
ICSAB3	ICSAB	1	Mg	465.57	0.18	20	PASS
CCV7	CCV	1	Mg	9.31	0.84	20	PASS
CCB7	CCB	1	Mg	0.00099	3.79	20	PASS
CCV8	CCV	1	Mg	9.28	0.31	20	PASS
CCB8	CCB	1	Mg	0.00016	192.97	20	<PQL
CCV9	CCV	1	Mg	9.37	0.078	20	PASS
CCB9	CCB	1	Mg	-0.00002	1929.89	20	<PQL
LLCCV4	CCV2	1	Mg	0.1	0.47	20	PASS
ICSA4	ICSA	1	Mg	407.59	0.12	20	PASS
ICSAB4	ICSAB	1	Mg	463.1	0.45	20	PASS

RSD SUMMARY: 160210B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Na	0	19.97	15	<PQL
Standard1	ICAL	1	Na	0.1	4.17	15	PASS
Standard2	ICAL	1	Na	1	0.39	15	PASS
Standard3	ICAL	1	Na	5	0.34	15	PASS
Standard4	ICAL	1	Na	10	0.28	15	PASS
Standard5	ICAL	1	Na	20	0.15	15	PASS
Standard6	ICAL	1	Na	40	0.24	15	PASS
ICV	ICV	1	Na	9.43	0.29	15	PASS
ICB	ICB	1	Na	0.004	30.41	15	<PQL
ICSA1	ICSA	1	Na	-0.0058	49.72	15	<PQL
ICSAB1	ICSAB	1	Na	8.79	0.27	15	PASS
MB-56126	MBLK	1	Na	0.0049	81.37	15	<PQL
LCS2-56126	LCS	1	Na	18.46	0.22	15	PASS
CCV1	CCV	1	Na	9.42	0.24	15	PASS
CCB1	CCB	1	Na	-0.0018	236.76	15	<PQL
N018628-001B	SAMP	5	Na	127.6	1.051	15	PASS
N018628-002B	SAMP	5	Na	241.08	0.34	15	PASS
N018632-003B	SAMP	5	Na	25.54	0.21	15	PASS
N018628-001B	SAMP	25	Na	26.91	0.042	15	PASS
N018628-002B	SAMP	50	Na	25.43	0.076	15	PASS
N018628-001B	SAMP	125	Na	5.49	0.18	15	PASS
N018628-001B-PS	PS	25	Na	26.44	0.18	15	PASS
N018628-001B-MS2	MS	25	Na	26.7	0.26	15	PASS
N018628-001B-MSD2	MSD	25	Na	26.82	0.16	15	PASS
N018632-003B-MS2	MS	25	Na	6.033	0.5	15	PASS
CCV2	CCV	1	Na	9.34	0.27	15	PASS
CCB2	CCB	1	Na	0.0074	30.42	15	<PQL
CCV3	CCV	1	Na	9.62	0.18	15	PASS
CCB3	CCB	1	Na	-0.0074	31.067	15	<PQL
CCV4	CCV	1	Na	9.7	0.17	15	PASS
CCB4	CCB	1	Na	-0.012	44.77	15	<PQL
ICSA2	ICSA	1	Na	-0.0097	26.85	15	<PQL
ICSAB2	ICSAB	1	Na	8.97	0.15	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160209A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/09/2016	09:15:07 AM
2	Standard1	ICAL	1	02/09/2016	09:19:29 AM
3	Standard2	ICAL	1	02/09/2016	09:24:18 AM
4	Standard3	ICAL	1	02/09/2016	09:29:08 AM
5	Standard4	ICAL	1	02/09/2016	09:34:01 AM
6	Standard5	ICAL	1	02/09/2016	09:39:53 AM
7	Standard6	ICAL	1	02/09/2016	09:47:05 AM
8	Standard7	ICAL	1	02/09/2016	09:53:11 AM
9	ICV	ICV	1	02/09/2016	09:59:37 AM
1	ICB	ICB	1	02/09/2016	10:05:28 AM
2	LLCCV1	CCV1	1	02/09/2016	10:09:46 AM
4	ICSA1	ICSA	1	02/09/2016	10:14:35 AM
5	ICSAB1	ICSAB	1	02/09/2016	10:20:32 AM
38	MB-56157	MBLK	1	02/09/2016	10:26:30 AM
39	LCS-56157	LCS	1	02/09/2016	10:30:50 AM
40	N018560-009C	SAMP	1	02/09/2016	10:36:42 AM
41	N018560-009C	SAMP	5	02/09/2016	10:41:32 AM
42	N018560-009C-PS	PS	1	02/09/2016	10:46:21 AM
43	N018560-009C-MS	MS	1	02/09/2016	10:52:11 AM
44	N018560-009C-MSD	MSD	1	02/09/2016	10:58:01 AM
45	N018560-010C	SAMP	1	02/09/2016	11:03:52 AM
46	N018561-004C	SAMP	1	02/09/2016	11:08:43 AM
47	N018561-005C	SAMP	1	02/09/2016	11:13:35 AM
7	CCV1	CCV	1	02/09/2016	11:18:25 AM
1	CCB1	CCB	1	02/09/2016	11:24:15 AM
50	MB-56126	MBLK	1	02/09/2016	11:28:32 AM
51	LCS1-56126	LCS	1	02/09/2016	11:32:52 AM
52	N018617-011B	SAMP	1	02/09/2016	11:38:44 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
53	N018617-011B	SAMP	5	02/09/2016	11:44:34 AM
54	N018617-011B-PS	PS	1	02/09/2016	11:49:23 AM
55	N018617-011B-MS	MS	1	02/09/2016	11:55:14 AM
56	N018617-011B-MSD	MSD	1	02/09/2016	12:01:07 PM
57	N018617-012B	SAMP	1	02/09/2016	12:06:59 PM
58	N018618-001B	SAMP	1	02/09/2016	12:11:47 PM
59	N018618-002B	SAMP	1	02/09/2016	12:17:38 PM
7	CCV2	CCV	1	02/09/2016	12:22:29 PM
1	CCB2	CCB	1	02/09/2016	12:28:19 PM
60	N018618-003B	SAMP	1	02/09/2016	12:32:36 PM
61	N018618-004B	SAMP	1	02/09/2016	12:38:28 PM
62	N018618-005B	SAMP	1	02/09/2016	12:43:19 PM
63	N018618-006B	SAMP	1	02/09/2016	12:48:09 PM
64	N018628-001B	SAMP	1	02/09/2016	12:52:59 PM
65	N018628-002B	SAMP	1	02/09/2016	12:58:50 PM
66	N018632-001B	SAMP	1	02/09/2016	01:04:42 PM
67	N018632-001B-MS	MS	1	02/09/2016	01:09:32 PM
68	N018632-002B	SAMP	1	02/09/2016	01:15:23 PM
69	N018632-003B	SAMP	1	02/09/2016	01:21:13 PM
7	CCV3	CCV	1	02/09/2016	01:27:04 PM
1	CCB3	CCB	1	02/09/2016	01:32:54 PM
2	LLCCV2	CCV2	1	02/09/2016	01:37:12 PM
4	ICSA2	ICSA	1	02/09/2016	01:42:01 PM
5	ICSAB2	ICSAB	1	02/09/2016	01:47:58 PM
70	N018632-004B	SAMP	1	02/09/2016	01:53:55 PM
71	N018632-005B	SAMP	1	02/09/2016	01:59:47 PM
72	N018632-006B	SAMP	1	02/09/2016	02:05:40 PM
73	N018632-007B	SAMP	1	02/09/2016	02:11:32 PM
74	N018632-008B	SAMP	1	02/09/2016	02:17:23 PM
75	N018632-009B	SAMP	1	02/09/2016	02:23:14 PM
76	N018632-010B	SAMP	1	02/09/2016	02:29:04 PM
77	MB-56125	MBLK	1	02/09/2016	02:34:55 PM
78	LCS-56125	LCS	1	02/09/2016	02:39:15 PM
79	N018629-001A	SAMP	5	02/09/2016	02:45:06 PM
7	CCV4	CCV	1	02/09/2016	02:49:56 PM
1	CCB4	CCB	1	02/09/2016	02:55:47 PM
80	N018629-002A	SAMP	5	02/09/2016	03:00:06 PM
81	N018629-002A	SAMP	25	02/09/2016	03:05:56 PM
82	N018629-002A-PS	PS	5	02/09/2016	03:10:46 PM
83	N018629-002A-MS	MS	5	02/09/2016	03:16:37 PM
84	N018629-002A-MSD	MSD	5	02/09/2016	03:22:28 PM
85	N018629-003A	SAMP	5	02/09/2016	03:28:18 PM
86	N018629-004A	SAMP	5	02/09/2016	03:34:11 PM
87	N018630-001A	SAMP	5	02/09/2016	03:40:03 PM
88	N018630-002A	SAMP	5	02/09/2016	03:44:54 PM
89	N018630-003A	SAMP	5	02/09/2016	03:49:45 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
7	CCV5	CCV	1	02/09/2016	03:54:35 PM
1	CCB5	CCB	1	02/09/2016	04:00:25 PM
90	N018630-004A	SAMP	5	02/09/2016	04:05:13 PM
91	N018630-005A	SAMP	5	02/09/2016	04:10:03 PM
92	N018630-006A	SAMP	5	02/09/2016	04:14:54 PM
93	N018630-007A	SAMP	5	02/09/2016	04:20:46 PM
94	N018630-007A-MS	MS	5	02/09/2016	04:25:37 PM
95	N018630-008A	SAMP	5	02/09/2016	04:31:29 PM
96	N018630-009A	SAMP	5	02/09/2016	04:37:21 PM
97	N018630-010A	SAMP	5	02/09/2016	04:43:13 PM
98	N018630-011A	SAMP	5	02/09/2016	04:49:22 PM
99	MB-56138	MBLK	1	02/09/2016	04:55:14 PM
7	CCV6	CCV	1	02/09/2016	04:59:36 PM
1	CCB6	CCB	1	02/09/2016	05:05:27 PM
2	LLCCV3	CCV2	1	02/09/2016	05:10:16 PM
4	ICSA3	ICSA	1	02/09/2016	05:15:05 PM
4	ICSA3	ICSA	1	02/09/2016	05:39:21 PM
5	ICSAB3	ICSAB	1	02/09/2016	05:45:18 PM
100	LCS-56138	LCS	1	02/09/2016	05:51:16 PM
101	N018634-005B	SAMP	1	02/09/2016	05:57:08 PM
102	N018634-005B	SAMP	5	02/09/2016	06:03:00 PM
103	N018634-005B-PS	PS	1	02/09/2016	06:07:52 PM
104	N018634-005B-MS	MS	1	02/09/2016	06:13:45 PM
105	N018634-005B-MSD	MSD	1	02/09/2016	06:19:08 PM
106	N018634-006B	SAMP	1	02/09/2016	06:25:01 PM
107	N018634-007B	SAMP	1	02/09/2016	06:30:53 PM
108	N018634-008B	SAMP	1	02/09/2016	06:36:46 PM
109	N018634-009B	SAMP	1	02/09/2016	06:42:38 PM
7	CCV7	CCV	1	02/09/2016	06:47:30 PM
1	CCB7	CCB	1	02/09/2016	06:53:21 PM
110	N018634-010B	SAMP	1	02/09/2016	06:58:10 PM
111	N018634-011B	SAMP	1	02/09/2016	07:03:03 PM
112	N018634-012B	SAMP	1	02/09/2016	07:08:54 PM
113	N018635-001B	SAMP	1	02/09/2016	07:14:46 PM
114	N018653-001B	SAMP	1	02/09/2016	07:20:39 PM
115	N018653-002B	SAMP	1	02/09/2016	07:26:32 PM
116	N018653-002B-MS	MS	1	02/09/2016	07:31:24 PM
117	N018653-003B	SAMP	1	02/09/2016	07:37:17 PM
118	N018653-004B	SAMP	1	02/09/2016	07:43:10 PM
119	N018653-005B	SAMP	1	02/09/2016	07:49:02 PM
7	CCV8	CCV	1	02/09/2016	07:54:55 PM
1	CCB8	CCB	1	02/09/2016	08:00:45 PM
120	N018653-006B	SAMP	1	02/09/2016	08:05:34 PM
121	N018653-007B	SAMP	1	02/09/2016	08:10:26 PM
122	N018653-008B	SAMP	1	02/09/2016	08:15:18 PM
123	N018653-010B	SAMP	1	02/09/2016	08:20:11 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
124	N018653-011B	SAMP	1	02/09/2016	08:25:03 PM
125	N018653-012B	SAMP	1	02/09/2016	08:30:56 PM
126	MB-56145	MBLK	1	02/09/2016	08:36:17 PM
127	LCS-56145	LCS	1	02/09/2016	08:40:39 PM
128	N018654-001B	SAMP	1	02/09/2016	08:46:33 PM
129	N018654-001B	SAMP	5	02/09/2016	08:51:25 PM
7	CCV9	CCV	1	02/09/2016	08:56:17 PM
1	CCB9	CCB	1	02/09/2016	09:02:07 PM
2	LLCCV4	CCV2	1	02/09/2016	09:06:55 PM
4	ICSA4	ICSA	1	02/09/2016	09:11:45 PM
5	ICSAB4	ICSAB	1	02/09/2016	09:17:42 PM

INJECTION LOG: 160210B

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207G,0.025<50mL
Standard2	MWST-151207G,0.25<50mL
Standard3	MWST-151207G,1.25<50mL
Standard4	MWST-151207G,2.5<50mL
Standard5	MWST-151207G,5<50mL
Standard6	MWST-151207G,10<50mL
ICV	MSST-140120B/-111006A/-150717A
CCV	MWST-151207G,2.5<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207H
Int. Std. (Sc):	MSST-150923A
PS Spike	MSST-140120B/-111006A/-150717A

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	02/10/2016	12:48:17 PM
2	Standard1	ICAL	1	02/10/2016	12:51:33 PM
3	Standard2	ICAL	1	02/10/2016	12:54:50 PM
4	Standard3	ICAL	1	02/10/2016	12:58:38 PM
5	Standard4	ICAL	1	02/10/2016	01:02:29 PM
6	Standard5	ICAL	1	02/10/2016	01:06:22 PM
7	Standard6	ICAL	1	02/10/2016	01:10:15 PM
8	ICV	ICV	1	02/10/2016	01:41:24 PM
1	ICB	ICB	1	02/10/2016	01:45:15 PM
3	ICSA1	ICSA	1	02/10/2016	01:48:32 PM
4	ICSAB1	ICSAB	1	02/10/2016	01:51:49 PM
38	MB-56176	MBLK	1	02/10/2016	01:55:42 PM
39	LCS2-56176	LCS	1	02/10/2016	01:58:59 PM
40	N018666-001E	SAMP	5	02/10/2016	02:02:55 PM
41	N018666-001E	SAMP	25	02/10/2016	02:08:32 PM
42	N018666-001E-PS	PS	5	02/10/2016	02:11:51 PM
43	N018666-001E-MS2	MS	5	02/10/2016	02:15:40 PM
44	N018666-001E-MSD2	MSD	5	02/10/2016	02:19:29 PM
45	N018574-011C	SAMP	250	02/10/2016	02:23:19 PM
46	MB-56126	MBLK	1	02/10/2016	02:26:38 PM
47	LCS2-56126	LCS	1	02/10/2016	02:32:21 PM
5	CCV1	CCV	1	02/10/2016	02:36:17 PM
1	CCB1	CCB	1	02/10/2016	02:40:11 PM
48	N018628-001B	SAMP	5	02/10/2016	02:43:27 PM
49	N018628-002B	SAMP	5	02/10/2016	02:48:19 PM
50	N018632-003B	SAMP	5	02/10/2016	02:53:11 PM
51	N018628-001B	SAMP	25	02/10/2016	02:57:00 PM
52	N018628-002B	SAMP	50	02/10/2016	03:00:18 PM
53	N018628-001B	SAMP	125	02/10/2016	03:03:37 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
54	N018628-001B-PS	PS	25	02/10/2016	03:06:55 PM
55	N018628-001B-MS2	MS	25	02/10/2016	03:10:44 PM
56	N018628-001B-MSD2	MSD	25	02/10/2016	03:14:04 PM
57	N018632-003B-MS2	MS	25	02/10/2016	03:17:22 PM
5	CCV2	CCV	1	02/10/2016	03:21:11 PM
1	CCB2	CCB	1	02/10/2016	03:25:06 PM
58	MB-56162	MBLK	1	02/10/2016	03:28:24 PM
59	LCS2-56162	LCS	1	02/10/2016	03:31:43 PM
60	N018677-001B	SAMP	1	02/10/2016	03:35:36 PM
61	N018646-002B	SAMP	1	02/10/2016	03:39:27 PM
62	N018677-001B	SAMP	5	02/10/2016	03:43:21 PM
63	N018677-001B	SAMP	25	02/10/2016	03:46:41 PM
64	N018677-001B-PS	PS	1	02/10/2016	03:49:59 PM
65	N018677-001B-MS2	MS	1	02/10/2016	03:53:52 PM
66	N018677-001B-MSD2	MSD	1	02/10/2016	03:57:40 PM
67	N018677-001B-PS	PS	5	02/10/2016	04:01:33 PM
5	CCV3	CCV	1	02/10/2016	04:05:22 PM
1	CCB3	CCB	1	02/10/2016	04:09:15 PM
68	N018677-001B-MS2	MS	5	02/10/2016	04:12:31 PM
69	N018677-001B-MSD2	MSD	5	02/10/2016	04:16:24 PM
70	N018646-002B	SAMP	5	02/10/2016	04:20:14 PM
5	CCV4	CCV	1	02/10/2016	04:24:05 PM
1	CCB4	CCB	1	02/10/2016	04:27:59 PM
3	ICSA2	ICSA	1	02/10/2016	04:31:17 PM
4	ICSAB2	ICSAB	1	02/10/2016	04:34:35 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/4/2016 2:45:16 P**
Prep End Date: **2/4/2016 6:50:00 P**

For: Initials/ Date: 2/12/2016

Prep Batch **56126** Prep Code: **3010_W_DISS** Technician **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-22**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-56126	Aqueous		25	☐	0	0	25	1.000		
LCS2-56126	Aqueous		25	☐	0	0	25	1.000		
MB-56126	Aqueous		25	☐	0	0	25	1.000		
N018617-011B	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-011B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-011B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018617-012B	Groundwater	<2	25	☐	0	0	25	1.000		
N018618-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018618-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018618-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018618-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018618-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018618-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018628-001B	Water	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-160201E	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201F	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201G	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/4/2016 2:45:16 P**
Prep End Date: **2/4/2016 6:50:00 P**

For: Initials/ Date: 2/12/2016

Prep Batch **56126** Prep Code: **3010_W_DISS** Technician **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-22**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018628-001B-MS	Water	<2	25	☐	0	0	25	1.000		
N018628-001B-MS	Water	<2	25	☐	0	0	25	1.000		
N018628-002B	Water	<2	25	☐	0	0	25	1.000		
N018632-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-003B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-009B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-160201E	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201F	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201G	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/4/2016 2:45:16 P**
Prep End Date: **2/4/2016 6:50:00 P**

For:
Initials/ Date: 2/12/2016

Prep Batch **56126** Prep Code: **3010_W_DISS** Technician **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-22**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018632-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8269	NITRIC ACID
8273	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-160201E	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201F	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201G	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160209A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Magnesium								
CalBlk	02/09/2016	09:15:07 AM	Mg	279.079	116	0.00	mg/L	
Standard1	02/09/2016	09:19:29 AM	Mg	279.079	1175	0.1000	mg/L	
Standard2	02/09/2016	09:24:18 AM	Mg	279.079	10402	1.000	mg/L	
Standard3	02/09/2016	09:29:08 AM	Mg	279.079	21647	2.000	mg/L	
Standard4	02/09/2016	09:34:01 AM	Mg	279.079	53835	5.000	mg/L	
Standard5	02/09/2016	09:39:53 AM	Mg	279.079	81312	7.500	mg/L	
Standard6	02/09/2016	09:47:05 AM	Mg	279.079	106524	10.000	mg/L	
Standard7	02/09/2016	09:53:11 AM	Mg	279.079	205564	20.000	mg/L	0.9998
Calcium								
CalBlk	02/09/2016	09:15:07 AM	Ca	227.546	-71	0.00	mg/L	
Standard1	02/09/2016	09:19:29 AM	Ca	227.546	51	0.2000	mg/L	
Standard2	02/09/2016	09:24:18 AM	Ca	227.546	278	1.000	mg/L	
Standard3	02/09/2016	09:29:08 AM	Ca	227.546	542	2.000	mg/L	
Standard4	02/09/2016	09:34:01 AM	Ca	227.546	1340	5.000	mg/L	
Standard5	02/09/2016	09:39:53 AM	Ca	227.546	2015	7.500	mg/L	
Standard6	02/09/2016	09:47:05 AM	Ca	227.546	2637	10.000	mg/L	
Standard7	02/09/2016	09:53:11 AM	Ca	227.546	5198	20.000	mg/L	0.9999
Iron								
CalBlk	02/09/2016	09:15:07 AM	Fe	273.953	-71	0.00	mg/L	
Standard1	02/09/2016	09:19:29 AM	Fe	273.953	547	0.0200	mg/L	
Standard2	02/09/2016	09:24:18 AM	Fe	273.953	1272	0.050	mg/L	
Standard3	02/09/2016	09:29:08 AM	Fe	273.953	49142	2.000	mg/L	
Standard4	02/09/2016	09:34:01 AM	Fe	273.953	121811	5.000	mg/L	
Standard5	02/09/2016	09:39:53 AM	Fe	273.953	183745	7.500	mg/L	
Standard6	02/09/2016	09:47:05 AM	Fe	273.953	240597	10.000	mg/L	
Standard7	02/09/2016	09:53:11 AM	Fe	273.953	458706	20.000	mg/L	0.9996

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160210B

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Sodium								
CalBlk	02/10/2016	12:48:17 PM	Na	589.594	72	0.00	mg/L	
Standard1	02/10/2016	12:51:33 PM	Na	589.594	448	0.1000	mg/L	
Standard2	02/10/2016	12:54:50 PM	Na	589.594	3309	1.000	mg/L	
Standard3	02/10/2016	12:58:38 PM	Na	589.594	17080	5.000	mg/L	
Standard4	02/10/2016	01:02:29 PM	Na	589.594	37944	10.000	mg/L	
Standard5	02/10/2016	01:06:22 PM	Na	589.594	72377	20.000	mg/L	
Standard6	02/10/2016	01:10:15 PM	Na	589.594	161927	40.000	mg/L	0.9990

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10044.541	500	10000	0	100	90	110				
Iron	10312.988	20	10000	0	103	90	110				
Magnesium	10232.324	100	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	218.787	500	200.0	0	109	80	120				
Iron	21.948	20	20.00	0	110	80	120				
Magnesium	110.681	100	100.0	0	111	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10064.239	500	10000	0	101	90	110				
Iron	10335.905	20	10000	0	103	90	110				
Magnesium	10193.544	100	10000	0	102	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10004.074	500	10000	0	100	90	110				
Iron	10265.818	20	10000	0	103	90	110				
Magnesium	10004.329	100	10000	0	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9952.231	500	10000	0	99.5	90	110				
Iron	10284.755	20	10000	0	103	90	110				
Magnesium	10023.876	100	10000	0	100	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	173.259	500	200.0	0	86.6	70	130				
Iron	22.566	20	20.00	0	113	70	130				
Magnesium	109.224	100	100.0	0	109	70	130				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9833.408	500	10000	0	98.3	90	110				
Iron	10155.902	20	10000	0	102	90	110				
Magnesium	9590.016	100	10000	0	95.9	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9627.086	500	10000	0	96.3	90	110				
Iron	10284.367	20	10000	0	103	90	110				
Magnesium	9643.273	100	10000	0	96.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9638.176	500	10000	0	96.4	90	110				
Iron	10352.062	20	10000	0	104	90	110				
Magnesium	9649.638	100	10000	0	96.5	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	140.978	500	200.0	0	70.5	70	130				
Iron	22.054	20	20.00	0	110	70	130				
Magnesium	104.582	100	100.0	0	105	70	130				

Sample ID **CCV7** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9428.211	500	10000	0	94.3	90	110				
Iron	10160.655	20	10000	0	102	90	110				
Magnesium	9312.660	100	10000	0	93.1	90	110				

Sample ID **CCV8** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9376.810	500	10000	0	93.8	90	110				
Iron	10082.834	20	10000	0	101	90	110				
Magnesium	9282.399	100	10000	0	92.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV9** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCV** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9522.344	500	10000	0	95.2	90	110				
Iron	10170.761	20	10000	0	102	90	110				
Magnesium	9369.880	100	10000	0	93.7	90	110				

Sample ID **LLCCV4** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	143.074	500	200.0	0	71.5	70	130				
Iron	22.410	20	20.00	0	112	70	130				
Magnesium	100.704	100	100.0	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **ICV** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9430.404	500	10000	0	94.3	90	110				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCV** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9421.675	500	10000	0	94.2	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCV** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228881**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9343.985	500	10000	0	93.4	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCV** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9623.017	500	10000	0	96.2	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCV** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	9701.644	500	10000	0	97.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	12.242	500									
Iron	0.334	20									
Magnesium	-0.069741	100									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227094**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-1.235548	500									
Iron	0.550	20									
Magnesium	1.002	100									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.494	500									
Iron	0.066	20									
Magnesium	-0.018575	100									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227118**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.174	500									
Iron	-0.203454	20									
Magnesium	-0.278661	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-5.143264	500									
Iron	0.664	20									
Magnesium	1.168	100									

Sample ID **CCB5** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-46.497689	500									
Iron	0.266	20									
Magnesium	-0.202101	100									

Sample ID **CCB6** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-52.282837	500									
Iron	0.221	20									
Magnesium	0.123	100									

Sample ID **CCB7** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **CCB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-18.541985	500									
Iron	0.531	20									
Magnesium	0.987	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	CCB8	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105772
Client ID:	CCB	Batch ID:	R105772	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2227185

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-62.809975	500									
Iron	0.258	20									
Magnesium	0.159	100									

Sample ID	CCB9	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105772
Client ID:	CCB	Batch ID:	R105772	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2227197

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-32.82215	500									
Iron	0.663	20									
Magnesium	-0.02333	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **ICB** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3.967	500									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCB** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228870**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-1.764485	500									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCB** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	7.348	500									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCB** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-7.353142	500									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **CCB** Batch ID: **R105801** TestNo: **EPA 6010B** Analysis Date: **2/10/2016** SeqNo: **2228899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-12.251239	500									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSA** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227081**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	476491.864	50	500000	0	95.3	80	120				
Calcium	485268.826	500	500000	0	97.1	80	120				
Iron	161491.519	20	200000	0	80.7	80	120				
Magnesium	457865.596	100	500000	0	91.6	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSAB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	538824.926	50	500000	0	108	80	120				
Calcium	544176.877	500	500000	0	109	80	120				
Iron	181847.378	20	200000	0	90.9	80	120				
Magnesium	512414.214	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSA** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	477492.448	50	500000	0	95.5	80	120				
Calcium	481907.291	500	500000	0	96.4	80	120				
Iron	160617.521	20	200000	0	80.3	80	120				
Magnesium	444262.489	100	500000	0	88.9	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSAB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	539466.486	50	500000	0	108	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSAB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	540941.196	500	500000	0	108	80	120				
Iron	180314.544	20	200000	0	90.2	80	120				
Magnesium	495873.747	100	500000	0	99.2	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSA** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	470463.410	50	500000	0	94.1	80	120				
Calcium	454534.219	500	500000	0	90.9	80	120				
Iron	178077.076	20	200000	0	89.0	80	120				
Magnesium	411306.005	100	500000	0	82.3	80	120				

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSAB** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227161**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	532524.372	50	500000	0	107	80	120				
Calcium	510945.574	500	500000	0	102	80	120				
Iron	177620.801	20	200000	0	88.8	80	120				
Magnesium	465571.053	100	500000	0	93.1	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ICSA** Batch ID: **R105772** TestNo: **EPA 6010B** Analysis Date: **2/9/2016** SeqNo: **2227199**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	466946.193	50	500000	0	93.4	80	120				
Calcium	449017.616	500	500000	0	89.8	80	120				
Iron	176512.710	20	200000	0	88.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSA4	SampType:	ICSA	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105772
Client ID:	ICSA	Batch ID:	R105772	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2227199

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	407588.156	100	500000	0	81.5	80	120				

Sample ID	ICSAB4	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105772
Client ID:	ICSAB	Batch ID:	R105772	TestNo:	EPA 6010B			Analysis Date:	2/9/2016	SeqNo:	2227200

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	529481.271	50	500000	0	106	80	120				
Calcium	505625.626	500	500000	0	101	80	120				
Iron	176222.414	20	200000	0	88.1	80	120				
Magnesium	463098.981	100	500000	0	92.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSA1	SampType:	ICSA	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105801
Client ID:	ICSA	Batch ID:	R105801	TestNo:	EPA 6010B			Analysis Date:	2/10/2016	SeqNo:	2228857

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-5.783509	500									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105801
Client ID:	ICSAB	Batch ID:	R105801	TestNo:	EPA 6010B			Analysis Date:	2/10/2016	SeqNo:	2228858

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	8794.816	500	10000	0	87.9	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105801
Client ID:	ICSA	Batch ID:	R105801	TestNo:	EPA 6010B			Analysis Date:	2/10/2016	SeqNo:	2228900

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-9.661515	500									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	105801
Client ID:	ICSAB	Batch ID:	R105801	TestNo:	EPA 6010B			Analysis Date:	2/10/2016	SeqNo:	2228901

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	8968.784	500	10000	0	89.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.78	65-125	PASS
Standard2	ICAL	1	1.18	118.4	65-125	PASS
Standard3	ICAL	1	1.13	112.69	65-125	PASS
Standard4	ICAL	1	1.028	102.77	65-125	PASS
Standard5	ICAL	1	1.11	110.89	65-125	PASS
Standard6	ICAL	1	0.99	98.79	65-125	PASS
Standard7	ICAL	1	0.98	98.13	65-125	PASS
ICV	ICV	1	1	99.86	65-125	PASS
ICB	ICB	1	1	99.75	65-125	PASS
LLCCV1	CCV1	1	1.0023	100.23	65-125	PASS
ICSA1	ICSA	1	0.93	93.31	65-125	PASS
ICSAB1	ICSAB	1	0.85	84.67	65-125	PASS
CCV1	CCV	1	1	99.65	65-125	PASS
CCB1	CCB	1	1.008	100.8	65-125	PASS
MB-56126	MBLK	1	1.035	103.51	65-125	PASS
LCS1-56126	LCS	1	0.99	99.41	65-125	PASS
N018617-011B	SAMP	1	0.95	95.33	65-125	PASS
N018617-011B	SAMP	5	0.98	98.47	65-125	PASS
N018617-011B-PS	PS	1	0.94	94.45	65-125	PASS
N018617-011B-MS	MS	1	0.96	95.59	65-125	PASS
N018617-011B-MSD	MSD	1	0.96	95.84	65-125	PASS
N018617-012B	SAMP	1	0.96	96.031	65-125	PASS
N018618-001B	SAMP	1	0.97	96.7	65-125	PASS
N018618-002B	SAMP	1	0.96	95.84	65-125	PASS
CCV2	CCV	1	1.016	101.57	65-125	PASS
CCB2	CCB	1	1.026	102.62	65-125	PASS
N018618-003B	SAMP	1	0.95	95.033	65-125	PASS
N018618-004B	SAMP	1	0.99	98.67	65-125	PASS
N018618-005B	SAMP	1	1.0034	100.34	65-125	PASS
N018618-006B	SAMP	1	1.044	104.42	65-125	PASS
N018628-001B	SAMP	1	0.94	93.86	65-125	PASS
N018628-002B	SAMP	1	0.87	87.003	65-125	PASS
N018632-001B	SAMP	1	1.012	101.25	65-125	PASS
N018632-001B-MS	MS	1	0.99	99.44	65-125	PASS
N018632-002B	SAMP	1	0.99	98.84	65-125	PASS
N018632-003B	SAMP	1	0.98	97.87	65-125	PASS
CCV3	CCV	1	1.018	101.83	65-125	PASS
CCB3	CCB	1	1.02	101.97	65-125	PASS
LLCCV2	CCV2	1	1.02	101.96	65-125	PASS
ICSA2	ICSA	1	0.95	95.1	65-125	PASS

INTERNAL STANDARD: 160209A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
ICSAB2	ICSAB	1	0.87	86.81	65-125	PASS
N018632-004B	SAMP	1	0.97	97.43	65-125	PASS
N018632-005B	SAMP	1	0.95	95.021	65-125	PASS
N018632-006B	SAMP	1	0.93	93.19	65-125	PASS
N018632-007B	SAMP	1	1.0008	100.08	65-125	PASS
N018632-008B	SAMP	1	1.012	101.25	65-125	PASS
N018632-009B	SAMP	1	1	99.75	65-125	PASS
N018632-010B	SAMP	1	0.98	98.46	65-125	PASS
CCV4	CCV	1	1.035	103.46	65-125	PASS
CCB4	CCB	1	1.048	104.82	65-125	PASS
CCV5	CCV	1	1.027	102.71	65-125	PASS
CCB5	CCB	1	1.04	103.95	65-125	PASS
CCV6	CCV	1	1.022	102.17	65-125	PASS
CCB6	CCB	1	1.038	103.79	65-125	PASS
LLCCV3	CCV2	1	1.046	104.56	65-125	PASS
ICSA3	ICSA	1	0.87	87.14	65-125	PASS
ICSA3	ICSA	1	1.0002	100.02	65-125	PASS
ICSAB3	ICSAB	1	0.83	83.32	65-125	PASS
CCV7	CCV	1	1.018	101.85	65-125	PASS
CCB7	CCB	1	1.031	103.1	65-125	PASS
CCV8	CCV	1	1.024	102.45	65-125	PASS
CCB8	CCB	1	1.031	103.14	65-125	PASS
CCV9	CCV	1	1.017	101.69	65-125	PASS
CCB9	CCB	1	1.036	103.61	65-125	PASS
LLCCV4	CCV2	1	1.036	103.56	65-125	PASS
ICSA4	ICSA	1	1.012	101.21	65-125	PASS
ICSAB4	ICSAB	1	0.85	84.62	65-125	PASS

INTERNAL STANDARD: 160210B

Instrument ID: ICP-02

Sample Name	Type	DF	Scandium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.028	102.78	65-125	PASS
Standard2	ICAL	1	1.01	101.02	65-125	PASS
Standard3	ICAL	1	0.97	96.54	65-125	PASS
Standard4	ICAL	1	0.93	93.15	65-125	PASS
Standard5	ICAL	1	0.88	87.55	65-125	PASS
Standard6	ICAL	1	0.78	77.92	65-125	PASS
ICV	ICV	1	0.93	92.5	65-125	PASS
ICB	ICB	1	1.0043	100.43	65-125	PASS
ICSA1	ICSA	1	1.2	120.25	65-125	PASS
ICSAB1	ICSAB	1	0.94	94.27	65-125	PASS
MB-56126	MBLK	1	1.016	101.59	65-125	PASS
LCS2-56126	LCS	1	0.99	98.81	65-125	PASS
CCV1	CCV	1	0.94	93.57	65-125	PASS
CCB1	CCB	1	1.023	102.3	65-125	PASS
N018628-001B	SAMP	5	0.97	97.13	65-125	PASS
N018628-002B	SAMP	5	0.95	94.58	65-125	PASS
N018632-003B	SAMP	5	0.99	99.46	65-125	PASS
N018628-001B	SAMP	25	0.99	98.56	65-125	PASS
N018628-002B	SAMP	50	0.98	97.96	65-125	PASS
N018628-001B	SAMP	125	1	99.66	65-125	PASS
N018628-001B-PS	PS	25	0.98	98.43	65-125	PASS
N018628-001B-MS2	MS	25	0.94	94.49	65-125	PASS
N018628-001B-MSD2	MSD	25	0.95	94.77	65-125	PASS
N018632-003B-MS2	MS	25	0.96	95.96	65-125	PASS
CCV2	CCV	1	0.91	91.18	65-125	PASS
CCB2	CCB	1	1.0065	100.65	65-125	PASS
CCV3	CCV	1	0.87	87.43	65-125	PASS
CCB3	CCB	1	0.95	95	65-125	PASS
CCV4	CCV	1	0.85	85.39	65-125	PASS
CCB4	CCB	1	0.93	93.5	65-125	PASS
ICSA2	ICSA	1	1.11	110.89	65-125	PASS
ICSAB2	ICSAB	1	0.88	87.95	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018628
Test Method: EPA 6010B
Analysis Date: 02/09/16

Matrix: Water
Batch No.: 56126

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018617-011B-DT 5X	Calcium	ug/L	126682.1	PASS	117384.2	7.92%	10
N018617-011B-DT 5X	Iron	ug/L	0	NA	74.919	100.00%	10
N018617-011B-DT 5X	Magnesium	ug/L	19754.59	PASS	18775.25	5.22%	10

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018628
Test Method: EPA 6010B
Analysis Date: 02/10/16

Matrix: Water
Batch No.: 56126

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018628-001B DT 125X	Sodium	ug/L	686186.8	PASS	672728.7	2.00%	10

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N018617-011B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105772**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/9/2016** SeqNo: **2227099**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	128411.427	500	10000	117400	110	80	120				
Iron	117.525	20	100.0	74.92	42.6	80	120				S
Magnesium	27652.066	100	10000	18780	88.8	80	120				

Sample ID **N018628-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **105801**
Client ID: **ZZZZZZ** Batch ID: **56126** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **2/10/2016** SeqNo: **2228877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	661062.784	12000	20000	672700	-58.3	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56150
ASSET #: N018628

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

Cr in N018628-002B is over linear range. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 2/19/2016 Date: _____

2nd Level Reviewer _____ 2/19/2016 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56150 **Instrument ID:** ICPMS-02
ASSET #: N018628 **Analyst:** CEI
Method: **Date Analyzed:** 2/9/2016

[ ] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits			X			
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For dilution of Cr in N018628-002B only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 2/19/2016 Date: —

2nd Level Reviewer 2/19/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: ~~Ground~~water

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018628-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 3.30649 * 1 * (25/25)

Chromium , ug/L = 3.306490

Reporting results in two significant figures,

Chromium , ug/L = 3.3

% RSD SUMMARY

PERCENT RSD SUMMARY: 160207B

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.082	8.26	15	PASS	0.035	16.15	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.45	0.5	15	PASS	0.43	4.52	15	PASS
Std3-5/50 ppb	ICAL	1	4.72	1.18	15	PASS	4.71	0.85	15	PASS
Std4-10/100 ppb	ICAL	1	9.53	0.82	15	PASS	9.49	1.1	15	PASS
Std5-20/200 ppb	ICAL	1	19.055	0.29	15	PASS	19.032	0.8	15	PASS
Std6-40/400 ppb	ICAL	1	38.39	0.46	15	PASS	38.3	0.24	15	PASS
Std7-100/1000 ppb	ICAL	1	101.47	0.9	15	PASS	100.68	0.43	15	PASS
Std8-200/2000 ppb	ICAL	1	199.71	0.42	15	PASS	200.13	0.8	15	PASS
ICV	ICV	1	9.37	0.43	15	PASS	106.11	0.5	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.96	0.86	20	PASS	0.5	1.76	20	PASS
ICSA1	ICSA	1	0.13	6.28	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	19.42	1.015	15	PASS	16.12	1.74	15	PASS
CCV1	CCV	1	19	0.46	15	PASS	19.12	0.7	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	18.53	0.72	15	PASS	19.3	0.34	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
MB-56150	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56150	LCS	1	9.056	0.56	15	PASS	105.34	1.45	15	PASS
N018628-001B	SAMP	1	3.31	1.011	15	PASS	72.13	0.49	15	PASS
CCV3	CCV	1	18.044	0.22	15	PASS	19.18	0.44	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.94	1.52	20	PASS	0.49	1.6	20	PASS
ICSA2	ICSA	1	0.14	5.36	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	18.66	0.23	15	PASS	16.078	0.31	15	PASS
N018628-001B	SAMP	5	0.68	0.87	15	PASS	15.33	0.61	15	PASS
N018628-001B-PS	PS	1	11.72	0.055	15	PASS	163.39	1.24	15	PASS
N018628-001B-MS	MS	1	11.71	1.0048	15	PASS	163.15	0.65	15	PASS
N018628-001B-MSD	MSD	1	11.79	1.38	15	PASS	163.25	0.9	15	PASS
N018628-002B	SAMP	1	631.19	0.12	15	PASS	11.71	0.37	15	PASS
N018631-001B	SAMP	1	78.83	1.068	15	PASS	30.13	0.49	15	PASS
N018632-001B	SAMP	1	2.72	0.87	15	PASS	3.91	0.39	15	PASS
N018632-002B	SAMP	1	21.52	0.34	15	PASS	5.68	1.013	15	PASS
N018632-003B	SAMP	1	4.56	0.51	15	PASS	<0.000	N/A	15	<PQL
N018632-004B	SAMP	1	3.95	0.82	15	PASS	<0.000	N/A	15	<PQL
CCV4	CCV	1	18.33	0.076	15	PASS	19.24	0.45	15	PASS
CCB4	CCB	1	0.01	39.64	15	<PQL	<0.000	N/A	15	<PQL
N018632-005B	SAMP	1	3.011	1.014	15	PASS	<0.000	N/A	15	<PQL
N018632-006B	SAMP	1	3.028	0.42	15	PASS	<0.000	N/A	15	<PQL
N018632-007B	SAMP	1	9.39	1.32	15	PASS	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 160207B

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018632-008B	SAMP	1	9.7	2.44	15	PASS	<0.000	N/A	15	<PQL
N018632-008B-MS	MS	1	18.06	0.8	15	PASS	89.21	0.32	15	PASS
N018632-009B	SAMP	1	4.074	1.52	15	PASS	0.21	9.91	15	PASS
N018632-010B	SAMP	1	2.73	0.58	15	PASS	0.45	7.95	15	PASS
N018632-011B	SAMP	1	2.67	1.35	15	PASS	15.45	0.67	15	PASS
N018632-012B	SAMP	1	2.0082	0.98	15	PASS	28.16	0.19	15	PASS
N018635-001B	SAMP	1	31.66	1.15	15	PASS	19.4	1.21	15	PASS
CCV5	CCV	1	18.68	0.8	15	PASS	19.45	0.81	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018652-001B	SAMP	1	78.96	1.21	15	PASS	27.26	0.36	15	PASS
N018666-001B	SAMP	1	0.19	6.051	15	PASS	259.25	0.77	15	PASS
CCV6	CCV	1	18.8	1.48	15	PASS	19.38	0.83	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV2	CCV2	1	0.95	2.69	20	PASS	0.49	1.91	20	PASS
ICSA3	ICSA	1	0.16	7.5	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	18.98	0.74	15	PASS	16.24	0.9	15	PASS

PERCENT RSD SUMMARY: 160209A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	4.43	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.49	1.17	15	PASS
Std3-5/50 ppb	ICAL	1	4.9	0.5	15	PASS
Std4-10/100 ppb	ICAL	1	9.76	0.65	15	PASS
Std5-20/200 ppb	ICAL	1	19.59	0.79	15	PASS
Std6-40/400 ppb	ICAL	1	39.029	0.17	15	PASS
Std7-100/1000 ppb	ICAL	1	100.82	0.81	15	PASS
Std8-200/2000 ppb	ICAL	1	199.84	0.61	15	PASS
ICV	ICV	1	9.53	0.85	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.0034	1.59	20	PASS
ICSA1	ICSA	1	0.17	11.28	15	PASS
ICSAB1	ICSAB	1	20.094	1.57	15	PASS
CCV1	CCV	1	19.47	0.73	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
N018628-002B	SAMP	5	144.28	1.21	15	PASS
CCV2	CCV	1	19.59	0.36	15	PASS
CCB2	CCB	1	0.015	29.35	15	<PQL
CCV3	CCV	1	19.43	1.0077	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
CCV4	CCV	1	19.38	1.24	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.0025	0.55	20	PASS
ICSA2	ICSA	1	0.17	1.66	15	PASS
ICSAB2	ICSAB	1	19.84	1.12	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160207B

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
B0207001.D	RINSE	RINSE	1	02/07/16 2:11 PM
B0207002.D	Cal Blank	IBLK	1	02/07/16 2:17 PM
B0207003.D	Std1-0.1/1 ppb	ICAL	1	02/07/16 2:22 PM
B0207004.D	Std2-0.5/5 ppb	ICAL	1	02/07/16 2:28 PM
B0207005.D	Std3-5/50 ppb	ICAL	1	02/07/16 2:33 PM
B0207006.D	Std4-10/100 ppb	ICAL	1	02/07/16 2:39 PM
B0207007.D	Std5-20/200 ppb	ICAL	1	02/07/16 2:44 PM
B0207008.D	Std6-40/400 ppb	ICAL	1	02/07/16 2:50 PM
B0207009.D	Std7-100/1000 ppb	ICAL	1	02/07/16 2:55 PM
B0207010.D	Std8-200/2000 ppb	ICAL	1	02/07/16 3:01 PM
B0207011.D	ICV	ICV	1	02/07/16 3:06 PM
B0207012.D	ICB	ICB	1	02/07/16 3:12 PM
B0207013.D	LLICV	CCV1	1	02/07/16 3:17 PM
B0207014.D	ICSA1	ICSA	1	02/07/16 3:23 PM
B0207015.D	ICSAB1	ICSAB	1	02/07/16 3:27 PM
B0207016.D	MB-56149	MBLK	1	02/07/16 3:34 PM
B0207017.D	LCS-56149	LCS	1	02/07/16 3:39 PM
B0207018.D	N018616-001B	SAMP	1	02/07/16 3:45 PM
B0207019.D	N018616-002B	SAMP	1	02/07/16 3:51 PM
B0207020.D	N018616-003B	SAMP	1	02/07/16 3:56 PM
B0207021.D	N018616-004B	SAMP	1	02/07/16 4:02 PM
B0207022.D	N018616-005B	SAMP	1	02/07/16 4:07 PM
B0207023.D	N018616-006B	SAMP	1	02/07/16 4:11 PM
B0207024.D	N018616-007B	SAMP	1	02/07/16 4:18 PM
B0207025.D	N018616-008B	SAMP	1	02/07/16 4:24 PM
B0207026.D	CCV1	CCV	1	02/07/16 4:29 PM
B0207027.D	CCB1	CCB	1	02/07/16 4:35 PM
B0207028.D	N018616-010B	SAMP	1	02/07/16 4:41 PM
B0207029.D	N018616-012B	SAMP	1	02/07/16 4:46 PM
B0207030.D	N018617-001B	SAMP	1	02/07/16 4:52 PM
B0207031.D	N018617-003B	SAMP	1	02/07/16 4:57 PM
B0207032.D	N018617-004B	SAMP	1	02/07/16 5:03 PM
B0207033.D	N018617-005B	SAMP	1	02/07/16 5:08 PM
B0207034.D	N018617-007B	SAMP	1	02/07/16 5:14 PM
B0207035.D	N018617-008B	SAMP	1	02/07/16 5:19 PM
B0207036.D	N018617-009B	SAMP	1	02/07/16 5:25 PM
B0207037.D	N018617-010B	SAMP	1	02/07/16 5:30 PM
B0207038.D	CCV2	CCV	1	02/07/16 5:36 PM
B0207039.D	CCB2	CCB	1	02/07/16 5:41 PM
B0207040.D	N018617-011B	SAMP	1	02/07/16 5:47 PM
B0207041.D	N018617-012B	SAMP	1	02/07/16 5:52 PM
B0207042.D	N018616-001B	SAMP	5	02/07/16 5:58 PM

INJECTION LOG: 160207B

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
B0207043.D	N018616-001B-PS	PS	1	02/07/16 6:03 PM
B0207044.D	N018616-001B-MS	MS	1	02/07/16 6:09 PM
B0207045.D	N018616-001B-MSD	MSD	1	02/07/16 6:14 PM
B0207046.D	N018617-001B-MS	MS	1	02/07/16 6:20 PM
B0207047.D	MB-56150	MBLK	1	02/07/16 6:25 PM
B0207048.D	LCS-56150	LCS	1	02/07/16 6:31 PM
B0207049.D	N018628-001B	SAMP	1	02/07/16 6:37 PM
B0207050.D	CCV3	CCV	1	02/07/16 8:11 PM
B0207051.D	CCB3	CCB	1	02/07/16 8:16 PM
B0207052.D	LLCCV1	CCV2	1	02/07/16 8:22 PM
B0207053.D	ICSA2	ICSA	1	02/07/16 8:28 PM
B0207054.D	ICSAB2	ICSAB	1	02/07/16 8:33 PM
B0207055.D	N018628-001B	SAMP	5	02/07/16 8:39 PM
B0207056.D	N018628-001B-PS	PS	1	02/07/16 8:44 PM
B0207057.D	N018628-001B-MS	MS	1	02/07/16 8:50 PM
B0207058.D	N018628-001B-MSD	MSD	1	02/07/16 8:55 PM
B0207059.D	N018628-002B	SAMP	1	02/07/16 9:01 PM
B0207060.D	N018631-001B	SAMP	1	02/07/16 9:06 PM
B0207061.D	N018632-001B	SAMP	1	02/07/16 9:12 PM
B0207062.D	N018632-002B	SAMP	1	02/07/16 9:17 PM
B0207063.D	N018632-003B	SAMP	1	02/07/16 9:23 PM
B0207064.D	N018632-004B	SAMP	1	02/07/16 9:28 PM
B0207065.D	CCV4	CCV	1	02/07/16 9:34 PM
B0207066.D	CCB4	CCB	1	02/07/16 9:40 PM
B0207067.D	N018632-005B	SAMP	1	02/07/16 9:45 PM
B0207068.D	N018632-006B	SAMP	1	02/07/16 9:51 PM
B0207069.D	N018632-007B	SAMP	1	02/07/16 9:56 PM
B0207070.D	N018632-008B	SAMP	1	02/07/16 10:02 PM
B0207071.D	N018632-008B-MS	MS	1	02/07/16 10:07 PM
B0207072.D	N018632-009B	SAMP	1	02/07/16 10:13 PM
B0207073.D	N018632-010B	SAMP	1	02/07/16 10:18 PM
B0207074.D	N018632-011B	SAMP	1	02/07/16 10:24 PM
B0207075.D	N018632-012B	SAMP	1	02/07/16 10:29 PM
B0207076.D	N018635-001B	SAMP	1	02/07/16 10:35 PM
B0207077.D	CCV5	CCV	1	02/07/16 10:40 PM
B0207078.D	CCB5	CCB	1	02/07/16 10:44 PM
B0207079.D	N018652-001B	SAMP	1	02/07/16 10:52 PM
B0207080.D	N018666-001B	SAMP	1	02/07/16 10:57 PM
B0207081.D	N018616-001B	SAMP	25	02/07/16 11:03 PM
B0207082.D	N018616-001B-PS	PS	5	02/07/16 11:08 PM
B0207083.D	N018616-001B-MS	MS	5	02/07/16 11:14 PM
B0207084.D	N018616-001B-MSD	MSD	5	02/07/16 11:19 PM

INJECTION LOG: 160207B

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
B0207085.D	N018617-001B	SAMP	5	02/07/16 11:25 PM
B0207086.D	N018617-001B-MS	MS	5	02/07/16 11:30 PM
B0207087.D	CCV6	CCV	1	02/07/16 11:36 PM
B0207088.D	CCB6	CCB	1	02/07/16 11:40 PM
B0207089.D	LLCCV2	CCV2	1	02/07/16 11:47 PM
B0207090.D	ICSA3	ICSA	1	02/07/16 11:52 PM
B0207091.D	ICSAB3	ICSAB	1	02/07/16 11:58 PM
B0207092.D	RINSE	RINSE	1	02/08/16 12:04 AM
B0207093.D	RINSE	RINSE	1	02/08/16 12:09 AM

INJECTION LOG: 160209A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0208001.D	RINSE	RINSE	1	02/09/16 10:43 AM
A0208002.D	Cal Blank	IBLK	1	02/09/16 10:48 AM
A0208003.D	Std1-0.1/1 ppb	ICAL	1	02/09/16 10:54 AM
A0208004.D	Std2-0.5/5 ppb	ICAL	1	02/09/16 11:00 AM
A0208005.D	Std3-5/50 ppb	ICAL	1	02/09/16 11:05 AM
A0208006.D	Std4-10/100 ppb	ICAL	1	02/09/16 11:11 AM
A0208007.D	Std5-20/200 ppb	ICAL	1	02/09/16 11:17 AM
A0208008.D	Std6-40/400 ppb	ICAL	1	02/09/16 11:22 AM
A0208009.D	Std7-100/1000 ppb	ICAL	1	02/09/16 11:28 AM
A0208010.D	Std8-200/2000 ppb	ICAL	1	02/09/16 11:33 AM
A0208011.D	ICV	ICV	1	02/09/16 11:39 AM
A0208012.D	ICB	ICB	1	02/09/16 11:45 AM
A0208013.D	LLICV	CCV1	1	02/09/16 11:50 AM
A0208014.D	ICSA1	ICSA	1	02/09/16 11:56 AM
A0208015.D	ICSAB1	ICSAB	1	02/09/16 12:02 PM
A0208016.D	N018653-011B	SAMP	5	02/09/16 12:07 PM
A0208017.D	MB-56154	MBLK	1	02/09/16 12:13 PM
A0208018.D	LCS-56154	LCS	1	02/09/16 12:18 PM
A0208019.D	N018617-011B	SAMP	5	02/09/16 12:24 PM
A0209020.D	N018617-011B	SAMP	25	02/09/16 12:33 PM
A0209021.D	N018617-011B-PS	PS	5	02/09/16 12:38 PM
A0209022.D	N018617-011B-MS	MS	5	02/09/16 12:44 PM
A0209023.D	N018617-011B-MSD	MSD	5	02/09/16 12:49 PM
A0209024.D	N018667-002H	SAMP	5	02/09/16 12:55 PM
A0209025.D	N018674-011B	SAMP	5	02/09/16 1:00 PM
A0209026.D	CCV1	CCV	1	02/09/16 1:06 PM
A0209027.D	CCB1	CCB	1	02/09/16 1:12 PM
A0209028.D	N018675-005B	SAMP	5	02/09/16 1:17 PM
A0209029.D	N018616-006B	SAMP	1	02/09/16 1:23 PM
A0209030.D	N018616-007B	SAMP	5	02/09/16 1:28 PM
A0209031.D	N018616-010B	SAMP	5	02/09/16 1:34 PM
A0209032.D	N018616-012B	SAMP	5	02/09/16 1:39 PM
A0209033.D	N018617-001B	SAMP	10	02/09/16 1:45 PM
A0209034.D	N018617-001B-MS	MS	10	02/09/16 1:50 PM
A0209035.D	N018617-004B	SAMP	5	02/09/16 1:56 PM
A0209036.D	N018617-011B	SAMP	5	02/09/16 2:01 PM
A0209037.D	N018628-002B	SAMP	5	02/09/16 2:07 PM
A0209038.D	CCV2	CCV	1	02/09/16 2:13 PM
A0209039.D	CCB2	CCB	1	02/09/16 2:18 PM
A0209040.D	N018599-001I	SAMP	1	02/09/16 2:24 PM
A0209041.D	N018599-002I	SAMP	1	02/09/16 2:29 PM
A0209042.D	MB-56153	MBLK	1	02/09/16 2:46 PM

INJECTION LOG: 160209A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0209043.D	LCS-56153	LCS	1	02/09/16 2:52 PM
A0209044.D	N018654-006B	SAMP	1	02/09/16 2:57 PM
A0209045.D	N018654-006B	SAMP	5	02/09/16 3:03 PM
A0209046.D	N018654-006B-PS	PS	1	02/09/16 3:09 PM
A0209047.D	N018654-006B-MS	MS	1	02/09/16 3:14 PM
A0209048.D	N018654-006B-MSD	MSD	1	02/09/16 3:20 PM
A0209049.D	N018654-007B	SAMP	1	02/09/16 3:25 PM
A0209050.D	CCV3	CCV	1	02/09/16 3:31 PM
A0209051.D	CCB3	CCB	1	02/09/16 3:36 PM
A0209052.D	N018654-008B	SAMP	1	02/09/16 3:42 PM
A0209053.D	N018654-009B	SAMP	1	02/09/16 3:47 PM
A0209054.D	N018654-010B	SAMP	1	02/09/16 3:53 PM
A0209055.D	N018654-011B	SAMP	1	02/09/16 3:58 PM
A0209056.D	N018654-012B	SAMP	1	02/09/16 4:04 PM
A0209057.D	N018655-001B	SAMP	1	02/09/16 4:09 PM
A0209058.D	N018655-002B	SAMP	1	02/09/16 4:15 PM
A0209059.D	N018655-003B	SAMP	1	02/09/16 4:20 PM
A0209060.D	N018655-004B	SAMP	1	02/09/16 4:26 PM
A0209061.D	N018655-004B-MS	MS	1	02/09/16 4:32 PM
A0209062.D	CCV4	CCV	1	02/09/16 4:37 PM
A0209063.D	CCB4	CCB	1	02/09/16 4:43 PM
A0209064.D	LLCCV1	CCV2	1	02/09/16 4:48 PM
A0209065.D	ICSA2	ICSA	1	02/09/16 4:54 PM
A0209066.D	ICSAB2	ICSAB	1	02/09/16 4:59 PM
A0209067.D	N018655-005B	SAMP	1	02/09/16 5:05 PM
A0209068.D	N018655-006B	SAMP	1	02/09/16 5:10 PM
A0209069.D	N018655-007B	SAMP	1	02/09/16 5:16 PM
A0209070.D	N018655-008B	SAMP	1	02/09/16 5:22 PM
A0209071.D	N018655-009B	SAMP	1	02/09/16 5:27 PM
A0209072.D	N018655-010B	SAMP	1	02/09/16 5:33 PM
A0209073.D	N018655-011B	SAMP	1	02/09/16 5:38 PM
A0209074.D	MB-56155	MBLK	1	02/09/16 5:44 PM
A0209075.D	LCS-56155	LCS	1	02/09/16 5:49 PM
A0209076.D	N018663-003B	SAMP	1	02/09/16 5:55 PM
A0209077.D	CCV5	CCV	1	02/09/16 6:01 PM
A0209078.D	CCB5	CCB	1	02/09/16 6:06 PM
A0209079.D	N018663-003B	SAMP	5	02/09/16 6:12 PM
A0209080.D	N018663-003B-PS	PS	1	02/09/16 6:17 PM
A0209081.D	N018663-003B-MS	MS	1	02/09/16 6:27 PM
A0209082.D	N018663-003B-MSD	MSD	1	02/09/16 6:32 PM
A0209083.D	N018663-004B	SAMP	1	02/09/16 6:38 PM
A0209084.D	N018663-005B	SAMP	1	02/09/16 6:44 PM

INJECTION LOG: 160209A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0209085.D	N018663-006B	SAMP	1	02/09/16 6:49 PM
A0209086.D	N018663-007B	SAMP	1	02/09/16 6:55 PM
A0209087.D	N018663-008B	SAMP	1	02/09/16 7:00 PM
A0209088.D	N018663-009B	SAMP	1	02/09/16 7:06 PM
A0209089.D	CCV6	CCV	1	02/09/16 7:12 PM
A0209090.D	CCB6	CCB	1	02/09/16 7:17 PM
A0209091.D	N018663-010B	SAMP	1	02/09/16 7:23 PM
A0209092.D	N018663-012B	SAMP	1	02/09/16 7:28 PM
A0209093.D	N018665-001B	SAMP	1	02/09/16 7:34 PM
A0209094.D	N018665-002B	SAMP	1	02/09/16 7:39 PM
A0209095.D	N018665-002B-MS	MS	1	02/09/16 7:45 PM
A0209096.D	N018665-003B	SAMP	1	02/09/16 7:50 PM
A0209097.D	N018665-004B	SAMP	1	02/09/16 7:56 PM
A0209098.D	N018665-005B	SAMP	1	02/09/16 8:01 PM
A0209099.D	N018665-006B	SAMP	1	02/09/16 8:07 PM
A0209100.D	N018665-007B	SAMP	1	02/09/16 8:12 PM
A0209101.D	CCV7	CCV	1	02/09/16 8:18 PM
A0209102.D	CCB7	CCB	1	02/09/16 8:23 PM
A0209103.D	N018665-008B	SAMP	1	02/09/16 8:29 PM
A0209104.D	N018665-009B	SAMP	1	02/09/16 8:34 PM
A0209105.D	N018667-002H	SAMP	1	02/09/16 8:40 PM
A0209106.D	N018667-005H	SAMP	1	02/09/16 8:45 PM
A0209107.D	N018654-012B	SAMP	5	02/09/16 8:51 PM
A0209108.D	N018655-002B	SAMP	5	02/09/16 8:56 PM
A0209109.D	N018655-006B	SAMP	5	02/09/16 9:02 PM
A0209110.D	N018655-007B	SAMP	5	02/09/16 9:08 PM
A0209111.D	N018655-008B	SAMP	50	02/09/16 9:13 PM
A0209112.D	N018655-009B	SAMP	5	02/09/16 9:19 PM
A0209113.D	CCV8	CCV	1	02/09/16 9:24 PM
A0209114.D	CCB8	CCB	1	02/09/16 9:30 PM
A0209115.D	N018655-010B	SAMP	25	02/09/16 9:35 PM
A0209116.D	N018655-011B	SAMP	25	02/09/16 9:41 PM
A0209117.D	CCV9	CCV	1	02/09/16 9:46 PM
A0209118.D	CCB9	CCB	1	02/09/16 9:52 PM
A0209119.D	LLCCV2	CCV2	1	02/09/16 9:57 PM
A0209120.D	ICSA3	ICSA	1	02/09/16 10:03 PM
A0209121.D	ICSAB3	ICSAB	1	02/09/16 10:08 PM
A0209122.D	RINSE	RINSE	1	02/09/16 10:14 PM
A0209123.D	RINSE	RINSE	1	02/09/16 10:19 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/5/2016 3:00:00 P**
Prep End Date: **2/5/2016 7:00:00 P**

Initials/ Date: 2/19/2016

Prep Batch **56150** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units: **mL / mL** Temp. (°C): **94.6** Location: **01-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56150	Aqueous		25	☐	0	0	25	1.000		
MB-56150	Aqueous		25	☐	0	0	25	1.000		
N018628-001B	Water	<2	25	☐	0	0	25	1.000		
N018628-001B-MS	Water	<2	25	☐	0	0	25	1.000		
N018628-001B-MS	Water	<2	25	☐	0	0	25	1.000		
N018628-002B	Water	<2	25	☐	0	0	25	1.000		
N018631-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-007B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-150907	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/5/2016 3:00:00 P**
Prep End Date: **2/5/2016 7:00:00 P**

Initials/ Date: 2/19/2016

Prep Batch **56150** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**01-02**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018632-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-008B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-011B	Groundwater	<2	25	☐	0	0	25	1.000		
N018632-012B	Groundwater	<2	25	☐	0	0	25	1.000		
N018635-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018652-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018666-001B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-150907	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151123	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Feb 2016 01:41:03 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	236039.00	0.00	
24 Mg	950475.00	0.00	
25 Mg	126510.00	0.00	
26 Mg	148267.00	0.00	
59 Co	1741260.00	0.00	
115 In	2726110.00	0.00	
206 Pb	663694.00	0.00	
207 Pb	577849.00	0.00	
208 Pb	1481130.00	0.00	

RSD (%)

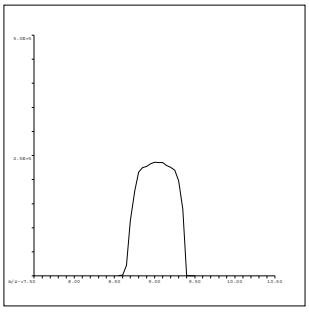
Element	Actual	Required	Flag
9 Be	0.42	5.00	
24 Mg	0.64	5.00	
25 Mg	0.47	5.00	
26 Mg	0.58	5.00	
59 Co	1.04	5.00	
115 In	0.93	5.00	
206 Pb	1.19	5.00	
207 Pb	1.08	5.00	
208 Pb	0.94	5.00	

Ion Ratio

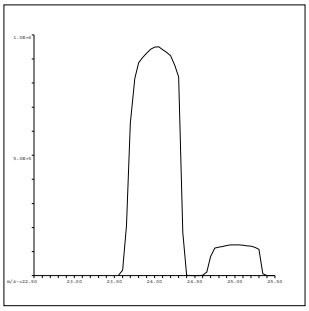
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

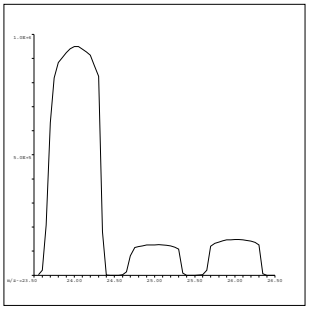
Element	Actual	Required	Flag



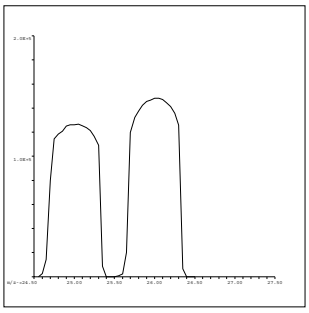
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



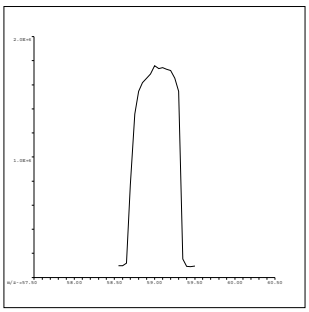
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



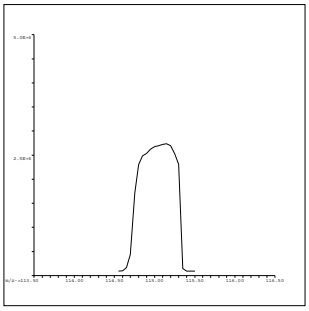
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



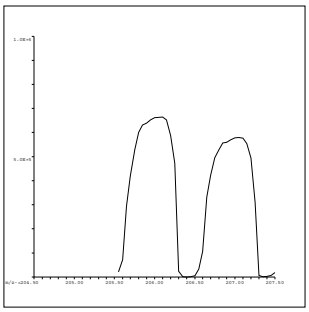
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



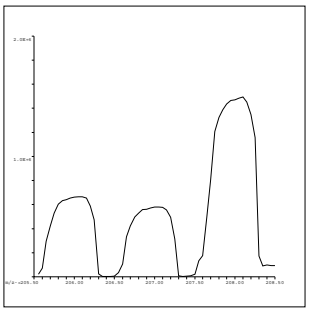
59 Co
Mass Calib.
Actual: 59.10
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



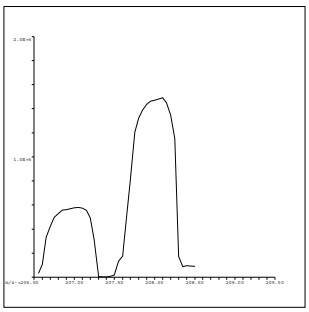
115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.05
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.05
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 9 Feb 2016 10:07:41 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	105582.00	0.00	
24 Mg	467663.00	0.00	
25 Mg	62044.90	0.00	
26 Mg	74194.30	0.00	
59 Co	936269.00	0.00	
115 In	1908140.00	0.00	
206 Pb	502649.00	0.00	
207 Pb	441844.00	0.00	
208 Pb	1081330.00	0.00	

RSD (%)

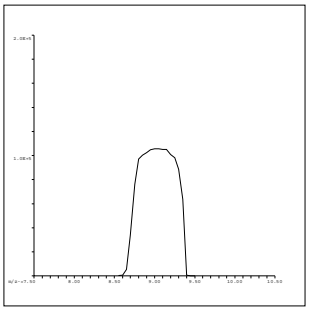
Element	Actual	Required	Flag
9 Be	0.71	5.00	
24 Mg	0.45	5.00	
25 Mg	2.30	5.00	
26 Mg	0.96	5.00	
59 Co	0.63	5.00	
115 In	0.56	5.00	
206 Pb	0.72	5.00	
207 Pb	1.01	5.00	
208 Pb	0.93	5.00	

Ion Ratio

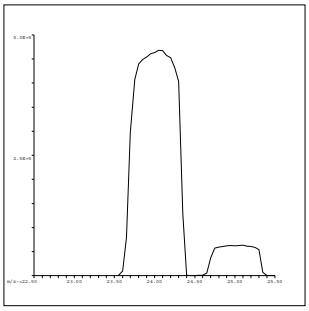
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

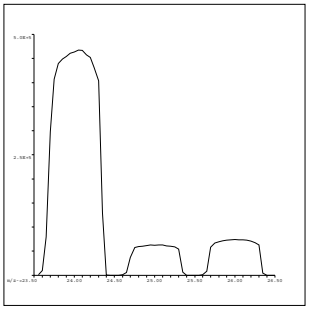
Element	Actual	Required	Flag



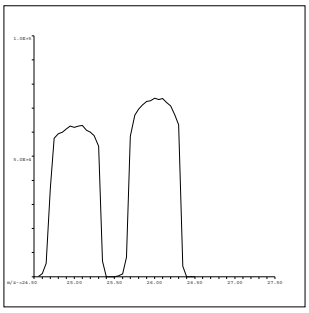
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



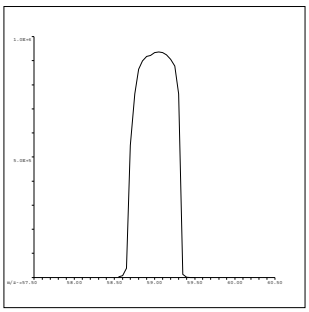
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



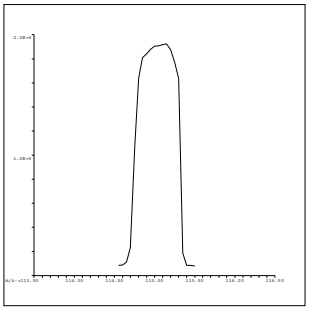
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



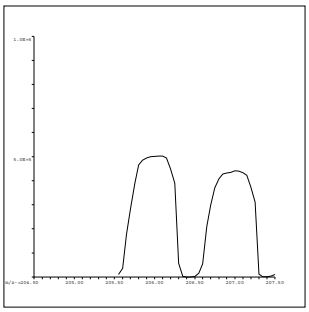
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



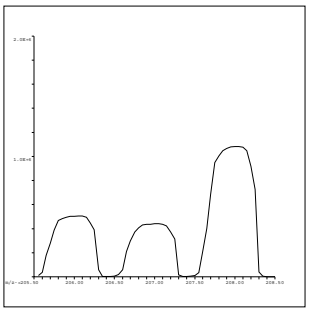
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



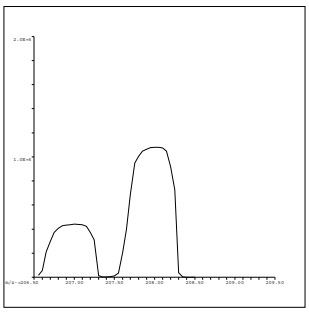
115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.05
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160207B

Instrument ID: ICPMS-02

Analyte	Data File	B0207002.D	B0207004.D	B0207005.D	B0207006.D	B0207007.D	B0207008.D	B0207009.D	B0207010.D	
	Acq. Date-Time	02/07/2016 02:17 PM	02/07/2016 02:28 PM	02/07/2016 02:33 PM	02/07/2016 02:39 PM	02/07/2016 02:44 PM	02/07/2016 02:50 PM	02/07/2016 02:55 PM	02/07/2016 03:01 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	303392.8	298204.2	295568.6	294288.5	294594.1	292863.9	293606.1	295450.1	
55 Mn [2]	CPS	1483.8	6916.6	60671.9	120357.8	240144.9	478980	1259946	2518741.7	1.0000
52 Cr [2]	CPS	780.9	11324.1	110935.7	222239.1	444189	888943.4	2354093.7	4661611.5	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160209A

Instrument ID: ICPMS-02

Analyte	Data File	A0208002.D	A0208004.D	A0208005.D	A0208006.D	A0208007.D	A0208008.D	A0208009.D	A0208010.D	
	Acq. Date-Time	02/09/2016 10:48 AM	02/09/2016 11:00 AM	02/09/2016 11:05 AM	02/09/2016 11:11 AM	02/09/2016 11:17 AM	02/09/2016 11:22 AM	02/09/2016 11:28 AM	02/09/2016 11:33 AM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	158375.9	165679.3	166143.4	169532.4	159949	170733	167595.8	167247.3	
52 Cr [2]	CPS	371.1	6427	60808.4	123234.7	233033.9	495146.9	1254915.2	2481929.2	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICV	**ICV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **ICV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	106.114	0.50	100.0	0	106	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLICV	**CCV1**	**6020_DIS**	**µg/L**		**105741**
Client ID: **ZZZZZZ**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.504	0.50	0.5000	0	101	80	120				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV1	**CCV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **CCV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.119	0.50	20.00	0	95.6	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV2	**CCV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **CCV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.295	0.50	20.00	0	96.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV3	**CCV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **CCV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.181	0.50	20.00	0	95.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLCCV1	**CCV2**	**6020_DIS**	**µg/L**		**105741**
Client ID: **ZZZZZZ**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.487	0.50	0.5000	0	97.5	70	130				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV4	**CCV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **CCV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.236	0.50	20.00	0	96.2	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV5	**CCV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **CCV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.451	0.50	20.00	0	97.3	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV6	**CCV**	**6020_DIS**	**µg/L**		**105741**
Client ID: **CCV**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.377	0.50	20.00	0	96.9	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLCCV2	**CCV2**	**6020_DIS**	**µg/L**		**105741**
Client ID: **ZZZZZZ**	Batch ID: **R105741**	TestNo: **EPA 6020**		Analysis Date: **2/7/2016**	SeqNo: **2224768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.494	0.50	0.5000	0	98.9	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.369	1.0	10.00	0	93.7	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ZZZZZZ** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.959	1.0	1.000	0	95.9	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.998	1.0	20.00	0	95.0	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.530	1.0	20.00	0	92.7	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224648**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.044	1.0	20.00	0	90.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ZZZZZZ** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.940	1.0	1.000	0	94.0	70	130				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.330	1.0	20.00	0	91.6	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.678	1.0	20.00	0	93.4	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCV** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224685**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.795	1.0	20.00	0	94.0	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ZZZZZZ** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224687**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.954	1.0	1.000	0	95.4	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ICV** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.529	1.0	10.00	0	95.3	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ZZZZZZ** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.003	1.0	1.000	0	100	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCV** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.466	1.0	20.00	0	97.3	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCV** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.589	1.0	20.00	0	97.9	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCV** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.432	1.0	20.00	0	97.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105761
Client ID:	CCV	Batch ID:	R105761	TestNo:	EPA 6020			Analysis Date:	2/9/2016	SeqNo:	2227960

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.381	1.0	20.00	0	96.9	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105761
Client ID:	ZZZZZZ	Batch ID:	R105761	TestNo:	EPA 6020			Analysis Date:	2/9/2016	SeqNo:	2227962

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.002	1.0	1.000	0	100	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB5	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	CCB	Batch ID:	R105741	TestNo:	EPA 6020			Analysis Date:	2/7/2016	SeqNo:	2224757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	CCB	Batch ID:	R105741	TestNo:	EPA 6020			Analysis Date:	2/7/2016	SeqNo:	2224767

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224649**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **CCB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	CCB	Batch ID:	R105741	TestNo:	EPA 6020			Analysis Date:	2/7/2016	SeqNo:	2224676

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	CCB	Batch ID:	R105741	TestNo:	EPA 6020			Analysis Date:	2/7/2016	SeqNo:	2224686

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ICB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **CCB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSA** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSAB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.119	0.50	20.00	0	80.6	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSA** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSAB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.078	0.50	20.00	0	80.4	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSA** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	ICSAB	Batch ID:	R105741	TestNo:	EPA 6020			Analysis Date:	2/7/2016	SeqNo:	2224770

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.238	0.50	20.00	0	81.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSA** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.130	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSAB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.415	1.0	20.00	0	97.1	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSA** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224651**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.145	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSAB** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.659	1.0	20.00	0	93.3	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105741**
Client ID: **ICSA** Batch ID: **R105741** TestNo: **EPA 6020** Analysis Date: **2/7/2016** SeqNo: **2224688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.162	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	ICSAB	Batch ID:	R105741	TestNo:	EPA 6020			Analysis Date:	2/7/2016	SeqNo:	2224689

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.978	1.0	20.00	0	94.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ICSA** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.174	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ICSAB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.094	1.0	20.00	0	100	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ICSA** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.171	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **105761**
Client ID: **ICSAB** Batch ID: **R105761** TestNo: **EPA 6020** Analysis Date: **2/9/2016** SeqNo: **2227964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.839	1.0	20.00	0	99.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160207B

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	303392.8	303392.8	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	301254.8	303392.8	99.3	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	298204.2	303392.8	98.29	PASS	70-130
Std3-5/50 ppb	ICAL	1	295568.6	303392.8	97.42	PASS	70-130
Std4-10/100 ppb	ICAL	1	294288.5	303392.8	97	PASS	70-130
Std5-20/200 ppb	ICAL	1	294594.1	303392.8	97.1	PASS	70-130
Std6-40/400 ppb	ICAL	1	292863.9	303392.8	96.53	PASS	70-130
Std7-100/1000 ppb	ICAL	1	293606.1	303392.8	96.77	PASS	70-130
Std8-200/2000 ppb	ICAL	1	295450.1	303392.8	97.38	PASS	70-130
ICV	ICV	1	276331	303392.8	91.08	PASS	70-130
ICB	ICB	1	280398.6	303392.8	92.42	PASS	70-130
LLICV	CCV1	1	306359	303392.8	100.98	PASS	70-130
ICSA1	ICSA	1	332181	303392.8	109.49	PASS	70-130
ICSAB1	ICSAB	1	266213.7	303392.8	87.75	PASS	70-130
CCV1	CCV	1	298130	303392.8	98.27	PASS	70-130
CCB1	CCB	1	293701.5	303392.8	96.81	PASS	70-130
CCV2	CCV	1	290807.5	303392.8	95.85	PASS	70-130
CCB2	CCB	1	289716.7	303392.8	95.49	PASS	70-130
MB-56150	MBLK	1	281565.2	303392.8	92.81	PASS	70-130
LCS-56150	LCS	1	288709.2	303392.8	95.16	PASS	70-130
N018628-001B	SAMP	1	276247.8	303392.8	91.053	PASS	70-130
CCV3	CCV	1	349309	303392.8	115.13	PASS	70-130
CCB3	CCB	1	321127.1	303392.8	105.85	PASS	70-130
LLCCV1	CCV2	1	335479.5	303392.8	110.58	PASS	70-130
ICSA2	ICSA	1	330947.5	303392.8	109.08	PASS	70-130
ICSAB2	ICSAB	1	353522.6	303392.8	116.52	PASS	70-130
N018628-001B	SAMP	5	309035.4	303392.8	101.86	PASS	70-130
N018628-001B-PS	PS	1	303539.2	303392.8	100.05	PASS	70-130
N018628-001B-MS	MS	1	319534.9	303392.8	105.32	PASS	70-130
N018628-001B-MSD	MSD	1	315889.3	303392.8	104.12	PASS	70-130
N018628-002B	SAMP	1	287759.7	303392.8	94.85	PASS	70-130
N018631-001B	SAMP	1	298663.1	303392.8	98.44	PASS	70-130
N018632-001B	SAMP	1	289721.8	303392.8	95.49	PASS	70-130
N018632-002B	SAMP	1	288404.2	303392.8	95.06	PASS	70-130
N018632-003B	SAMP	1	273439	303392.8	90.13	PASS	70-130
N018632-004B	SAMP	1	286678.3	303392.8	94.49	PASS	70-130
CCV4	CCV	1	295412.6	303392.8	97.37	PASS	70-130
CCB4	CCB	1	304011.9	303392.8	100.2	PASS	70-130
N018632-005B	SAMP	1	285634.6	303392.8	94.15	PASS	70-130
N018632-006B	SAMP	1	286014.7	303392.8	94.27	PASS	70-130
N018632-007B	SAMP	1	275731.3	303392.8	90.88	PASS	70-130

INTERNAL STANDARD: 160207B

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018632-008B	SAMP	1	268429.4	303392.8	88.48	PASS	70-130
N018632-008B-MS	MS	1	270651.3	303392.8	89.21	PASS	70-130
N018632-009B	SAMP	1	269102.9	303392.8	88.7	PASS	70-130
N018632-010B	SAMP	1	265128.2	303392.8	87.39	PASS	70-130
N018632-011B	SAMP	1	257949.2	303392.8	85.022	PASS	70-130
N018632-012B	SAMP	1	248391.5	303392.8	81.87	PASS	70-130
N018635-001B	SAMP	1	252116.8	303392.8	83.099	PASS	70-130
CCV5	CCV	1	265262.9	303392.8	87.43	PASS	70-130
CCB5	CCB	1	290340.1	303392.8	95.7	PASS	70-130
N018652-001B	SAMP	1	248944	303392.8	82.053	PASS	70-130
N018666-001B	SAMP	1	215731.5	303392.8	71.11	PASS	70-130
CCV6	CCV	1	251104.9	303392.8	82.77	PASS	70-130
CCB6	CCB	1	252602.2	303392.8	83.26	PASS	70-130
LLCCV2	CCV2	1	286503.9	303392.8	94.43	PASS	70-130
ICSA3	ICSA	1	279020	303392.8	91.97	PASS	70-130
ICSAB3	ICSAB	1	308153.4	303392.8	101.57	PASS	70-130

INTERNAL STANDARD: 160209A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	158375.9	158375.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	167937.4	158375.9	106.04	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	165679.3	158375.9	104.61	PASS	70-130
Std3-5/50 ppb	ICAL	1	166143.4	158375.9	104.9	PASS	70-130
Std4-10/100 ppb	ICAL	1	169532.4	158375.9	107.04	PASS	70-130
Std5-20/200 ppb	ICAL	1	159949	158375.9	100.99	PASS	70-130
Std6-40/400 ppb	ICAL	1	170733	158375.9	107.8	PASS	70-130
Std7-100/1000 ppb	ICAL	1	167595.8	158375.9	105.82	PASS	70-130
Std8-200/2000 ppb	ICAL	1	167247.3	158375.9	105.6	PASS	70-130
ICV	ICV	1	168247.1	158375.9	106.23	PASS	70-130
ICB	ICB	1	165790.7	158375.9	104.68	PASS	70-130
LLICV	CCV1	1	190668	158375.9	120.39	PASS	70-130
ICSA1	ICSA	1	190270.6	158375.9	120.14	PASS	70-130
ICSAB1	ICSAB	1	198741.6	158375.9	125.49	PASS	70-130
CCV1	CCV	1	154251.6	158375.9	97.4	PASS	70-130
CCB1	CCB	1	148425.2	158375.9	93.72	PASS	70-130
N018628-002B	SAMP	5	150891	158375.9	95.27	PASS	70-130
CCV2	CCV	1	168707.4	158375.9	106.52	PASS	70-130
CCB2	CCB	1	154972.4	158375.9	97.85	PASS	70-130
CCV3	CCV	1	172365.4	158375.9	108.83	PASS	70-130
CCB3	CCB	1	161873.5	158375.9	102.21	PASS	70-130
CCV4	CCV	1	163903.3	158375.9	103.49	PASS	70-130
CCB4	CCB	1	153987.8	158375.9	97.23	PASS	70-130
LLCCV1	CCV2	1	182423.8	158375.9	115.18	PASS	70-130
ICSA2	ICSA	1	178441.9	158375.9	112.67	PASS	70-130
ICSAB2	ICSAB	1	188950.6	158375.9	119.31	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018628
Test Method: EPA 6020
Analysis Date: 2/7/2016

Matrix: Groundwater
Batch No.: 56150

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018628-001B DT 5X	Chromium	ug/L	3.409746	NA	3.306487	3.12%	10
N018628-001B DT 5X	Manganese	ug/L	76.64848	PASS	72.12727	6.27%	10

Note: NA - Not applicable

ASSET Laboratories

Date: *10-Feb-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	**N018628-001B-PS**	SampType:	**PS**	TestCode:	**6020_DIS**	Units:	**µg/L**	Prep Date:		RunNo:	**105741**
Client ID:	**ZZZZZZ**	Batch ID:	**56150**	TestNo:	**EPA 6020**		**EPA 3010A**	Analysis Date:	**2/7/2016**	SeqNo:	**2224735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	163.390	0.50	100.0	72.13	91.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018628
Project: PG&E Topock - PMP

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	N018628-001B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	105741
Client ID:	ZZZZZZ	Batch ID:	56150	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/7/2016	SeqNo:	2224654

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.720	1.0	10.00	3.306	84.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock – RMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018833

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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March 09, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018833

RE: PG&E Topock - RMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 23, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *09-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018833

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) is outside recovery criteria for Iron on QC sample N018834-001C-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *09-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018833
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018833-001A	C-BNS-D-Q116	Groundwater	2/23/2016 11:45:00 AM	2/23/2016	3/9/2016
N018833-001B	C-BNS-D-Q116	Groundwater	2/23/2016 11:45:00 AM	2/23/2016	3/9/2016
N018833-001C	C-BNS-D-Q116	Groundwater	2/23/2016 11:45:00 AM	2/23/2016	3/9/2016
N018833-001D	C-BNS-D-Q116	Groundwater	2/23/2016 11:45:00 AM	2/23/2016	3/9/2016
N018833-001E	C-BNS-D-Q116	Groundwater	2/23/2016 11:45:00 AM	2/23/2016	3/9/2016
N018833-002A	C-I-3-D-Q116	Groundwater	2/23/2016 9:05:00 AM	2/23/2016	3/9/2016
N018833-002B	C-I-3-D-Q116	Groundwater	2/23/2016 9:05:00 AM	2/23/2016	3/9/2016
N018833-002C	C-I-3-D-Q116	Groundwater	2/23/2016 9:05:00 AM	2/23/2016	3/9/2016
N018833-002D	C-I-3-D-Q116	Groundwater	2/23/2016 9:05:00 AM	2/23/2016	3/9/2016
N018833-002E	C-I-3-D-Q116	Groundwater	2/23/2016 9:05:00 AM	2/23/2016	3/9/2016
N018833-003A	C-MAR-D-Q116	Groundwater	2/23/2016 12:15:00 PM	2/23/2016	3/9/2016
N018833-003B	C-MAR-D-Q116	Groundwater	2/23/2016 12:15:00 PM	2/23/2016	3/9/2016
N018833-003C	C-MAR-D-Q116	Groundwater	2/23/2016 12:15:00 PM	2/23/2016	3/9/2016
N018833-003D	C-MAR-D-Q116	Groundwater	2/23/2016 12:15:00 PM	2/23/2016	3/9/2016
N018833-003E	C-MAR-D-Q116	Groundwater	2/23/2016 12:15:00 PM	2/23/2016	3/9/2016
N018833-004A	C-MAR-S-Q116	Groundwater	2/23/2016 1:00:00 PM	2/23/2016	3/9/2016
N018833-004B	C-MAR-S-Q116	Groundwater	2/23/2016 1:00:00 PM	2/23/2016	3/9/2016
N018833-004C	C-MAR-S-Q116	Groundwater	2/23/2016 1:00:00 PM	2/23/2016	3/9/2016
N018833-004D	C-MAR-S-Q116	Groundwater	2/23/2016 1:00:00 PM	2/23/2016	3/9/2016
N018833-004E	C-MAR-S-Q116	Groundwater	2/23/2016 1:00:00 PM	2/23/2016	3/9/2016
N018833-005A	C-R22A-D-Q116	Groundwater	2/23/2016 10:45:00 AM	2/23/2016	3/9/2016
N018833-005B	C-R22A-D-Q116	Groundwater	2/23/2016 10:45:00 AM	2/23/2016	3/9/2016
N018833-005C	C-R22A-D-Q116	Groundwater	2/23/2016 10:45:00 AM	2/23/2016	3/9/2016
N018833-005D	C-R22A-D-Q116	Groundwater	2/23/2016 10:45:00 AM	2/23/2016	3/9/2016
N018833-005E	C-R22A-D-Q116	Groundwater	2/23/2016 10:45:00 AM	2/23/2016	3/9/2016
N018833-006A	C-R22A-S-Q116	Groundwater	2/23/2016 11:10:00 AM	2/23/2016	3/9/2016
N018833-006B	C-R22A-S-Q116	Groundwater	2/23/2016 11:10:00 AM	2/23/2016	3/9/2016
N018833-006C	C-R22A-S-Q116	Groundwater	2/23/2016 11:10:00 AM	2/23/2016	3/9/2016
N018833-006D	C-R22A-S-Q116	Groundwater	2/23/2016 11:10:00 AM	2/23/2016	3/9/2016

ASSET LABORATORIES
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NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018833
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018833-006E	C-R22A-S-Q116	Groundwater	2/23/2016 11:10:00 AM	2/23/2016	3/9/2016
N018833-007A	C-R27-D-Q116	Groundwater	2/23/2016 1:35:00 PM	2/23/2016	3/9/2016
N018833-007B	C-R27-D-Q116	Groundwater	2/23/2016 1:35:00 PM	2/23/2016	3/9/2016
N018833-007C	C-R27-D-Q116	Groundwater	2/23/2016 1:35:00 PM	2/23/2016	3/9/2016
N018833-007D	C-R27-D-Q116	Groundwater	2/23/2016 1:35:00 PM	2/23/2016	3/9/2016
N018833-007E	C-R27-D-Q116	Groundwater	2/23/2016 1:35:00 PM	2/23/2016	3/9/2016
N018833-008A	C-R27-S-Q116	Groundwater	2/23/2016 2:00:00 PM	2/23/2016	3/9/2016
N018833-008B	C-R27-S-Q116	Groundwater	2/23/2016 2:00:00 PM	2/23/2016	3/9/2016
N018833-008C	C-R27-S-Q116	Groundwater	2/23/2016 2:00:00 PM	2/23/2016	3/9/2016
N018833-008D	C-R27-S-Q116	Groundwater	2/23/2016 2:00:00 PM	2/23/2016	3/9/2016
N018833-008E	C-R27-S-Q116	Groundwater	2/23/2016 2:00:00 PM	2/23/2016	3/9/2016
N018833-009A	C-TAZ-D-Q116	Groundwater	2/23/2016 8:05:00 AM	2/23/2016	3/9/2016
N018833-009B	C-TAZ-D-Q116	Groundwater	2/23/2016 8:05:00 AM	2/23/2016	3/9/2016
N018833-009C	C-TAZ-D-Q116	Groundwater	2/23/2016 8:05:00 AM	2/23/2016	3/9/2016
N018833-009D	C-TAZ-D-Q116	Groundwater	2/23/2016 8:05:00 AM	2/23/2016	3/9/2016
N018833-009E	C-TAZ-D-Q116	Groundwater	2/23/2016 8:05:00 AM	2/23/2016	3/9/2016
N018833-010A	C-TAZ-S-Q116	Groundwater	2/23/2016 8:30:00 AM	2/23/2016	3/9/2016
N018833-010B	C-TAZ-S-Q116	Groundwater	2/23/2016 8:30:00 AM	2/23/2016	3/9/2016
N018833-010C	C-TAZ-S-Q116	Groundwater	2/23/2016 8:30:00 AM	2/23/2016	3/9/2016
N018833-010D	C-TAZ-S-Q116	Groundwater	2/23/2016 8:30:00 AM	2/23/2016	3/9/2016
N018833-010E	C-TAZ-S-Q116	Groundwater	2/23/2016 8:30:00 AM	2/23/2016	3/9/2016

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	980	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	980	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	980	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
EPA 120.1							
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	980	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	970	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	990	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	980	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018833-003DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106067**
Client ID: **ZZZZZZ** Batch ID: **R106067** TestNo: **EPA 120.1** Analysis Date: **2/24/2016** SeqNo: **2243198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1084.000	0.10						1088	0.368	10	

Sample ID **N018834-004DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106067**
Client ID: **ZZZZZZ** Batch ID: **R106067** TestNo: **EPA 120.1** Analysis Date: **2/24/2016** SeqNo: **2243210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1003.000	0.10						1002	0.0998	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	7.8	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	7.8	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	17	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018833-004DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106066**
Client ID: **ZZZZZZ** Batch ID: **R106066** TestNo: **SM4500-H+B** Analysis Date: **2/24/2016** SeqNo: **2243181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.840	0.10						7.810	0.383	10	H
Temp. at time of pH Analysis	17.400	0.10						17.50	0.573	10	H

Sample ID **N018834-001DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106066**
Client ID: **ZZZZZZ** Batch ID: **R106066** TestNo: **SM4500-H+B** Analysis Date: **2/24/2016** SeqNo: **2243189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.150	0.10						8.120	0.369	10	H
Temp. at time of pH Analysis	18.100	0.10						18.30	1.10	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	14	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	140	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	120	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224D**	QC Batch: **56389**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID	MB-56389	SampType:	MBLK	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/24/2016	RunNo:	106065
Client ID:	PBW	Batch ID:	56389	TestNo:	SM2540D			Analysis Date:	2/24/2016	SeqNo:	2243161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID	LCS-56389	SampType:	LCS	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/24/2016	RunNo:	106065
Client ID:	LCSW	Batch ID:	56389	TestNo:	SM2540D			Analysis Date:	2/24/2016	SeqNo:	2243162

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	966.000	10	1000	0	96.6	80	120				

Sample ID	N018833-001DDUP	SampType:	DUP	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/24/2016	RunNo:	106065
Client ID:	ZZZZZZ	Batch ID:	56389	TestNo:	SM2540D			Analysis Date:	2/24/2016	SeqNo:	2243164

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 04:22 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 09:05 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 05:01 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 09:32 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 05:39 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 09:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 05:58 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 09:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 06:17 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:00 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160226B** QC Batch: **R106238**				PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 06:36 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_160226A** QC Batch: **56418**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 06:55 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 07:32 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 07:51 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 08:10 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R106238** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **PBW** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106238** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **LCSW** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.106	0.20	5.000	0	102	90	110				

Sample ID **N018833-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.078	0.20						0.07580	0	20	

Sample ID **N018833-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.164	0.20	1.000	0.07580	109	90	110				

Sample ID **N018833-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.118	0.20	1.000	0.07580	104	90	110	1.164	4.08	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018833-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0.05400	101	90	110				

Sample ID **N018833-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.106	0.20	1.000	0.09780	101	90	110				

Sample ID **N018833-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.1016	101	90	110				

Sample ID **N018833-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.076	0.20	1.000	0.07000	101	90	110				

Sample ID **N018833-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.132	0.20	1.000	0.08900	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018833-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.110	0.20	1.000	0.09340	102	90	110				

Sample ID **N018833-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0.05850	96.5	90	110				

Sample ID **N018833-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.108	0.20	1.000	0.06560	104	90	110				

Sample ID **N018833-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0.05460	104	90	110				

Sample ID **N018834-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.139	0.20	1.000	0.1067	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018834-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.211	0.20	1.000	0.1764	103	90	110				

Sample ID **N018834-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.193	0.20	1.000	0.1548	104	90	110				

Sample ID **N018834-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.06590	105	90	110				

Sample ID **N018861-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.507	0.20	1.000	1.455	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56418** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **PBW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56418** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **LCSW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.764	1.0	10.00	0	97.6	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.312	1.0	10.00	0	93.1	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.285	1.0	10.00	0	92.9	75	125	9.312	0.287	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.188	1.0	10.00	0	91.9	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.52	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.51	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.50	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.50	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.51	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.51	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.50	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.50	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.56	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET LABORATORIES
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ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.51	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106281** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **PBW** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106281** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **LCSW** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.491	0.050	0.5000	0	98.2	85	115				

Sample ID **N018833-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.524	0.050						0.5156	1.69	20	

Sample ID **N018833-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.023	0.050	0.5000	0.5156	102	75	125				

Sample ID **N018833-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.037	0.050	0.5000	0.5156	104	75	125	1.023	1.32	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 08:05 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	140	17	20		ug/L	1	3/3/2016 11:39 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	31	17	20		ug/L	1	3/3/2016 08:32 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	150	17	20		ug/L	1	3/4/2016 12:33 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	420	17	20		ug/L	1	3/3/2016 08:37 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	3200	17	20		ug/L	1	3/4/2016 12:38 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	35	17	20		ug/L	1	3/3/2016 08:42 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	2200	17	20		ug/L	1	3/4/2016 12:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 08:57 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	120	17	20		ug/L	1	3/4/2016 12:48 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:02 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	120	17	20		ug/L	1	3/4/2016 12:53 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	29	17	20		ug/L	1	3/3/2016 09:07 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	130	17	20		ug/L	1	3/4/2016 12:57 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:12 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	100	17	20		ug/L	1	3/4/2016 01:02 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:16 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	150	17	20		ug/L	1	3/4/2016 01:18 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:21 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	110	17	20		ug/L	1	3/4/2016 01:22 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56471** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **PBW** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56471** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **LCSW** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.800	20	100.0	0	106	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.627	20	100.0	0	110	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.306	20	100.0	0	109	75	125	109.6	0.293	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.805	20	100.0	0	112	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-56472	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	PBW	Batch ID:	56472	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/3/2016	SeqNo:	2251673

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56472	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	LCSW	Batch ID:	56472	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/3/2016	SeqNo:	2251674

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	112.924	20	100.0	0	113	85	115				

Sample ID	N018833-001C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56472	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	257.559	20	100.0	137.7	120	75	125				

Sample ID	N018833-001C-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56472	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251684

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	257.738	20	100.0	137.7	120	75	125	257.6	0.0693	20	

Sample ID	N018834-001C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56472	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251697

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	441.975	20	100.0	396.3	45.6	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/26/2016 09:05 PM
Barium	140	0.36	5.0		µg/L	5	2/26/2016 09:10 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 09:05 PM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/26/2016 09:05 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/26/2016 09:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 9:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/26/2016 09:32 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 09:32 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 09:32 PM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/26/2016 09:32 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/26/2016 09:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 12:15:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.6	0.016	0.10		µg/L	1	2/26/2016 09:38 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 09:38 PM
Manganese	110	0.023	0.50		µg/L	1	2/26/2016 09:38 PM
Molybdenum	5.6	0.029	0.50		µg/L	1	2/26/2016 09:38 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/26/2016 09:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/26/2016 09:43 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 09:43 PM
Manganese	110	0.023	0.50		µg/L	1	2/26/2016 09:43 PM
Molybdenum	5.8	0.029	0.50		µg/L	1	2/26/2016 09:43 PM
Selenium	1.5	0.070	0.50		µg/L	1	2/26/2016 09:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 10:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/26/2016 10:00 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 10:00 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 10:00 PM
Molybdenum	5.5	0.029	0.50		µg/L	1	2/26/2016 10:00 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/26/2016 10:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 11:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/26/2016 10:06 PM
Barium	130	0.072	1.0		µg/L	1	2/26/2016 10:06 PM
Manganese	6.8	0.023	0.50		µg/L	1	2/26/2016 10:06 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/26/2016 10:06 PM
Selenium	1.5	0.070	0.50		µg/L	1	2/26/2016 10:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 1:35:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/26/2016 10:11 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 10:11 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 10:11 PM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/26/2016 10:11 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/26/2016 10:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 2:00:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/26/2016 10:17 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 10:17 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 10:17 PM
Molybdenum	5.5	0.029	0.50		µg/L	1	2/26/2016 10:17 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/26/2016 10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/26/2016 10:22 PM
Barium	130	0.072	1.0		µg/L	1	2/26/2016 10:22 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 10:22 PM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/26/2016 10:22 PM
Selenium	1.7	0.070	0.50		µg/L	1	2/26/2016 10:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q116
Lab Order:	N018833	**Collection Date:**	2/23/2016 8:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018833-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.2	0.016	0.10		µg/L	1	2/26/2016 10:28 PM
Barium	130	0.072	1.0		µg/L	1	2/26/2016 10:28 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 10:28 PM
Molybdenum	5.2	0.029	0.50		µg/L	1	2/26/2016 10:28 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/26/2016 10:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56418** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.099	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56418** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.337	0.10	10.00	0	93.4	85	115				
Barium	99.662	1.0	100.0	0	99.7	85	115				
Manganese	94.576	0.50	100.0	0	94.6	85	115				
Molybdenum	9.908	0.50	10.00	0	99.1	85	115				
Selenium	8.768	0.50	10.00	0	87.7	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.911	0.10	10.00	2.296	96.2	75	125				
Manganese	96.605	0.50	100.0	0	96.6	75	125				
Molybdenum	16.054	0.50	10.00	5.356	107	75	125				
Selenium	10.729	0.50	10.00	1.654	90.7	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.031	0.10	10.00	2.296	97.4	75	125	11.91	0.998	20	
Manganese	89.874	0.50	100.0	0	89.9	75	125	96.60	7.22	20	
Molybdenum	16.030	0.50	10.00	5.356	107	75	125	16.05	0.148	20	
Selenium	10.633	0.50	10.00	1.654	89.8	75	125	10.73	0.894	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.020	0.10	10.00	2.271	97.5	75	125				
Manganese	90.157	0.50	100.0	0.6141	89.5	75	125				
Molybdenum	16.307	0.50	10.00	5.329	110	75	125				
Selenium	10.790	0.50	10.00	1.617	91.7	75	125				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.856	5.0	100.0	142.6	108	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.018	5.0	100.0	142.6	107	75	125	250.9	0.335	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	253.101	5.0	100.0	139.0	114	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 3

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Gary Clift		Phone: 949-727-1400, ext 200	Fax:
Title: SR. Technicain	Phone: 916-786-3302 / Fax:		
Signature: Date: 2-23-16	Sampled By: Jason Marlon		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RMP	Signature: / Date: 2/23/16		
Project Number: RC000753.0801			

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement	
Excel EDD	
Geotracker	
Labspec	
Others	✓
Specify: RWQCB	
Global ID:	

QA/QC	
RTNE	
RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number 2		
6. Method of Cooling: ICE		
Sample Temp: 3.7, 2.8, 5.0, 19°C		
Courier:		
Tracking No.:		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (3x250 mL poly)	Field QC Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Cr (3x500mL poly)	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Ca, Mg, K, Na, B (3x500mL poly)	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 As, Mn, Fe, Se, Mo, Ba (3x500mL poly)	Total metals (SW6010B); HNO3 Fe (500 mL poly)	Anions (E300.0); Br, Cl, SO4 (2x1 liter poly)	Specific Conductance (E120.1) (2x1 liter poly)	pH (SM4500HB) (2x1 liter poly)	TDS (SM2540C) (2x1 liter poly)	Alkalinity (Total, reported as CaCO3) (SM2320B) (2x1 liter poly)	TSS (SM2540) (2x1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	ND18833 - 1	C-BNS-D-Q116	2/23/2016	1145		X		X		X	X		X	X			X	X	E	10	P		
2	- 2	C-I-3-D-Q116	2/23/2016	905		X		X		X	X		X	X			X	X	E	10	P		
3	- 3	C-MAR-D-Q116	2/23/2016	1215		X		X		X	X		X	X			X	X	E	10	P		
4	- 4	C-MAR-S-Q116	2/23/2016	1300		X		X		X	X		X	X			X	X	E	10	P		
5	- 5	C-R22A-D-Q116	2/23/2016	1045		X		X		X	X		X	X			X	X	E	10	P		
6	- 6	C-R22A-S-Q116	2/23/2016	1110		X		X		X	X		X	X			X	X	E	10	P		
7	- 7	C-R27-D-Q116	2/23/2016	1335		X		X		X	X		X	X			X	X	E	10	P		
8	- 8	C-R27-S-Q116	2/23/2016	1400		X		X		X	X		X	X			X	X	E	10	P		
9	- 9	C-TAZ-D-Q116	2/23/2016	805		X		X		X	X		X	X			X	X	E	10	P		
10	- 10	C-TAZ-S-Q116	2/23/2016	830		X		X		X	X		X	X			X	X	E	10	P		

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	2/23/16		2/23/16 @ 1700
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	2/23/16 @ 1930		2/23/16 @ 1930
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days. surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages. 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/23/2016	Workorder:	N018833
Rep sample Temp (Deg C):	3.7/2.8/5.0/1.9	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for pH was past holding time upon receipt.

Checklist Completed B MBC For: 2/24/2016

Reviewed By: 03/04/16

ASSET Laboratories

WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-001A	C-BNS-D-Q116	2/23/2016 11:45:00 AM	3/8/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-001B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-001C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-001D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-001E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-002A	C-I-3-D-Q116	2/23/2016 9:05:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-002B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-002C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-002D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-002D	C-I-3-D-Q116	2/23/2016 9:05:00 AM	3/8/2016	Groundwater	SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-002E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-003A	C-MAR-D-Q116	2/23/2016 12:15:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-003B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-003C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-003D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-003E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-004A	C-MAR-S-Q116	2/23/2016 1:00:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-004B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-004B	C-MAR-S-Q116	2/23/2016 1:00:00 PM	3/8/2016	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-004C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-004D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-004E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-005A	C-R22A-D-Q116	2/23/2016 10:45:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-005B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-005C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-005D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-005E	C-R22A-D-Q116	2/23/2016 10:45:00 AM	3/8/2016	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-006A	C-R22A-S-Q116	2/23/2016 11:10:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-006B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-006C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-006D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-006E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-007A	C-R27-D-Q116	2/23/2016 1:35:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-007B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-007C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-007C	C-R27-D-Q116	2/23/2016 1:35:00 PM	3/8/2016	Groundwater	EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-007D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-007E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-008A	C-R27-S-Q116	2/23/2016 2:00:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-008B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-008C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-008D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-008E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-009A	C-TAZ-D-Q116	2/23/2016 8:05:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-009B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

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WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-009B	C-TAZ-D-Q116	2/23/2016 8:05:00 AM	3/8/2016	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-009C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-009D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018833-009E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-010A	C-TAZ-S-Q116	2/23/2016 8:30:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018833-010B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018833-010C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018833-010D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Feb-16

WorkOrder: N018833

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018833-010D	C-TAZ-S-Q116	2/23/2016 8:30:00 AM	3/8/2016	Groundwater		Total Suspended Solids Prep	☐	☐	☐	WW
N018833-010E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018833-011A	FOLDER		3/8/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/8/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018833**

NAME	TEST METHOD
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540D

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106067 **Analyst:** LSR

ASSET #: N018833 **Date Analyzed:** 2/24/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer Nancy 3/8/2016 Date:

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 2/24/16 1435

Analyst: RK

Standard	Std ID	Reading	Comments
9.78	CNW- 150619A	9.84 uS/cm @21.9°C	% Rec: (90-110%)
1412	151012A	1435 @21.9°C	
9992	160111B	10240 @21.9°C	
99897	150112B	100001 @22.0°C	

	Sample ID	Matrix	Reading	Comments
1	N018833-001D	Water	1002 @19.7°C	
2	2D		983 @19.7°C	
3	3D		1088 @19.6°C	
4	4D		1085 @18.9°C	
5	5D		981 @19.6°C	
6	6D		983 @19.6°C	
7	7D		980 @19.8°C	
8	8D		974 @19.7°C	
9	9D		987 @19.5°C	
10	10D		985 @19.5°C	
Dup	3D DUP		1084 @19.3°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Date:

Analyst: CONTD

Lilia Ramit 3/2/2016

Standard	Std ID	Reading	Comments
1413	CNW - 150587A	1456 uS/cm @21.5°C	% Rec: (90-110%)
10000	CNW - 150909A	10430 @21.6°C	
99893	CNW - 151130A	96200 @21.5°C	

	Sample ID	Matrix	Reading	Comments
1	N018834-001D	Water	1001 @20.2°C	
2	2C		1072 @20.0°C	
3	3C		1074 @20.2°C	
4	4D		1002 @20.3°C	
5	4D DUP		1003 @20.1°C	
6				
7				
8	1413 uS/cm	CNW - 150587A	1467 uS/cm @21.5°C	
9	10000	150909A	10370 @21.9°C	
10	99893	151130A	95200 @22.0°C	
Dup				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Logbook # 5

SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106066 **Instrument ID:** pH meter

ASSET #: N018833 **Analyst:** LSR

Date Analyzed: 2/24/2016

Method: EPA 150.1

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer 3/8/2016 Date: ——

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

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3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.26
www.assetlaboratories.com

pH Logbook

Date: 2/24/16 1420
Analyst: LBR

Standard	Std ID	pH	Comments
Buffer 7	CMV - 150828A	7.02 @ 21.5°C	SLOPE: 98.1%
Buffer 4		4.00 @ 21.3°C	
Buffer 10	CMV - 150708A	10.05 @ 21.3°C	

	Sample ID	Matrix	pH	Comments
1	ND18823 - 001D	Water	8.22 @ 18.0°C	
2	2D		8.22 @ 18.2°C	
3	3D		7.85 @ 18.0°C	
4	4D		7.81 @ 17.5°C	
5	5D		8.22 @ 17.6°C	
6	6D		8.21 @ 17.4°C	
7	7D		8.21 @ 17.9°C	
8	8D		8.22 @ 18.0°C	
9	9D		8.23 @ 17.7°C	
10	10D		8.22 @ 17.6°C	
up	4D DUP		7.84 @ 17.4°C	Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CMV - 150624A	7.00 @ 21.4°C	Accept: +/-0.1 pH units from expected value

Date:
Analyst:

Standard	Std ID	pH	Comments
Buffer 7			
Buffer 4	CONT'D		
Buffer 10			

	Sample ID	Matrix	pH	Comments
1	ND18834 - 001D	Water	8.12 @ 18.3°C	
2	2C		7.68 @ 17.9°C	
3	3C		7.66 @ 18.17.8°C	LBR 2/24
4	4D		8.18 @ 18.2°C	
5	10 DUP		8.15 @ 18.1°C	
6				
7				Julia Ramit 3/2/2016
8				
9				
10				
up				Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CMV -150624A	7.00 @ 21.7°C	Accept: +/-0.1 pH units from expected value

Logbook #8

SM 2540D

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56389 **Analyst:** LSR

ASSET #: N018833 **Date Analyzed:** 2/24/2016

Method: EPA 160.2

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. M~~S/MS~~D, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/1/2016

2nd Level Reviewer Nancy 3/8/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018833-001D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4460-1.4455)*1000000}{100}$$
$$= 5 \text{ mg/L}$$

Since reporting limit is 10 mg/L, therefore:

TSS = ND

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SAMPLE PREPARATION LOG

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PREP BATCH REPORT

Prep Start Date: **2/24/2016 12:22:37**
Prep End Date: **2/24/2016 6:15:00 P**

Initials/ Date: Lilia Ramit 3/1/2016

Prep Batch **56389** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56389	Water		100	☐	0	0	100	1.000		
MB-56389	Water		100	☐	0	0	100	1.000		
N018833-001D	Groundwater		100	☐	0	0	100	1.000		
N018833-001D-DU	Groundwater		100	☐	0	0	100	1.000		
N018833-002D	Groundwater		100	☐	0	0	100	1.000		
N018833-003D	Groundwater		100	☐	0	0	100	1.000		
N018833-004D	Groundwater		100	☐	0	0	100	1.000		
N018833-005D	Groundwater		100	☐	0	0	100	1.000		
N018833-006D	Groundwater		100	☐	0	0	100	1.000		
N018833-007D	Groundwater		100	☐	0	0	100	1.000		
N018833-008D	Groundwater		100	☐	0	0	100	1.000		
N018833-009D	Groundwater		100	☐	0	0	100	1.000		
N018833-010D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160215A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/24/2016 12:22:37**
Prep End Date:

Initials/ Date: Lilia Ramit 3/1/2016

Prep Batch **56389** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units
mL / mL

	Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
	LCS-56389	Water	IW1516021 5A	100	☐	0	0	100	1.000		
	MB-56389	Water		100	☐	0	0	100	1.000		
1	N018833-001D	Groundwater		100	☐	0	0	100	1.000		
01	N018833-001D-DU	Groundwater		100	☐	0	0	100	1.000		
2	N018833-002D	Groundwater		100	☐	0	0	100	1.000		
3	N018833-003D	Groundwater		100	☐	0	0	100	1.000		
4	N018833-004D	Groundwater		100	☐	0	0	100	1.000		
5	N018833-005D	Groundwater		100	☐	0	0	100	1.000		
6	N018833-006D	Groundwater		100	☐	0	0	100	1.000		
7	N018833-007D	Groundwater		100	☐	0	0	100	1.000		
8	N018833-008D	Groundwater		100	☐	0	0	100	1.000		
9	N018833-009D	Groundwater		100	☐	0	0	100	1.000		
10	N018833-010D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #
150410

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST : TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/24/16 1222	MB2 56389	100 ~~100~~ 100	1.4486 1.4484	1.4482 1.4483	
	LCS2 56389	100	1.4507 1.4506	1.5469 1.5472	
1	N018833-001D	100	1.4457 1.4455	1.4461 1.4460	
2	2D ~~100~~ 100	100	1.4289 1.4288	1.4301 1.4302	
3	3D	100	1.4514 1.4514	1.4653 1.4652	
4	4D	100	1.4287 1.4286	1.4406 1.4402	
5	5D	100	1.4403 1.4402	1.4408 1.4407	
6	6D	100	1.4343 1.4344	1.4349 1.4348	
7	7D	100	1.4348 1.4347	1.4353 1.4352	
8	8D	100	1.4353 1.4354	1.4361 1.4361	

Julia Ramit 3/1/2016

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/24/15 9	N018833-009D	100	1.4137 1.4137	1.4146 1.4145	
10	10D	100	1.4207 1.4205	1.4212 1.4211	
D1	10 DUP	100	1.4~~443~~ 223 1.4223 1.4~~444~~ 225 1.4225 2/24/15	1.4~~497~~ 226 1.4226 1.4~~490~~ 228 1.4228	

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Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 2/24/16						
MB-56389	100	1.4484	1.4483	-1.0000	1.00	-1
LCS-56389	100	1.4506	1.5472	966.0000	1.00	966
N018833-001D	100	1.4455	1.446	5.0000	1.00	5
N018833-001DDUP	100	1.4225	1.4228	3.0000	1.00	3
N018833-002D	100	1.4288	1.4302	14.0000	1.00	14
N018833-003D	100	1.4514	1.4652	138.0000	1.00	138
N018833-004D	100	1.4286	1.4402	116.0000	1.00	116
N018833-005D	100	1.4402	1.4407	5.0000	1.00	5
N018833-006D	100	1.4344	1.4348	4.0000	1.00	4
N018833-007D	100	1.4347	1.4352	5.0000	1.00	5
N018833-008D	100	1.4354	1.4361	7.0000	1.00	7
N018833-009D	100	1.4137	1.4145	8.0000	1.00	8
N018833-010D	100	1.4205	1.4211	6.0000	1.00	6

Julia Ramit 3/1/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106238
ASSET #: N018833

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/8/2016 Date: —

2nd Level Reviewer Nancy 3/8/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018833-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.0758* 1

= 0.0758

Since reporting limit is 0.2 µg/L,

Cr^{+6}, µg/L = ND

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	CCV-1	CCV	1	Hexavalent Chromium	02/26/16 3:03 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/26/16 3:14 PM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	02/26/16 3:24 PM	Reported
13	MB-R106238	MBLK	1	Hexavalent Chromium	02/26/16 3:33 PM	Reported
14	LCS-R106238	LCS	1	Hexavalent Chromium	02/26/16 3:43 PM	Reported
15	N018478-019A	SAMP	200	Hexavalent Chromium	02/26/16 3:52 PM	Not Reported
16	N018478-019A	SAMP	100	Hexavalent Chromium	02/26/16 4:02 PM	Not Reported
17	N018833-001A	SAMP	1	Hexavalent Chromium	02/26/16 4:22 PM	Reported
18	N018833-001ADUP	DUP	1	Hexavalent Chromium	02/26/16 4:33 PM	Reported
19	N018833-001AMS	MS	1	Hexavalent Chromium	02/26/16 4:42 PM	Reported
20	N018833-001AMSD	MSD	1	Hexavalent Chromium	02/26/16 4:52 PM	Reported
21	N018833-002A	SAMP	1	Hexavalent Chromium	02/26/16 5:01 PM	Reported
22	N018833-002AMS	MS	1	Hexavalent Chromium	02/26/16 5:11 PM	Reported
23	CCV-2	CCV	1	Hexavalent Chromium	02/26/16 5:20 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	02/26/16 5:29 PM	Reported
25	N018833-003A	SAMP	1	Hexavalent Chromium	02/26/16 5:39 PM	Reported
26	N018833-003AMS	MS	1	Hexavalent Chromium	02/26/16 5:48 PM	Reported
27	N018833-004A	SAMP	1	Hexavalent Chromium	02/26/16 5:58 PM	Reported
28	N018833-004AMS	MS	1	Hexavalent Chromium	02/26/16 6:07 PM	Reported
29	N018833-005A	SAMP	1	Hexavalent Chromium	02/26/16 6:17 PM	Reported
30	N018833-005AMS	MS	1	Hexavalent Chromium	02/26/16 6:26 PM	Reported
31	N018833-006A	SAMP	1	Hexavalent Chromium	02/26/16 6:36 PM	Reported
32	N018833-006AMS	MS	1	Hexavalent Chromium	02/26/16 6:45 PM	Reported
33	N018833-007A	SAMP	1	Hexavalent Chromium	02/26/16 6:55 PM	Reported
34	N018833-007AMS	MS	1	Hexavalent Chromium	02/26/16 7:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	02/26/16 7:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	02/26/16 7:23 PM	Reported
37	N018833-008A	SAMP	1	Hexavalent Chromium	02/26/16 7:32 PM	Reported
38	N018833-008AMS	MS	1	Hexavalent Chromium	02/26/16 7:42 PM	Reported
39	N018833-009A	SAMP	1	Hexavalent Chromium	02/26/16 7:51 PM	Reported
40	N018833-009AMS	MS	1	Hexavalent Chromium	02/26/16 8:01 PM	Reported
41	N018833-010A	SAMP	1	Hexavalent Chromium	02/26/16 8:10 PM	Reported
42	N018833-010AMS	MS	1	Hexavalent Chromium	02/26/16 8:20 PM	Reported

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018834-001A	SAMP	1	Hexavalent Chromium	02/26/16 8:29 PM	Reported
44	N018834-001AMS	MS	1	Hexavalent Chromium	02/26/16 8:39 PM	Reported
45	N018834-002A	SAMP	1	Hexavalent Chromium	02/26/16 8:48 PM	Reported
46	N018834-002AMS	MS	1	Hexavalent Chromium	02/26/16 8:58 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	02/26/16 9:07 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	02/26/16 9:17 PM	Reported
49	N018834-003A	SAMP	1	Hexavalent Chromium	02/26/16 9:26 PM	Reported
50	N018834-003AMS	MS	1	Hexavalent Chromium	02/26/16 9:36 PM	Reported
51	N018834-004A	SAMP	1	Hexavalent Chromium	02/26/16 9:45 PM	Reported
52	N018834-004AMS	MS	1	Hexavalent Chromium	02/26/16 9:54 PM	Reported
53	N018861-002A	SAMP	1	Hexavalent Chromium	02/26/16 10:04 PM	Reported
54	N018861-002AMS	MS	1	Hexavalent Chromium	02/26/16 10:13 PM	Reported
55	N018861-004A	SAMP	1	Hexavalent Chromium	02/26/16 10:23 PM	Not Reported
56	N018861-004AMS	MS	1	Hexavalent Chromium	02/26/16 10:32 PM	Not Reported
57	CCV-5	CCV	1	Hexavalent Chromium	02/26/16 10:42 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	02/26/16 10:51 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160226B**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:20:39**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	CCV-1,CCV,1,	1	1000	Unknown		02/26/2016 15:03	Finished	CCV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	2	1000	Unknown		02/26/2016 15:14	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1	3	1000	Unknown		02/26/2016 15:24	Finished	CCB R160209C
13	MB-H2O,MBLK,1	4	1000	Unknown		02/26/2016 15:33	Finished	MB
14	LCS-H2O,LCS,1	5	1000	Unknown		02/26/2016 15:43	Finished	LCS @ 5ppb, IWST-160202B
15	N018478-019A,SAMP	6	1000	Unknown		02/26/2016 15:52	Finished	SAMP, 0.05 to 10mL
16	N018478-019A,SAMP	7	1000	Unknown		02/26/2016 16:02	Finished	SAMP, 0.1 to 10mL
17	N018833-001A,SAMP	8	1000	Unknown		02/26/2016 16:22	Finished	SAMP, 10mL
18	N018833-001ADUP,D	9	1000	Unknown		02/26/2016 16:33	Finished	DUP, 10mL
19	N018833-001AMS,MS	10	1000	Unknown		02/26/2016 16:42	Finished	MS(1ppb), IWST-160202B, 10r
20	N018833-001AMSD,M	11	1000	Unknown		02/26/2016 16:52	Finished	MSD(1ppb), IWST-160202B, 1
21	N018833-002A,SAMP	12	1000	Unknown		02/26/2016 17:01	Finished	SAMP, 10mL
22	N018833-002AMS,MS	13	1000	Unknown		02/26/2016 17:11	Finished	MS(1ppb), IWST-160202B, 10r
23	CCV-2,CCV,1	14	1000	Unknown		02/26/2016 17:20	Finished	CCV @ 10ppb, IWST 160202A
24	CCB-2,CCB,1	15	1000	Unknown		02/26/2016 17:29	Finished	CCB
25	N018833-003A,SAMP	16	1000	Unknown		02/26/2016 17:39	Finished	SAMP, 10mL
26	N018833-003AMS,MS	17	1000	Unknown		02/26/2016 17:48	Finished	MS(1ppb), IWST-160202B, 10r
27	N018833-004A,SAMP	18	1000	Unknown		02/26/2016 17:58	Finished	SAMP, 10mL
28	N018833-004AMS,MS	19	1000	Unknown		02/26/2016 18:07	Finished	MS(1ppb), IWST-160202B, 10r
29	N018833-005A,SAMP	20	1000	Unknown		02/26/2016 18:17	Finished	SAMP, 10mL
30	N018833-005AMS,MS	21	1000	Unknown		02/26/2016 18:26	Finished	MS(1ppb), IWST-160202B, 10r
31	N018833-006A,SAMP	22	1000	Unknown		02/26/2016 18:36	Finished	SAMP, 10mL
32	N018833-006AMS,MS	23	1000	Unknown		02/26/2016 18:45	Finished	MS(1ppb), IWST-160202B, 10r
33	N018833-007A,SAMP	24	1000	Unknown		02/26/2016 18:55	Finished	SAMP, 10mL
34	N018833-007AMS,MS	25	1000	Unknown		02/26/2016 19:04	Finished	MS(1ppb), IWST-160202B, 10r
35	CCV-3,CCV,1	26	1000	Unknown		02/26/2016 19:14	Finished	CCV @ 5ppb, IWST 160202A
36	CCB-3,CCB,1	27	1000	Unknown		02/26/2016 19:23	Finished	CCB
37	N018833-008A,SAMP	28	1000	Unknown		02/26/2016 19:32	Finished	SAMP, 10mL
38	N018833-008AMS,MS	29	1000	Unknown		02/26/2016 19:42	Finished	MS(1ppb), IWST-160202B, 10r
39	N018833-009A,SAMP	30	1000	Unknown		02/26/2016 19:51	Finished	SAMP, 10mL
40	N018833-009AMS,MS	31	1000	Unknown		02/26/2016 20:01	Finished	MS(1ppb), IWST-160202B, 10r
41	N018833-010A,SAMP	32	1000	Unknown		02/26/2016 20:10	Finished	SAMP, 10mL
42	N018833-010AMS,MS	33	1000	Unknown		02/26/2016 20:20	Finished	MS(1ppb), IWST-160202B, 10r
43	N018834-001A,SAMP	34	1000	Unknown		02/26/2016 20:29	Finished	SAMP, 10mL
44	N018834-001AMS,MS	35	1000	Unknown		02/26/2016 20:39	Finished	MS(1ppb), IWST-160202B, 10r
45	N018834-002A,SAMP	36	1000	Unknown		02/26/2016 20:48	Finished	SAMP, 10mL
46	N018834-002AMS,MS	37	1000	Unknown		02/26/2016 20:58	Finished	MS(1ppb), IWST-160202B, 10r
47	CCV-4,CCV,1	38	1000	Unknown		02/26/2016 21:07	Finished	CCV @ 10ppb, IWST 160202A
48	CCB-4,CCB,1	39	1000	Unknown		02/26/2016 21:17	Finished	CCB
49	N018834-003A,SAMP	40	1000	Unknown		02/26/2016 21:26	Finished	SAMP, 10mL
50	N018834-003AMS,MS	41	1000	Unknown		02/26/2016 21:36	Finished	MS(1ppb), IWST-160202B, 10r
51	N018834-004A,SAMP	42	1000	Unknown		02/26/2016 21:45	Finished	SAMP, 10mL
52	N018834-004AMS,MS	43	1000	Unknown		02/26/2016 21:54	Finished	MS(1ppb), IWST-160202B, 10r
53	N018861-002A,SAMP	44	1000	Unknown		02/26/2016 22:04	Finished	SAMP, 10mL
54	N018861-002AMS,MS	45	1000	Unknown		02/26/2016 22:13	Finished	MS(5ppb), IWST-160202B, 10r
55	N018861-004A,SAMP	46	1000	Unknown		02/26/2016 22:23	Finished	SAMP, 10mL
56	N018861-004AMS,MS	47	1000	Unknown		02/26/2016 22:32	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	48	1000	Unknown		02/26/2016 22:42	Finished	CCV @ 5ppb, IWST 160202A
58	CCB-5,CCB,1	49	1000	Unknown		02/26/2016 22:51	Finished	CCB
59	SHUTDOWN	50	1000	Unknown		02/26/2016 23:01	Finished	BLANK
60	Eluent: R160224A	51	1000	Unknown		n.a.	Finished	Eluent

61	PCR: R160226A	CurrentVial	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/12/16
Time Prepared: 10:00AM
Prepared By: MEM

SUP: 98.1%
pH4 - 4.02
7 - 6.99
10 - 10.05
CCS - 4.02

Reagent ID:
Sulfuric Acid: CIW-151B0D
Diphenylcarbazide: CIW-151B0F 11 MEM
NH4OH + NH4SO4 eluent: R160212B
NH4OH + NH4SO4 buffer: R160128A

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018722-001A	9.37	–	–	–	–	R160212PA
2)	2A	9.35	–	–	–	–	
3)							
4)							
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							MEM 2/12/16

Sample Preparation

Date Prepared: 2/12/16
Time Prepared: 01:00 PM
Prepared By: MEM

SUP: 97.2%
pH4 3.98
7 - 7.07
10 10.06
CCS - 6.99

Reagent ID:
Sulfuric Acid: CIW-151B0D
Diphenylcarbazide: CIW-151B0F
NH4OH + NH4SO4 eluent: R160212A
NH4OH + NH4SO4 buffer: R160128A, R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018825-001A	9.32	–	–	–	–	R160212PA
2)	N018838-001A1	9.35	–	–	–	–	R160219D
3)	A2	9.37	–	–	–	–	
4)	A3	9.35	–	–	–	–	
5)	002A1	9.34	–	–	–	–	
6)	A2	9.36	–	–	–	–	
7)	A3	9.37	–	–	–	–	
8)	003A1	9.32	–	–	–	–	
9)	A2	9.33	–	–	–	–	
10)	A3	9.34	–	–	–	–	
11)	004A1	9.33	–	–	–	–	
12)	A2	9.32	–	–	–	–	
13)	A3	9.34	–	–	–	–	
14)	005A1	9.37	–	–	–	–	
15)	A2	9.37	–	–	–	–	
	A3	9.36	–	–	–	–	

Logbook No. 10

Reb 3/8/2016

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: REB

Reagent ID:
Sulfuric Acid: CIN-151130D
Diphenylcarbazide: CIN-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018833-006A1	9.34	—	—	—	—	R160219D
2)	A2	9.36	—	—	—	—	
3)	A3	9.37	—	—	—	—	
4)	7A1	9.34	—	—	—	—	
5)	A2	9.34	—	—	—	—	
6)	A3	9.34	—	—	—	—	
7)	8A1	9.35	—	—	—	—	
8)	A2	9.34	—	—	—	—	
9)	A3	9.33	—	—	—	—	
10)	9A1	9.38	—	—	—	—	
11)	A2	9.36	—	—	—	—	
12)	A3	9.35	—	—	—	—	
13)	10A1	9.36	—	—	—	—	
14)	A2	9.37	—	—	—	—	
15)	A3	9.36	—	—	—	—	

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: REB

Reagent ID:
Sulfuric Acid: CIN-151130D
Diphenylcarbazide: CIN-151130F
NH4OH + NH4SO4 eluent: R160224A, R160302B
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018834-001A1	9.44	—	—	—	—	R160219D
2)	A2	9.41	—	—	—	—	
3)	A3	9.48	—	—	—	—	
4)	2A1	9.39	—	—	—	—	
5)	A2	9.38	—	—	—	—	
6)	A3	9.39	—	—	—	—	
7)	3A1	9.41	—	—	—	—	
8)	A2	9.38	—	—	—	—	
9)	A3	9.42	—	—	—	—	
10)	4A1	9.42	—	—	—	—	
11)	A2	9.44	—	—	—	—	
12)	A3	9.38	—	—	—	—	
13)	N018861- ~~5A~~ 001A	9.44	—	—	—	—	
14)	~~6A~~ 2A	9.31	—	—	—	—	
15)	~~7A~~ 3A	9.33	—	—	—	—	
	~~8A~~ 4A	9.55	—	—	—	—	

Logbook No. 10

Reb 3/8/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0546	0.2480	1.1957	2.3389	3.5494	4.7448	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ICV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.125	0.20	5.000	0	103	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.234	0.20	0.2000	0	117	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.185	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.138	0.20	5.000	0	103	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.092	0.20	10.00	0	101	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.175	0.20	5.000	0	104	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ICB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/26/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.040	
CCV-5	5.040	
Average	5.038	
Actual RT Window	4.958 - 5.118	
Applied RT Window	4.838 - 5.238	
MB-R106238	N.A.	N.A.
LCS-R106238	5.048	PASS
N018833-001A	5.048	PASS
N018833-001ADUP	5.023	PASS
N018833-001AMS	5.023	PASS
N018833-001AMSD	5.031	PASS
N018833-002A	5.031	PASS
N018833-002AMS	5.040	PASS
N018833-003A	5.023	PASS
N018833-003AMS	5.040	PASS
N018833-004A	5.040	PASS
N018833-004AMS	5.031	PASS
N018833-005A	5.031	PASS
N018833-005AMS	5.031	PASS
N018833-006A	5.040	PASS
N018833-006AMS	5.040	PASS
N018833-007A	5.023	PASS
N018833-007AMS	5.031	PASS
N018833-008A	5.015	PASS
N018833-008AMS	5.031	PASS
N018833-009A	5.031	PASS
N018833-009AMS	5.031	PASS
N018833-010A	5.023	PASS
N018833-010AMS	5.031	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/26/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.040	
CCV-5	5.040	
Average	5.038	
Actual RT Window	4.958 - 5.118	
Applied RT Window	4.838 - 5.238	
N018834-001A	5.031	PASS
N018834-001AMS	5.031	PASS
N018834-002A	5.056	PASS
N018834-002AMS	5.031	PASS
N018834-003A	5.040	PASS
N018834-003AMS	5.031	PASS
N018834-004A	5.040	PASS
N018834-004AMS	5.031	PASS
N018861-002A	4.923	PASS
N018861-002AMS	4.923	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Reb 2/8/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

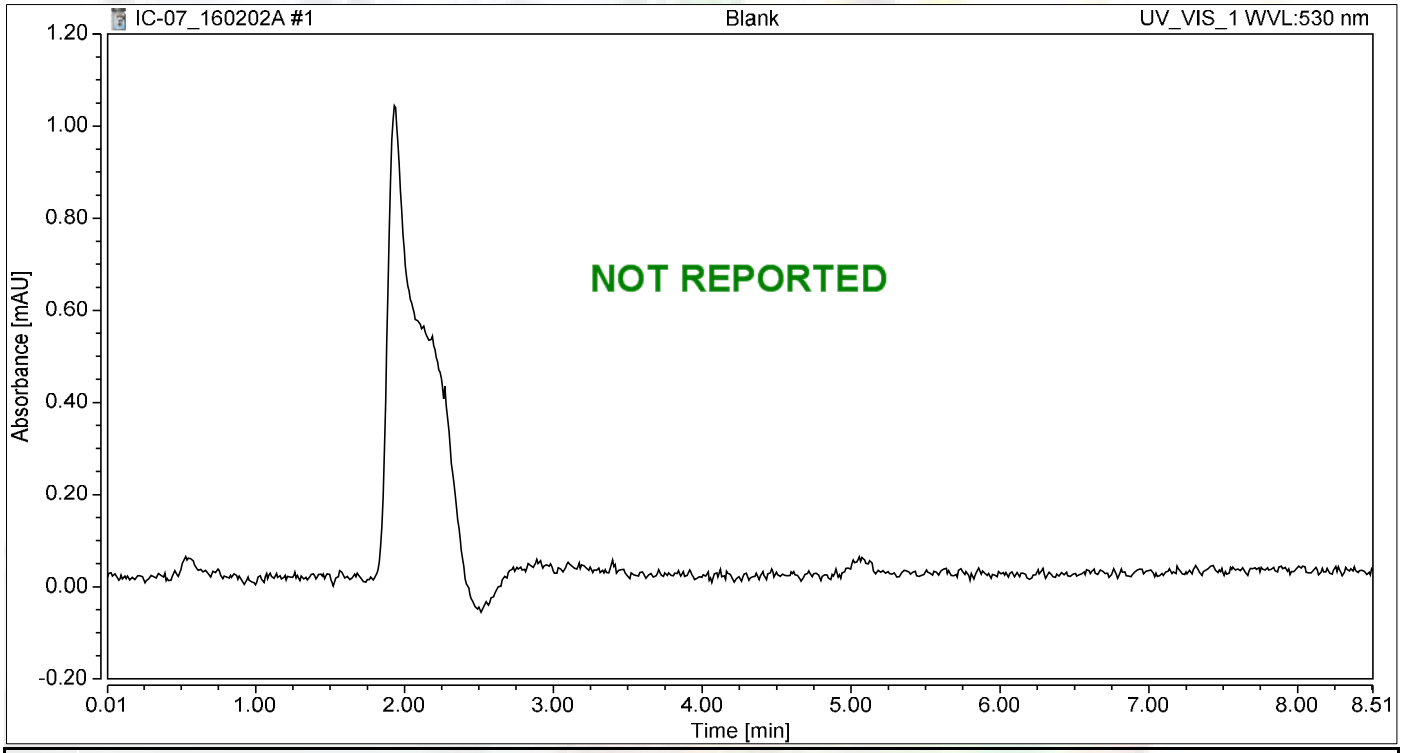
Nancy 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

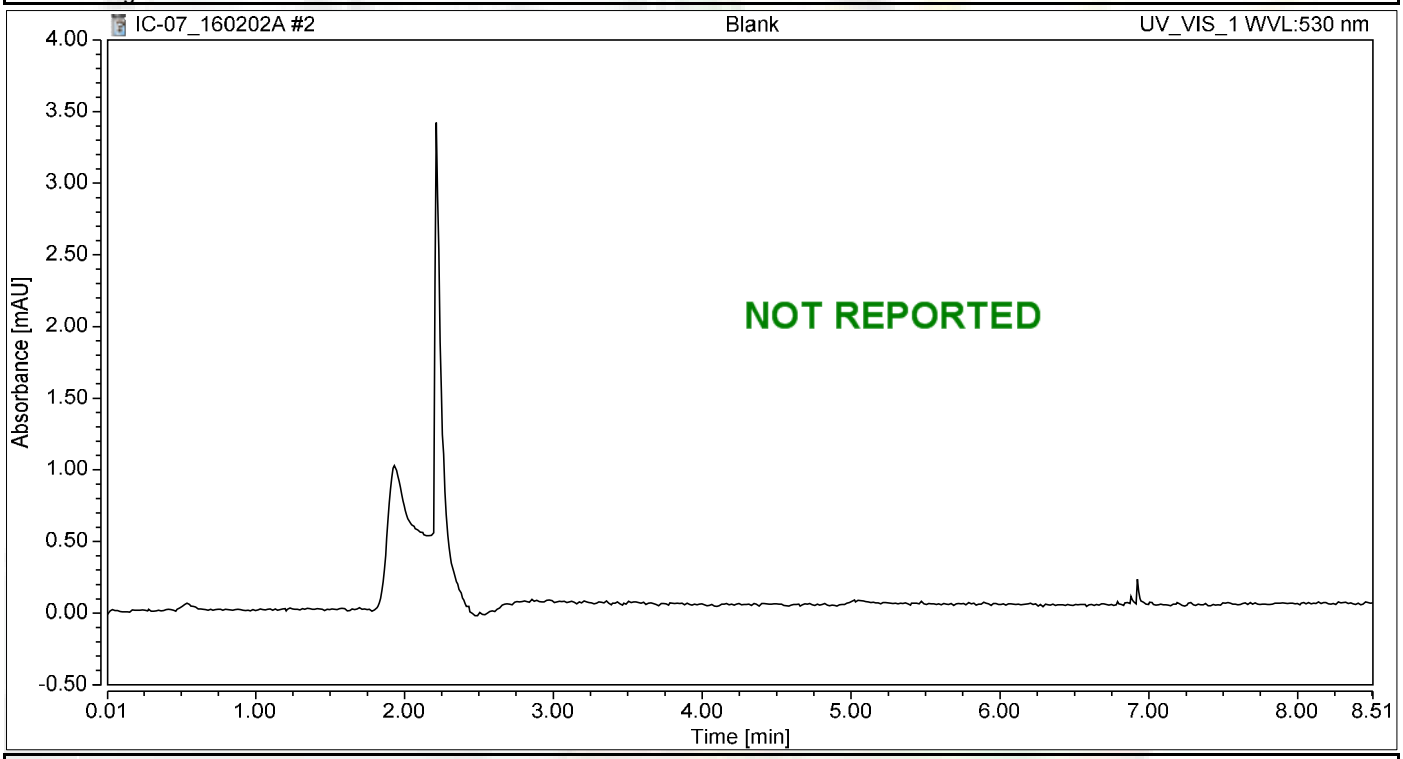
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

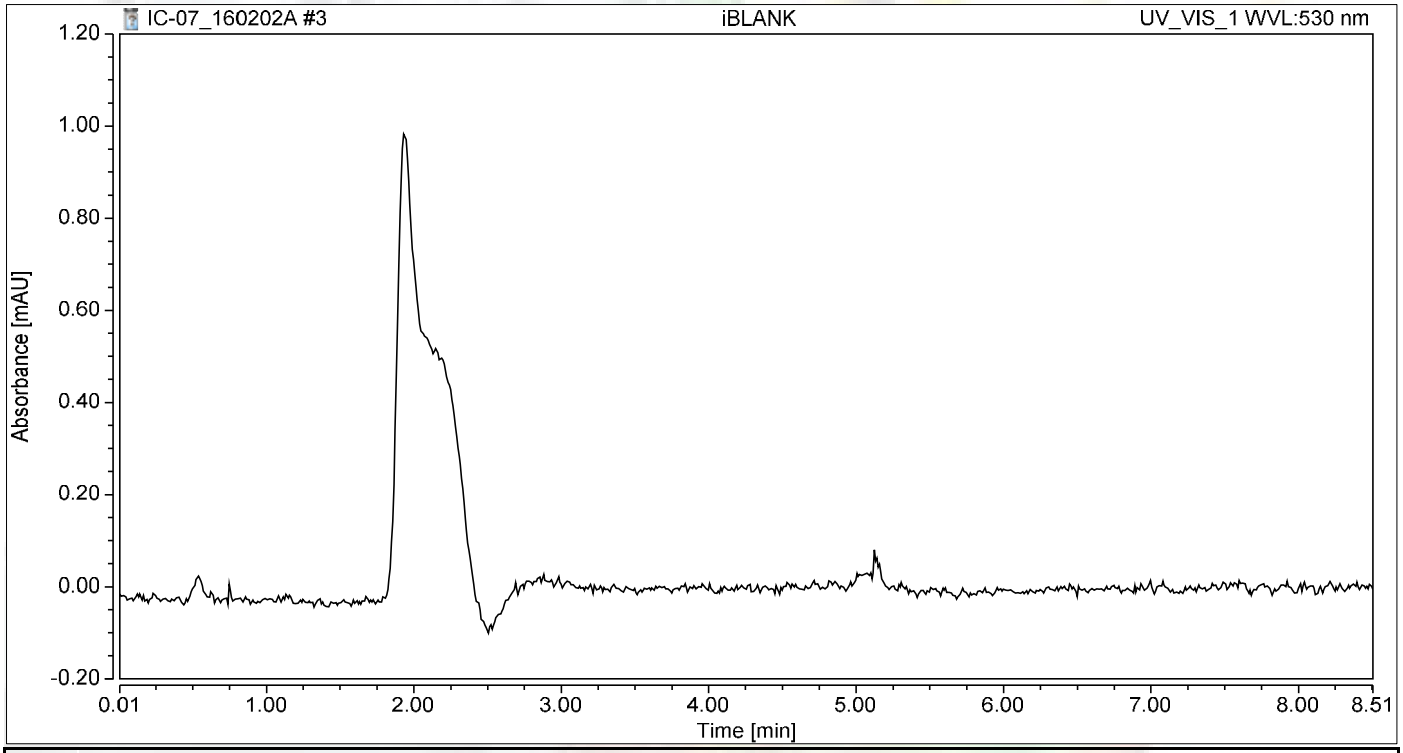
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

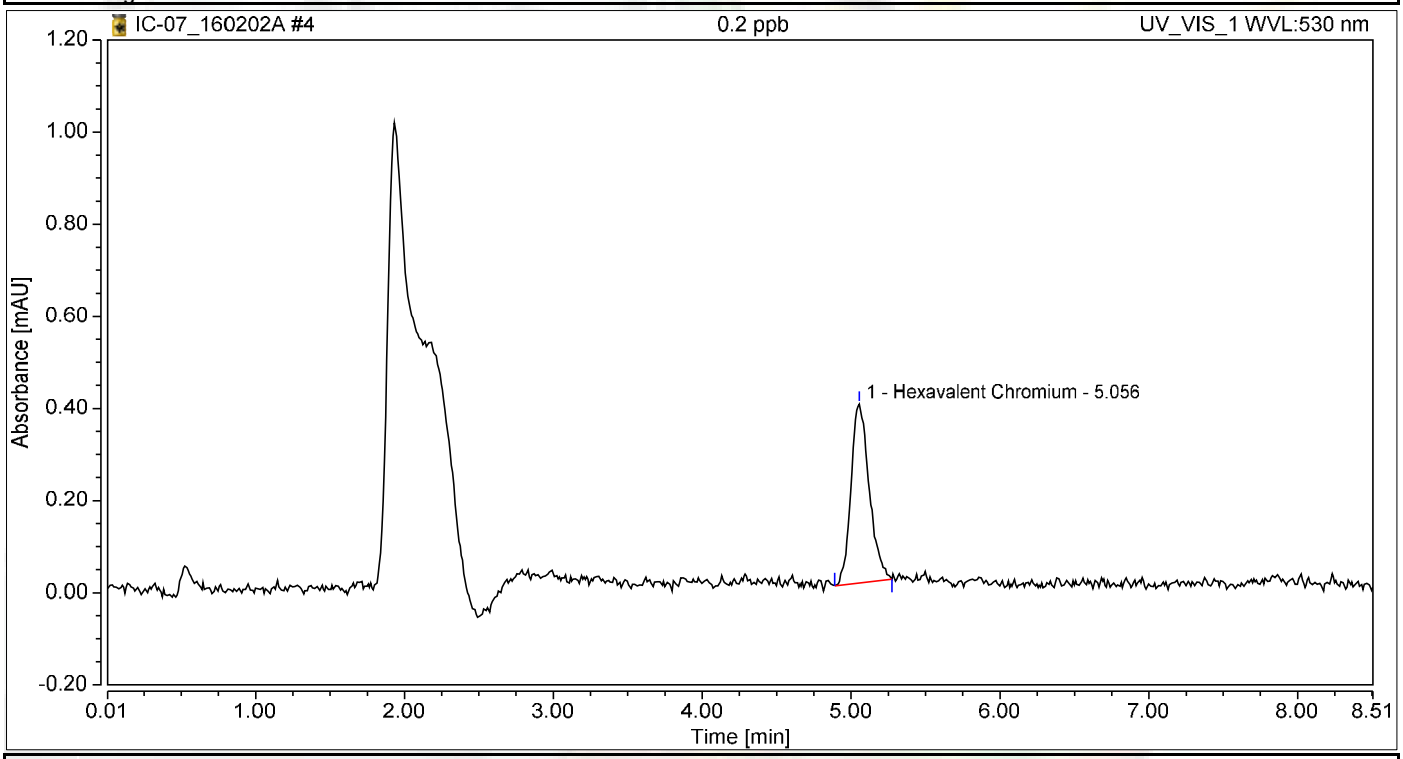
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

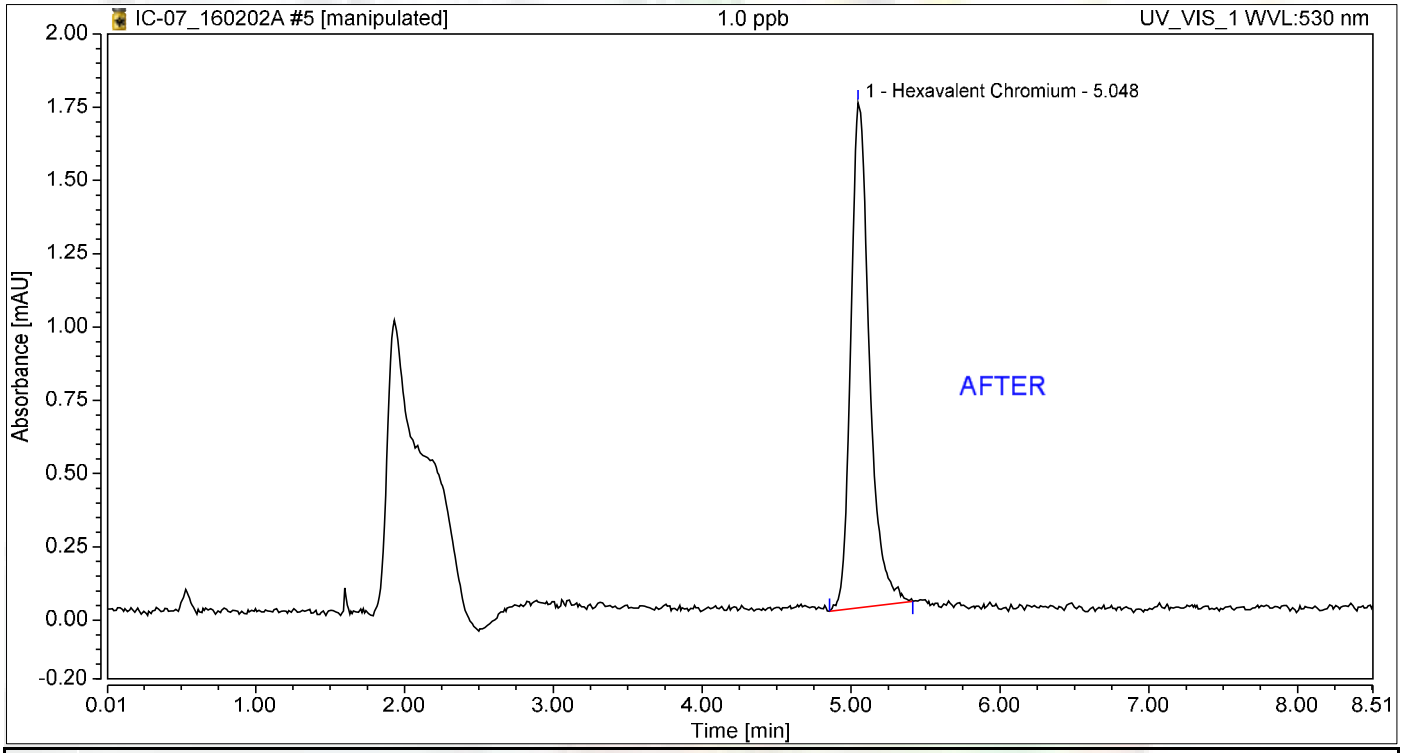
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.055	0.389	100.00	100.00	0.2305
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.723	100.00	100.00	1.0477
Total:			**0.248**	**1.723**	**100.00**	**100.00**	

Nancy 2/8/2016

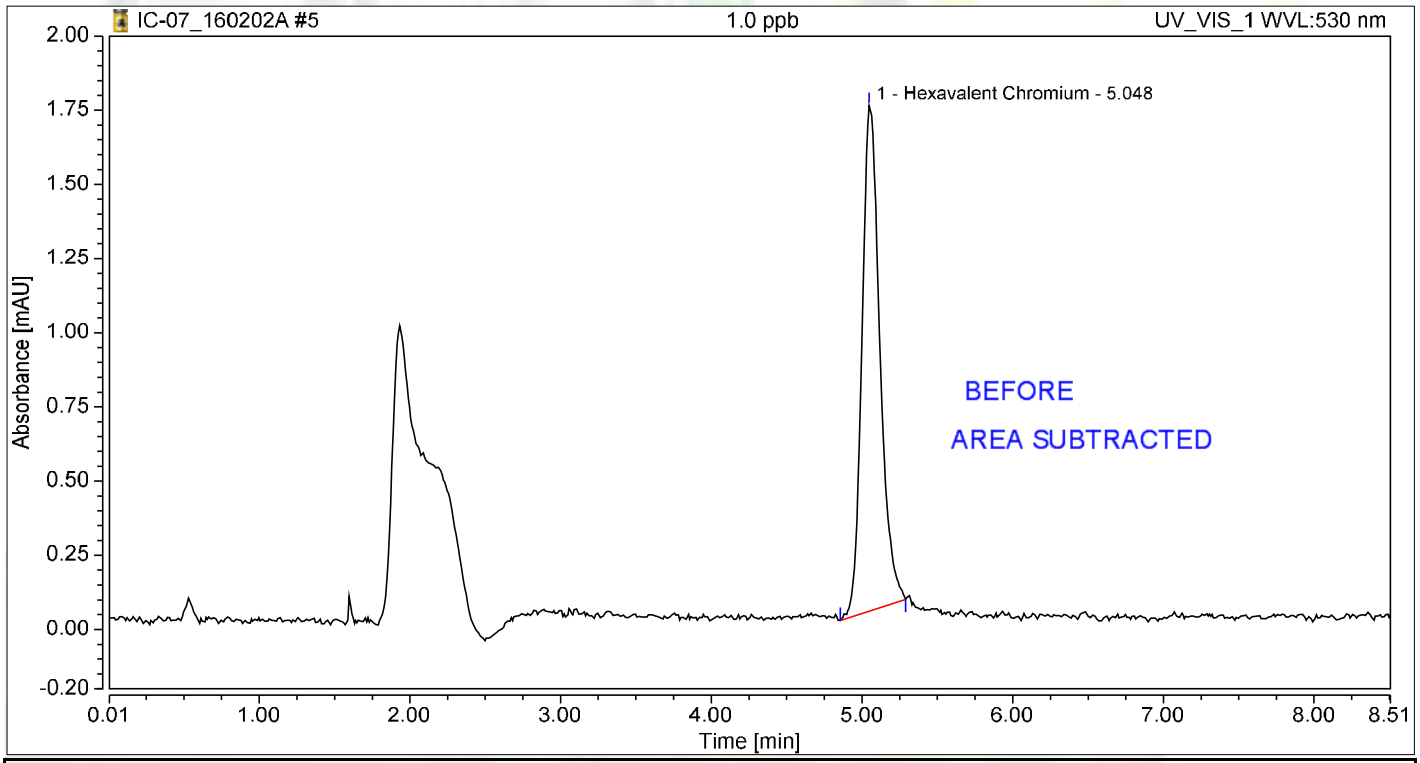
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.235	1.704	100.00	100.00	0.9945
Total:			**0.235**	**1.704**	**100.00**	**100.00**	

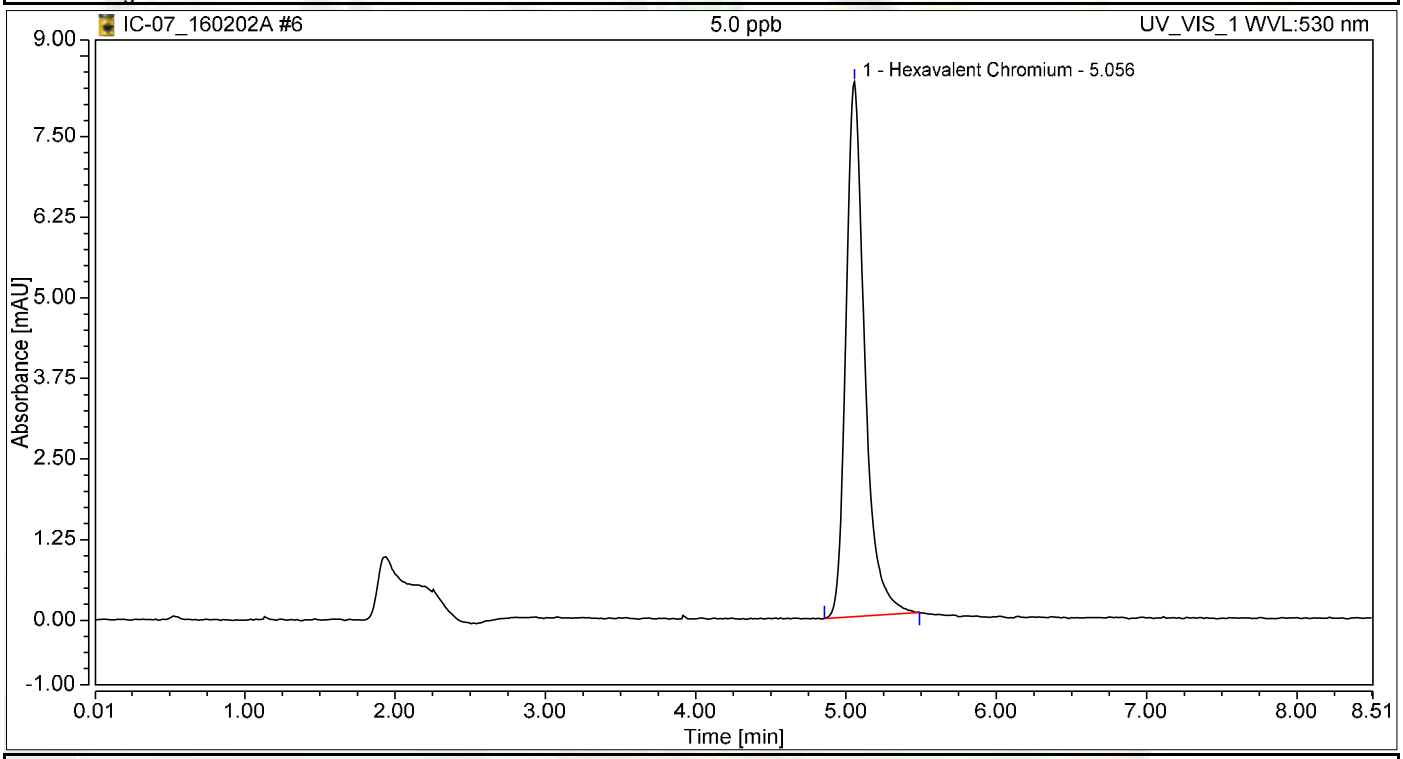
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

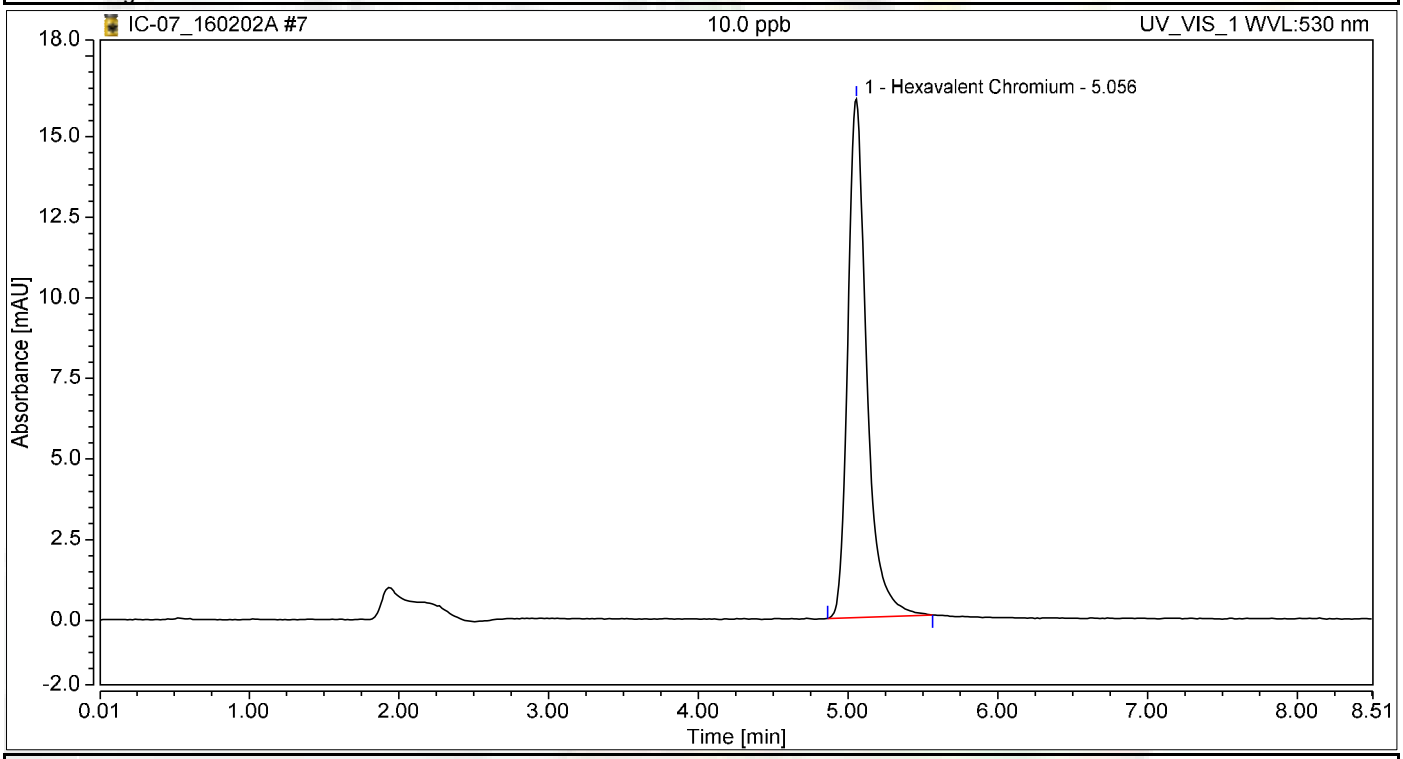
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.196	8.293	100.00	100.00	5.0518
Total:			**1.196**	**8.293**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

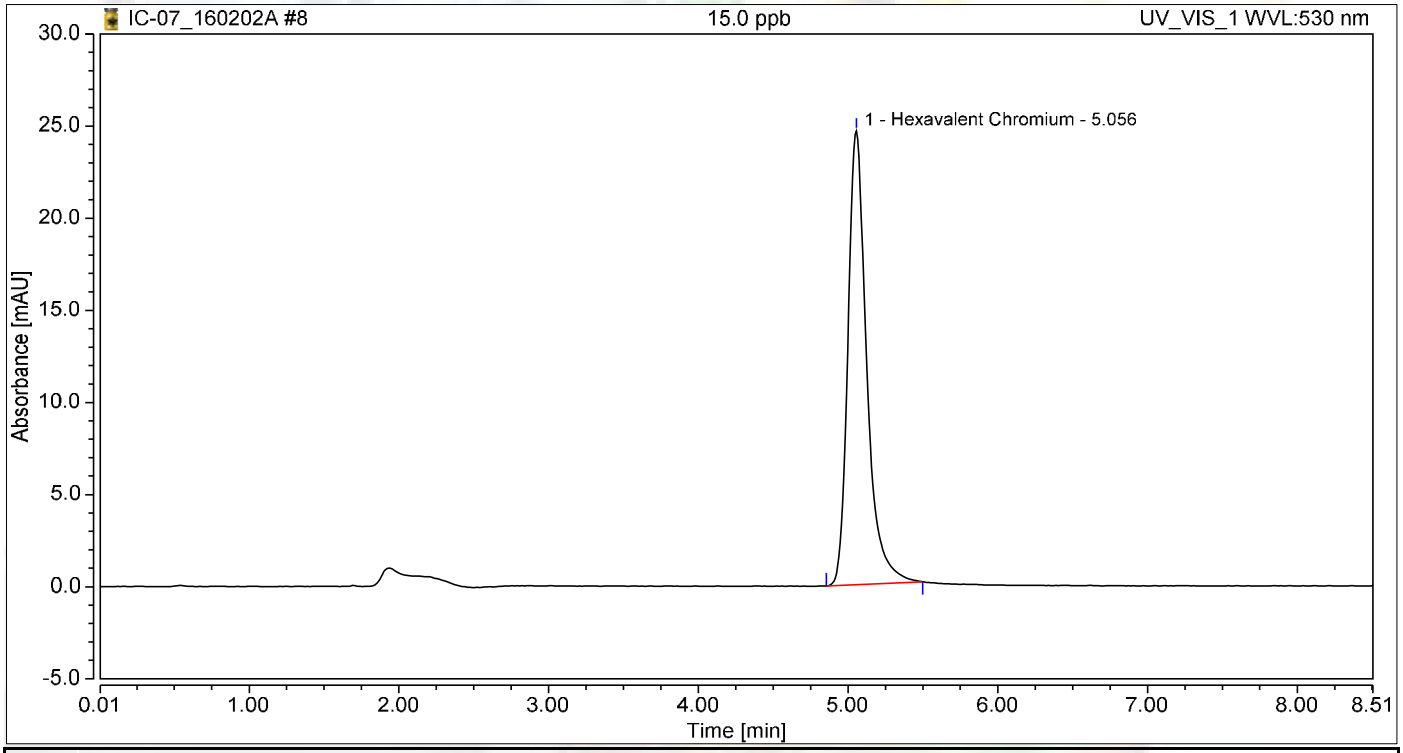
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.339	16.085	100.00	100.00	9.8818
Total:			**2.339**	**16.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

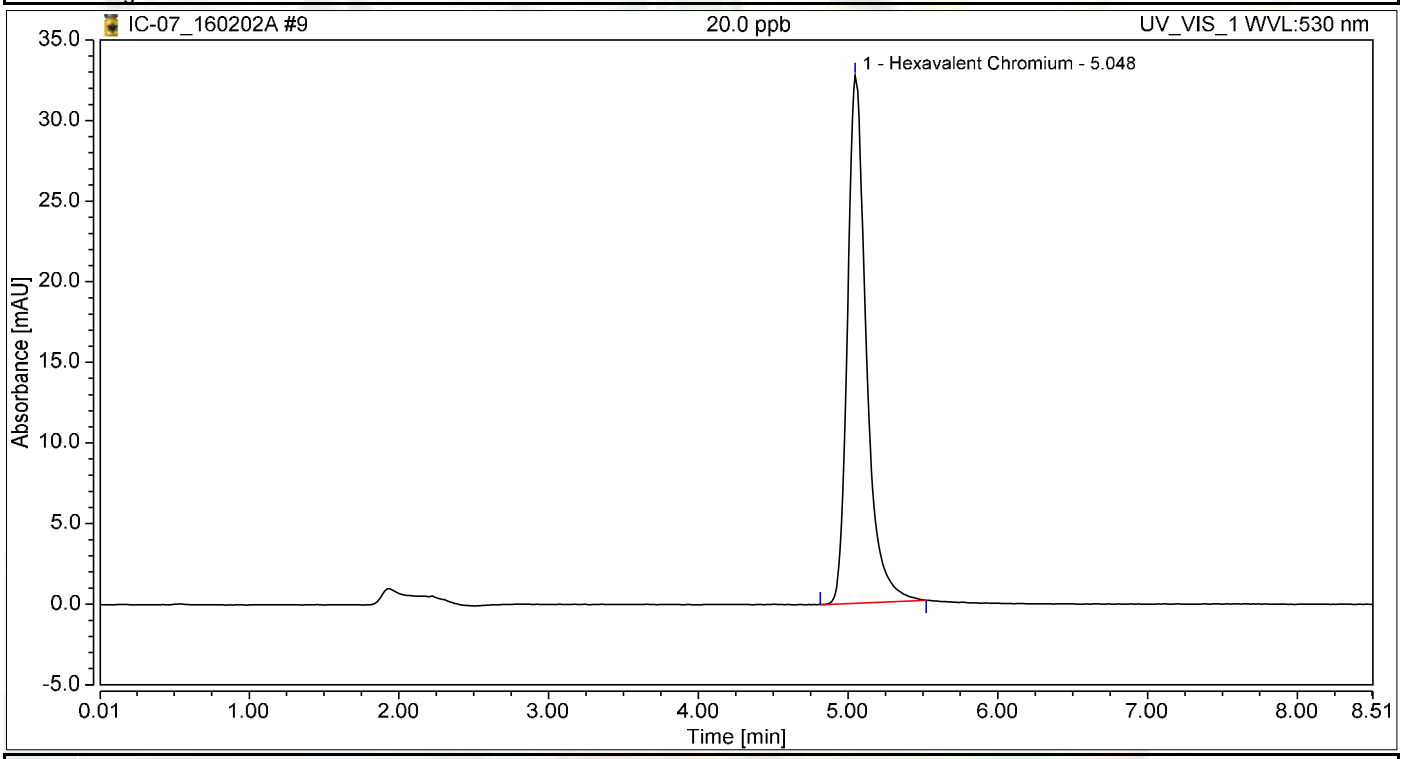
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.549	24.617	100.00	100.00	14.9960
Total:			**3.549**	**24.617**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



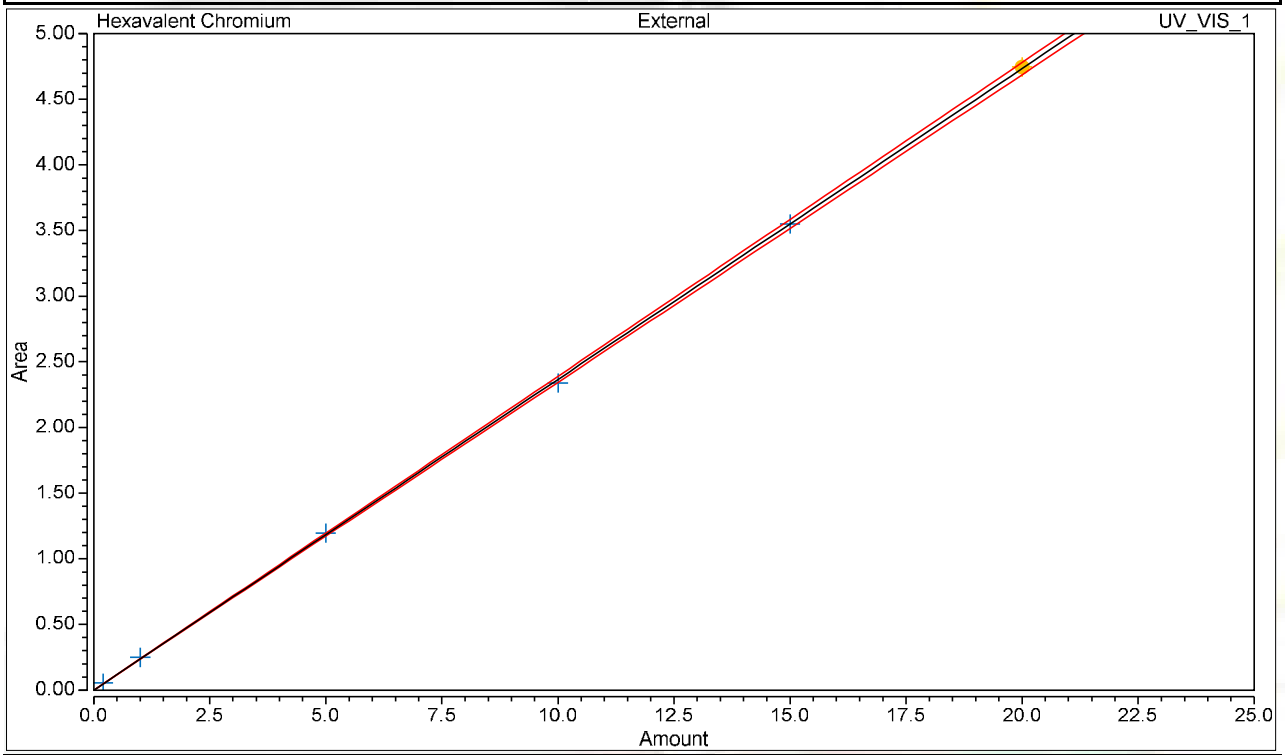
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	4.745	32.729	100.00	100.00	20.0465
Total:			**4.745**	**32.729**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2367
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99993

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

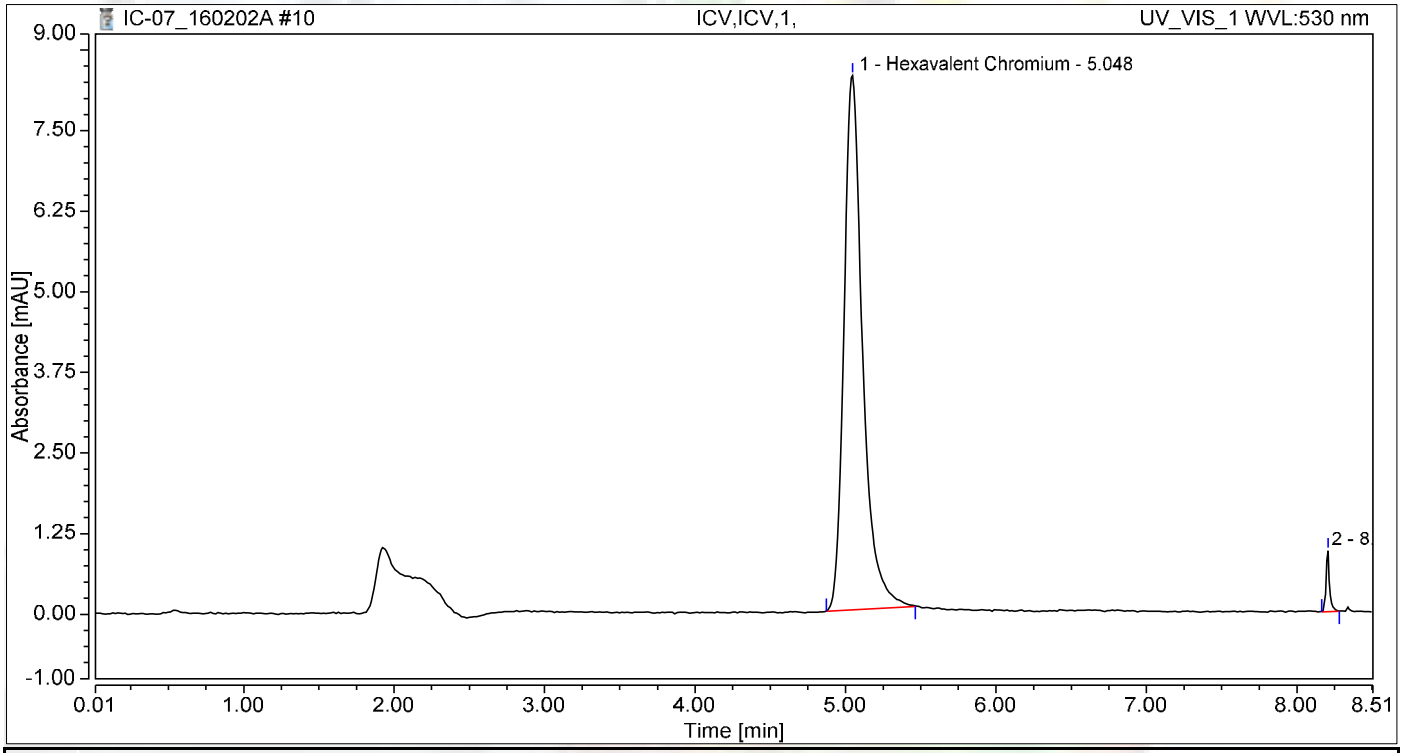
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0546	0.055	0.389
5	1.0 ppb	02	1.0000	0.2480	0.248	1.723
6	5.0 ppb	03	5.0000	1.1957	1.196	8.293
7	10.0 ppb	04	10.0000	2.3389	2.339	16.085
8	15.0 ppb	05	15.0000	3.5494	3.549	24.617
9	20.0 ppb	06	20.0000	4.7448	4.745	32.729

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

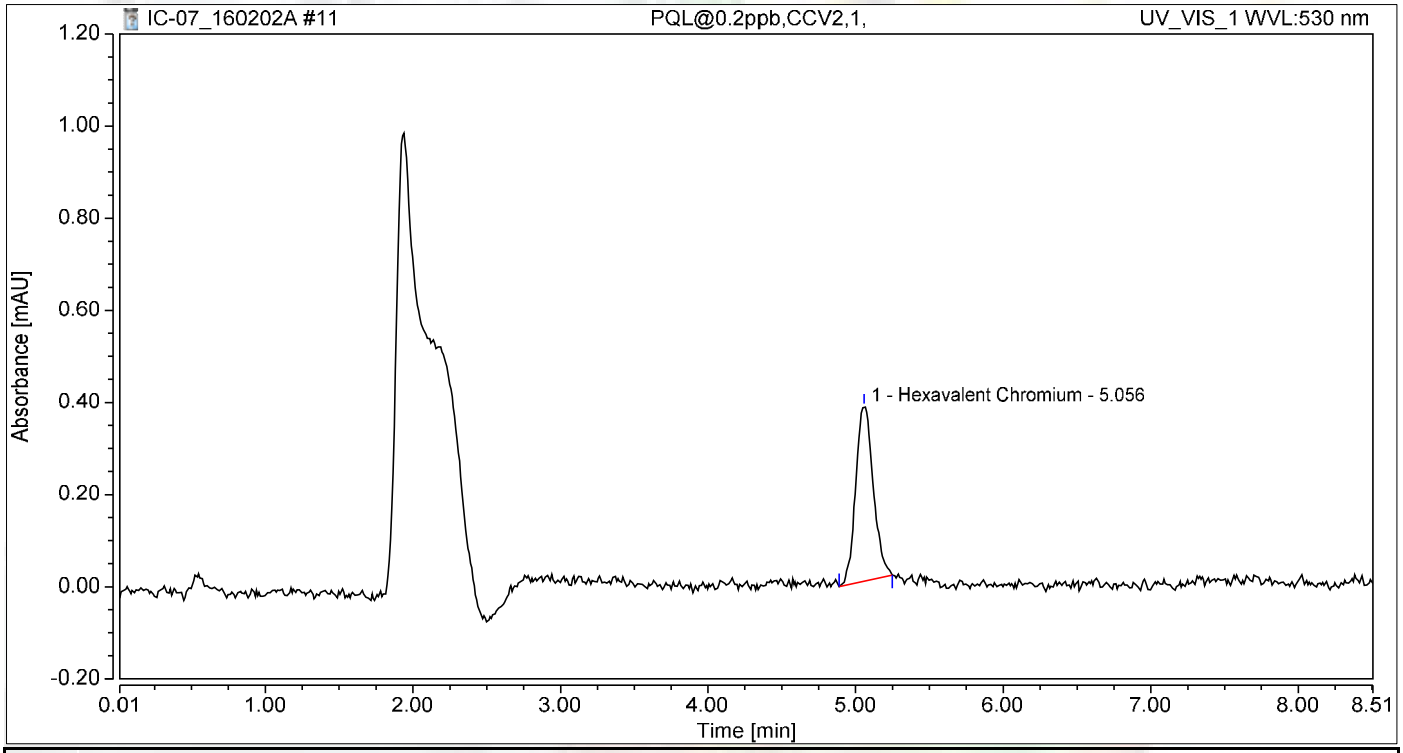
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.187	8.280	97.89	89.76	5.0149
2		8.206	0.026	0.944	2.11	10.24	n.a.
Total:			**1.213**	**9.225**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

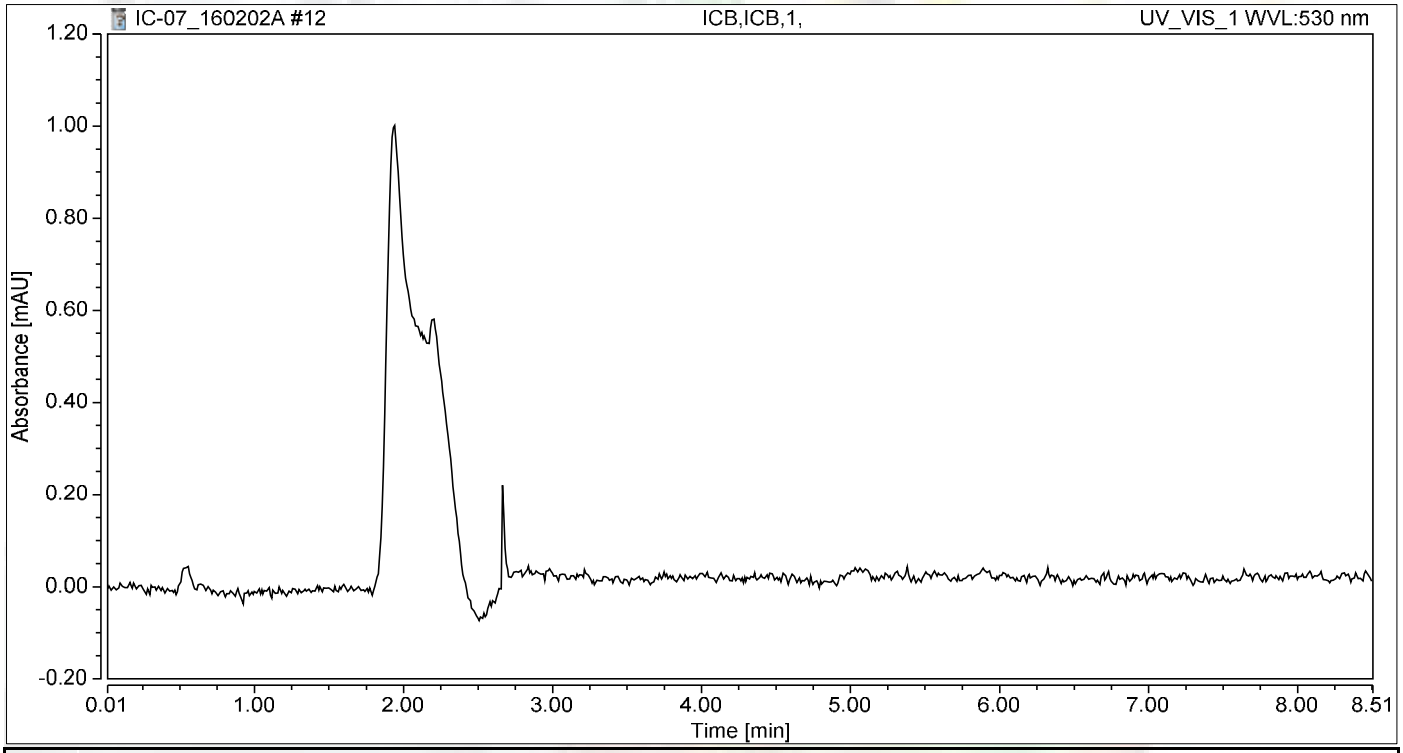
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.052	0.379	100.00	100.00	0.2196
Total:			**0.052**	**0.379**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

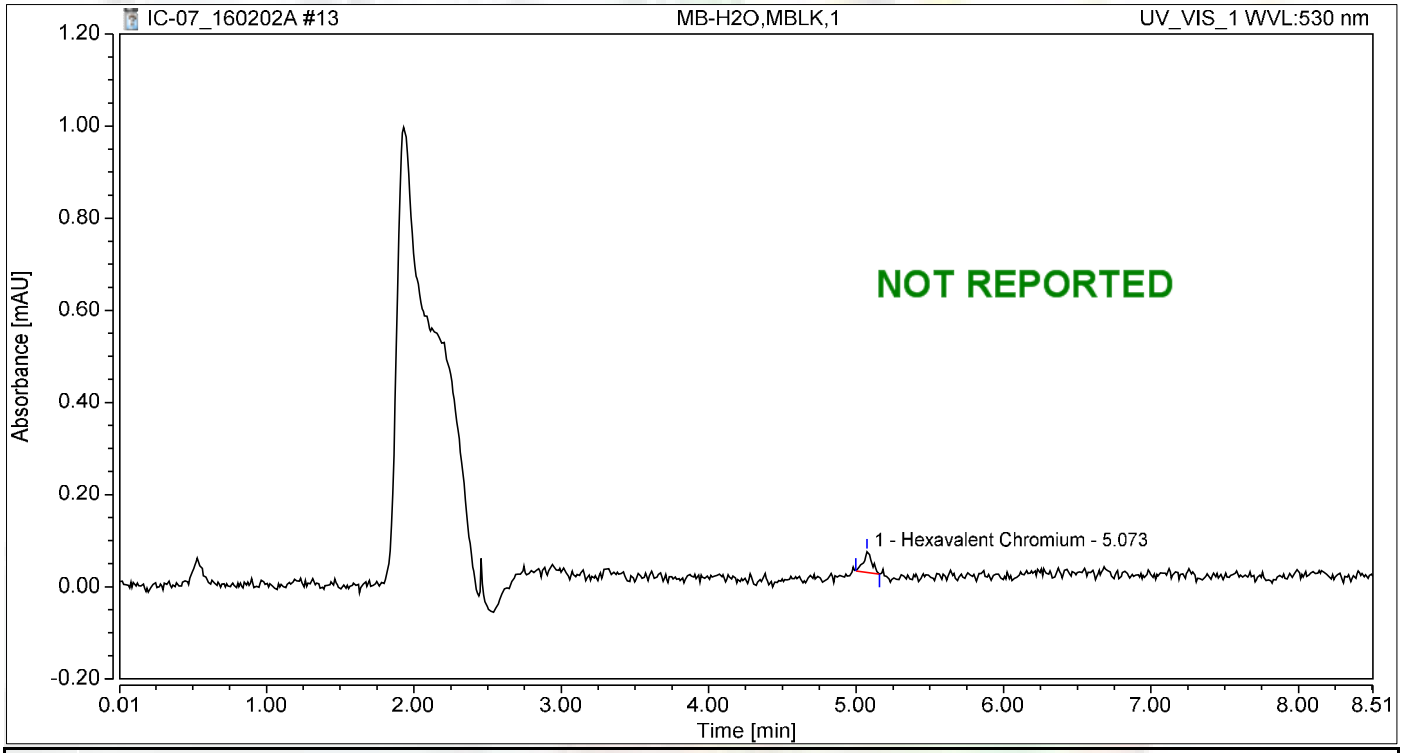
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

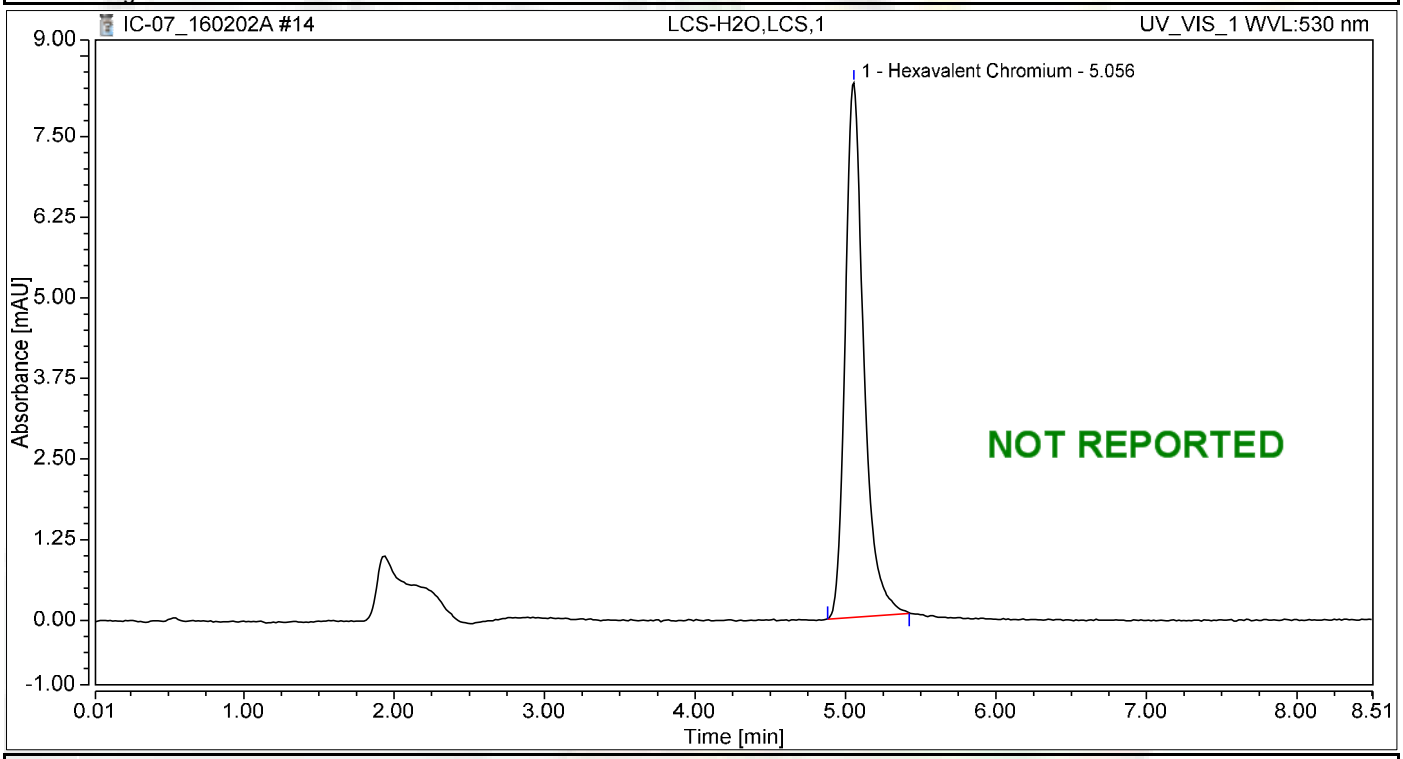
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.003	0.045	100.00	100.00	0.0130
Total:			**0.003**	**0.045**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.183	8.285	100.00	100.00	4.9980
Total:			**1.183**	**8.285**	**100.00**	**100.00**	

RAW DATA

Reb 3/8/2016

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	CCV-1	CCV	1	Hexavalent Chromium	02/26/16 3:03 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/26/16 3:14 PM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	02/26/16 3:24 PM	Reported
13	MB-R106238	MBLK	1	Hexavalent Chromium	02/26/16 3:33 PM	Reported
14	LCS-R106238	LCS	1	Hexavalent Chromium	02/26/16 3:43 PM	Reported
15	N018478-019A	SAMP	200	Hexavalent Chromium	02/26/16 3:52 PM	Not Reported
16	N018478-019A	SAMP	100	Hexavalent Chromium	02/26/16 4:02 PM	Not Reported
17	N018833-001A	SAMP	1	Hexavalent Chromium	02/26/16 4:22 PM	Reported
18	N018833-001ADUP	DUP	1	Hexavalent Chromium	02/26/16 4:33 PM	Reported
19	N018833-001AMS	MS	1	Hexavalent Chromium	02/26/16 4:42 PM	Reported
20	N018833-001AMSD	MSD	1	Hexavalent Chromium	02/26/16 4:52 PM	Reported
21	N018833-002A	SAMP	1	Hexavalent Chromium	02/26/16 5:01 PM	Reported
22	N018833-002AMS	MS	1	Hexavalent Chromium	02/26/16 5:11 PM	Reported
23	CCV-2	CCV	1	Hexavalent Chromium	02/26/16 5:20 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	02/26/16 5:29 PM	Reported
25	N018833-003A	SAMP	1	Hexavalent Chromium	02/26/16 5:39 PM	Reported
26	N018833-003AMS	MS	1	Hexavalent Chromium	02/26/16 5:48 PM	Reported
27	N018833-004A	SAMP	1	Hexavalent Chromium	02/26/16 5:58 PM	Reported
28	N018833-004AMS	MS	1	Hexavalent Chromium	02/26/16 6:07 PM	Reported
29	N018833-005A	SAMP	1	Hexavalent Chromium	02/26/16 6:17 PM	Reported
30	N018833-005AMS	MS	1	Hexavalent Chromium	02/26/16 6:26 PM	Reported
31	N018833-006A	SAMP	1	Hexavalent Chromium	02/26/16 6:36 PM	Reported
32	N018833-006AMS	MS	1	Hexavalent Chromium	02/26/16 6:45 PM	Reported
33	N018833-007A	SAMP	1	Hexavalent Chromium	02/26/16 6:55 PM	Reported
34	N018833-007AMS	MS	1	Hexavalent Chromium	02/26/16 7:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	02/26/16 7:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	02/26/16 7:23 PM	Reported
37	N018833-008A	SAMP	1	Hexavalent Chromium	02/26/16 7:32 PM	Reported
38	N018833-008AMS	MS	1	Hexavalent Chromium	02/26/16 7:42 PM	Reported
39	N018833-009A	SAMP	1	Hexavalent Chromium	02/26/16 7:51 PM	Reported
40	N018833-009AMS	MS	1	Hexavalent Chromium	02/26/16 8:01 PM	Reported
41	N018833-010A	SAMP	1	Hexavalent Chromium	02/26/16 8:10 PM	Reported
42	N018833-010AMS	MS	1	Hexavalent Chromium	02/26/16 8:20 PM	Reported

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018834-001A	SAMP	1	Hexavalent Chromium	02/26/16 8:29 PM	Reported
44	N018834-001AMS	MS	1	Hexavalent Chromium	02/26/16 8:39 PM	Reported
45	N018834-002A	SAMP	1	Hexavalent Chromium	02/26/16 8:48 PM	Reported
46	N018834-002AMS	MS	1	Hexavalent Chromium	02/26/16 8:58 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	02/26/16 9:07 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	02/26/16 9:17 PM	Reported
49	N018834-003A	SAMP	1	Hexavalent Chromium	02/26/16 9:26 PM	Reported
50	N018834-003AMS	MS	1	Hexavalent Chromium	02/26/16 9:36 PM	Reported
51	N018834-004A	SAMP	1	Hexavalent Chromium	02/26/16 9:45 PM	Reported
52	N018834-004AMS	MS	1	Hexavalent Chromium	02/26/16 9:54 PM	Reported
53	N018861-002A	SAMP	1	Hexavalent Chromium	02/26/16 10:04 PM	Reported
54	N018861-002AMS	MS	1	Hexavalent Chromium	02/26/16 10:13 PM	Reported
55	N018861-004A	SAMP	1	Hexavalent Chromium	02/26/16 10:23 PM	Not Reported
56	N018861-004AMS	MS	1	Hexavalent Chromium	02/26/16 10:32 PM	Not Reported
57	CCV-5	CCV	1	Hexavalent Chromium	02/26/16 10:42 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	02/26/16 10:51 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160226B**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:20:39**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	CCV-1,CCV,1,	1	1000	Unknown		02/26/2016 15:03	Finished	CCV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	2	1000	Unknown		02/26/2016 15:14	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1	3	1000	Unknown		02/26/2016 15:24	Finished	CCB R160209C
13	MB-H2O,MBLK,1	4	1000	Unknown		02/26/2016 15:33	Finished	MB
14	LCS-H2O,LCS,1	5	1000	Unknown		02/26/2016 15:43	Finished	LCS @ 5ppb, IWST-160202B
15	N018478-019A,SAMP	6	1000	Unknown		02/26/2016 15:52	Finished	SAMP, 0.05 to 10mL
16	N018478-019A,SAMP	7	1000	Unknown		02/26/2016 16:02	Finished	SAMP, 0.1 to 10mL
17	N018833-001A,SAMP	8	1000	Unknown		02/26/2016 16:22	Finished	SAMP, 10mL
18	N018833-001ADUP,D	9	1000	Unknown		02/26/2016 16:33	Finished	DUP, 10mL
19	N018833-001AMS,MS	10	1000	Unknown		02/26/2016 16:42	Finished	MS(1ppb), IWST-160202B, 10r
20	N018833-001AMSD,M	11	1000	Unknown		02/26/2016 16:52	Finished	MSD(1ppb), IWST-160202B, 1
21	N018833-002A,SAMP	12	1000	Unknown		02/26/2016 17:01	Finished	SAMP, 10mL
22	N018833-002AMS,MS	13	1000	Unknown		02/26/2016 17:11	Finished	MS(1ppb), IWST-160202B, 10r
23	CCV-2,CCV,1	14	1000	Unknown		02/26/2016 17:20	Finished	CCV @ 10ppb, IWST 160202A
24	CCB-2,CCB,1	15	1000	Unknown		02/26/2016 17:29	Finished	CCB
25	N018833-003A,SAMP	16	1000	Unknown		02/26/2016 17:39	Finished	SAMP, 10mL
26	N018833-003AMS,MS	17	1000	Unknown		02/26/2016 17:48	Finished	MS(1ppb), IWST-160202B, 10r
27	N018833-004A,SAMP	18	1000	Unknown		02/26/2016 17:58	Finished	SAMP, 10mL
28	N018833-004AMS,MS	19	1000	Unknown		02/26/2016 18:07	Finished	MS(1ppb), IWST-160202B, 10r
29	N018833-005A,SAMP	20	1000	Unknown		02/26/2016 18:17	Finished	SAMP, 10mL
30	N018833-005AMS,MS	21	1000	Unknown		02/26/2016 18:26	Finished	MS(1ppb), IWST-160202B, 10r
31	N018833-006A,SAMP	22	1000	Unknown		02/26/2016 18:36	Finished	SAMP, 10mL
32	N018833-006AMS,MS	23	1000	Unknown		02/26/2016 18:45	Finished	MS(1ppb), IWST-160202B, 10r
33	N018833-007A,SAMP	24	1000	Unknown		02/26/2016 18:55	Finished	SAMP, 10mL
34	N018833-007AMS,MS	25	1000	Unknown		02/26/2016 19:04	Finished	MS(1ppb), IWST-160202B, 10r
35	CCV-3,CCV,1	26	1000	Unknown		02/26/2016 19:14	Finished	CCV @ 5ppb, IWST 160202A
36	CCB-3,CCB,1	27	1000	Unknown		02/26/2016 19:23	Finished	CCB
37	N018833-008A,SAMP	28	1000	Unknown		02/26/2016 19:32	Finished	SAMP, 10mL
38	N018833-008AMS,MS	29	1000	Unknown		02/26/2016 19:42	Finished	MS(1ppb), IWST-160202B, 10r
39	N018833-009A,SAMP	30	1000	Unknown		02/26/2016 19:51	Finished	SAMP, 10mL
40	N018833-009AMS,MS	31	1000	Unknown		02/26/2016 20:01	Finished	MS(1ppb), IWST-160202B, 10r
41	N018833-010A,SAMP	32	1000	Unknown		02/26/2016 20:10	Finished	SAMP, 10mL
42	N018833-010AMS,MS	33	1000	Unknown		02/26/2016 20:20	Finished	MS(1ppb), IWST-160202B, 10r
43	N018834-001A,SAMP	34	1000	Unknown		02/26/2016 20:29	Finished	SAMP, 10mL
44	N018834-001AMS,MS	35	1000	Unknown		02/26/2016 20:39	Finished	MS(1ppb), IWST-160202B, 10r
45	N018834-002A,SAMP	36	1000	Unknown		02/26/2016 20:48	Finished	SAMP, 10mL
46	N018834-002AMS,MS	37	1000	Unknown		02/26/2016 20:58	Finished	MS(1ppb), IWST-160202B, 10r
47	CCV-4,CCV,1	38	1000	Unknown		02/26/2016 21:07	Finished	CCV @ 10ppb, IWST 160202A
48	CCB-4,CCB,1	39	1000	Unknown		02/26/2016 21:17	Finished	CCB
49	N018834-003A,SAMP	40	1000	Unknown		02/26/2016 21:26	Finished	SAMP, 10mL
50	N018834-003AMS,MS	41	1000	Unknown		02/26/2016 21:36	Finished	MS(1ppb), IWST-160202B, 10r
51	N018834-004A,SAMP	42	1000	Unknown		02/26/2016 21:45	Finished	SAMP, 10mL
52	N018834-004AMS,MS	43	1000	Unknown		02/26/2016 21:54	Finished	MS(1ppb), IWST-160202B, 10r
53	N018861-002A,SAMP	44	1000	Unknown		02/26/2016 22:04	Finished	SAMP, 10mL
54	N018861-002AMS,MS	45	1000	Unknown		02/26/2016 22:13	Finished	MS(5ppb), IWST-160202B, 10r
55	N018861-004A,SAMP	46	1000	Unknown		02/26/2016 22:23	Finished	SAMP, 10mL
56	N018861-004AMS,MS	47	1000	Unknown		02/26/2016 22:32	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	48	1000	Unknown		02/26/2016 22:42	Finished	CCV @ 5ppb, IWST 160202A
58	CCB-5,CCB,1	49	1000	Unknown		02/26/2016 22:51	Finished	CCB
59	SHUTDOWN	50	1000	Unknown		02/26/2016 23:01	Finished	BLANK
60	Eluent: R160224A	51	1000	Unknown		n.a.	Finished	Eluent

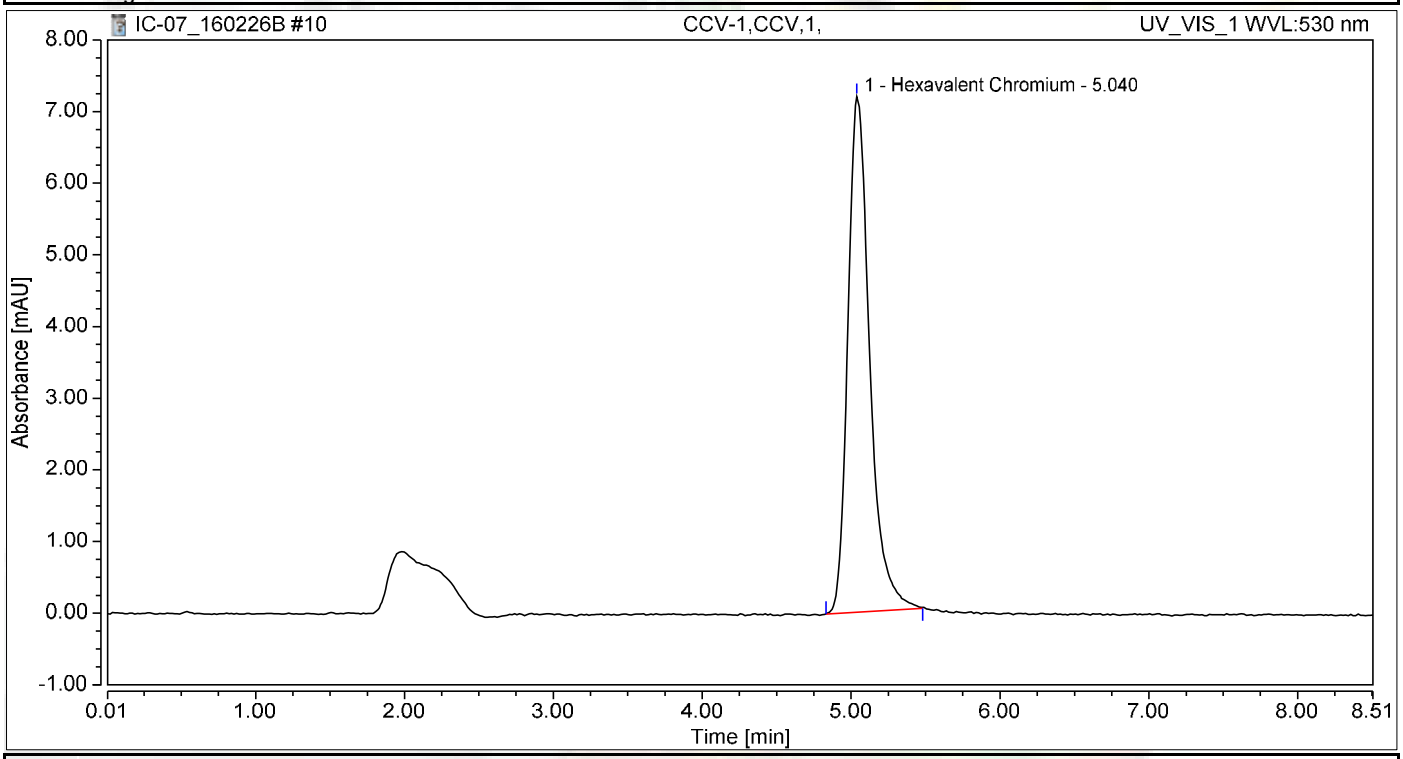
61	PCR: R160226A	CurrentVial	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

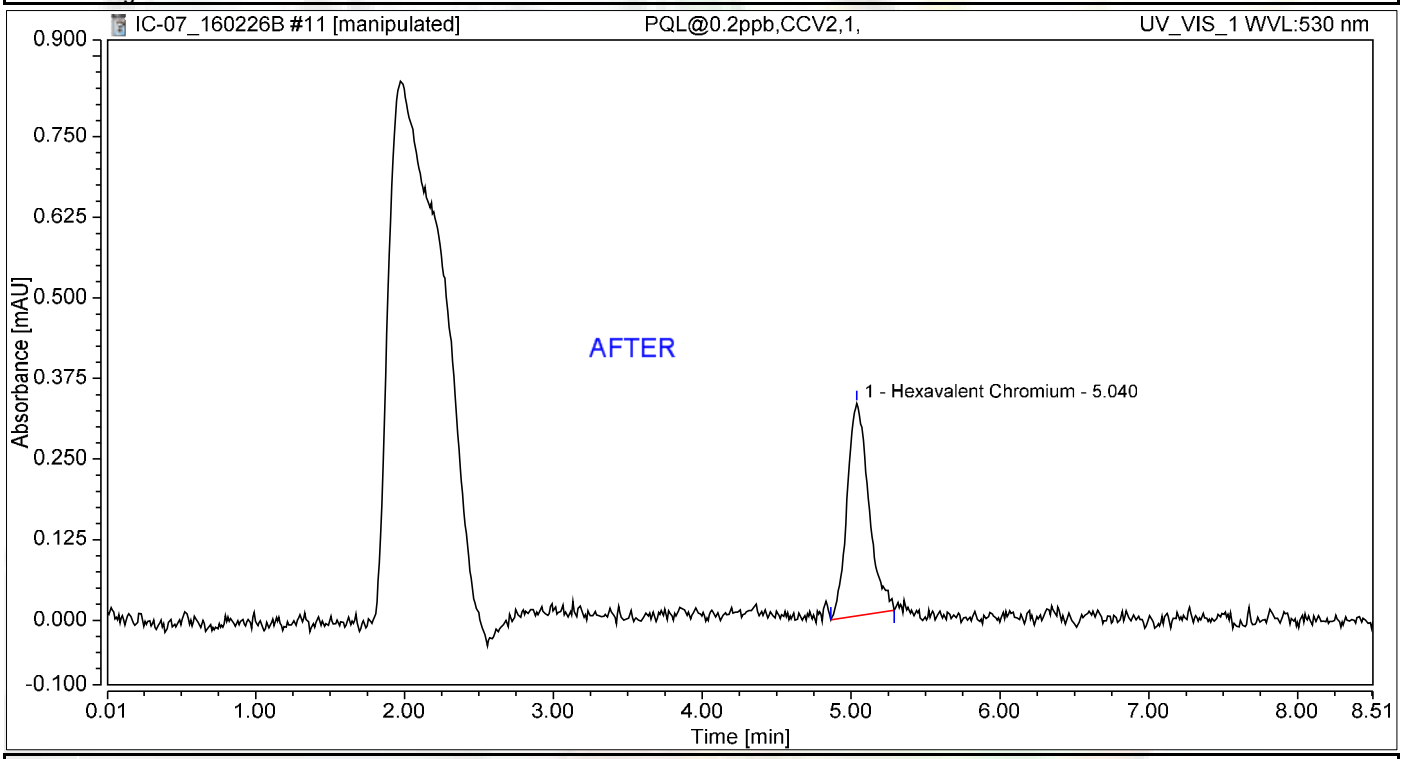
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.213	7.194	100.00	100.00	5.1252
Total:			**1.213**	**7.194**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.055	0.330	100.00	100.00	0.2338
Total:			**0.055**	**0.330**	**100.00**	**100.00**	

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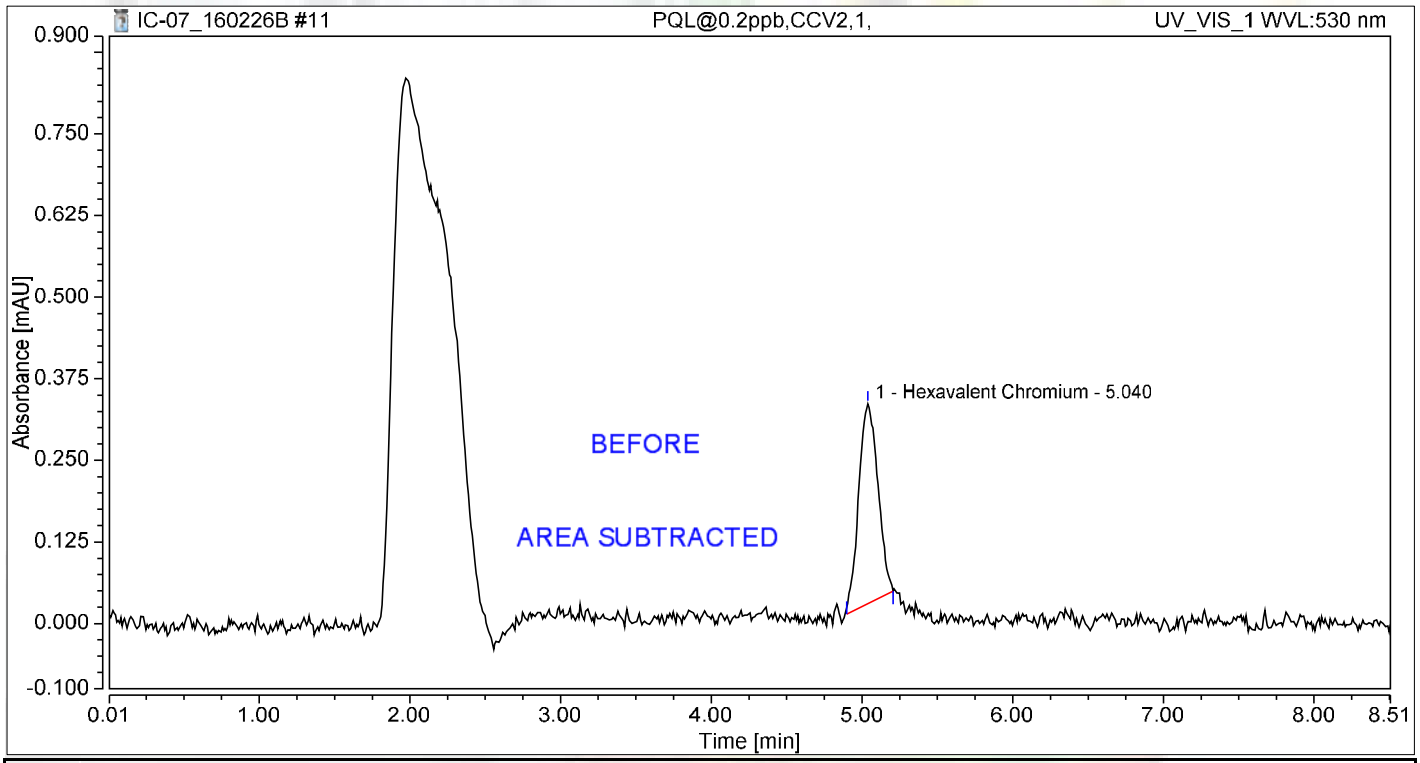
Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.045	0.306	100.00	100.00	0.1913
Total:			**0.045**	**0.306**	**100.00**	**100.00**	

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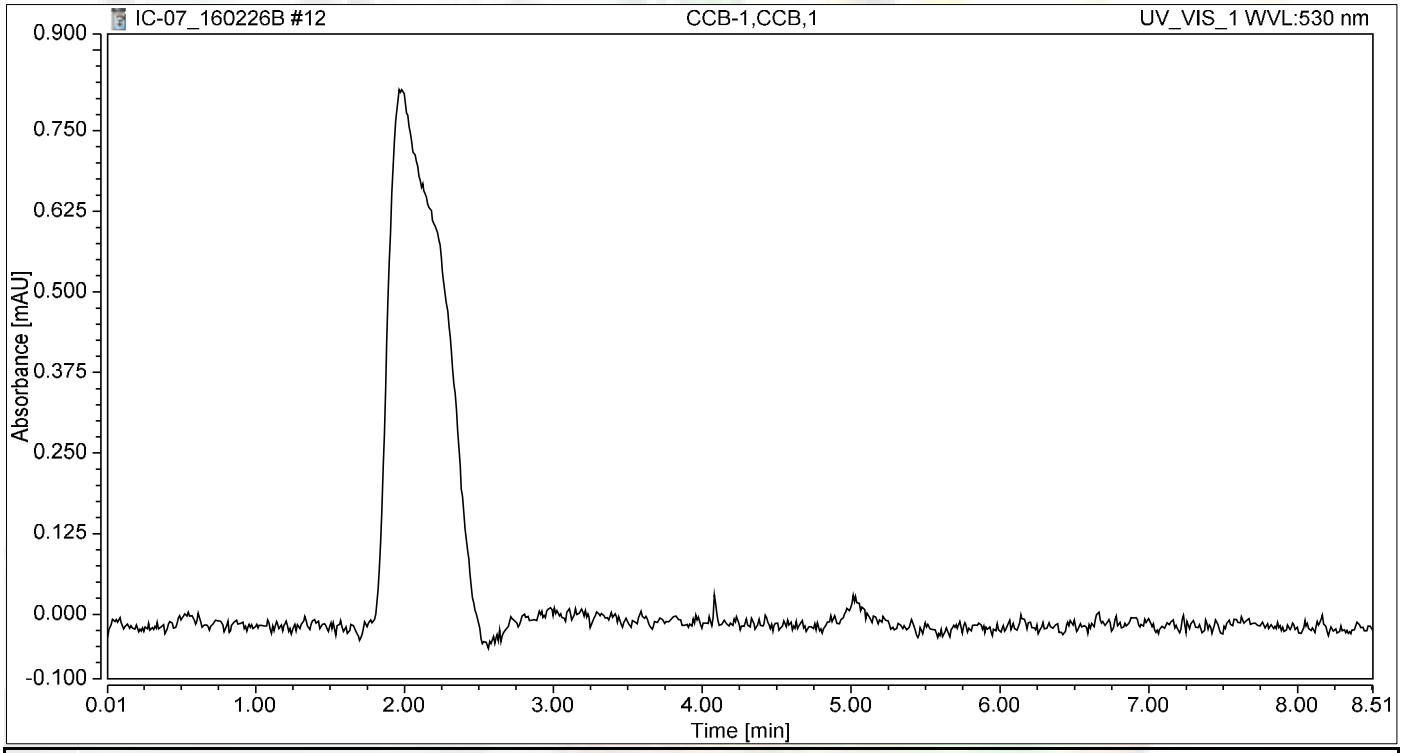
Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

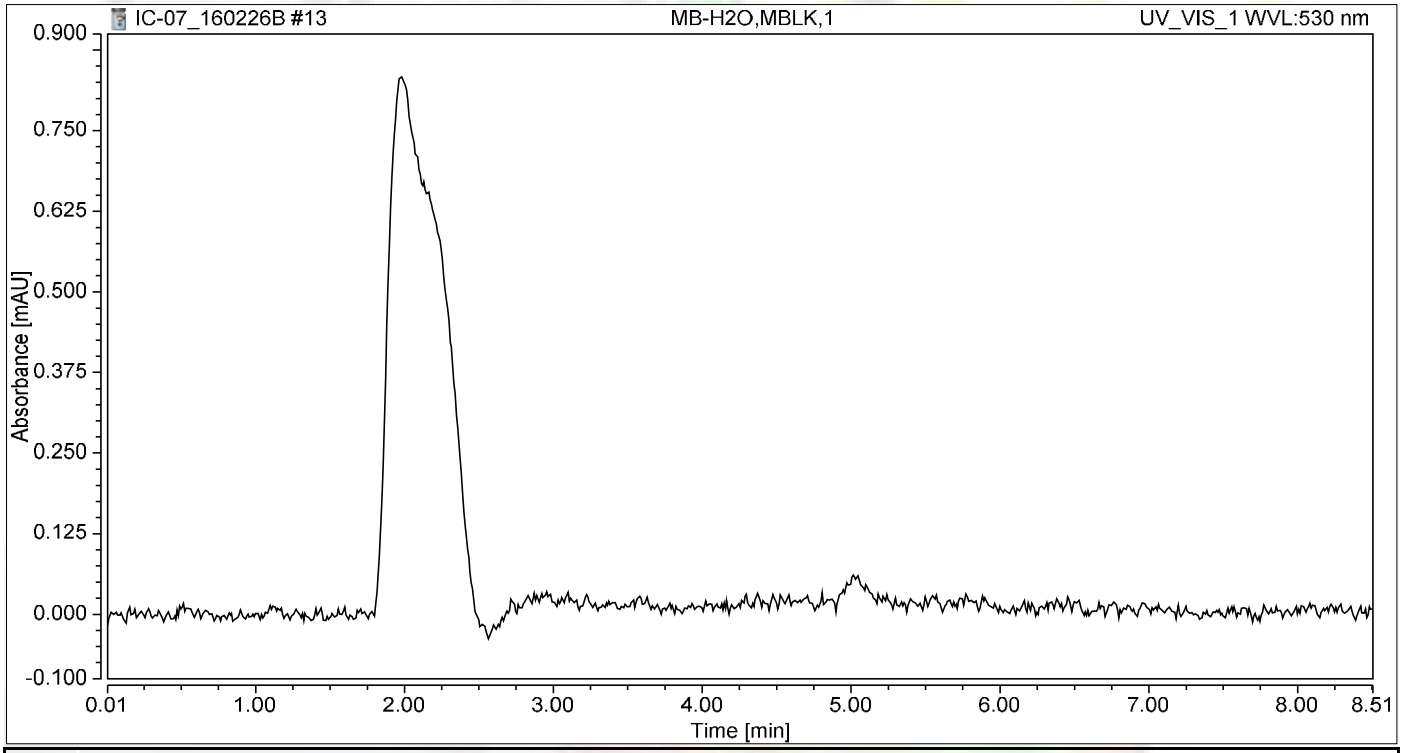
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

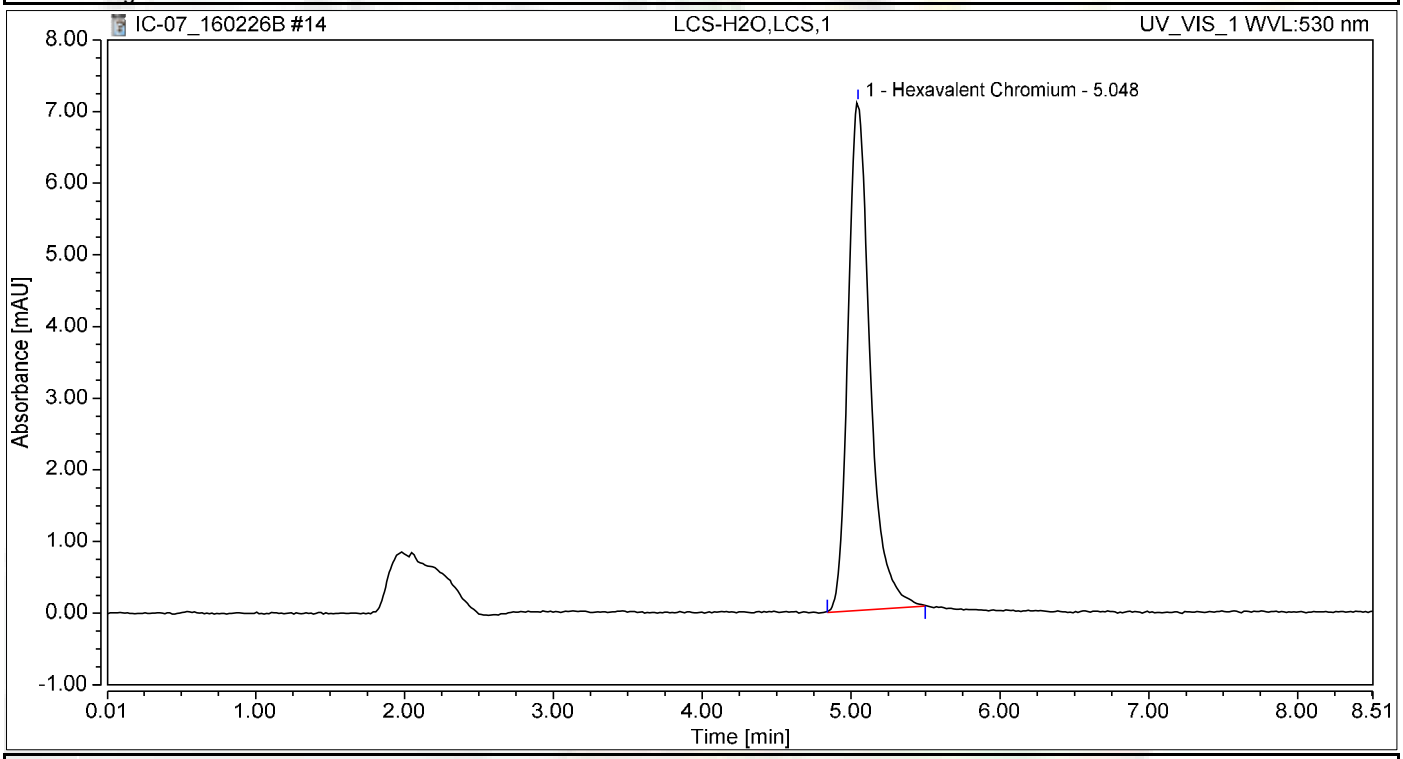
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

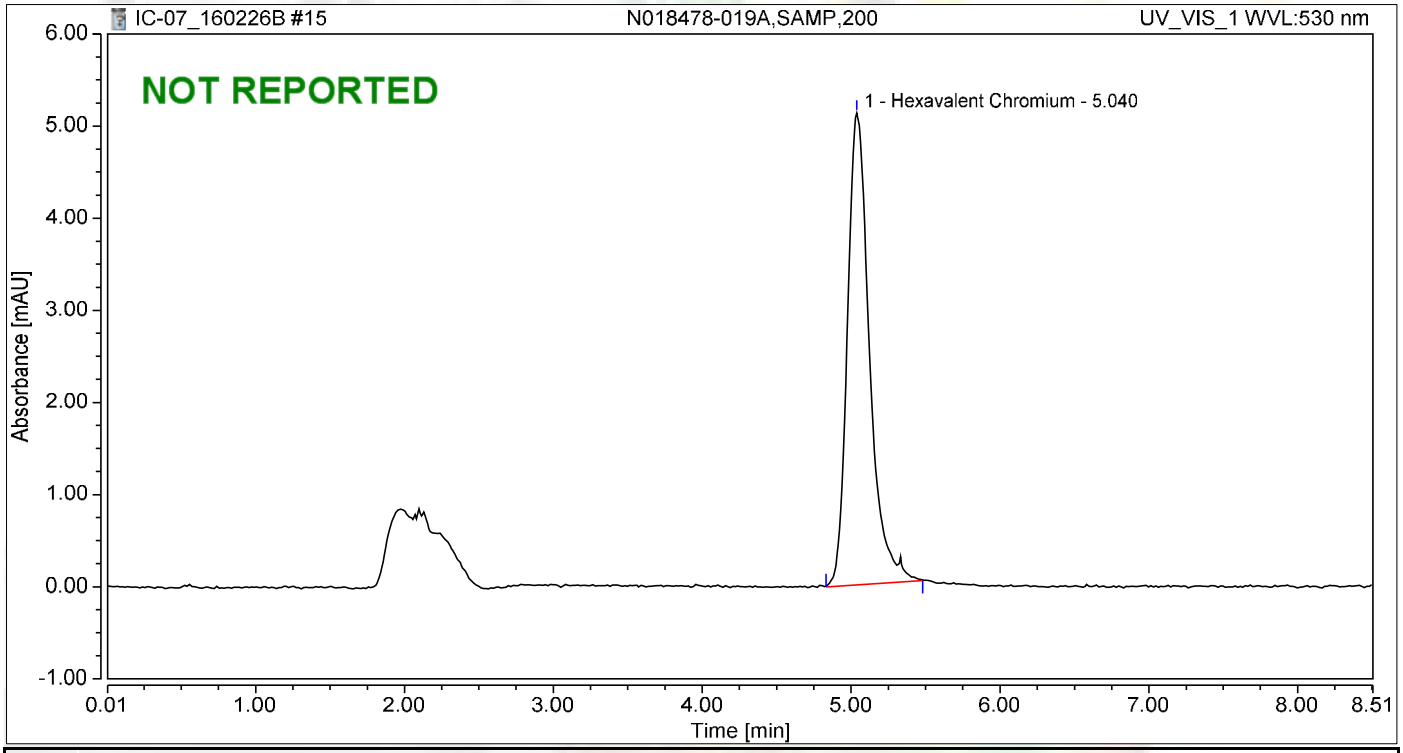
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.209	7.091	100.00	100.00	5.1060
Total:			**1.209**	**7.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018478-019A,SAMP,200**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

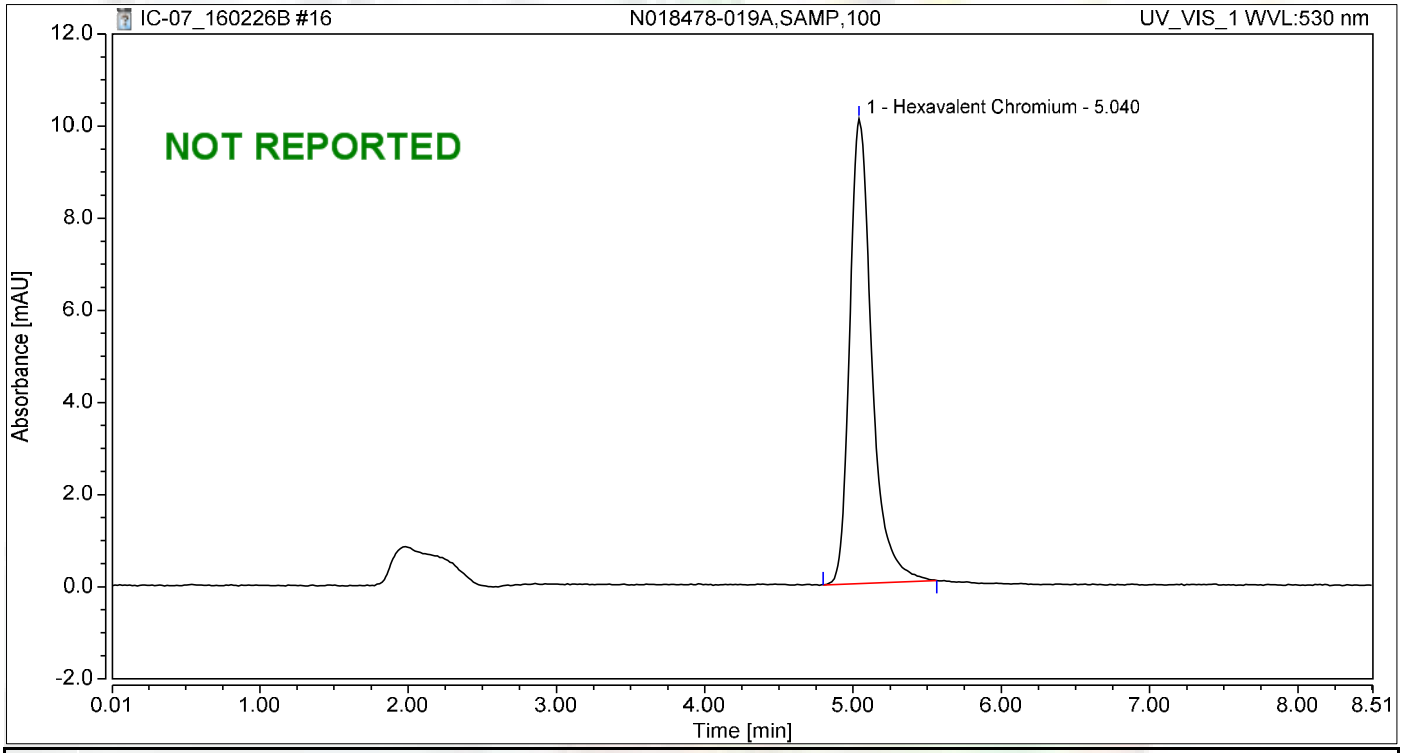
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.876	5.122	100.00	100.00	3.7002
Total:			**0.876**	**5.122**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018478-019A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

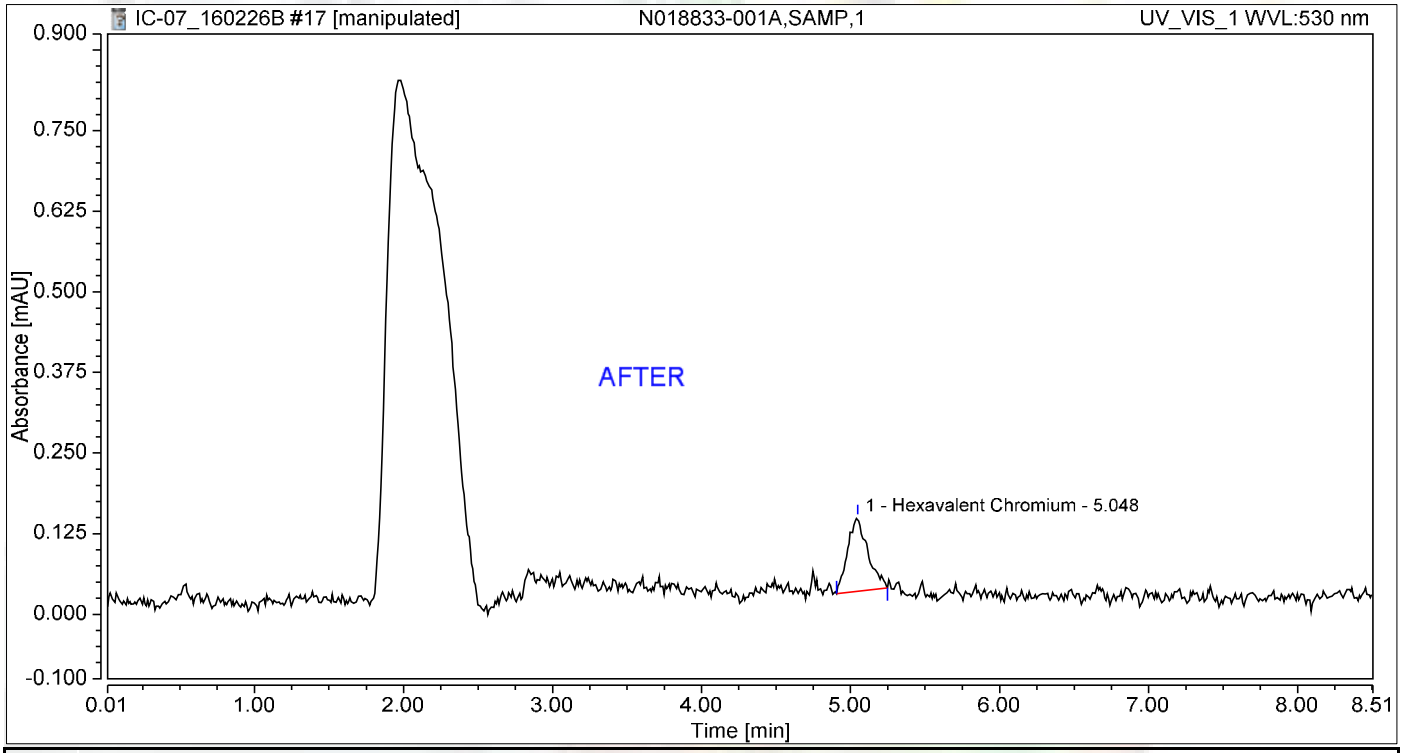
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.732	10.087	100.00	100.00	7.3156
Total:			**1.732**	**10.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.018	0.114	100.00	100.00	0.0758
Total:			**0.018**	**0.114**	**100.00**	**100.00**	

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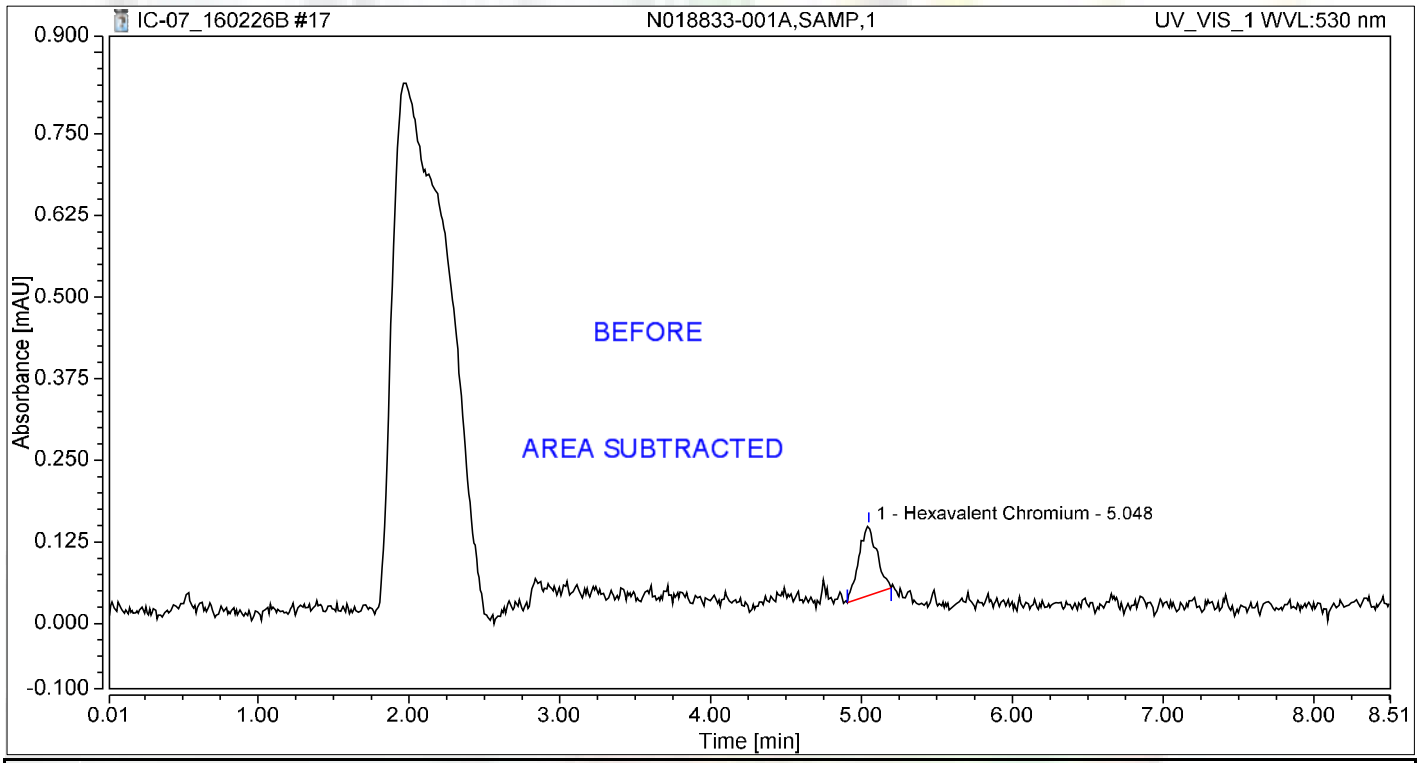
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.015	0.107	100.00	100.00	0.0640
Total:			**0.015**	**0.107**	**100.00**	**100.00**	

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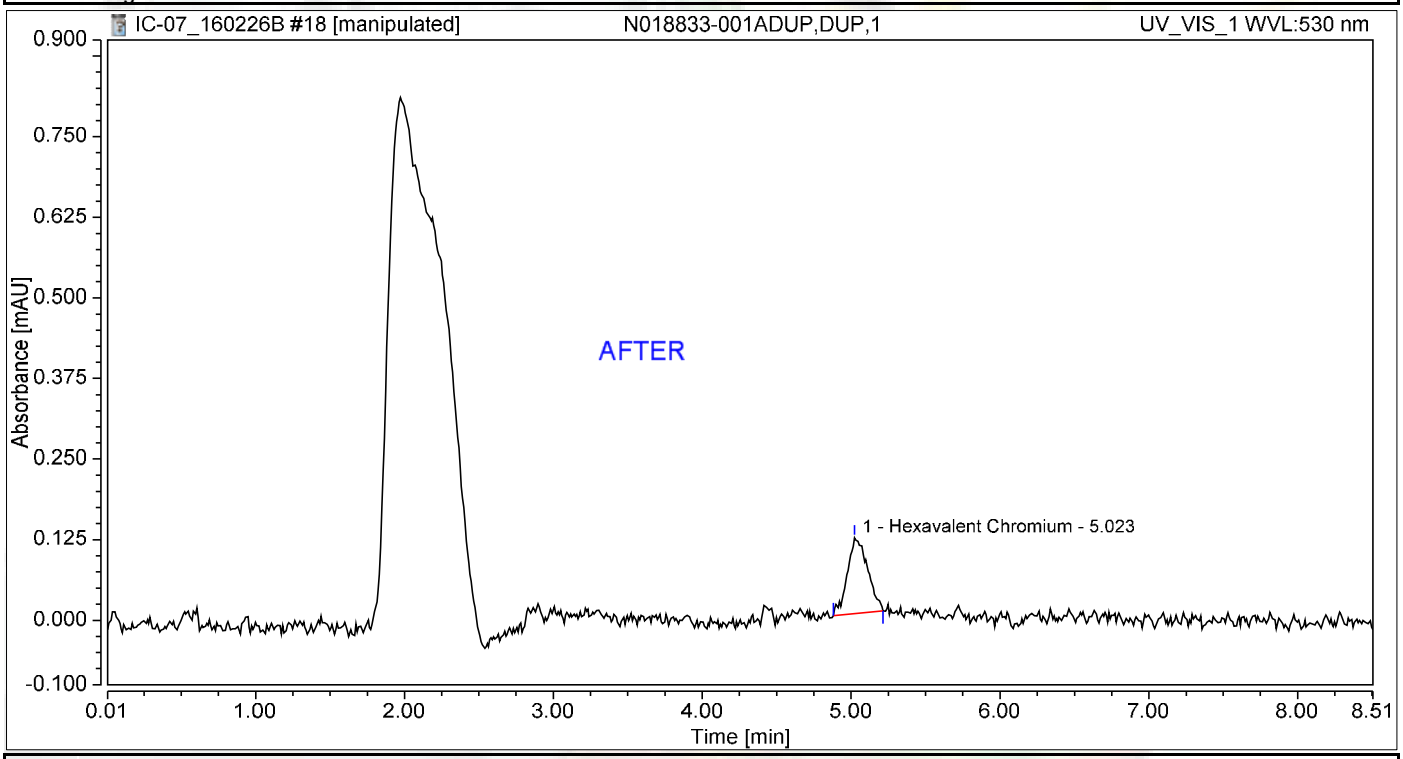
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.018	0.117	100.00	100.00	0.0777
Total:			**0.018**	**0.117**	**100.00**	**100.00**	

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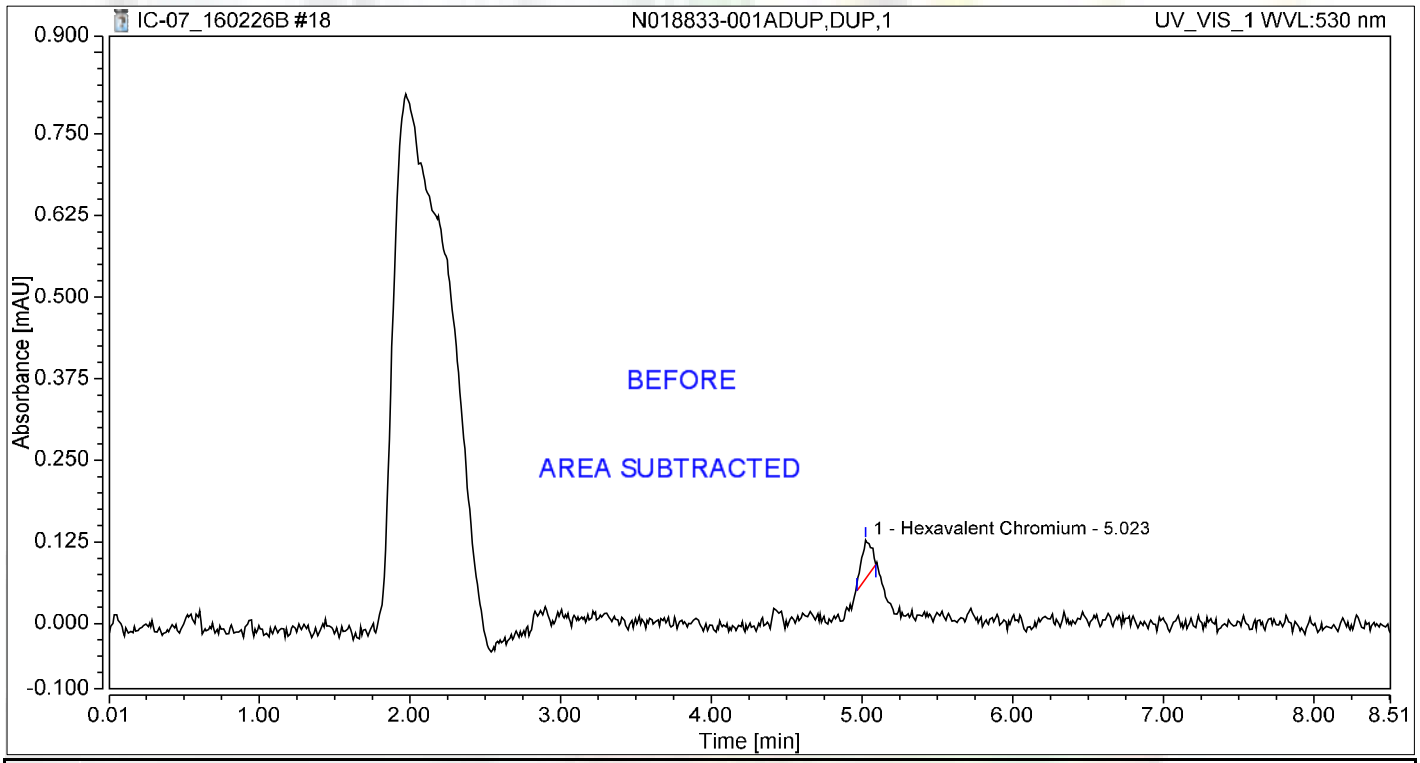
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.004	0.059	100.00	100.00	0.0185
Total:			**0.004**	**0.059**	**100.00**	**100.00**	

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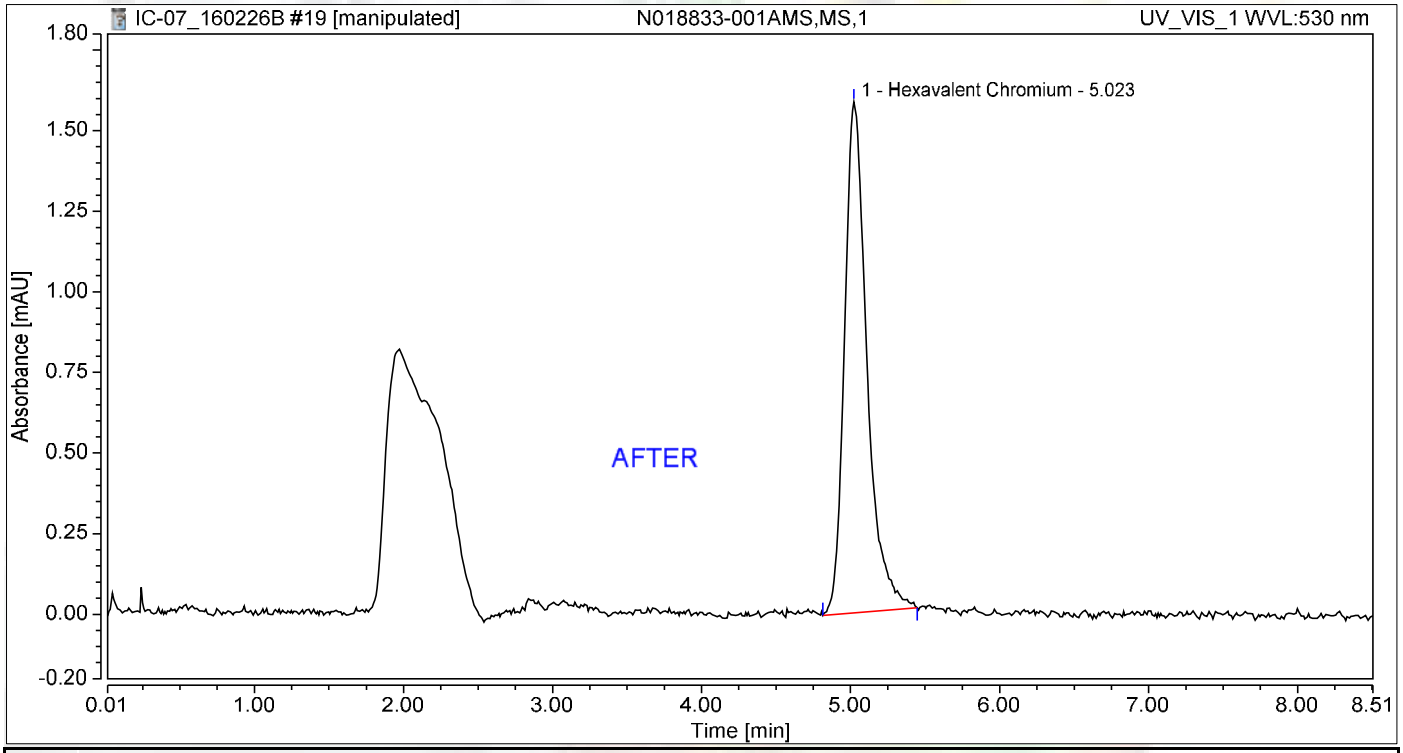
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.276	1.586	100.00	100.00	1.1644
Total:			**0.276**	**1.586**	**100.00**	**100.00**	

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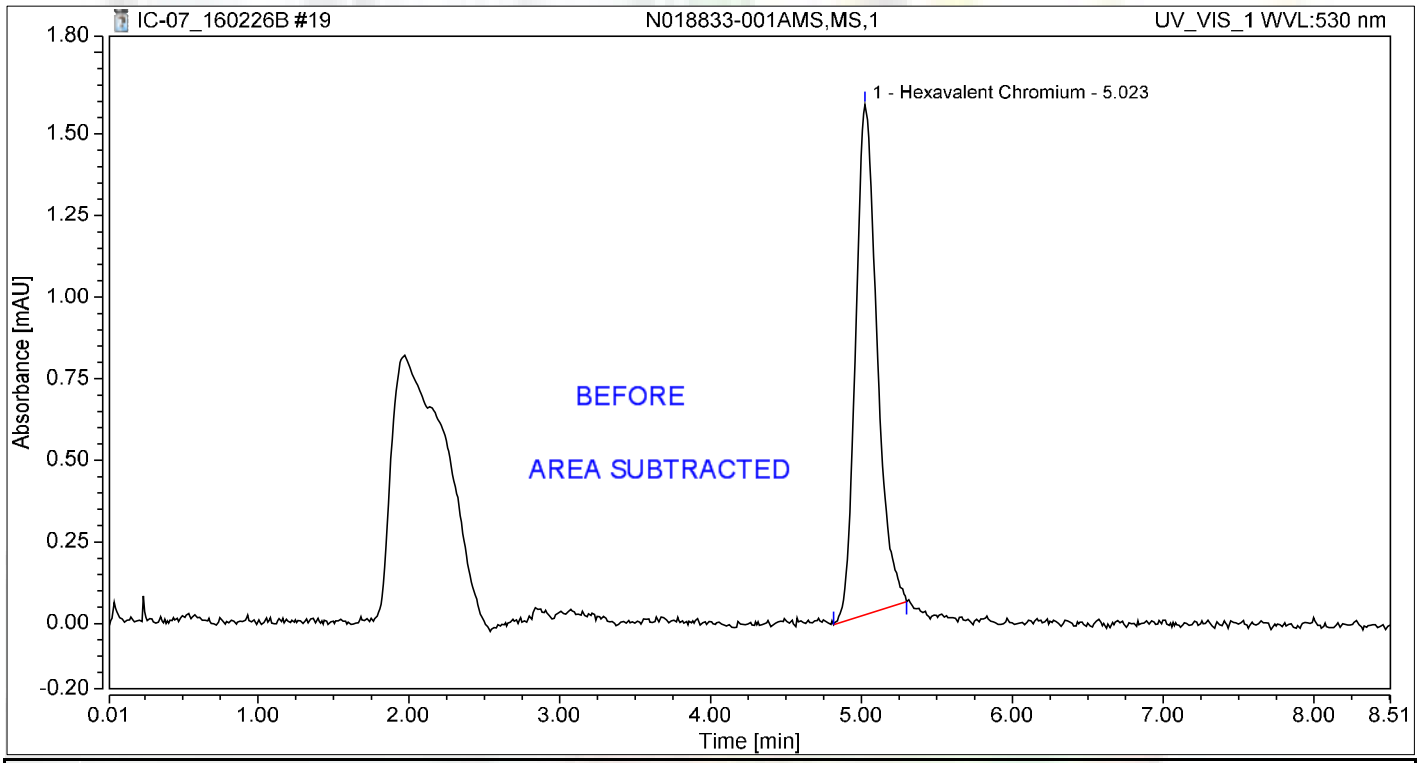
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

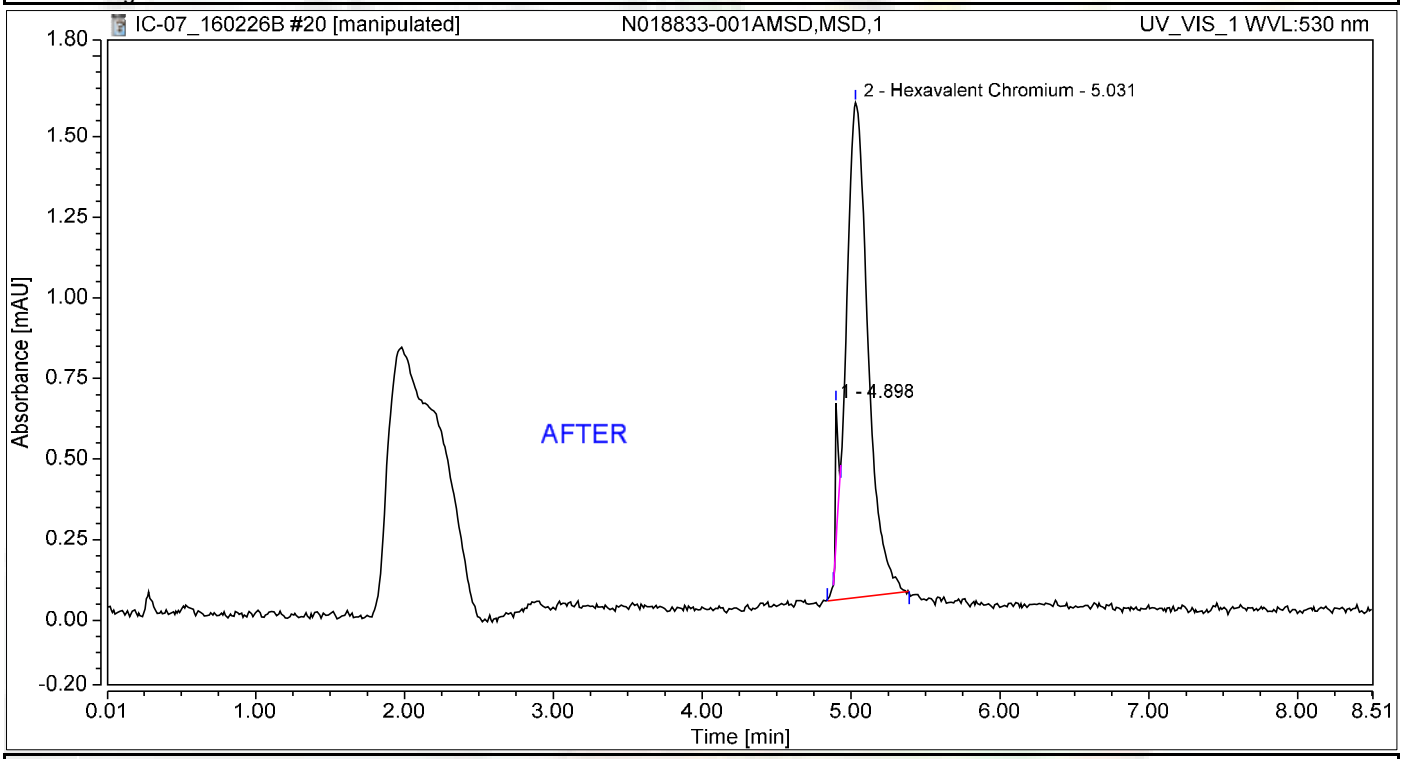
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.259	1.563	100.00	100.00	1.0922
Total:			**0.259**	**1.563**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.898	0.009	0.440	3.12	22.28	n.a.
2	Hexavalent Chromium	5.031	0.265	1.535	96.88	77.72	1.1178
Total:			**0.273**	**1.975**	**100.00**	**100.00**	

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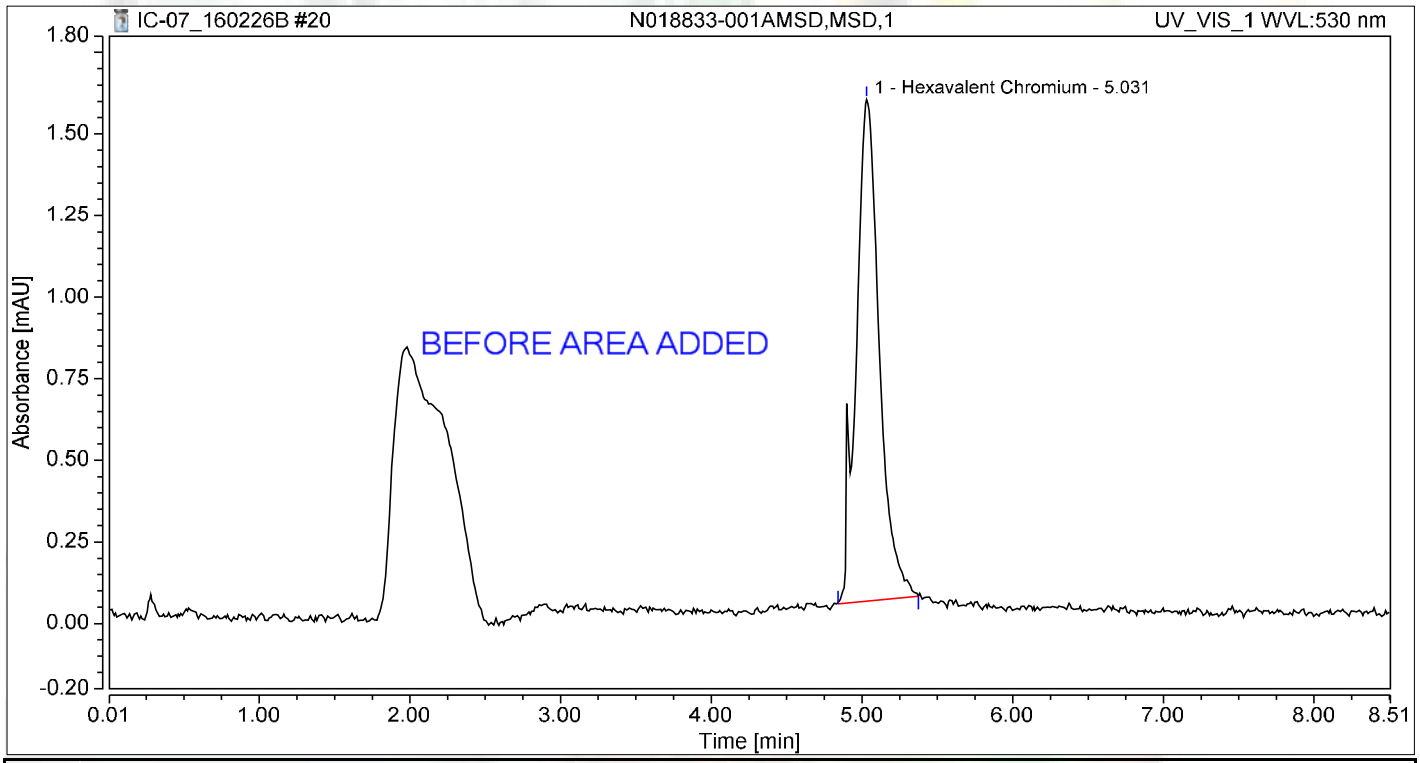
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.275	1.538	100.00	100.00	1.1612
Total:			**0.275**	**1.538**	**100.00**	**100.00**	

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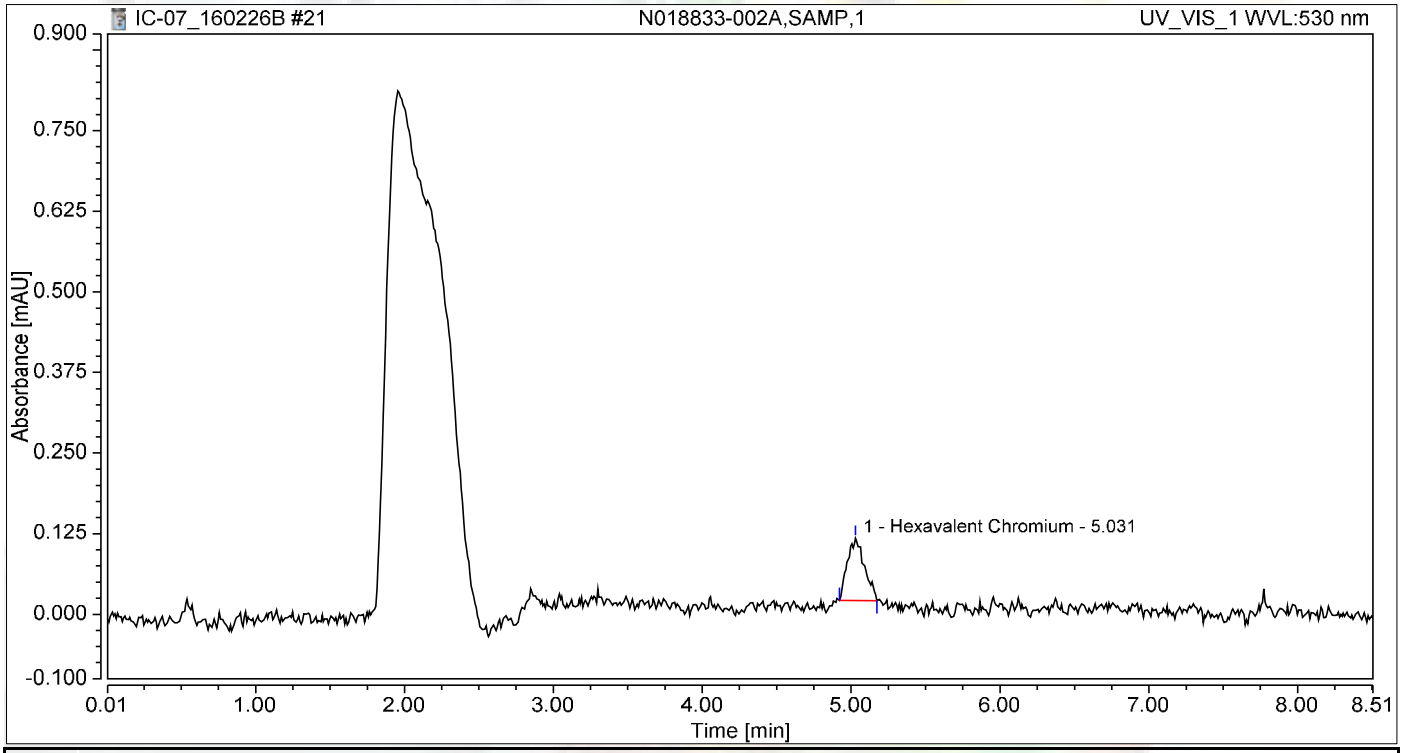
Chromatogram and Results

Injection Details

Injection Name:	**N018833-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

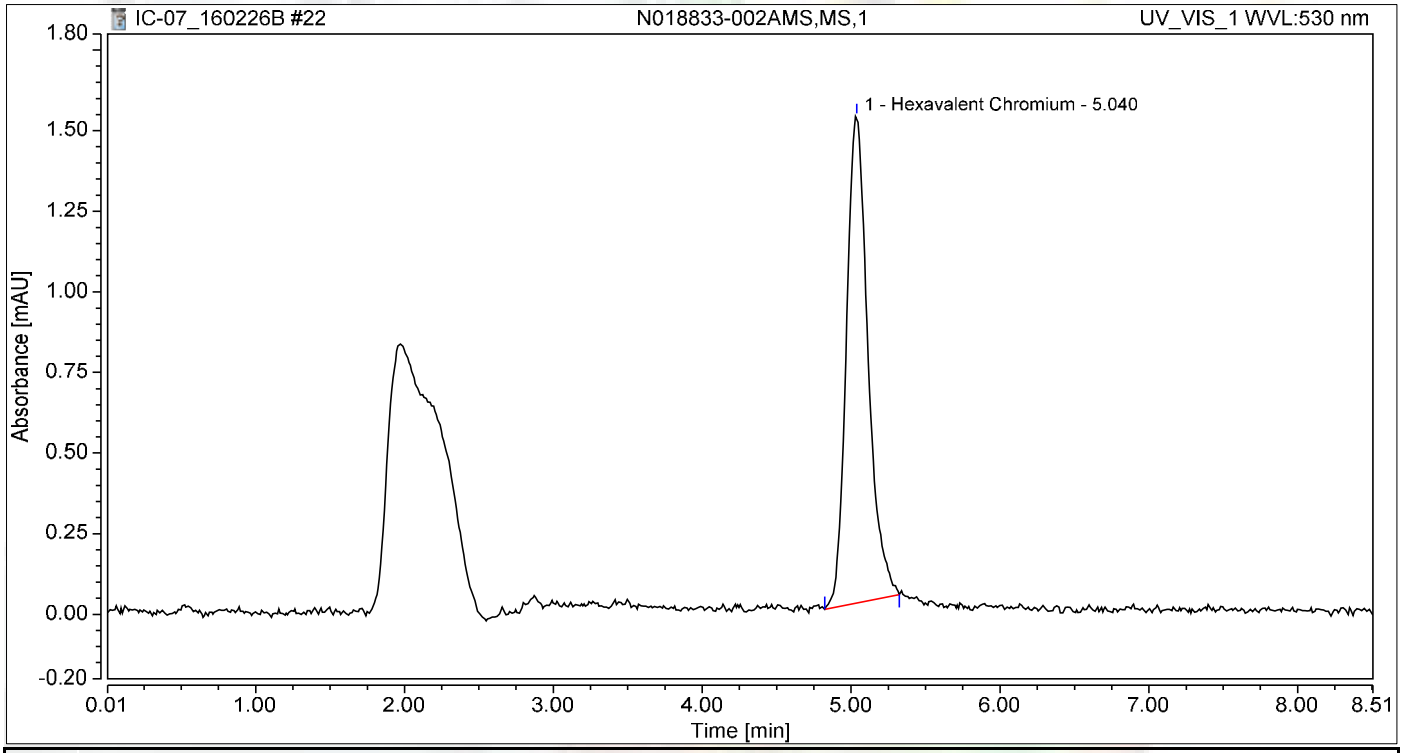
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.013	0.097	100.00	100.00	0.0540
Total:			**0.013**	**0.097**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

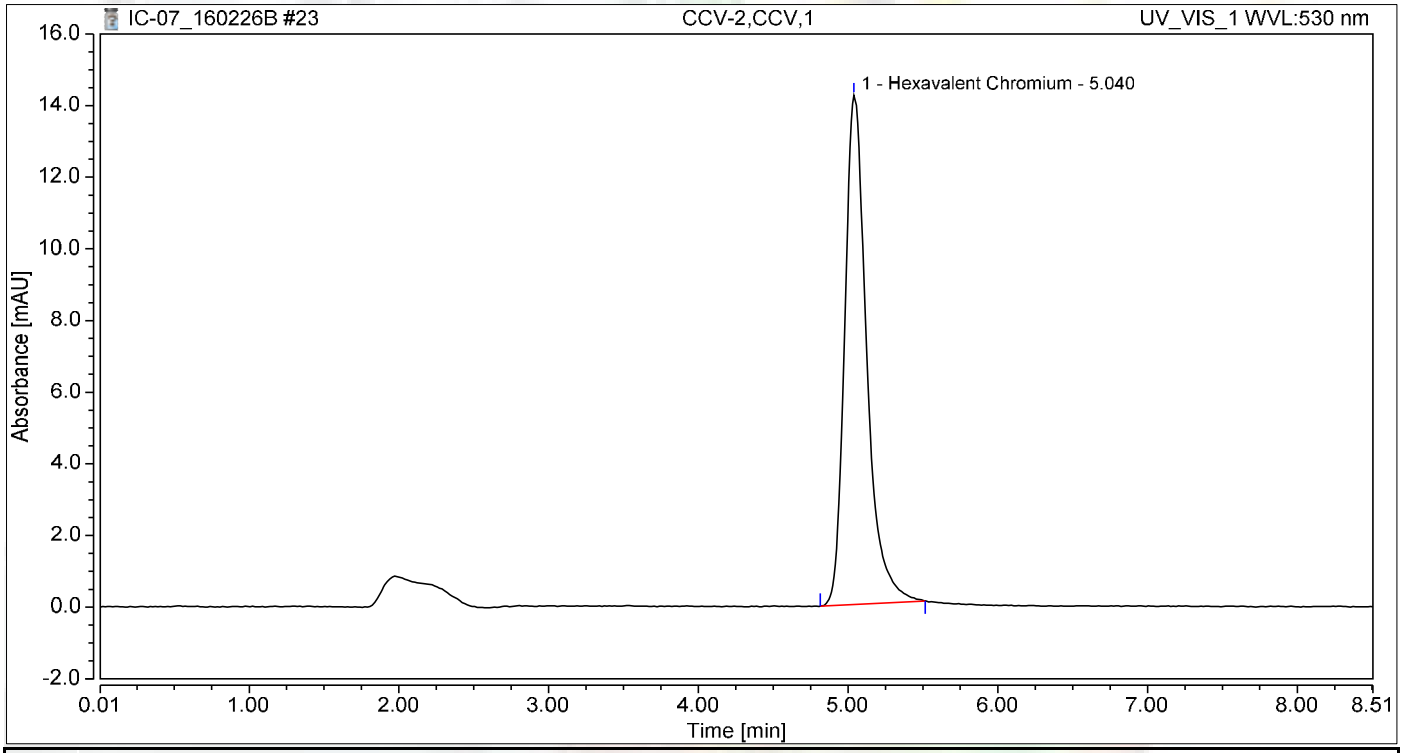
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.509	100.00	100.00	1.0658
Total:			**0.252**	**1.509**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

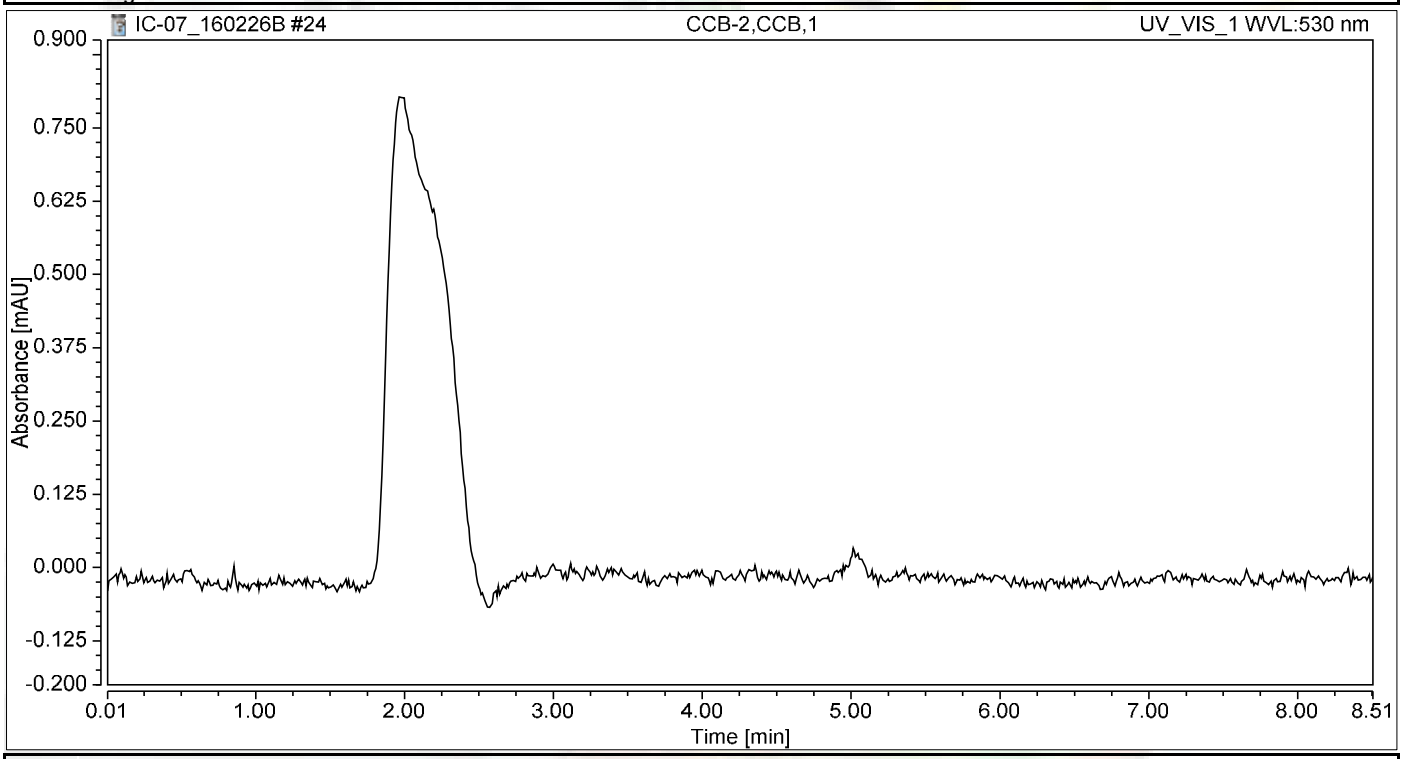
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.411	14.210	100.00	100.00	10.1848
Total:			**2.411**	**14.210**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

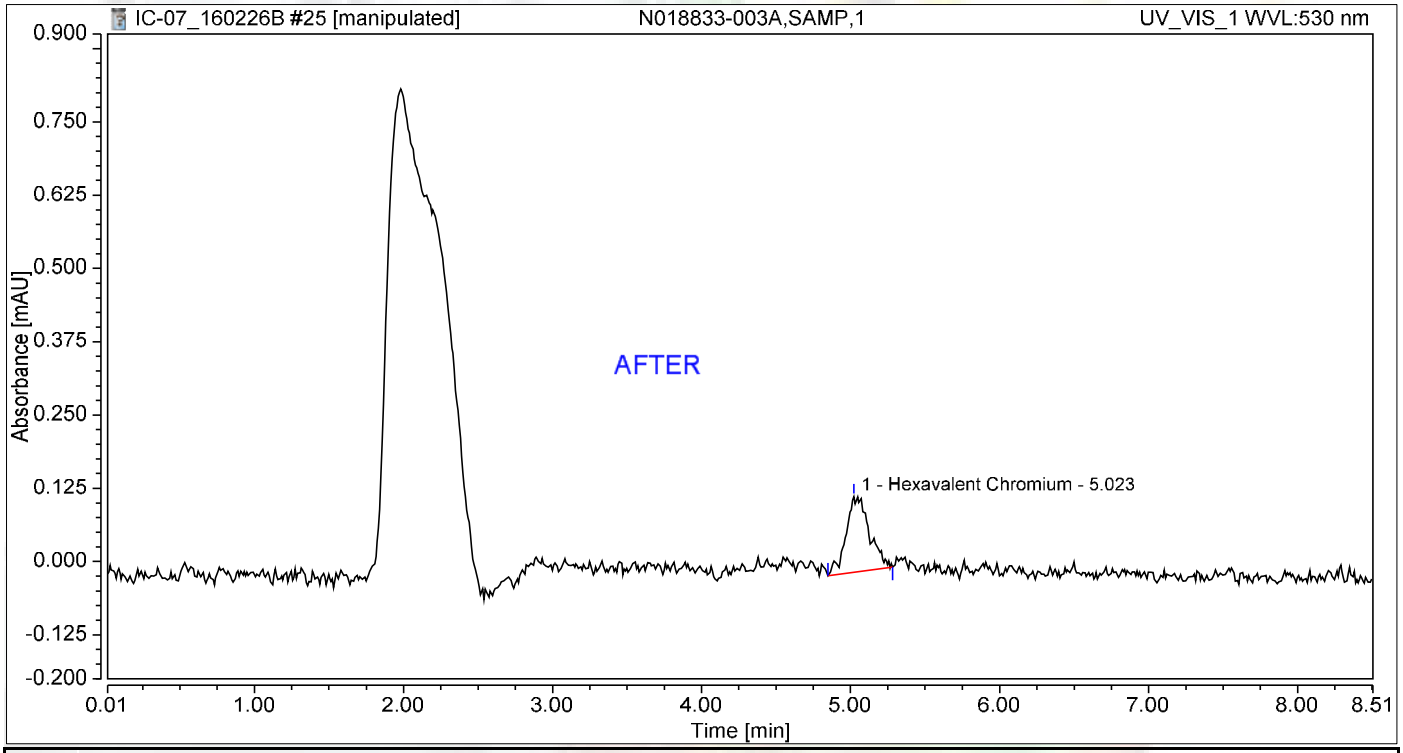
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.023	0.129	100.00	100.00	0.0978
Total:			**0.023**	**0.129**	**100.00**	**100.00**	

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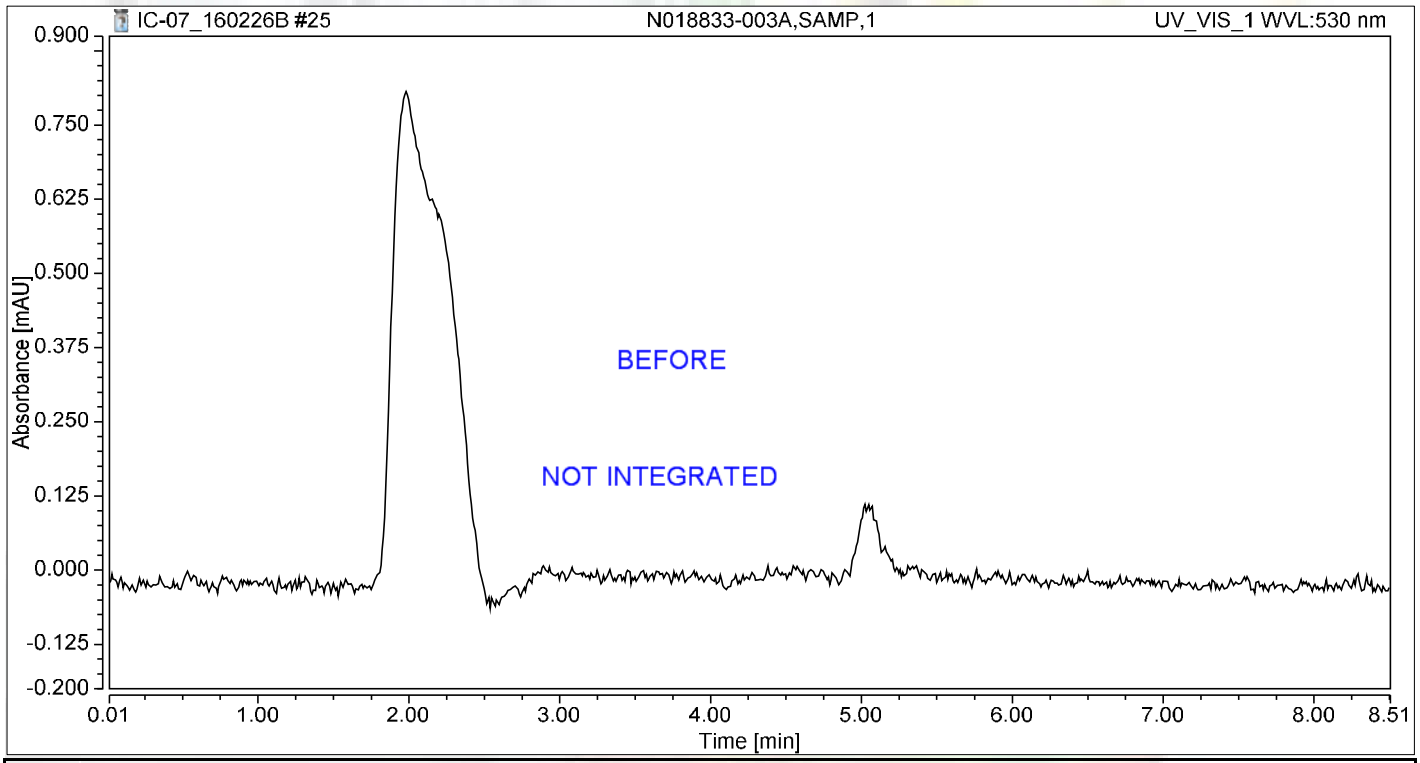
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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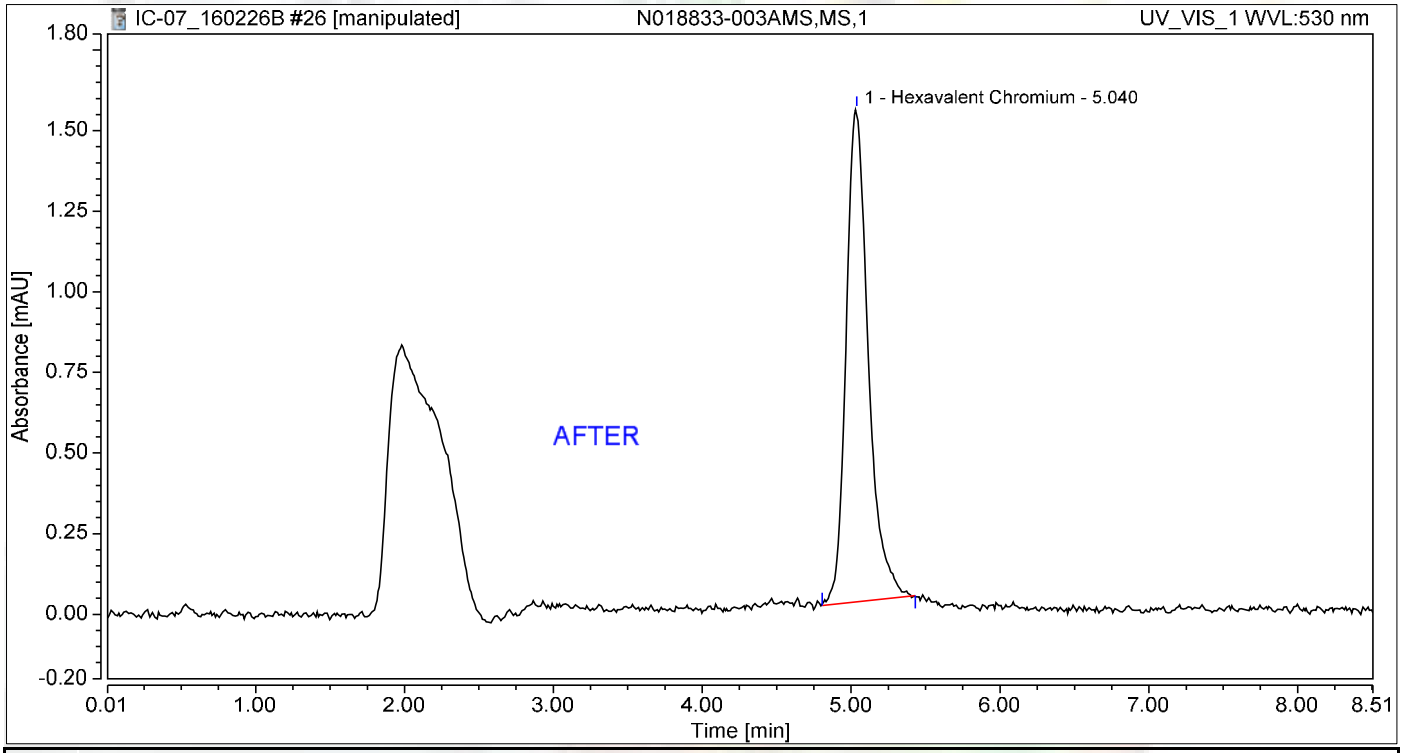
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.262	1.528	100.00	100.00	1.1058
Total:			**0.262**	**1.528**	**100.00**	**100.00**	

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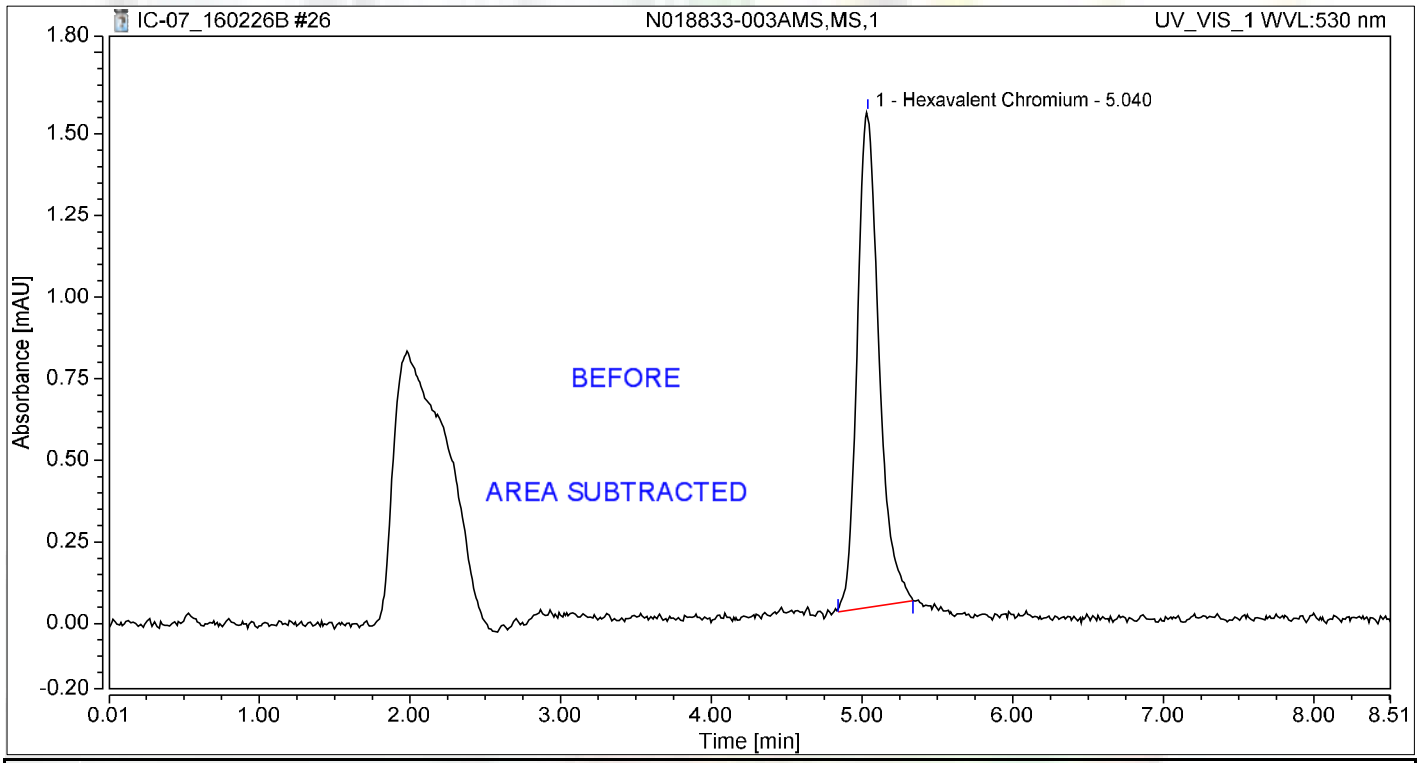
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.255	1.517	100.00	100.00	1.0765
Total:			**0.255**	**1.517**	**100.00**	**100.00**	

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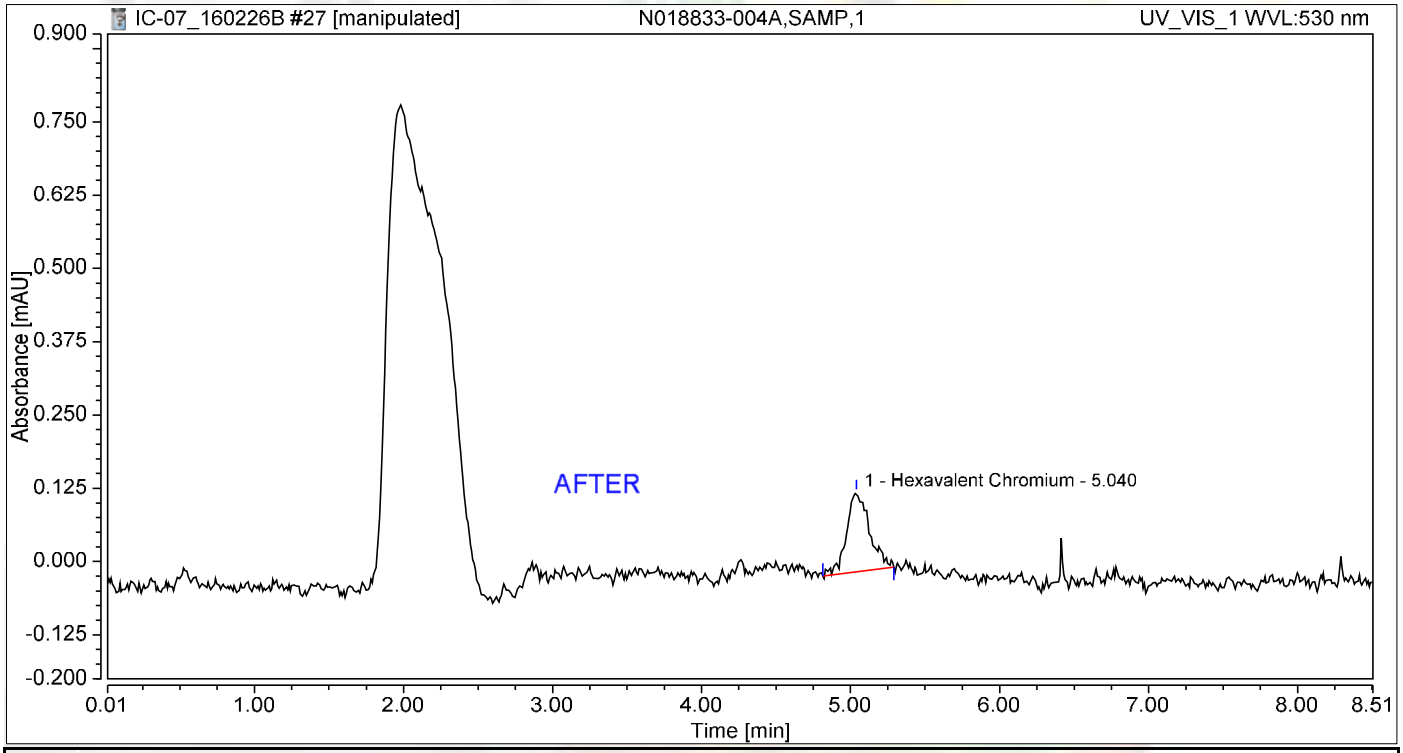
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.024	0.136	100.00	100.00	0.1016
Total:			**0.024**	**0.136**	**100.00**	**100.00**	

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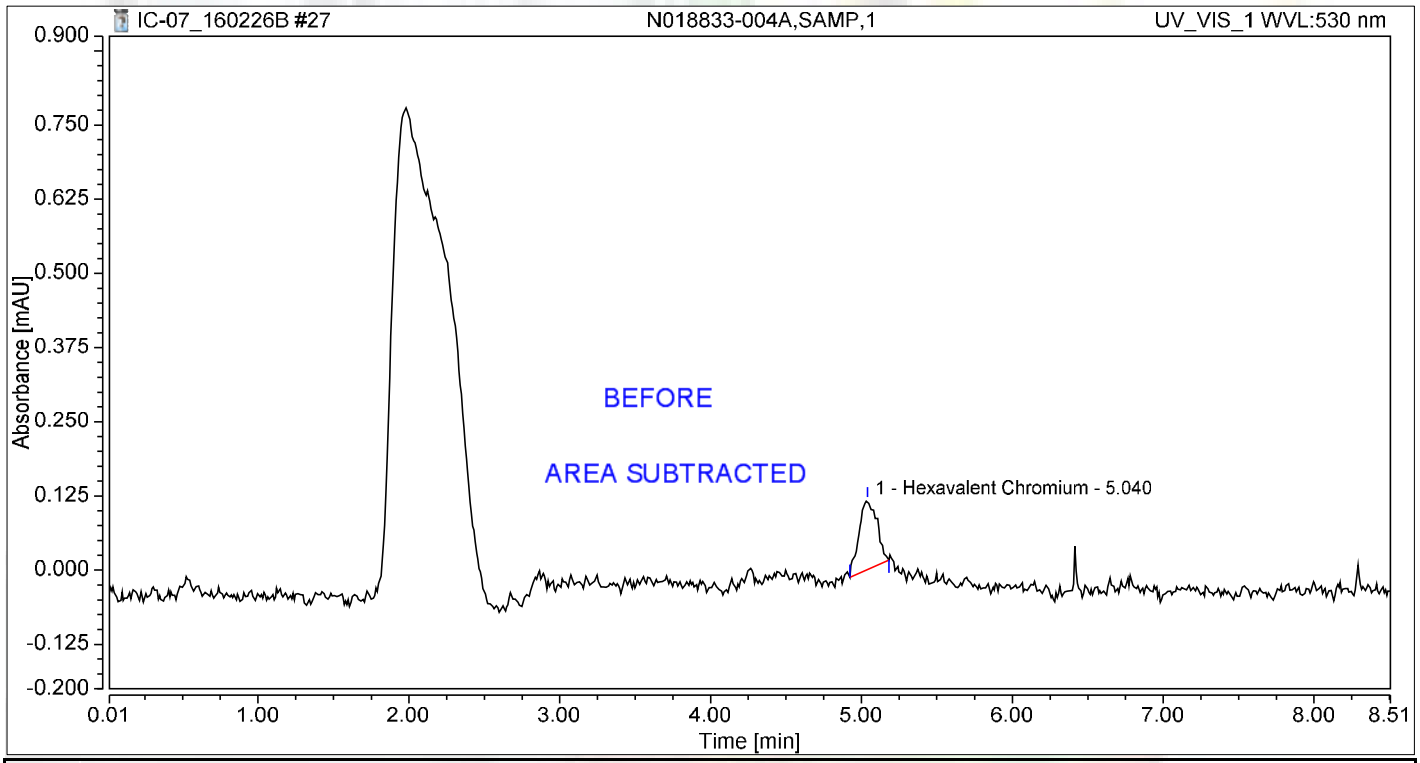
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.117	100.00	100.00	0.0679
Total:			**0.016**	**0.117**	**100.00**	**100.00**	

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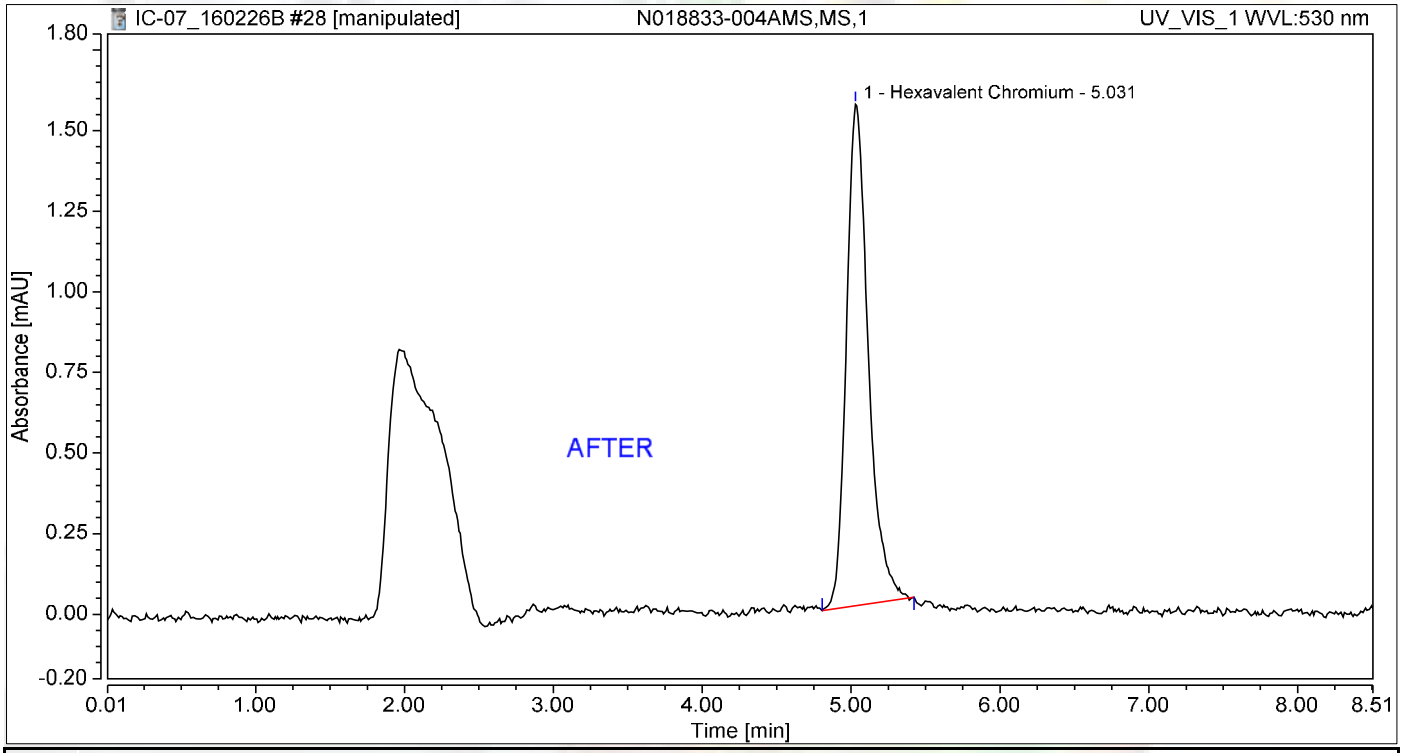
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.556	100.00	100.00	1.1131
Total:			**0.263**	**1.556**	**100.00**	**100.00**	

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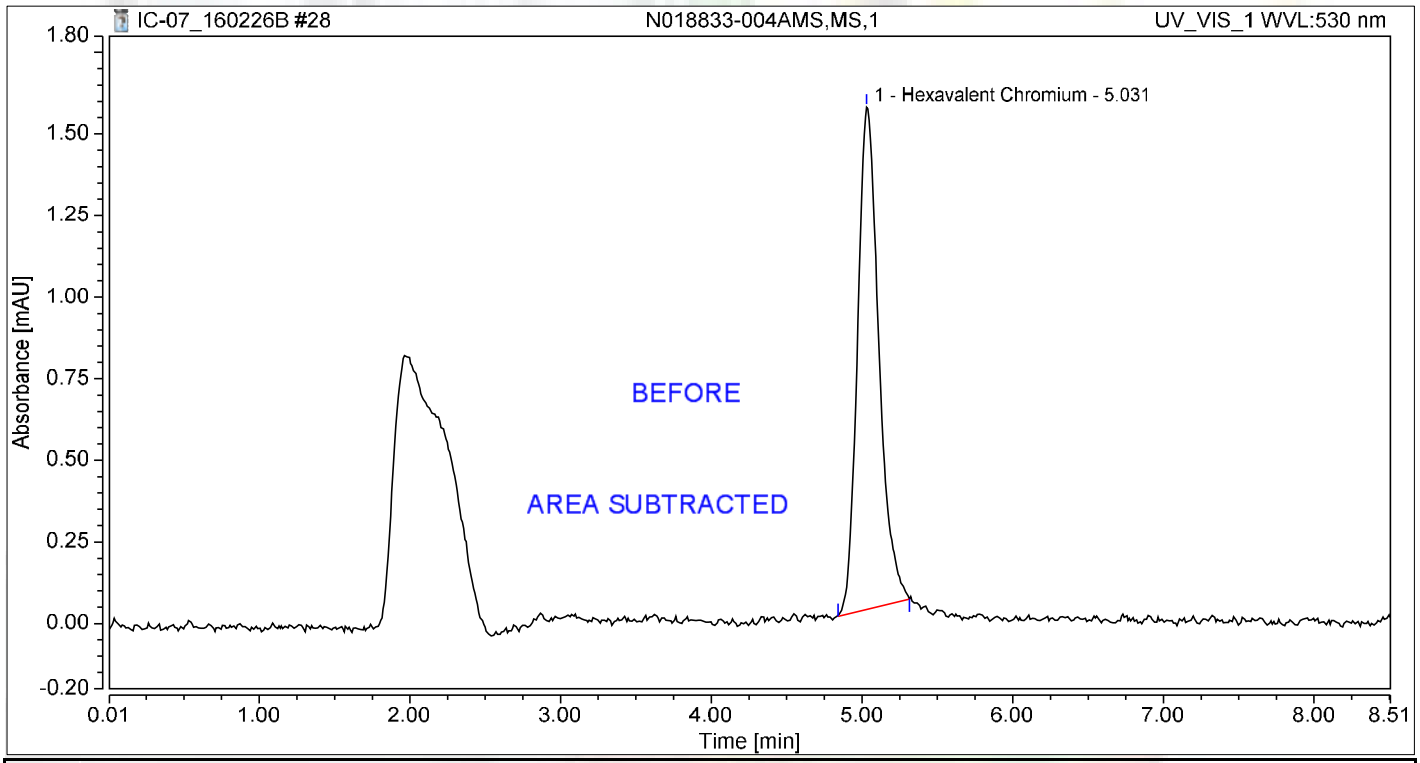
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.253	1.539	100.00	100.00	1.0688
Total:			**0.253**	**1.539**	**100.00**	**100.00**	

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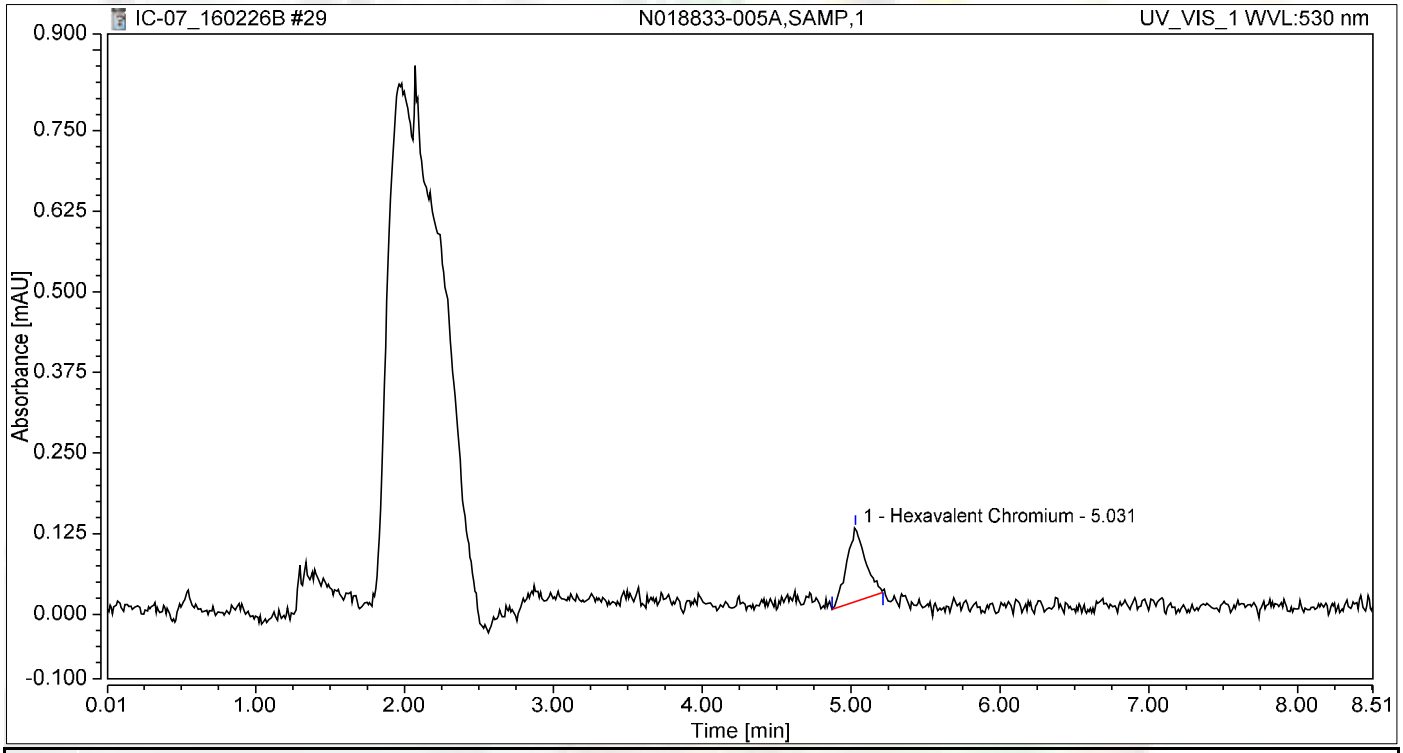
Chromatogram and Results

Injection Details

Injection Name:	**N018833-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

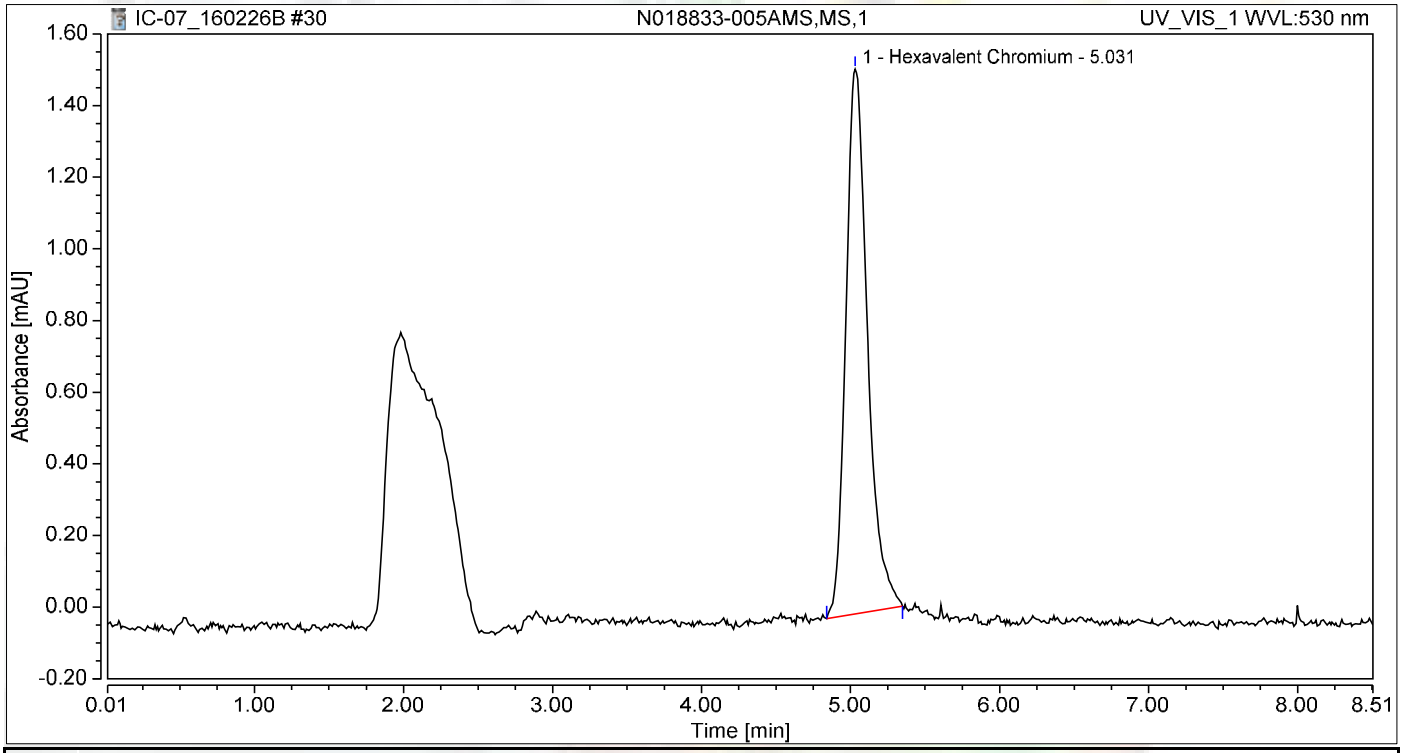
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.017	0.114	100.00	100.00	0.0700
Total:			**0.017**	**0.114**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

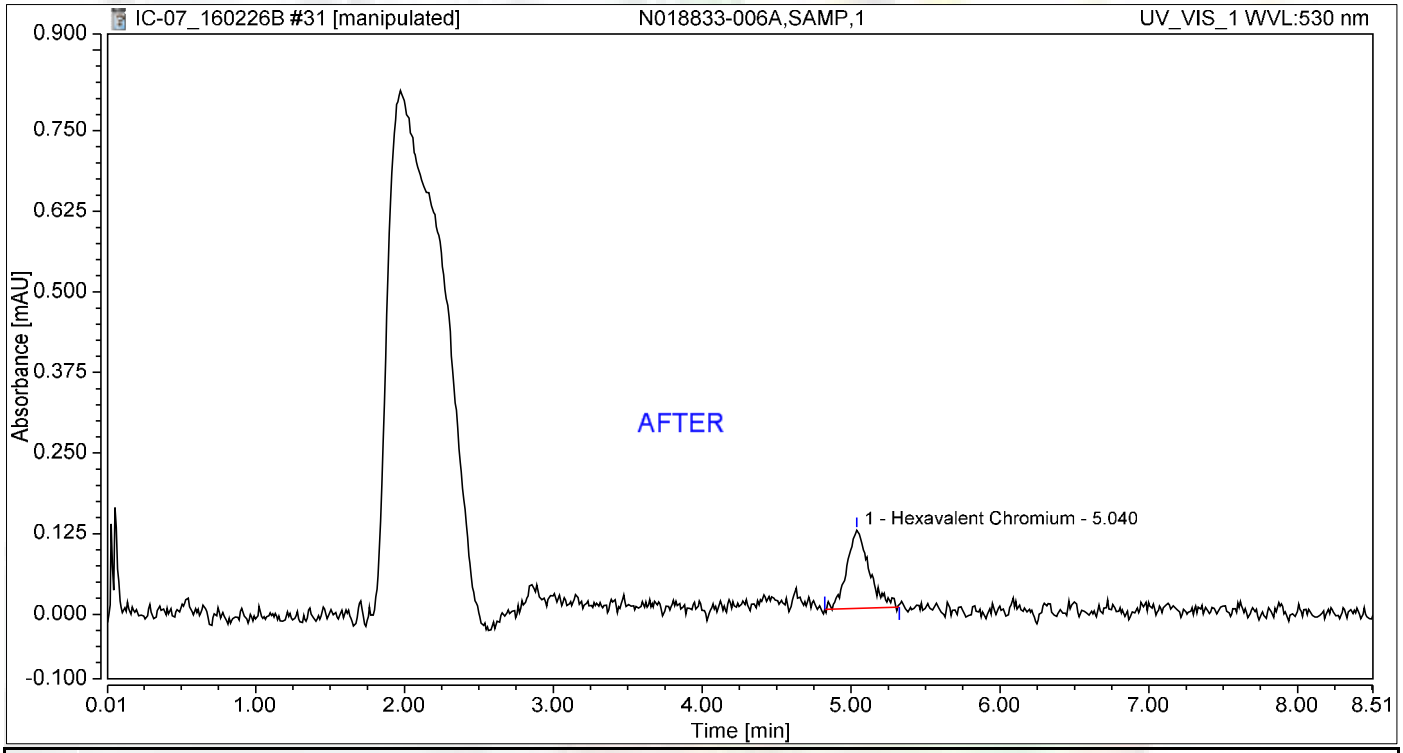
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.255	1.520	100.00	100.00	1.0757
Total:			**0.255**	**1.520**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.021	0.121	100.00	100.00	0.0890
Total:			**0.021**	**0.121**	**100.00**	**100.00**	

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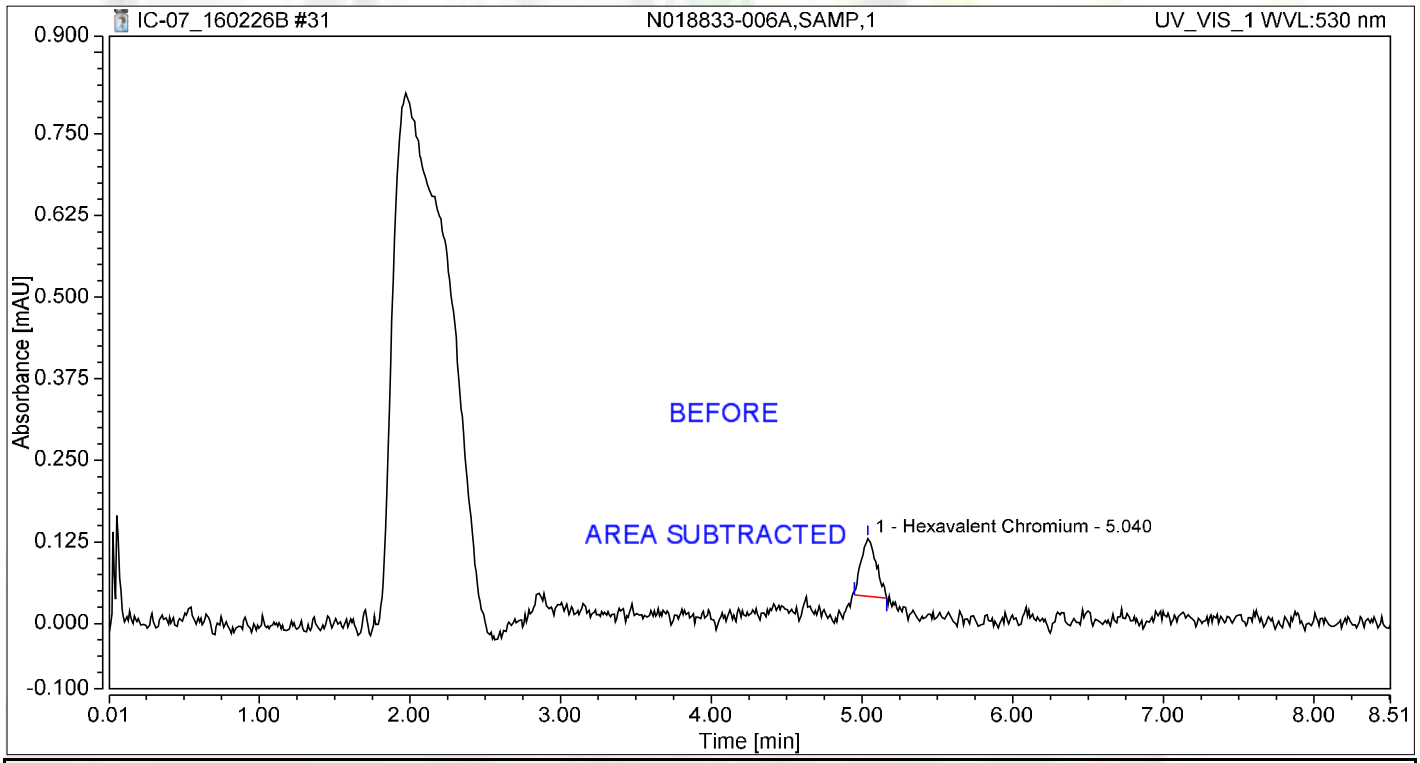
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.010	0.089	100.00	100.00	0.0434
Total:			**0.010**	**0.089**	**100.00**	**100.00**	

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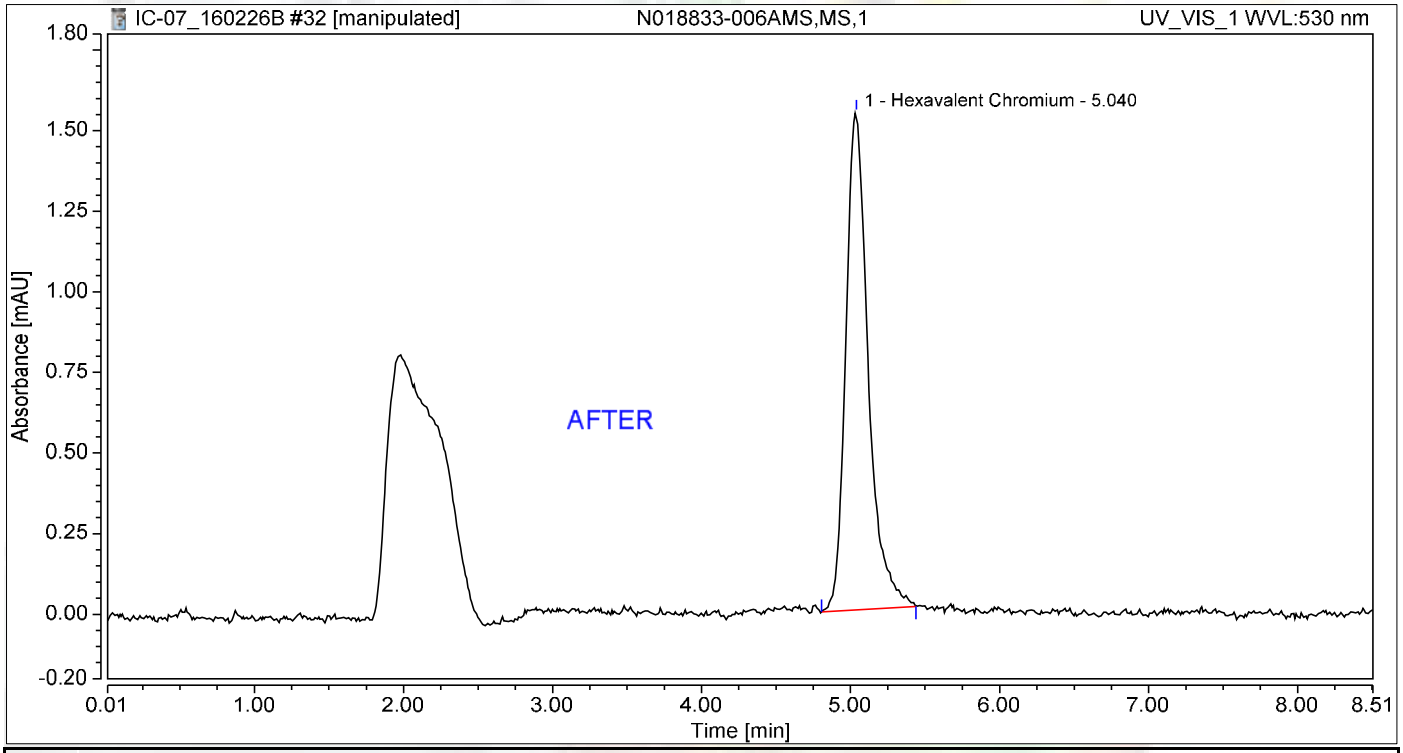
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.268	1.543	100.00	100.00	1.1321
Total:			**0.268**	**1.543**	**100.00**	**100.00**	

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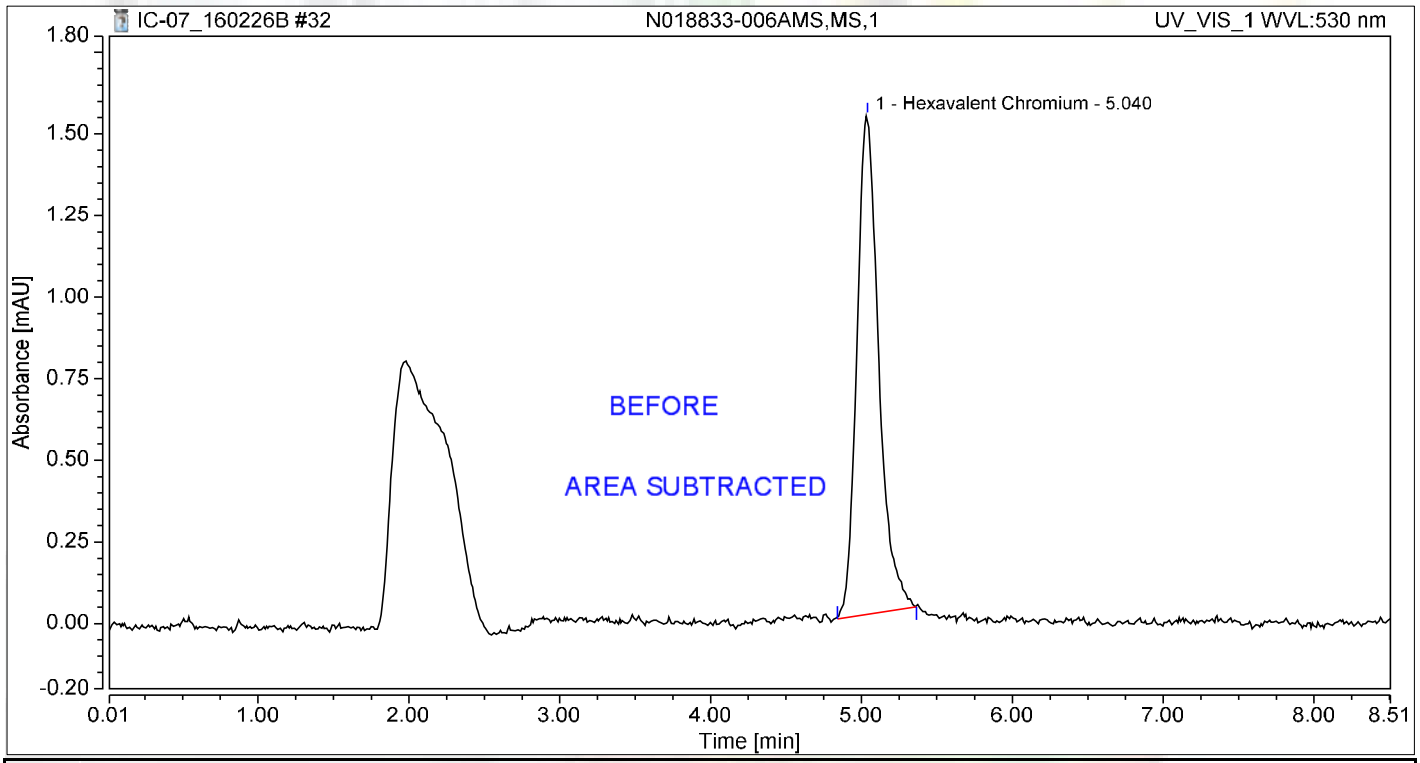
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.257	1.528	100.00	100.00	1.0864
Total:			**0.257**	**1.528**	**100.00**	**100.00**	

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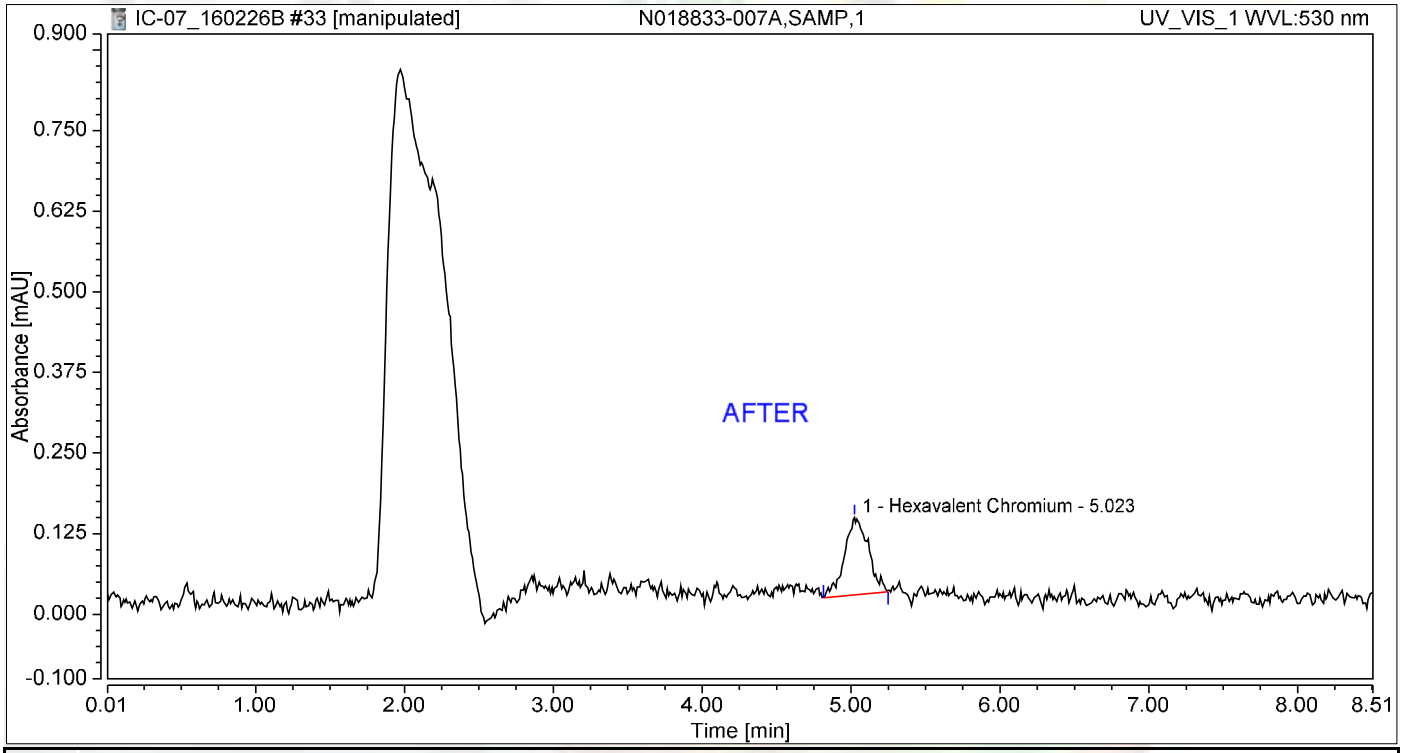
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.022	0.120	100.00	100.00	0.0934
Total:			**0.022**	**0.120**	**100.00**	**100.00**	

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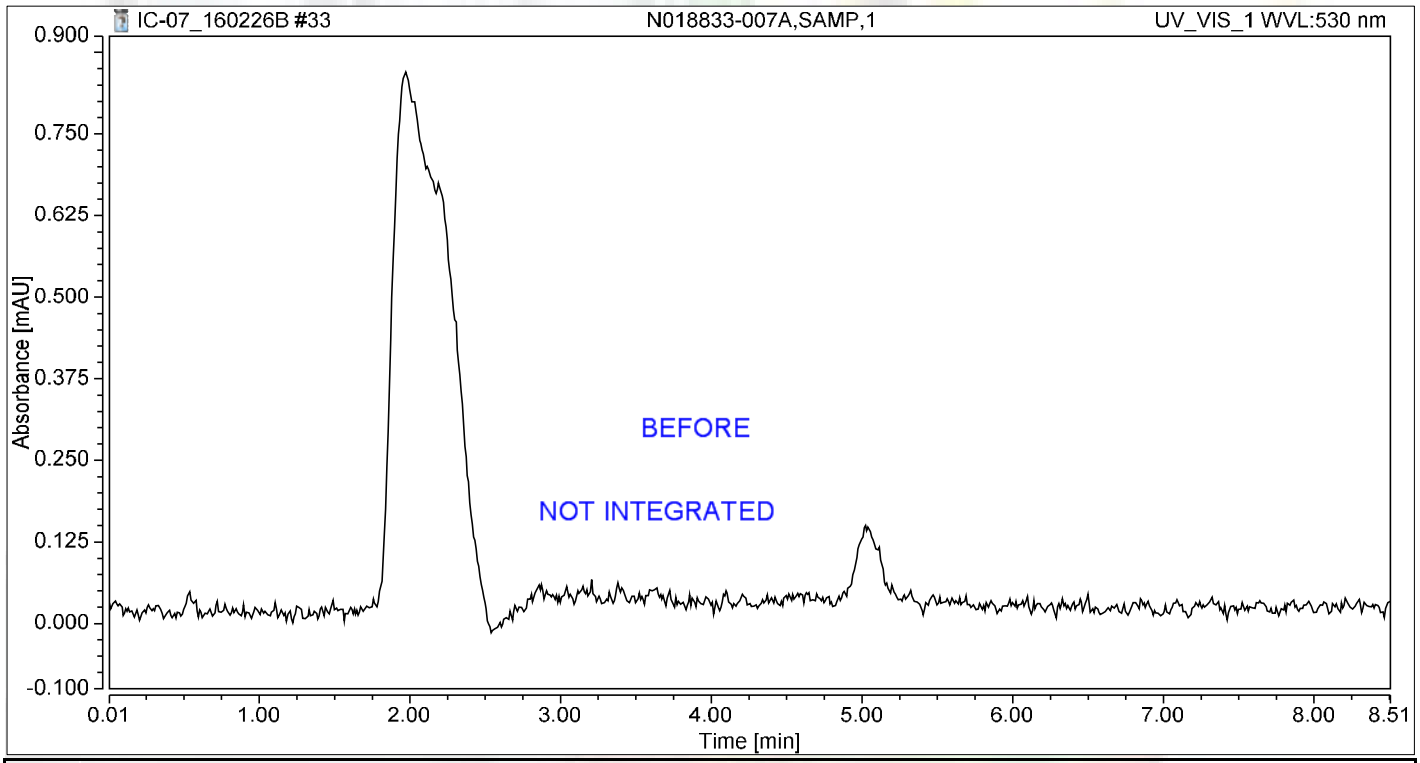
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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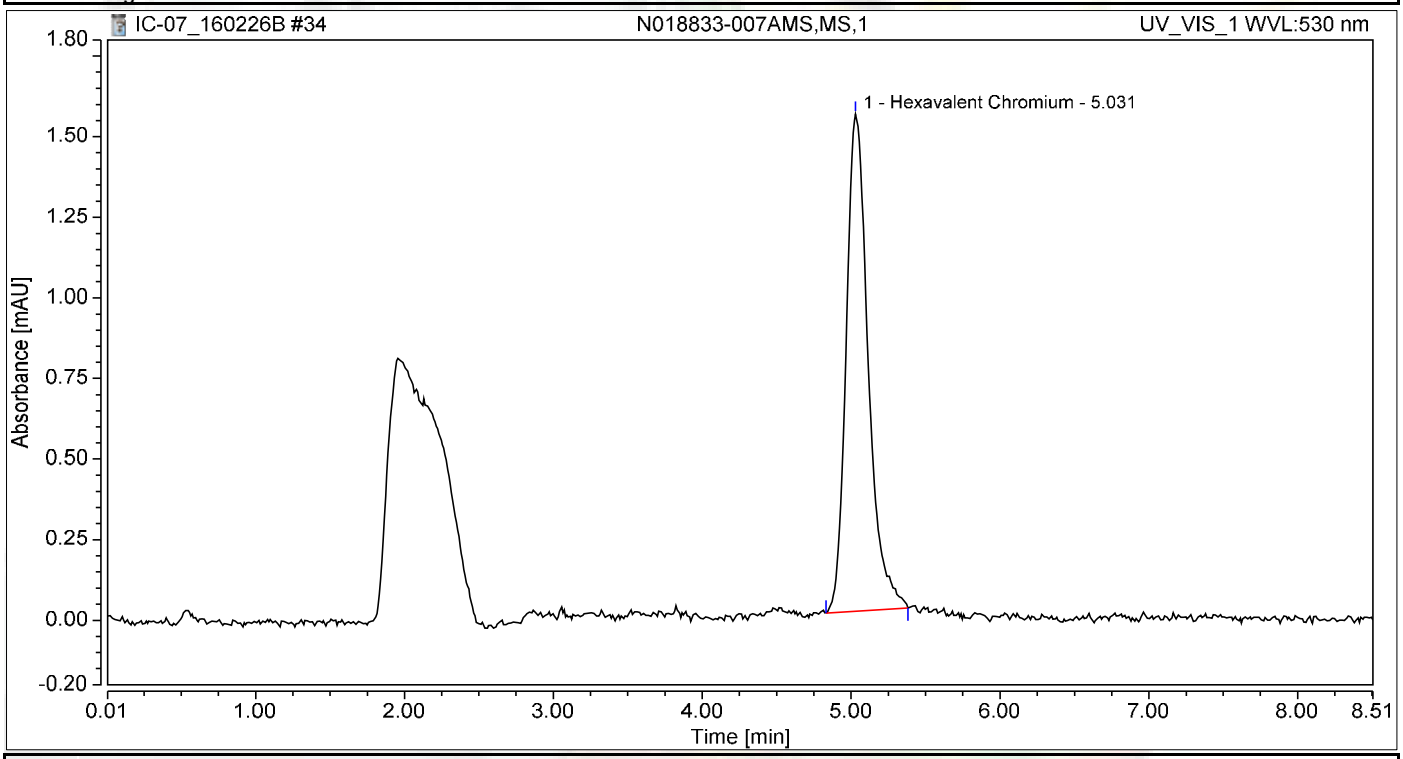
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

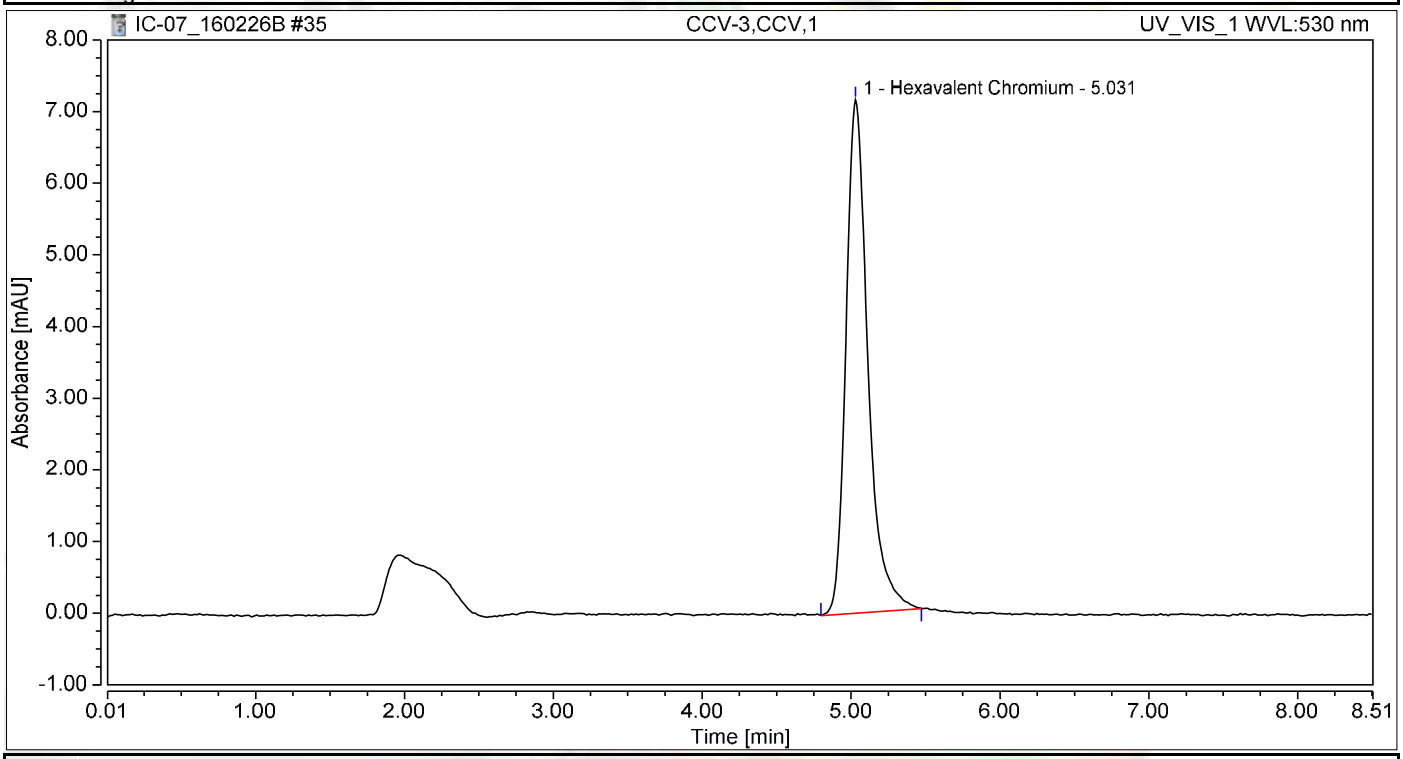
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.542	100.00	100.00	1.1098
Total:			**0.263**	**1.542**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

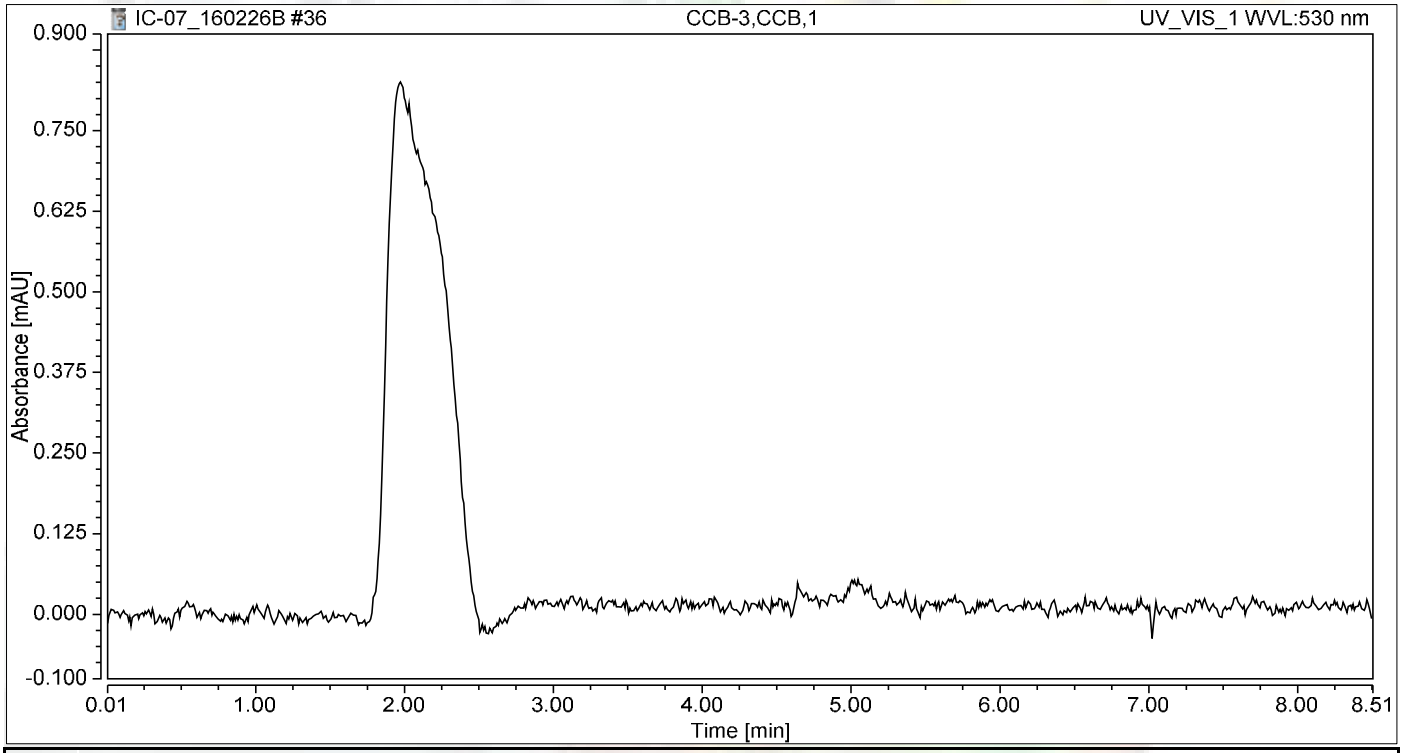
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.216	7.169	100.00	100.00	5.1380
Total:			**1.216**	**7.169**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

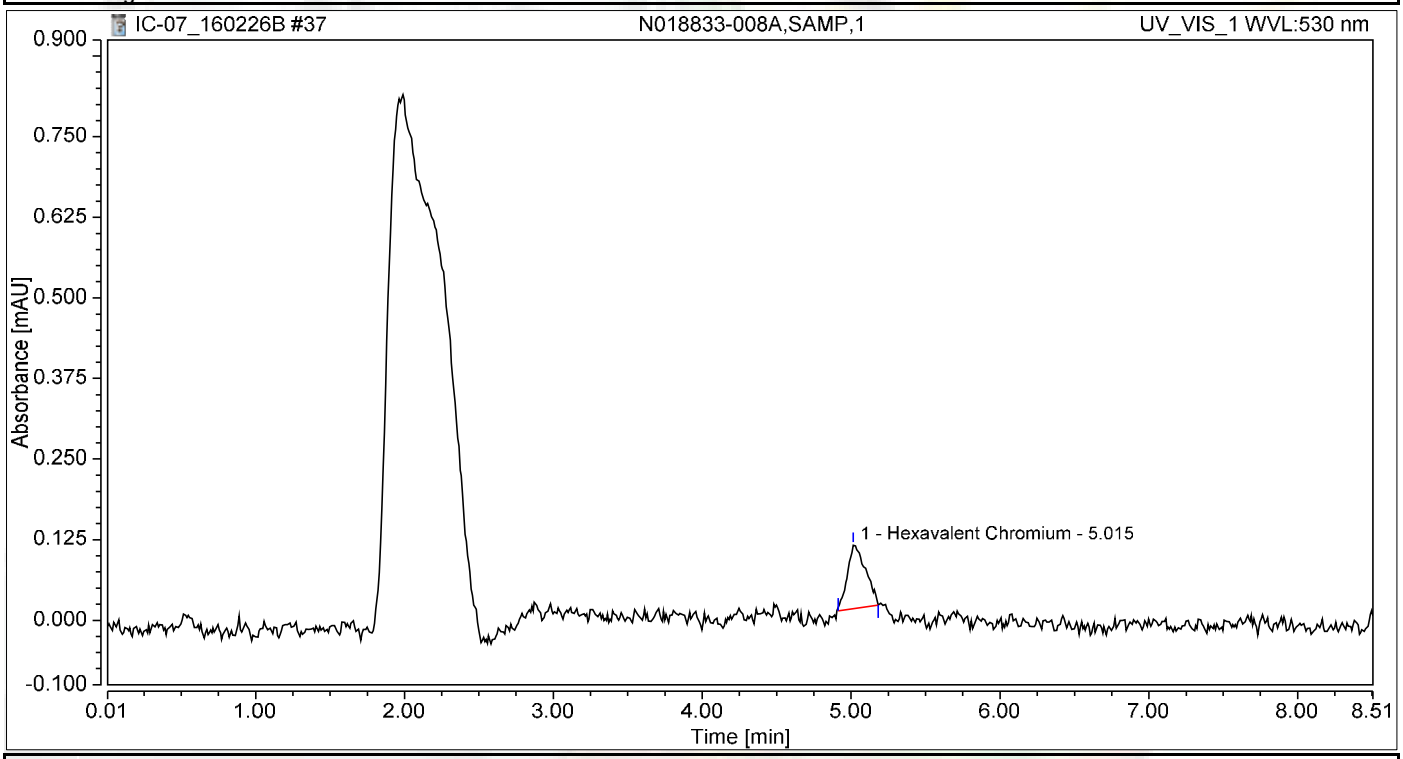
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

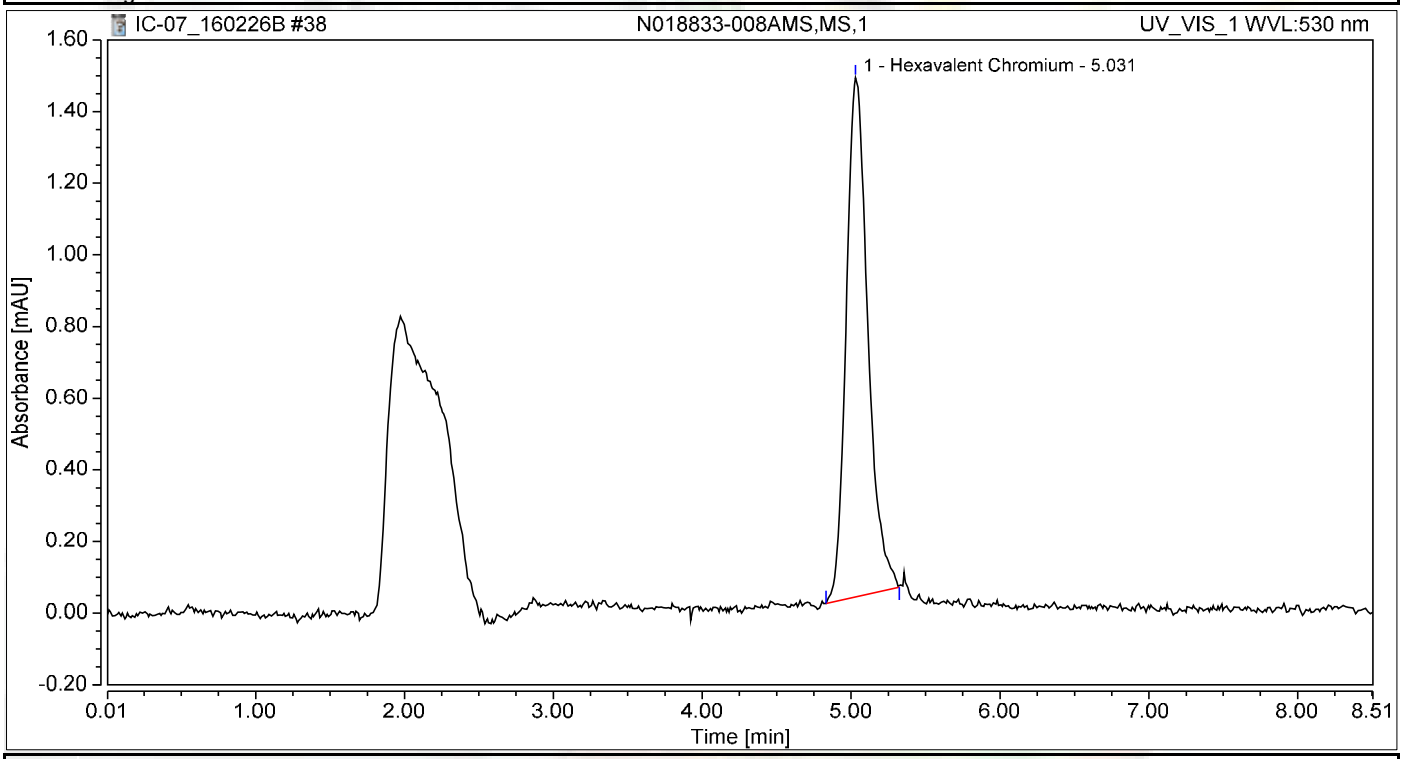
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.014	0.098	100.00	100.00	0.0585
Total:			**0.014**	**0.098**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

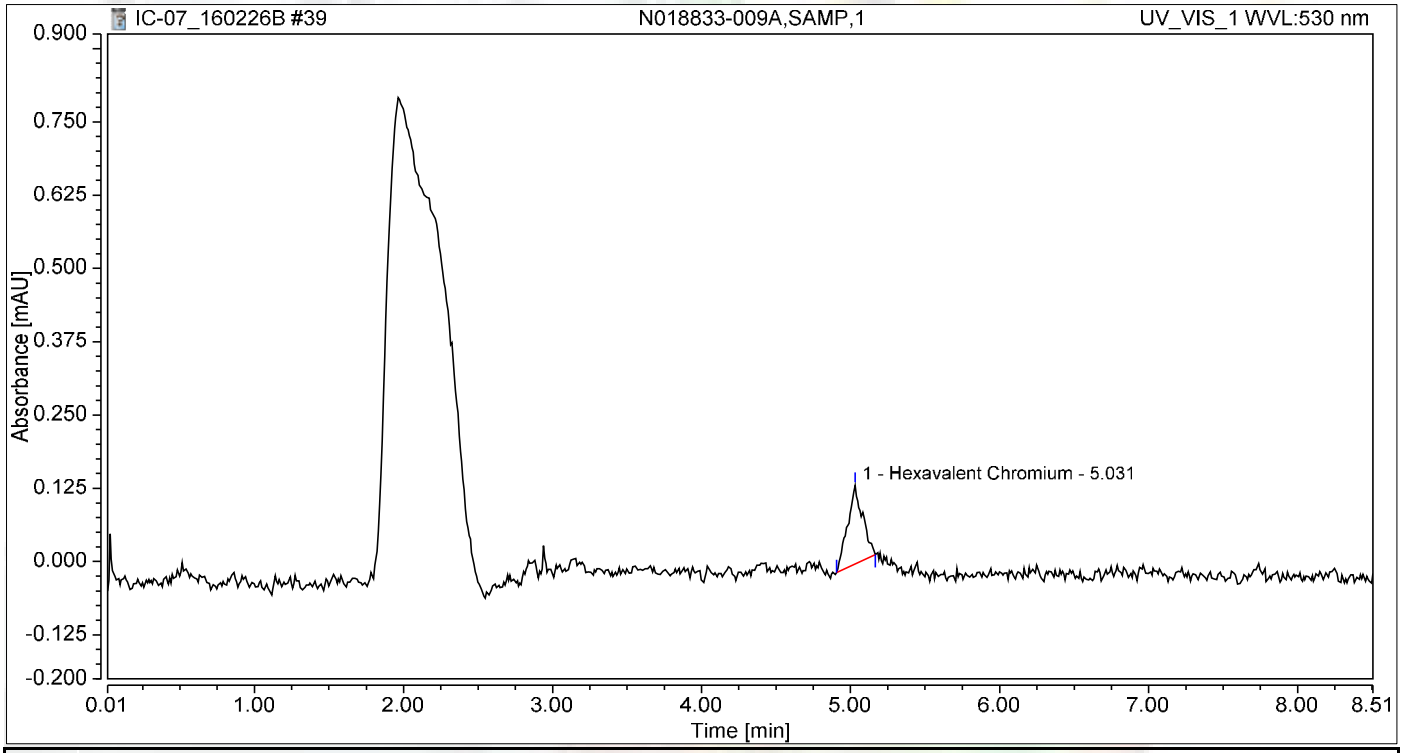
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.242	1.448	100.00	100.00	1.0233
Total:			**0.242**	**1.448**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

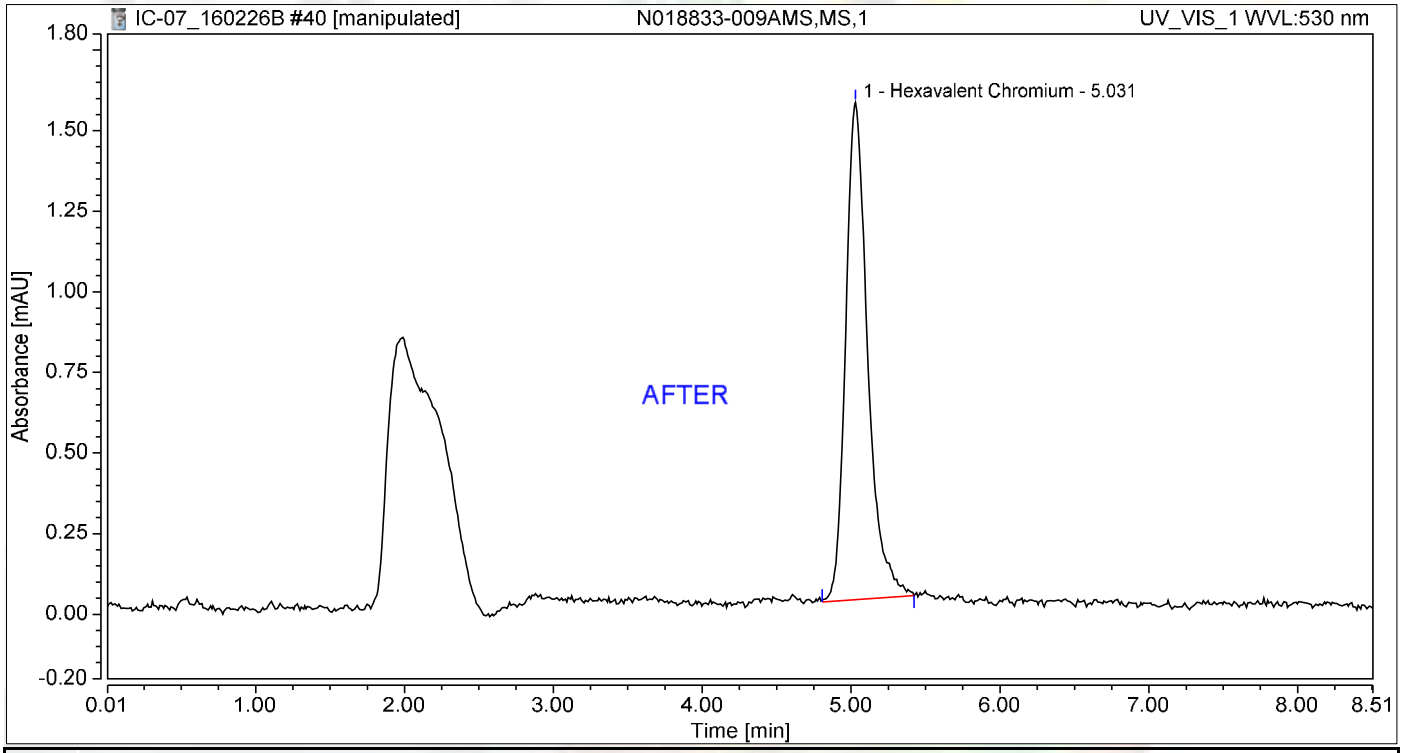
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.134	100.00	100.00	0.0656
Total:			**0.016**	**0.134**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.262	1.542	100.00	100.00	1.1084
Total:			**0.262**	**1.542**	**100.00**	**100.00**	

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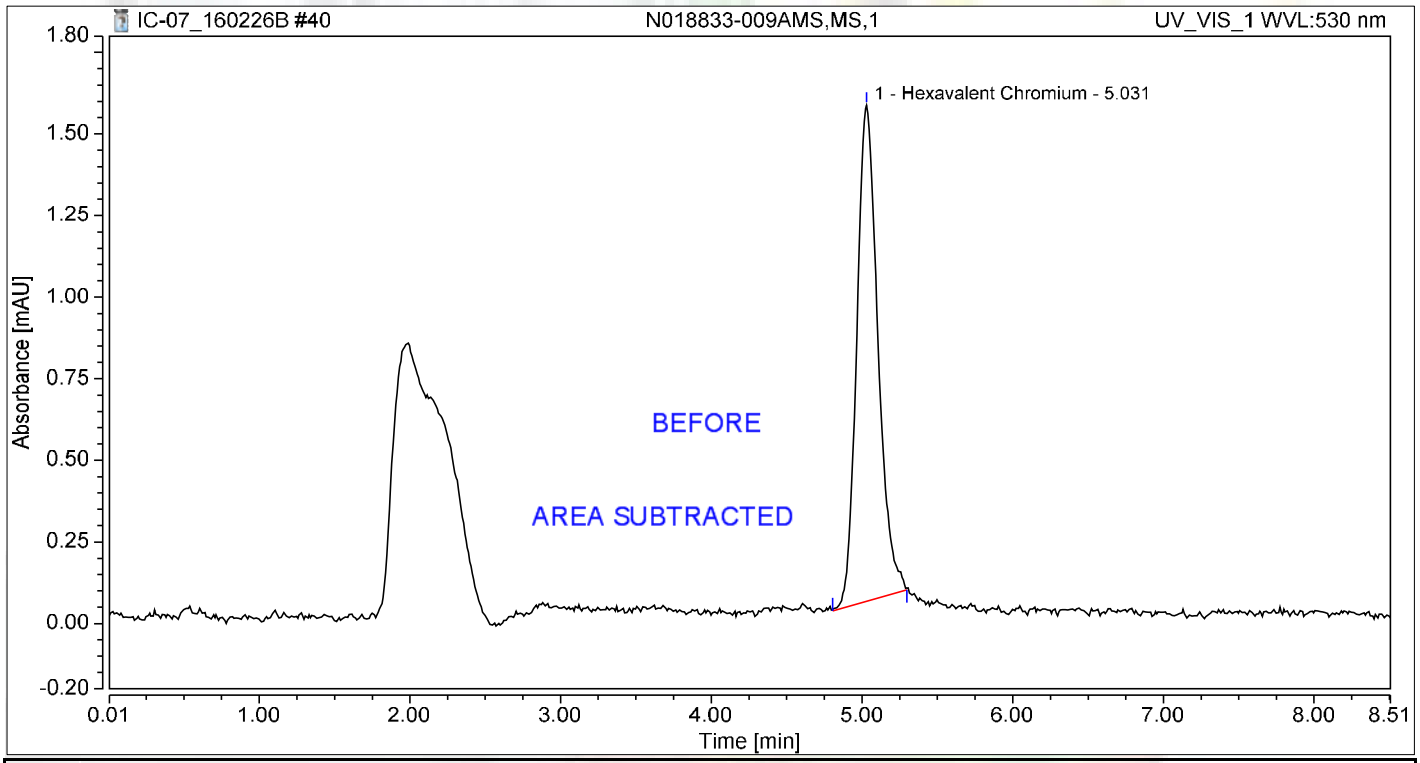
Chromatogram and Results

Injection Details

Injection Name:	**N018833-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.247	1.519	100.00	100.00	1.0439
Total:			**0.247**	**1.519**	**100.00**	**100.00**	

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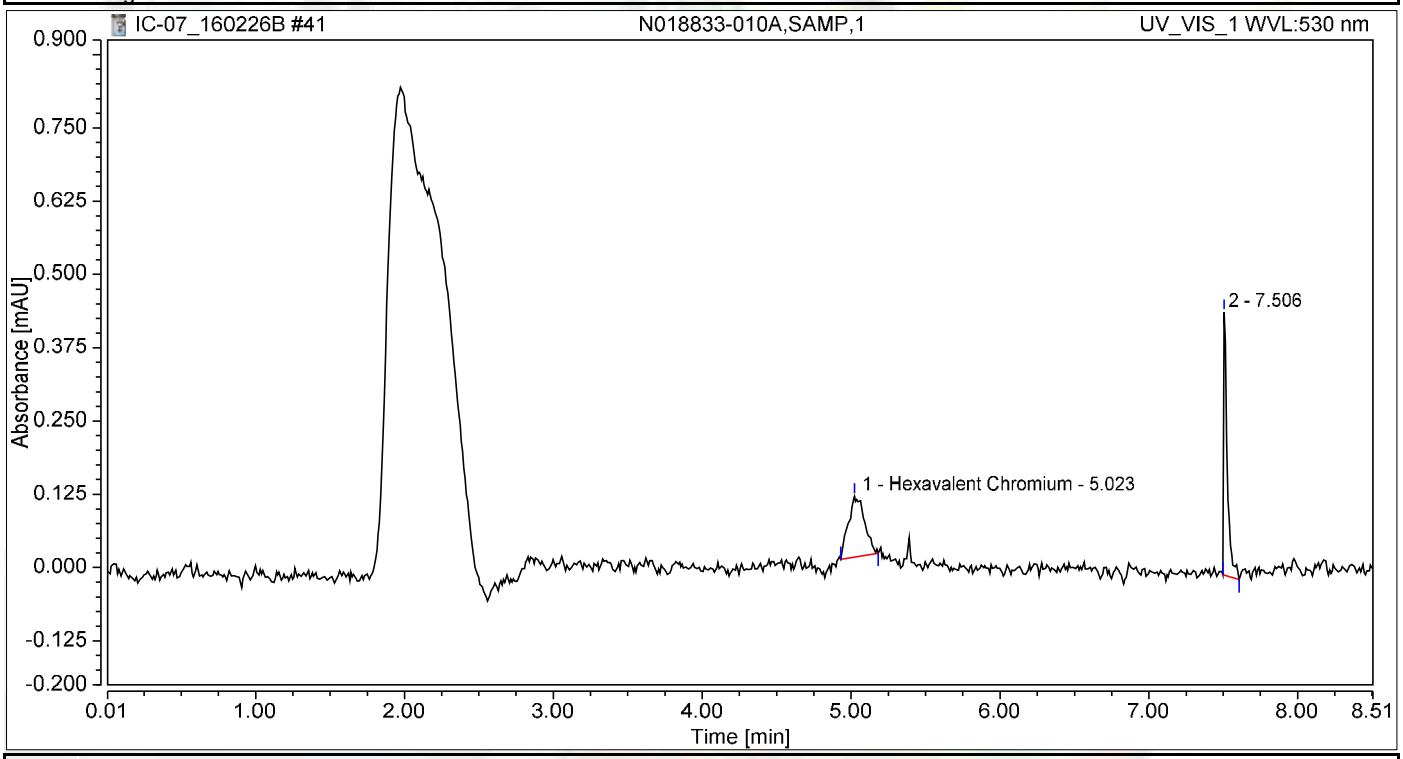
Chromatogram and Results

Injection Details

Injection Name:	**N018833-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

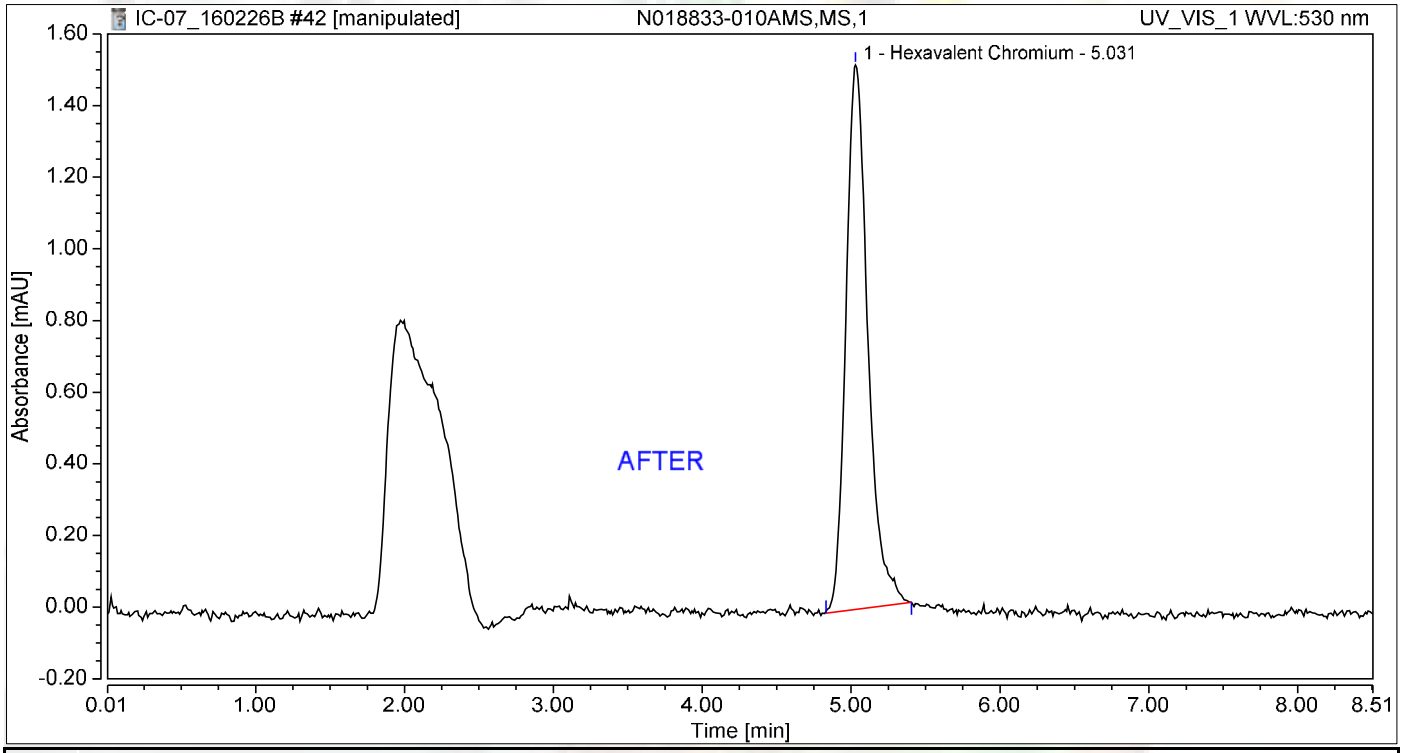
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.013	0.104	50.99	18.85	0.0546
2		7.506	0.012	0.449	49.01	81.15	n.a.
Total:			**0.025**	**0.553**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.258	1.520	100.00	100.00	1.0897
Total:			**0.258**	**1.520**	**100.00**	**100.00**	

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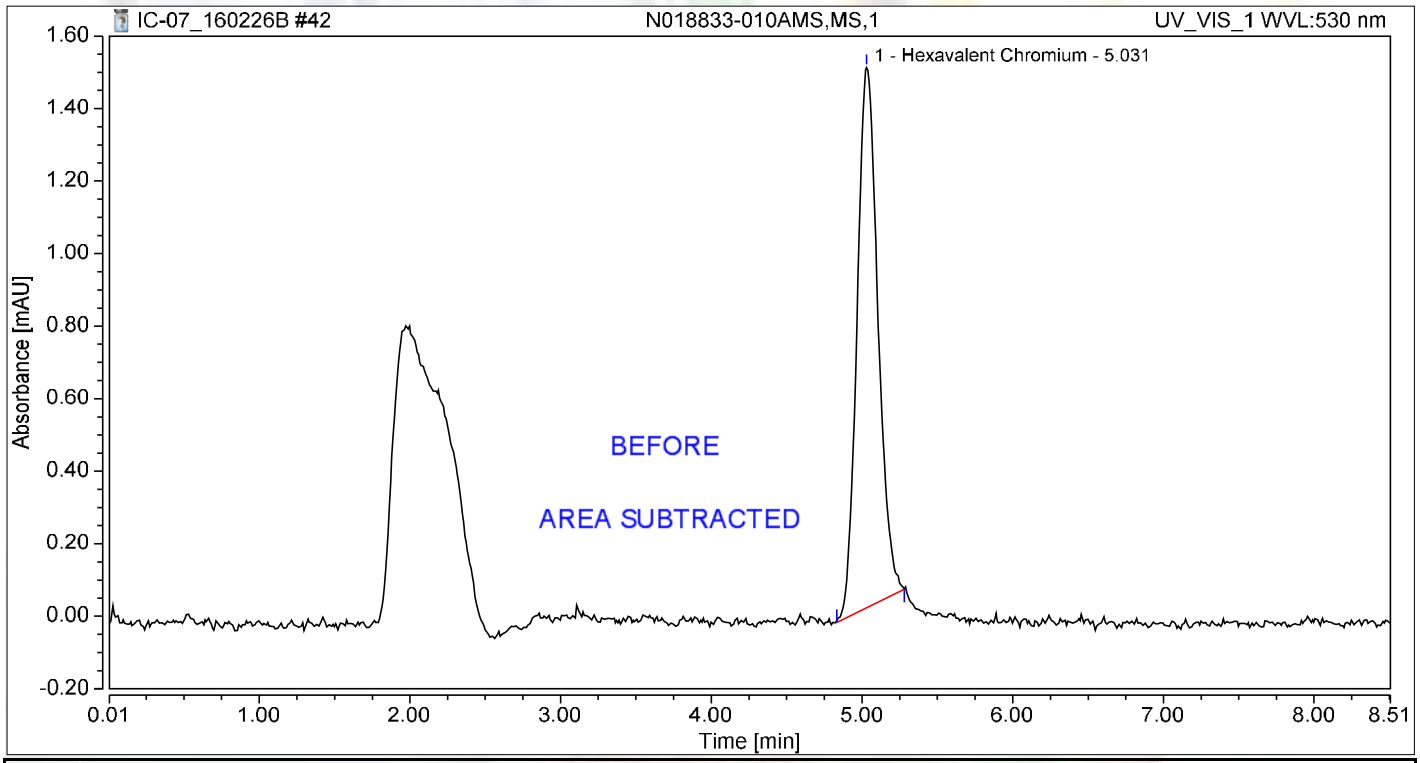
Chromatogram and Results

Injection Details

Injection Name:	**N018833-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.490	100.00	100.00	1.0125
Total:			**0.240**	**1.490**	**100.00**	**100.00**	

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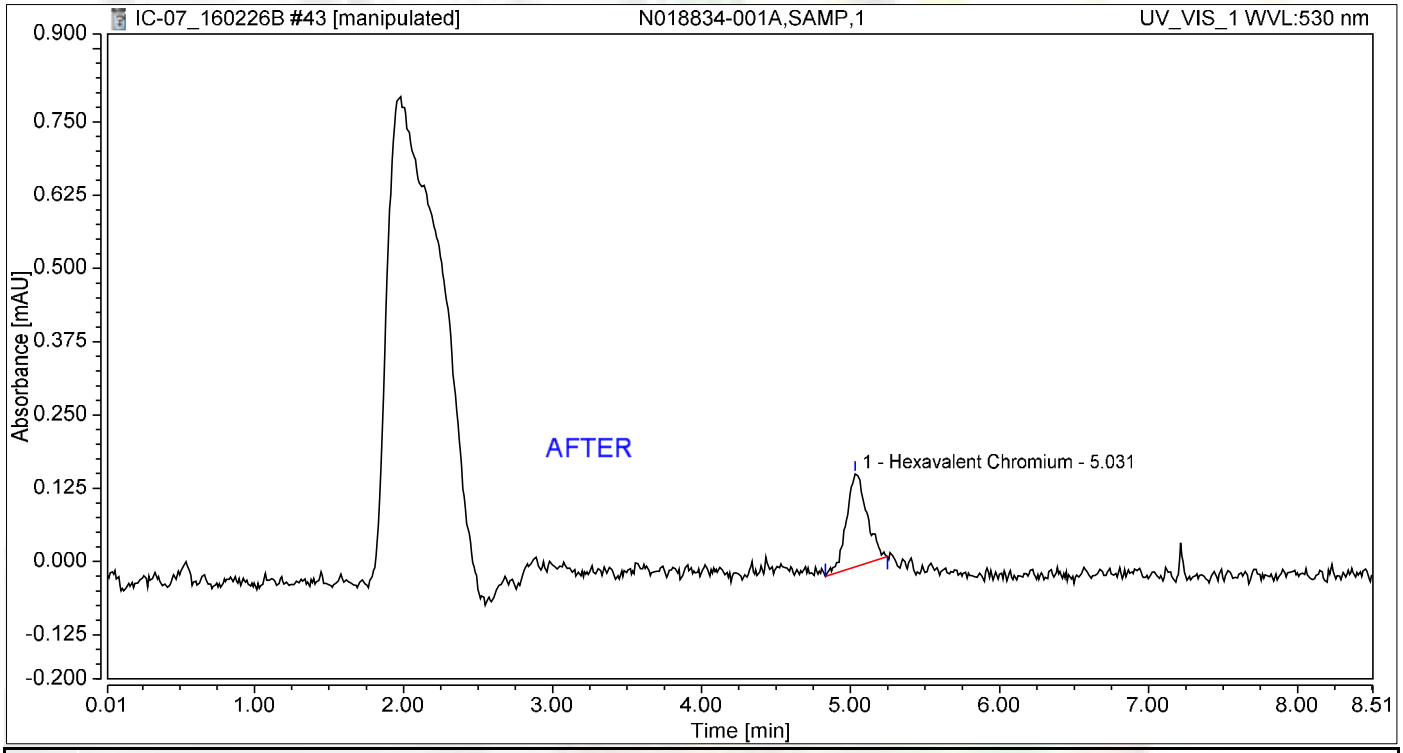
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.025	0.159	100.00	100.00	0.1067
Total:			**0.025**	**0.159**	**100.00**	**100.00**	

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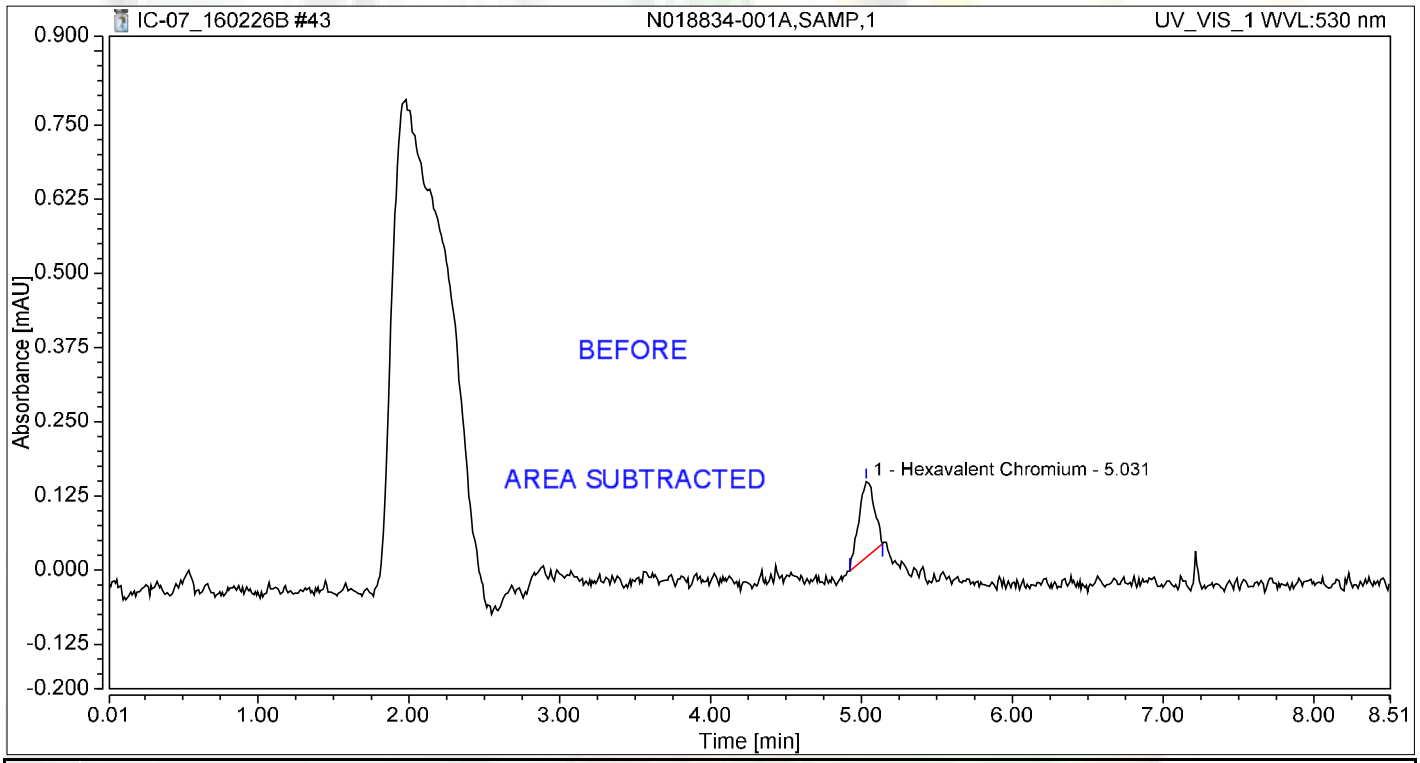
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.015	0.128	100.00	100.00	0.0647
Total:			**0.015**	**0.128**	**100.00**	**100.00**	

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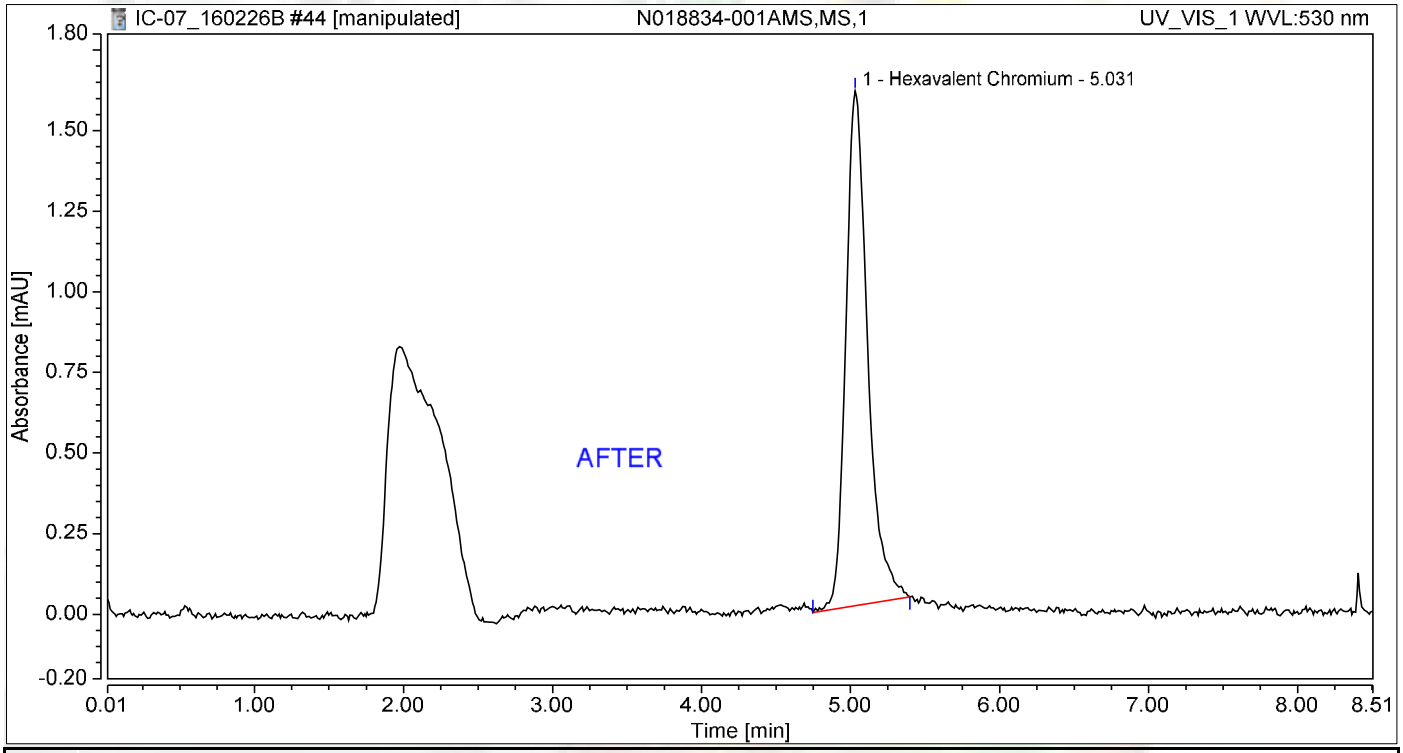
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.270	1.597	100.00	100.00	1.1394
Total:			**0.270**	**1.597**	**100.00**	**100.00**	

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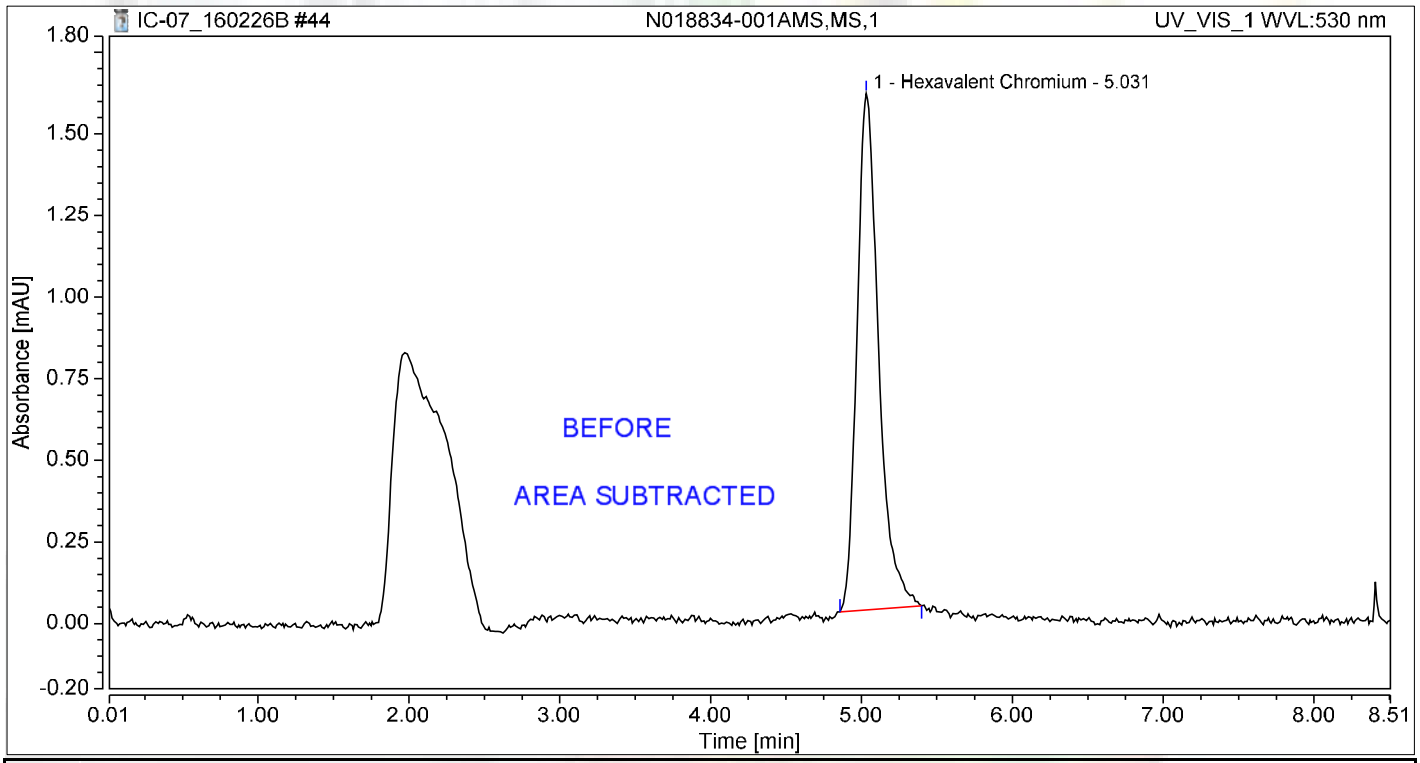
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.582	100.00	100.00	1.1103
Total:			**0.263**	**1.582**	**100.00**	**100.00**	

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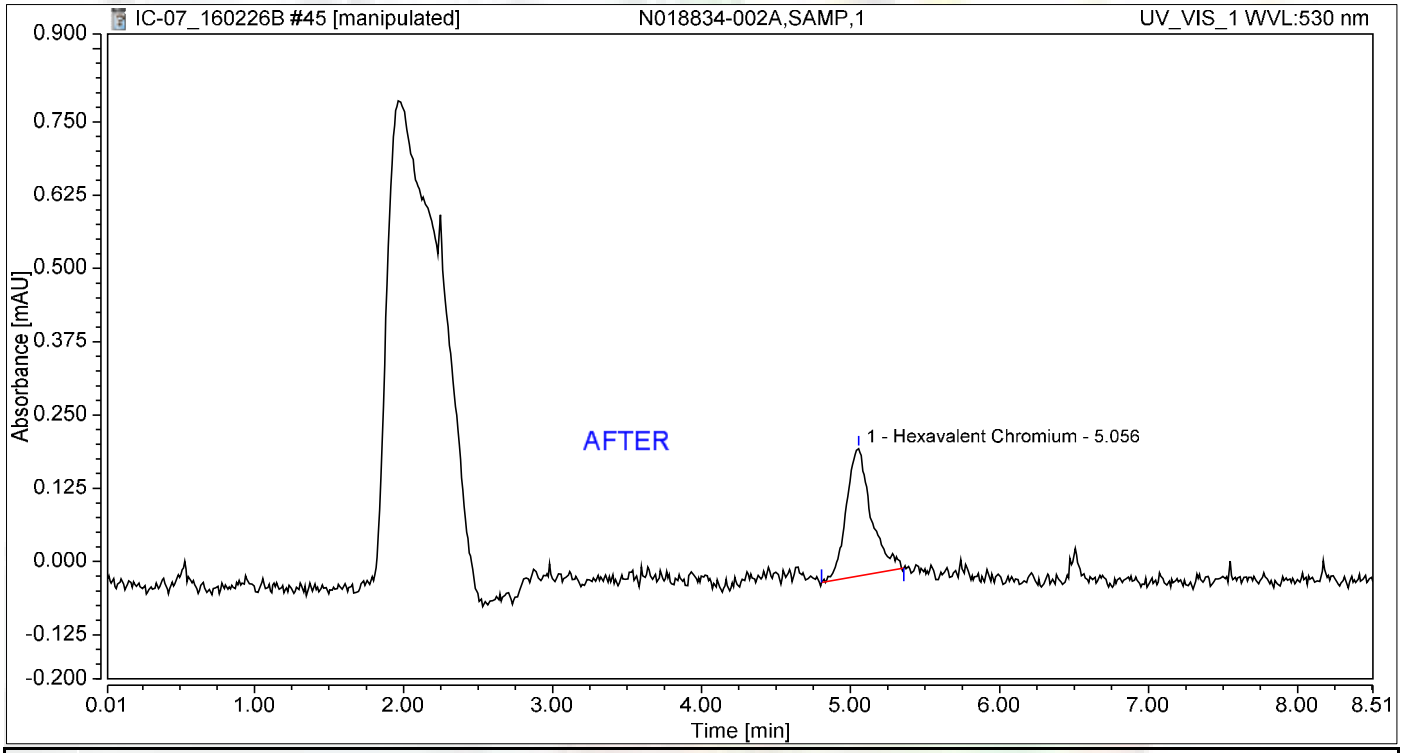
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.042	0.217	100.00	100.00	0.1764
Total:			**0.042**	**0.217**	**100.00**	**100.00**	

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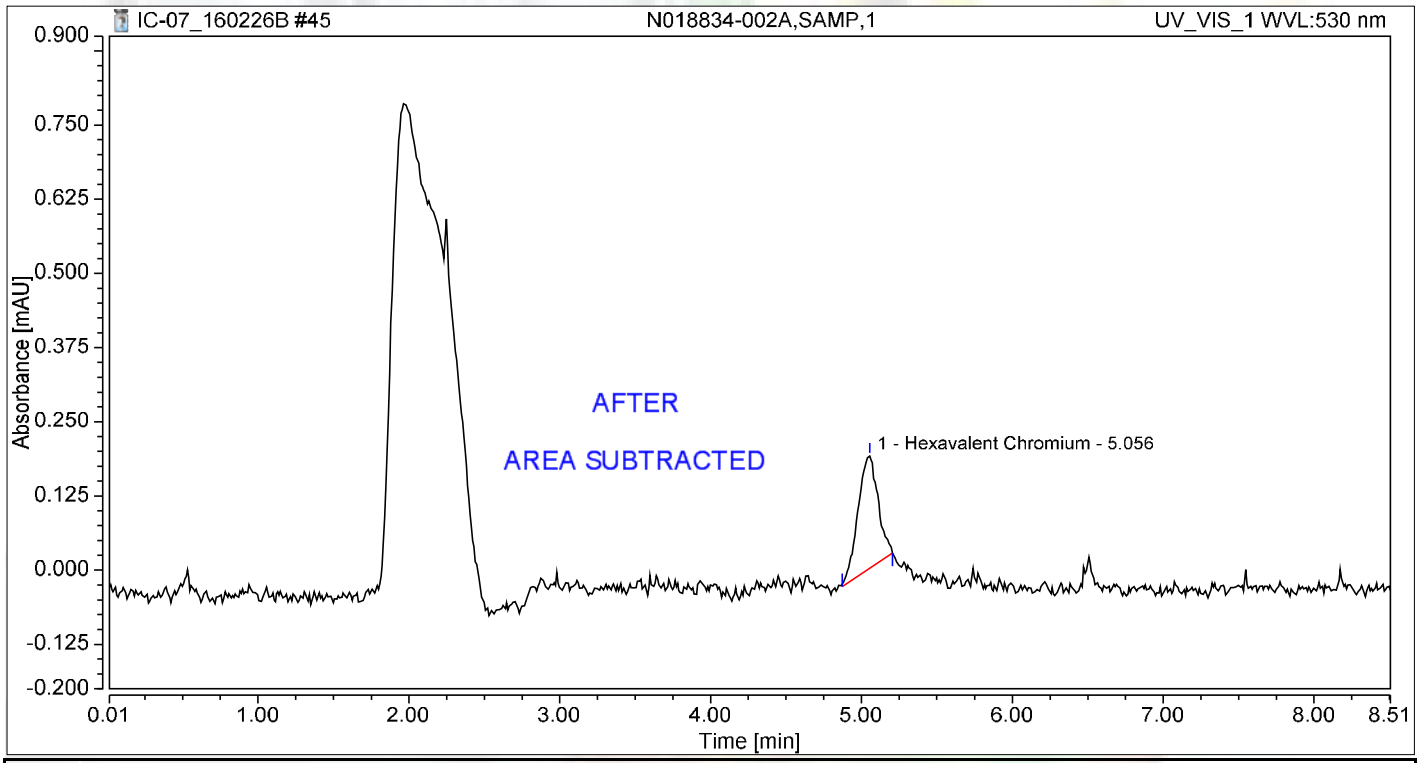
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.030	0.189	100.00	100.00	0.1248
Total:			**0.030**	**0.189**	**100.00**	**100.00**	

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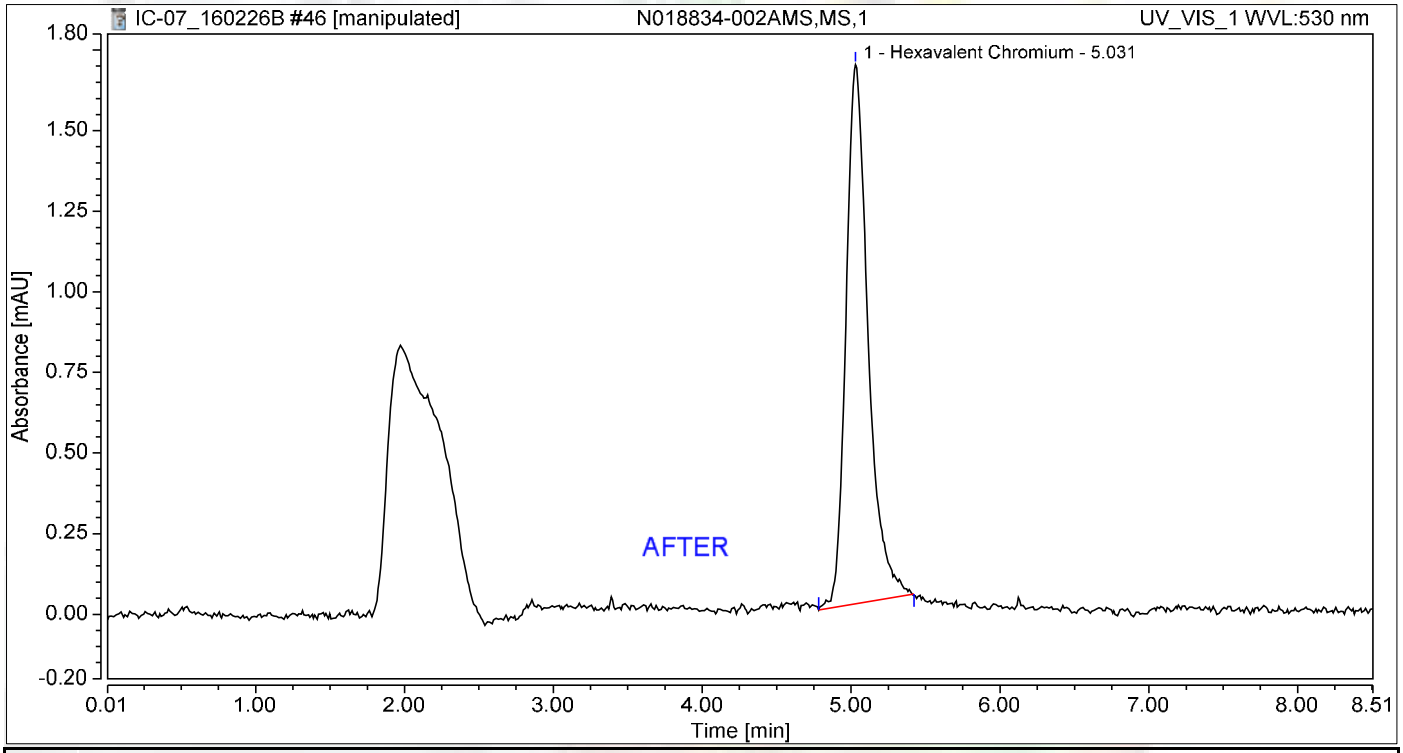
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.287	1.671	100.00	100.00	1.2106
Total:			**0.287**	**1.671**	**100.00**	**100.00**	

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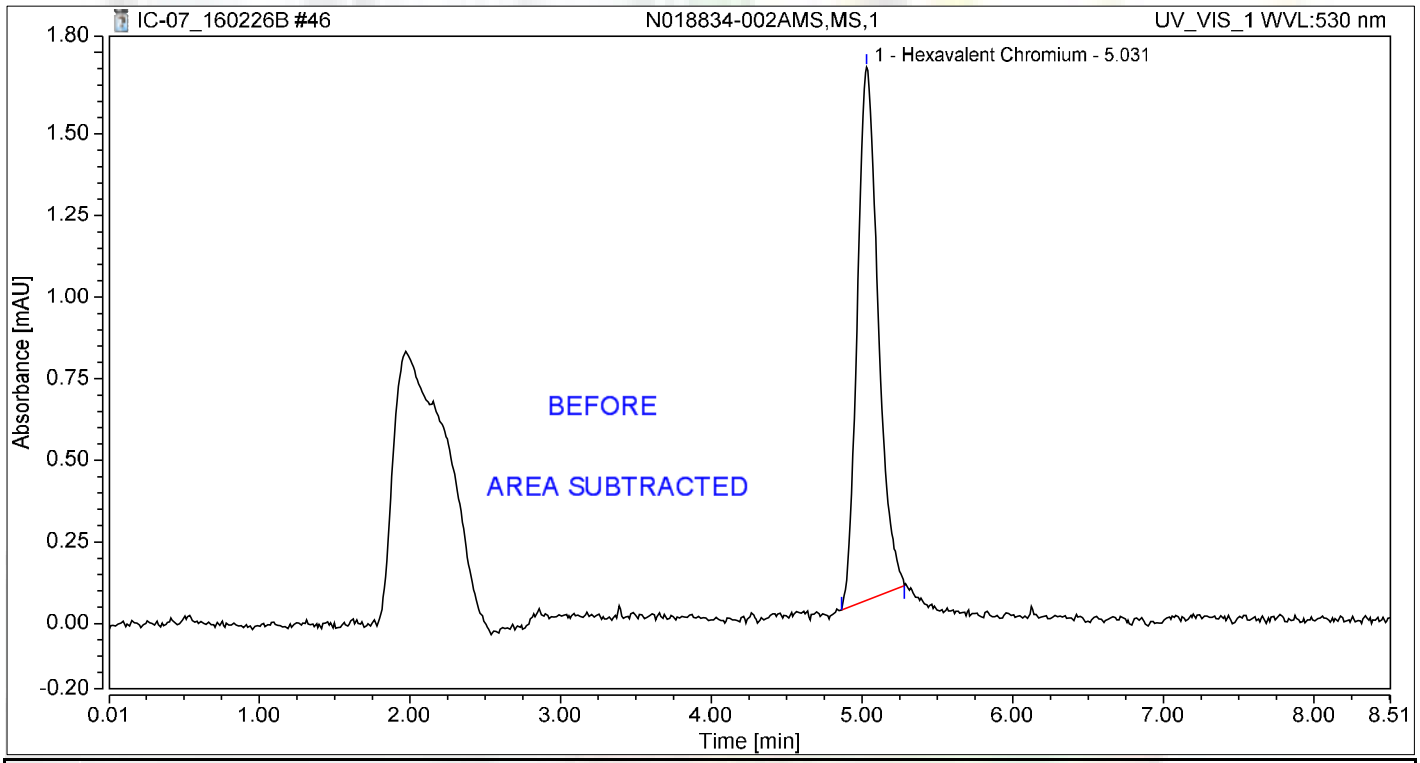
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.633	100.00	100.00	1.1102
Total:			**0.263**	**1.633**	**100.00**	**100.00**	

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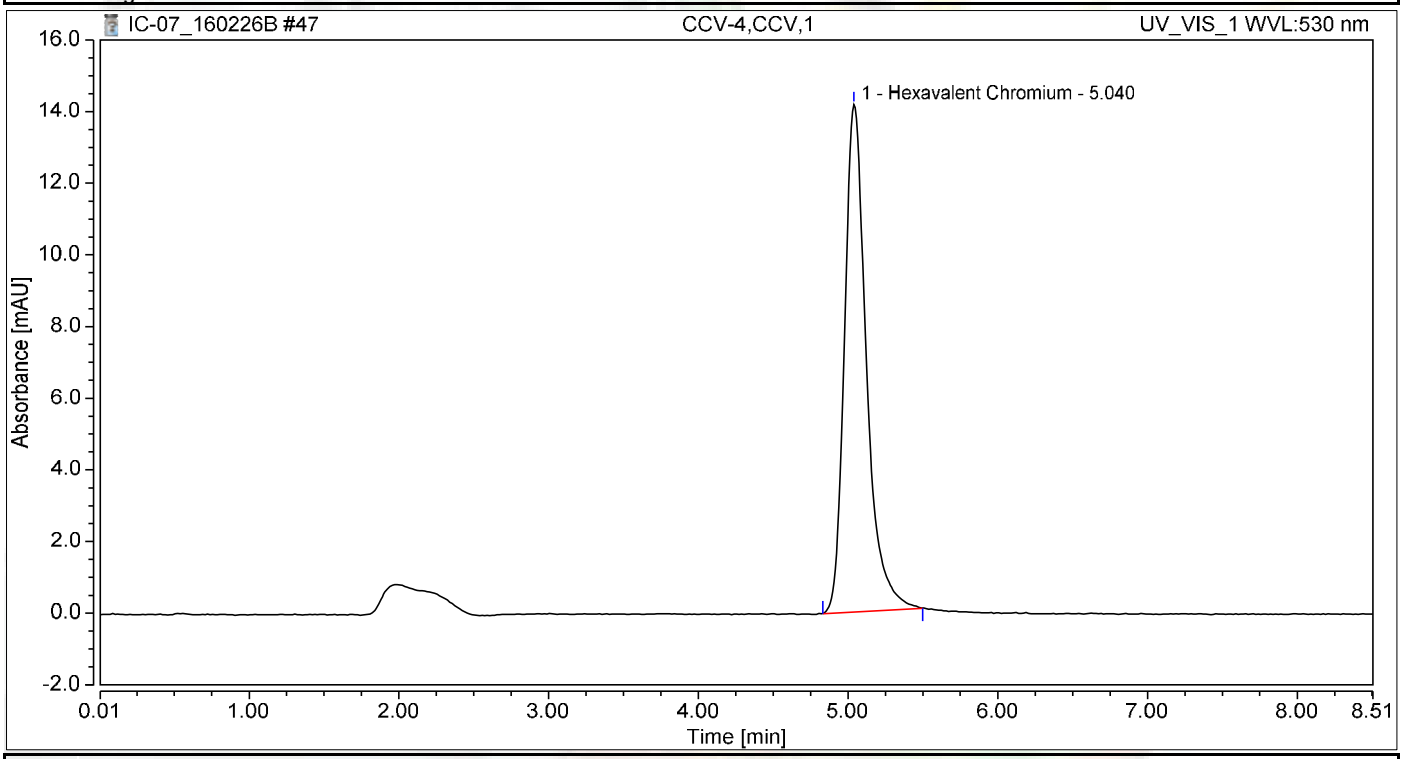
Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

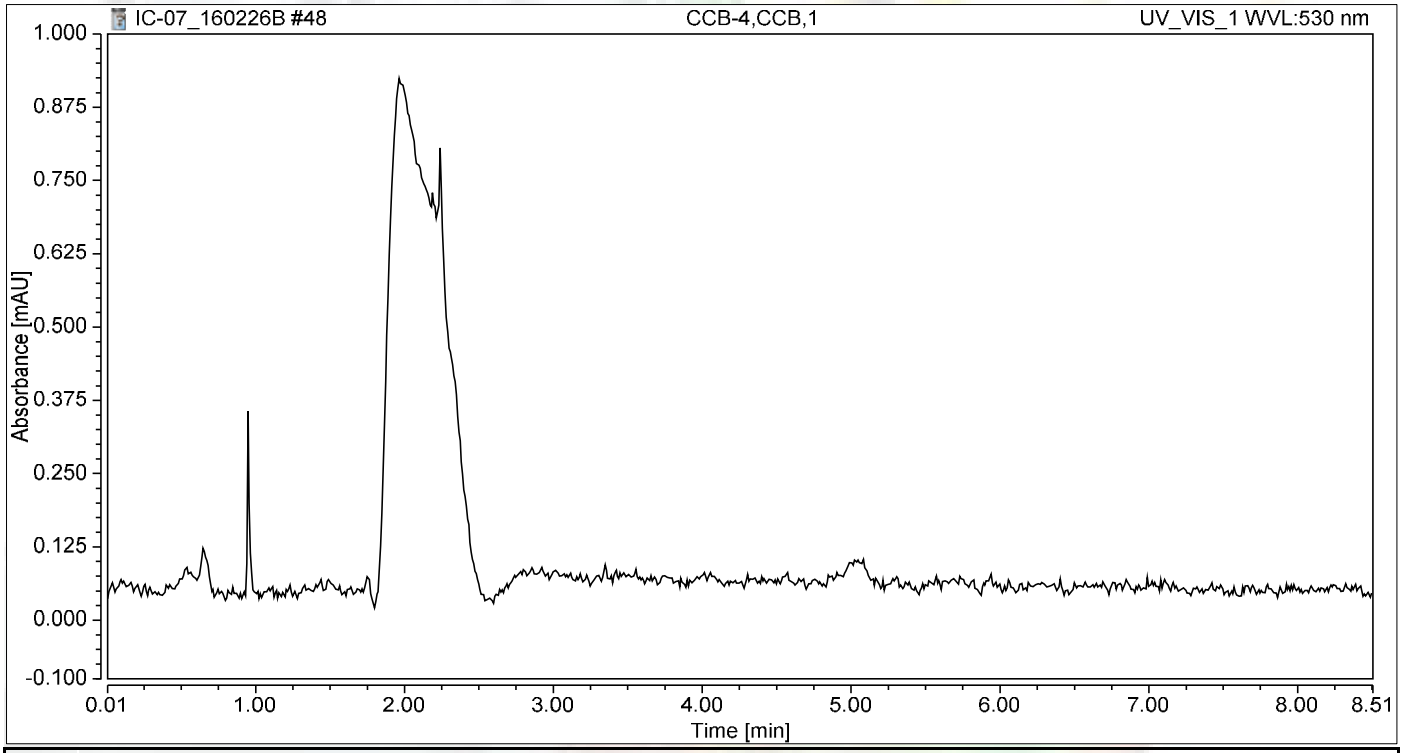
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.389	14.160	100.00	100.00	10.0918
Total:			**2.389**	**14.160**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

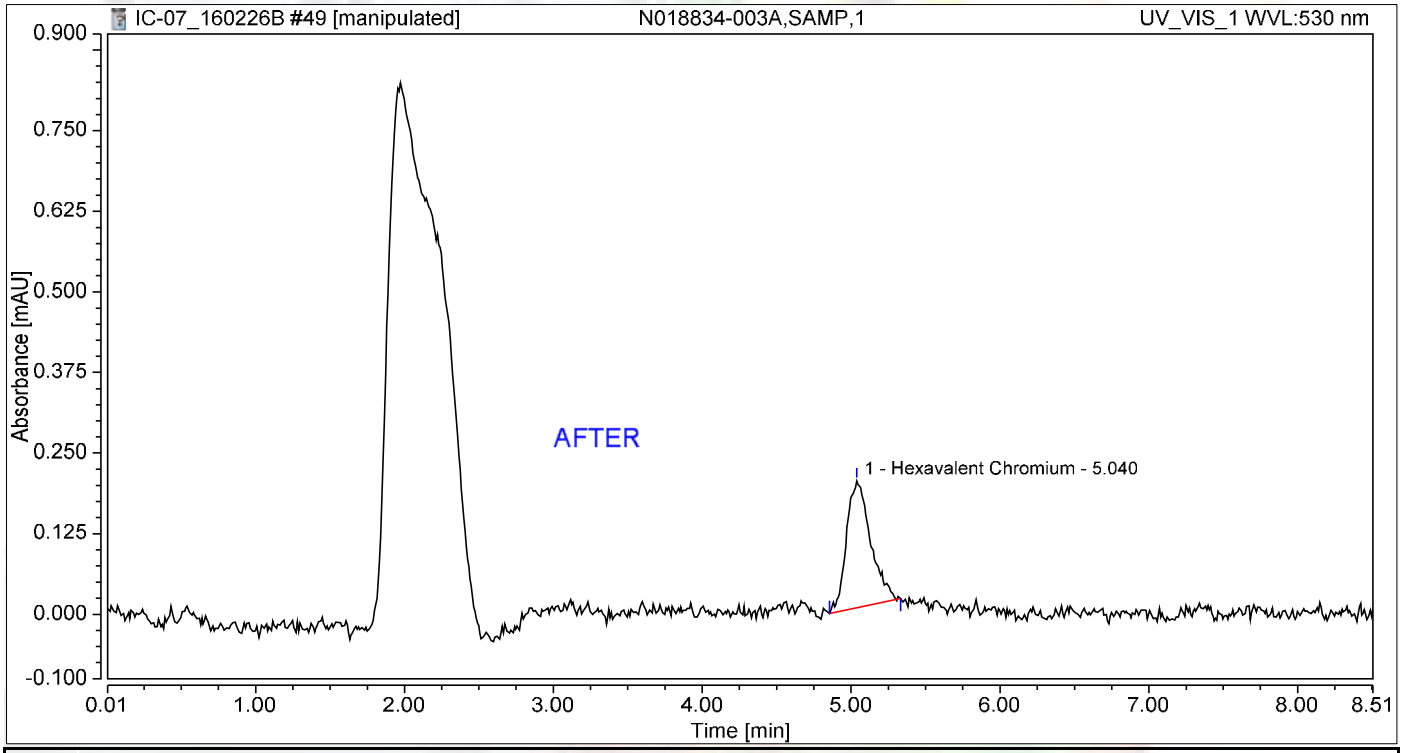
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.037	0.197	100.00	100.00	0.1548
Total:			**0.037**	**0.197**	**100.00**	**100.00**	

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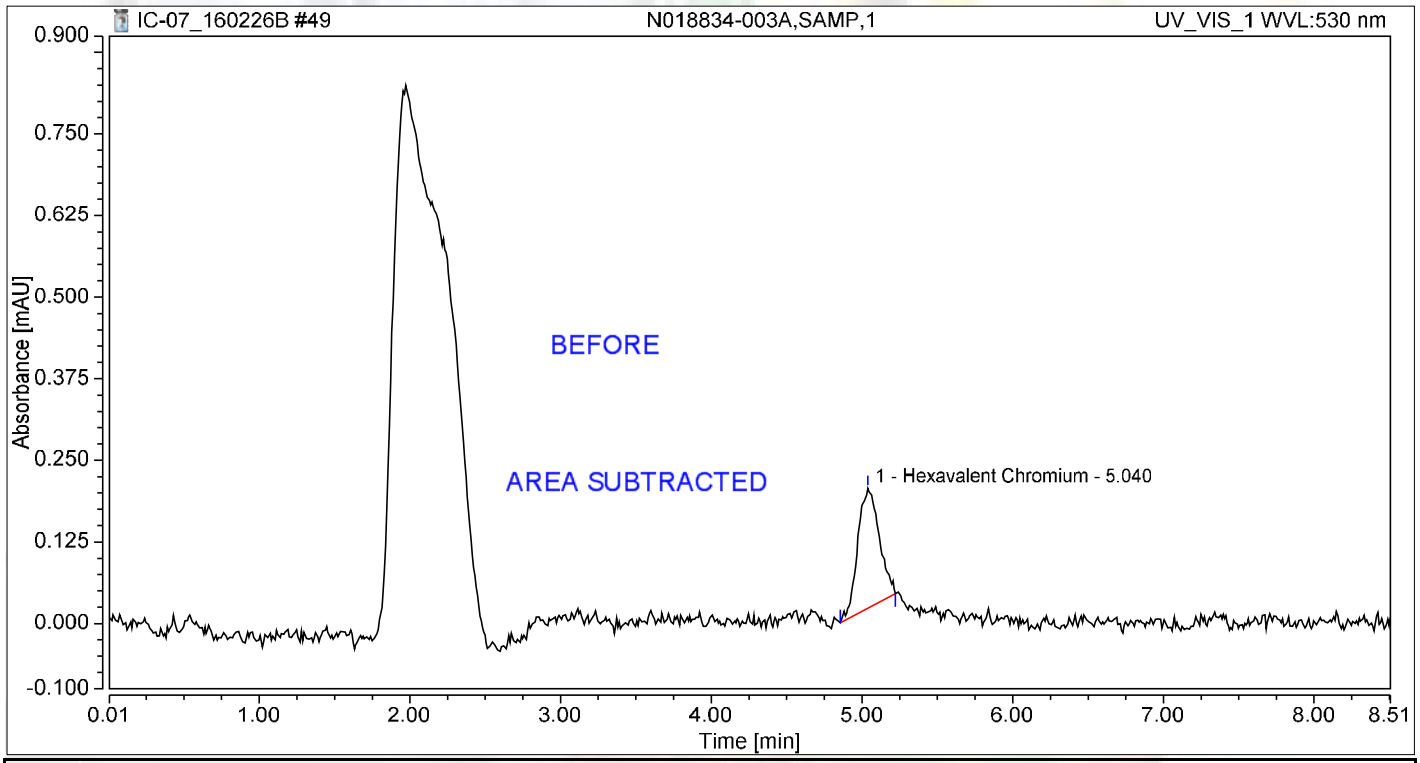
Chromatogram and Results

Injection Details

Injection Name:	**N018834-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.030	0.183	100.00	100.00	0.1285
Total:			**0.030**	**0.183**	**100.00**	**100.00**	

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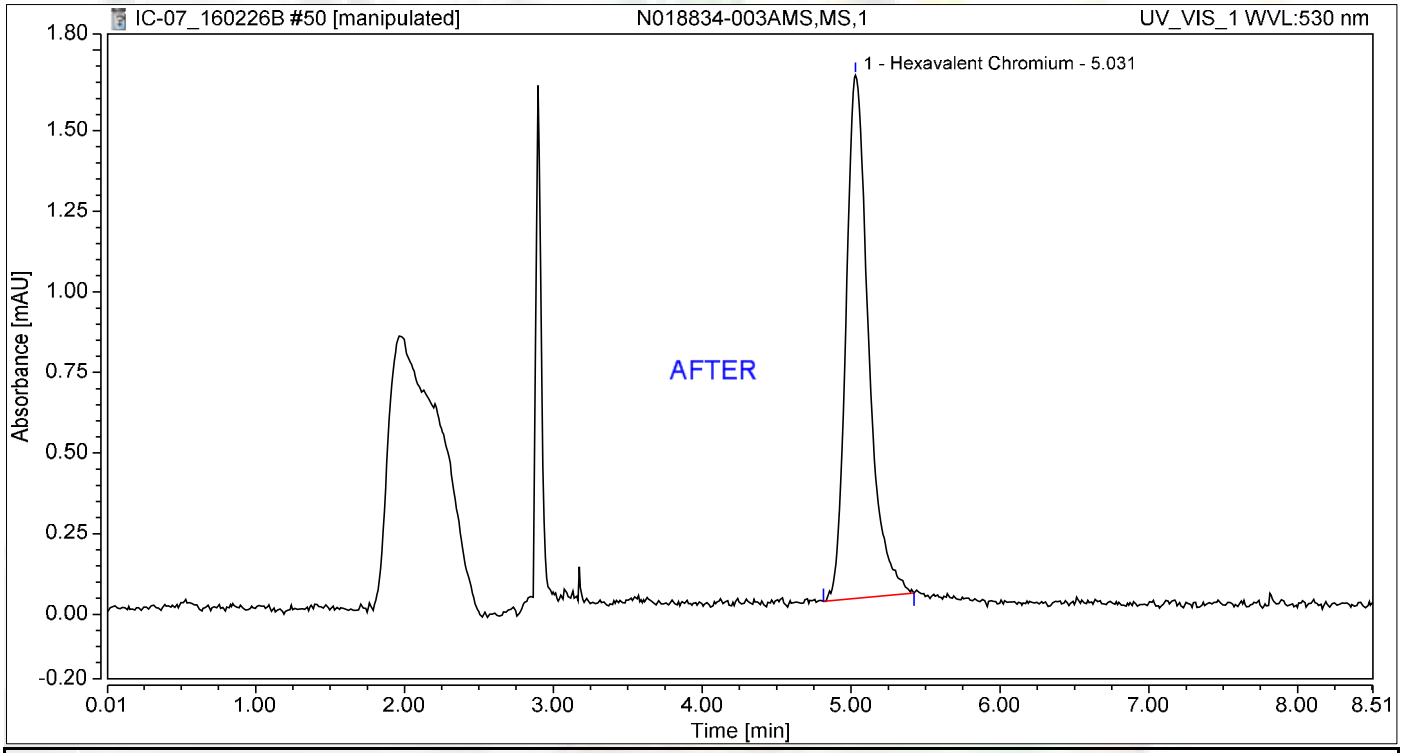
Chromatogram and Results

Injection Details

Injection Name:	**N018834-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

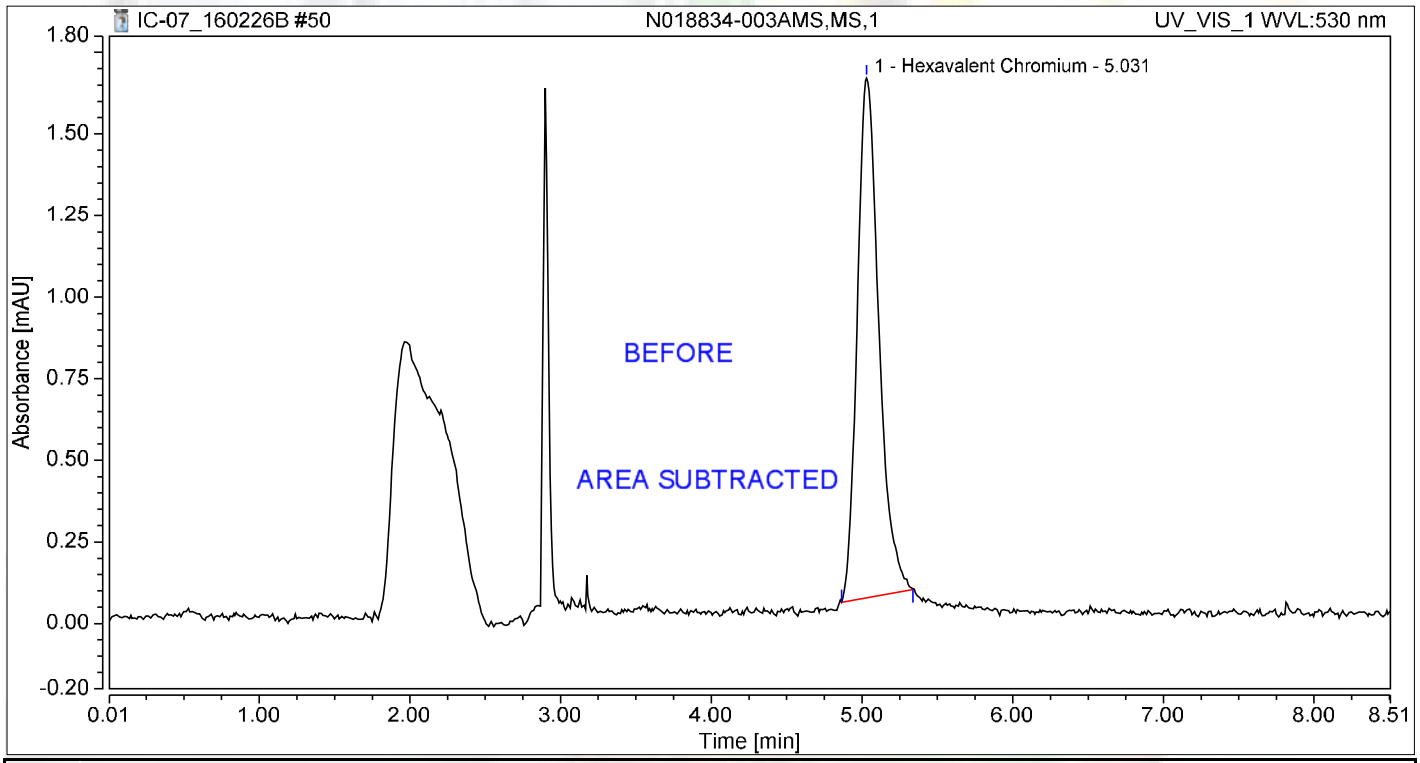
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.282	1.621	100.00	100.00	1.1933
Total:			**0.282**	**1.621**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

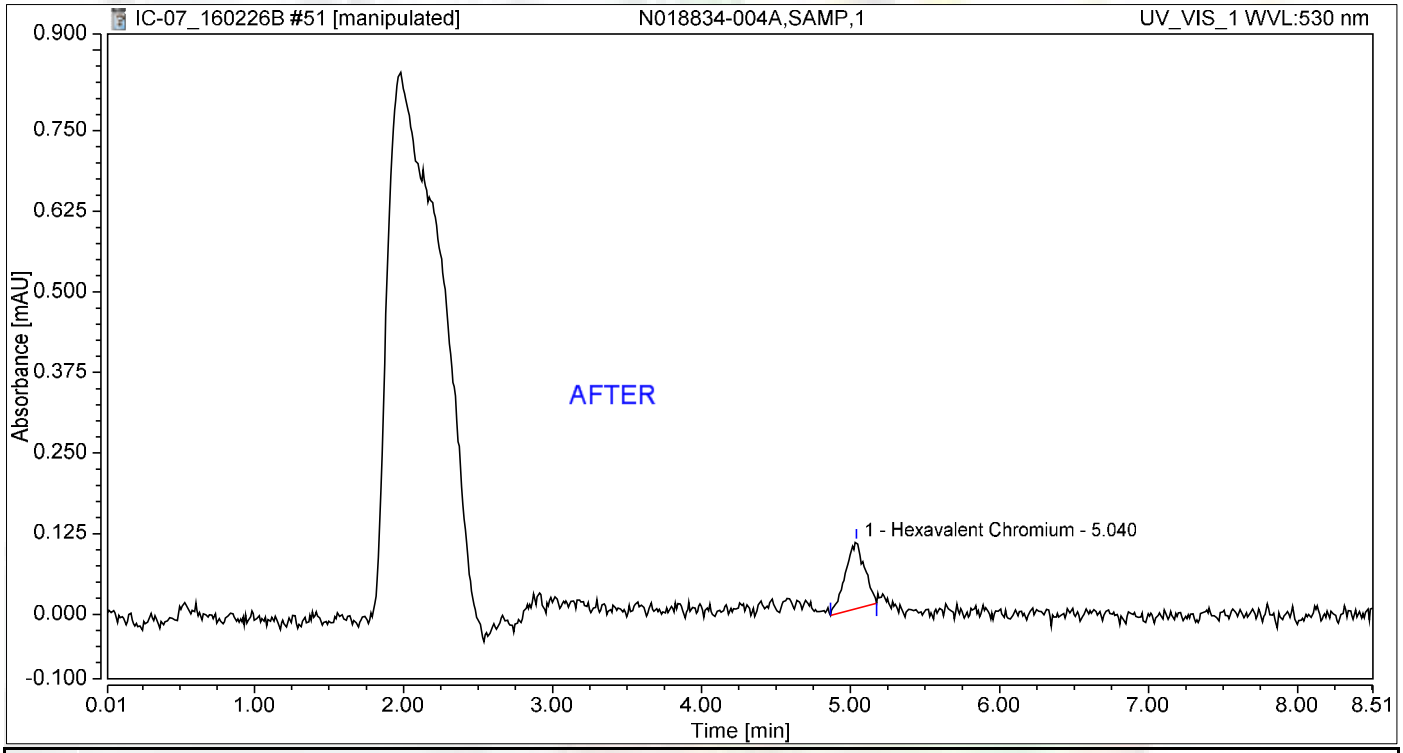
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.593	100.00	100.00	1.1212
Total:			**0.265**	**1.593**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.104	100.00	100.00	0.0659
Total:			**0.016**	**0.104**	**100.00**	**100.00**	

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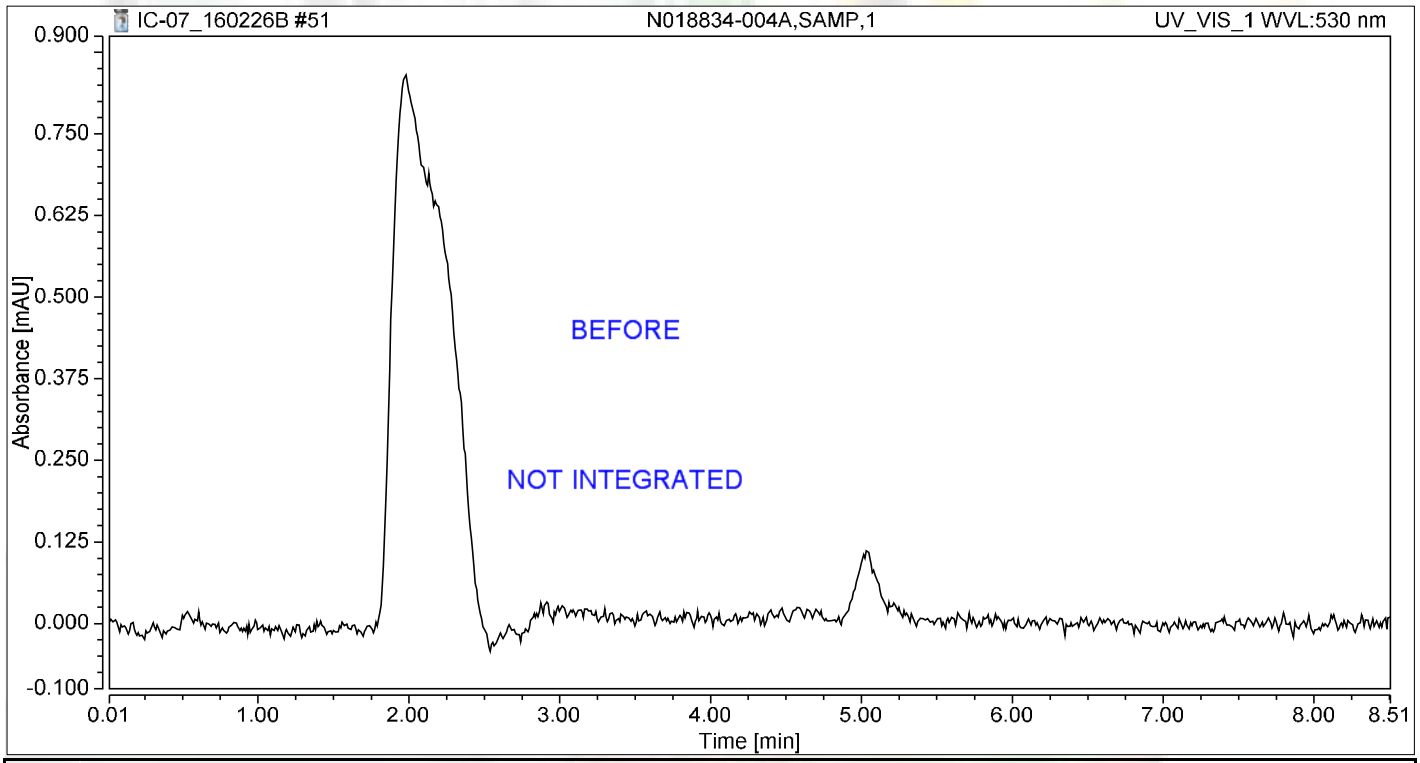
Chromatogram and Results

Injection Details

Injection Name:	**N018834-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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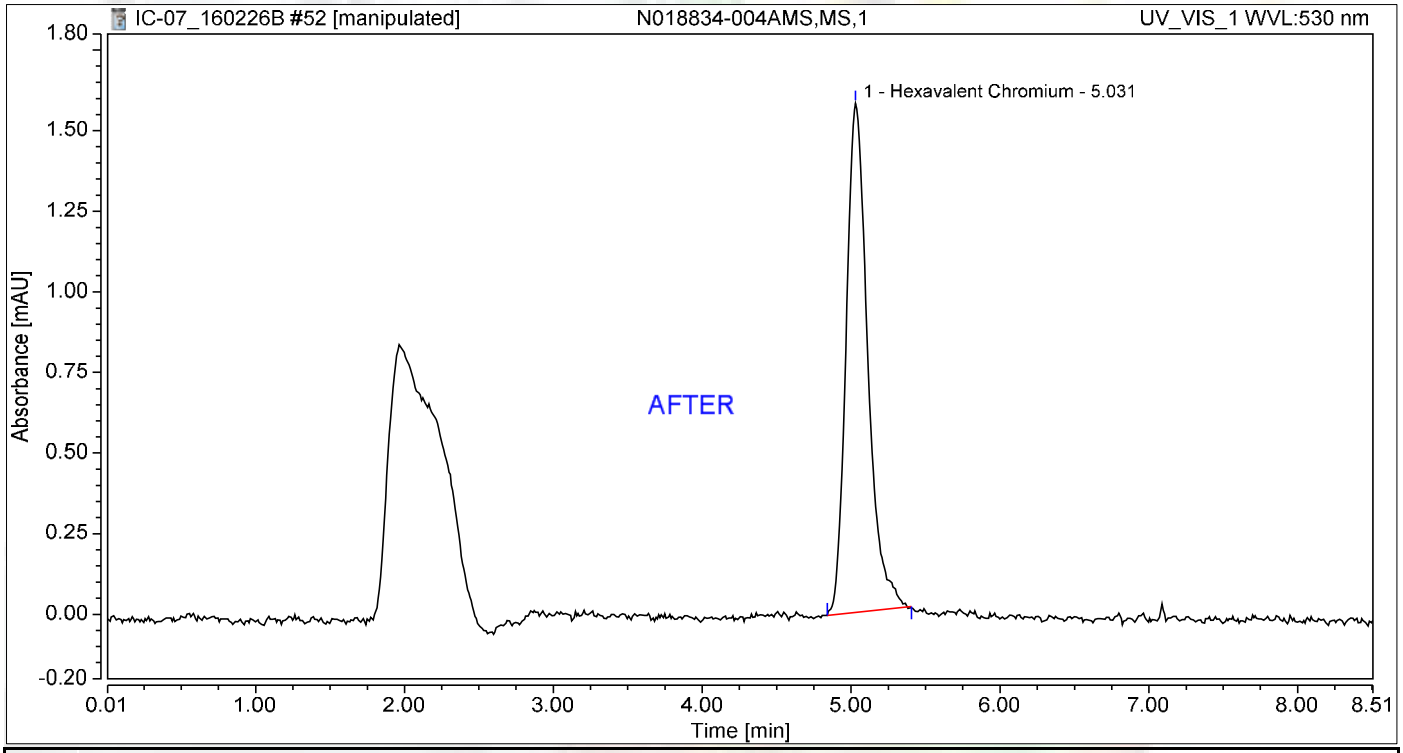
Chromatogram and Results

Injection Details

Injection Name:	**N018834-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.579	100.00	100.00	1.1132
Total:			**0.263**	**1.579**	**100.00**	**100.00**	

Reb 3/8/2016

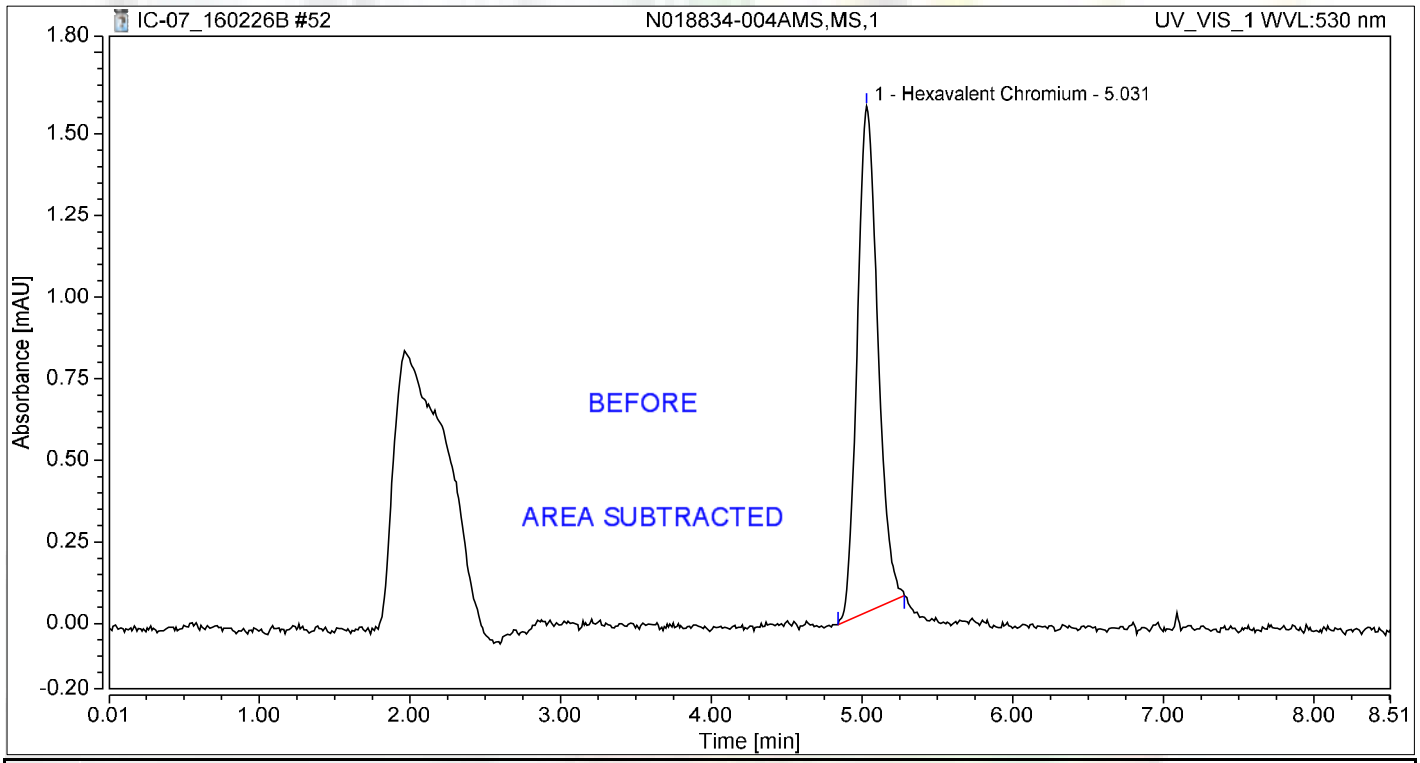
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.246	1.550	100.00	100.00	1.0386
Total:			**0.246**	**1.550**	**100.00**	**100.00**	

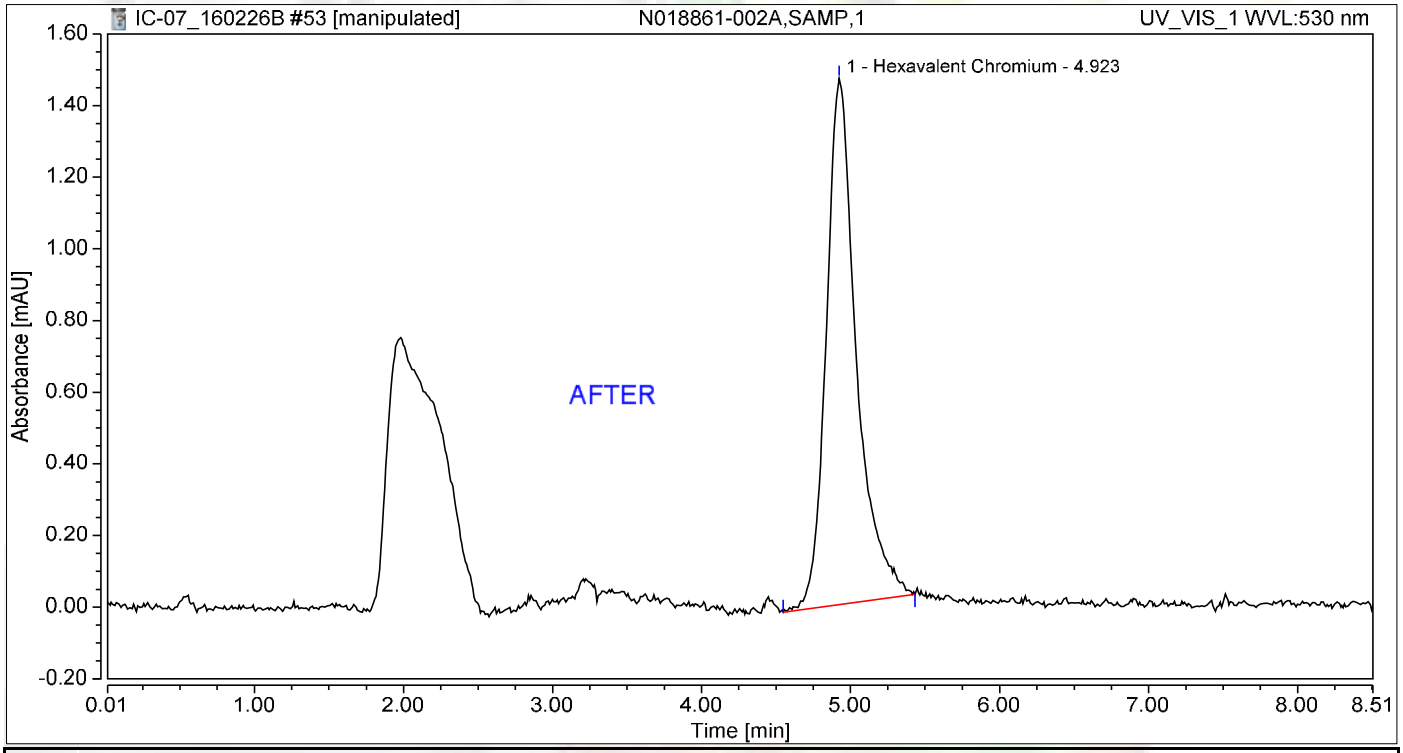
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.344	1.468	100.00	100.00	1.4550
Total:			**0.344**	**1.468**	**100.00**	**100.00**	

Reb 3/8/2016

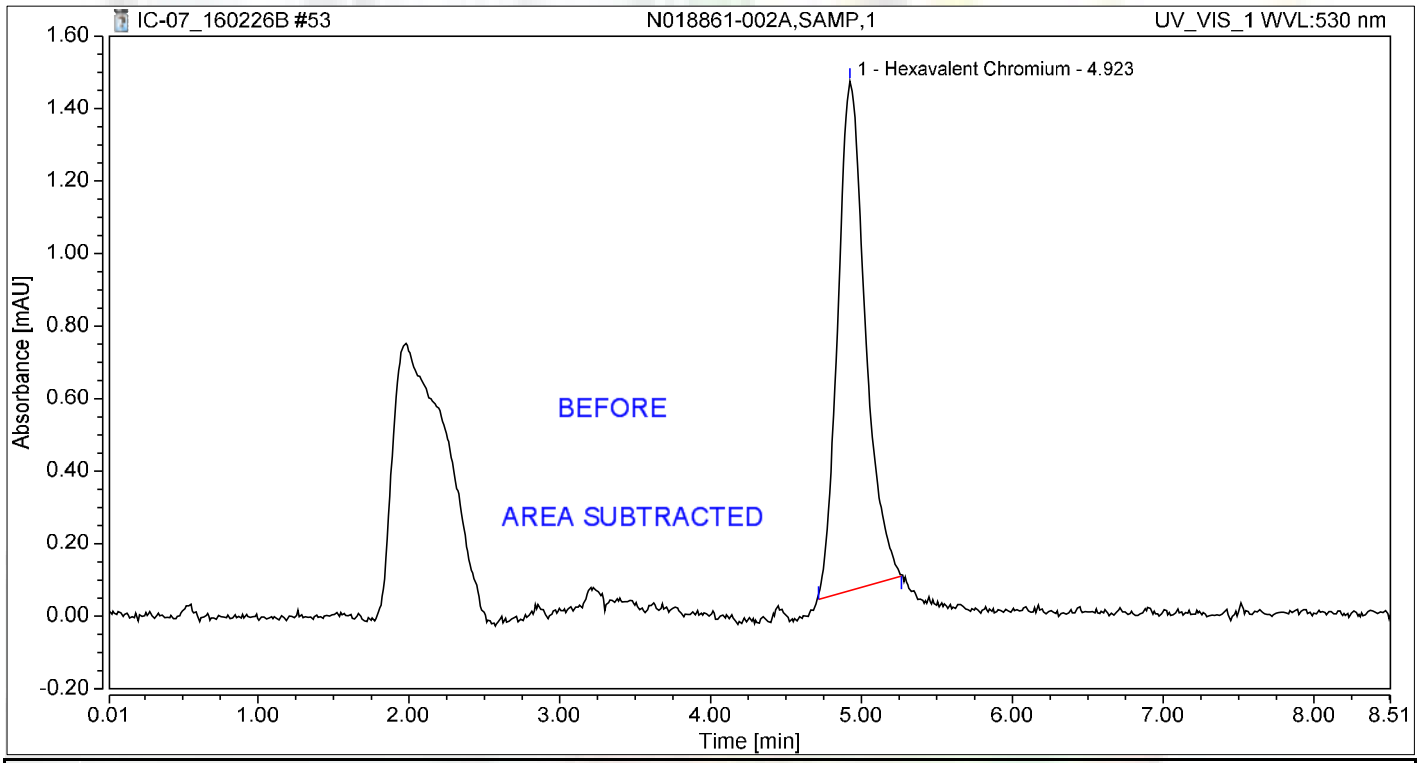
Mary 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.298	1.404	100.00	100.00	1.2592
Total:			**0.298**	**1.404**	**100.00**	**100.00**	

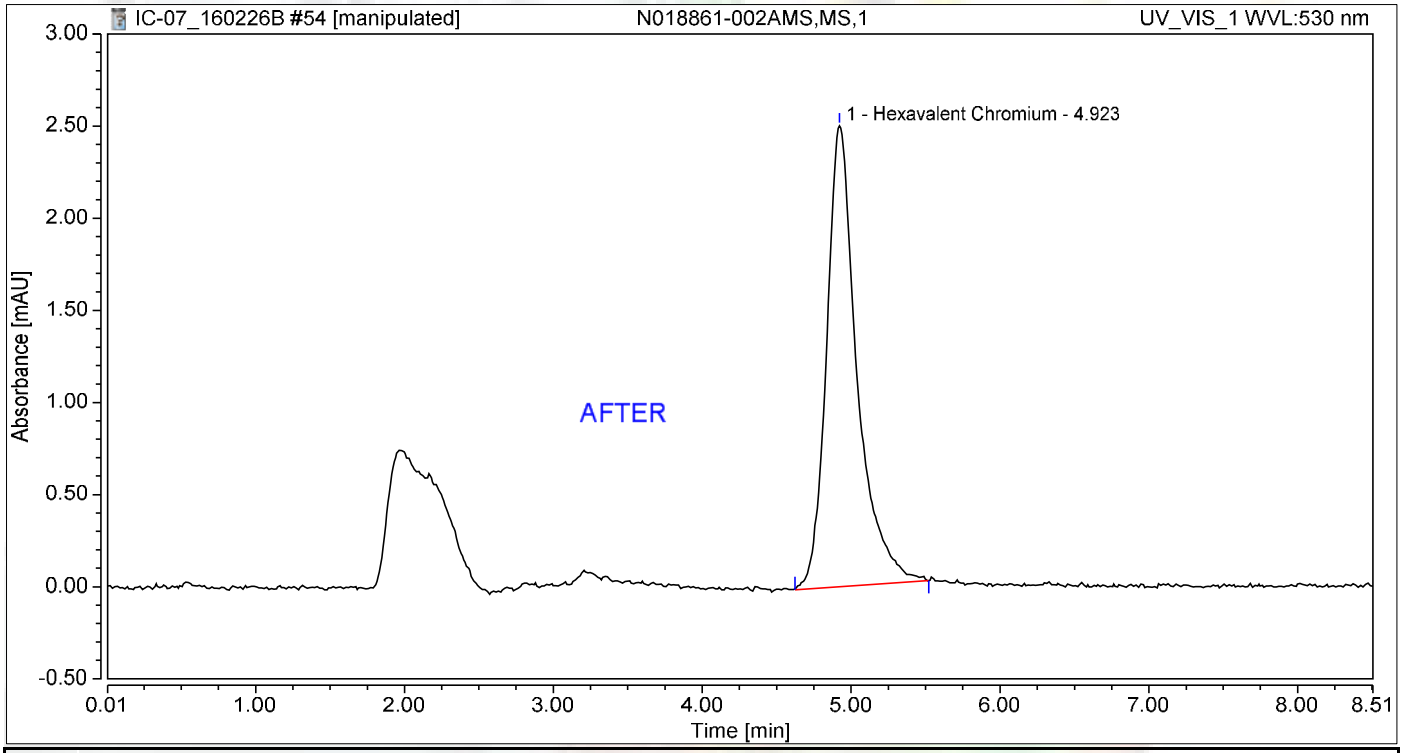
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.593	2.501	100.00	100.00	2.5074
Total:			**0.593**	**2.501**	**100.00**	**100.00**	

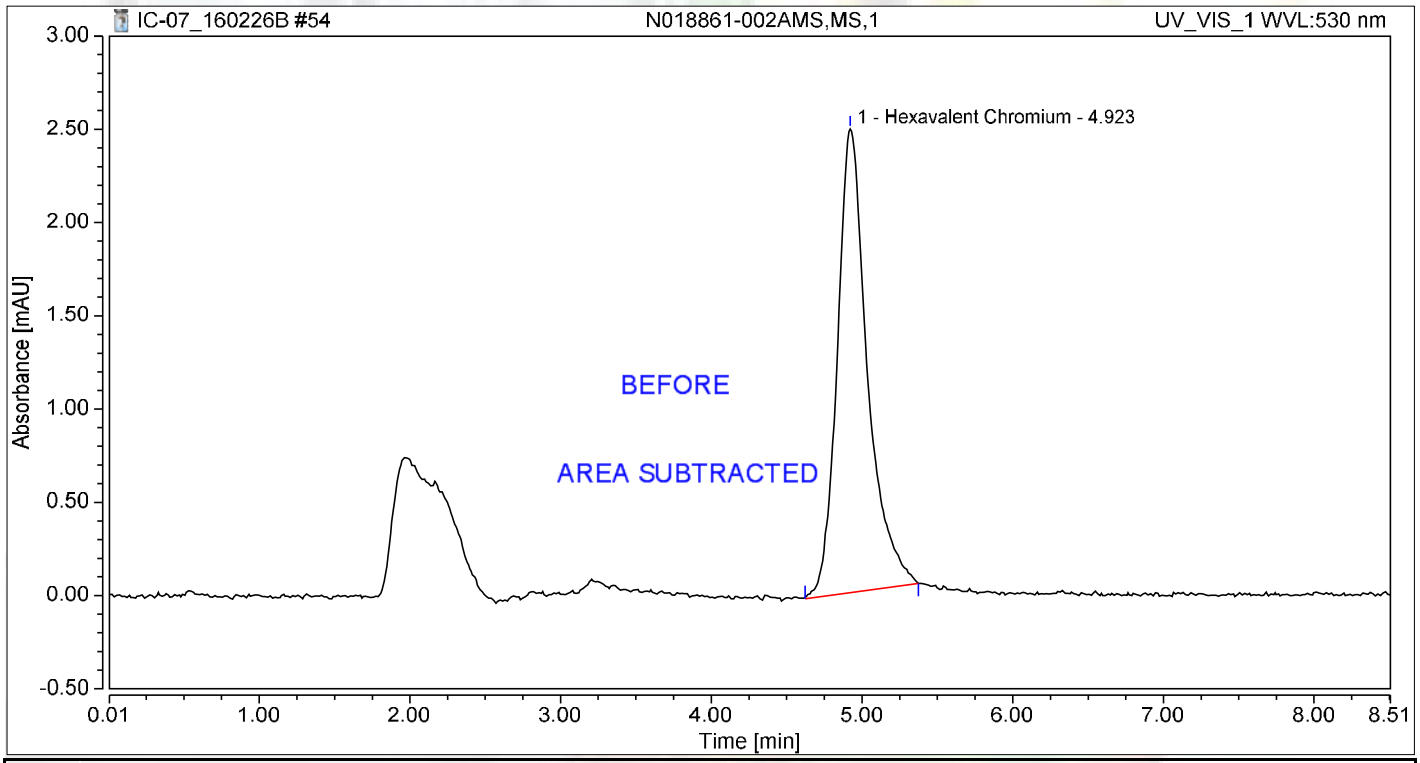
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.575	2.485	100.00	100.00	2.4291
Total:			**0.575**	**2.485**	**100.00**	**100.00**	

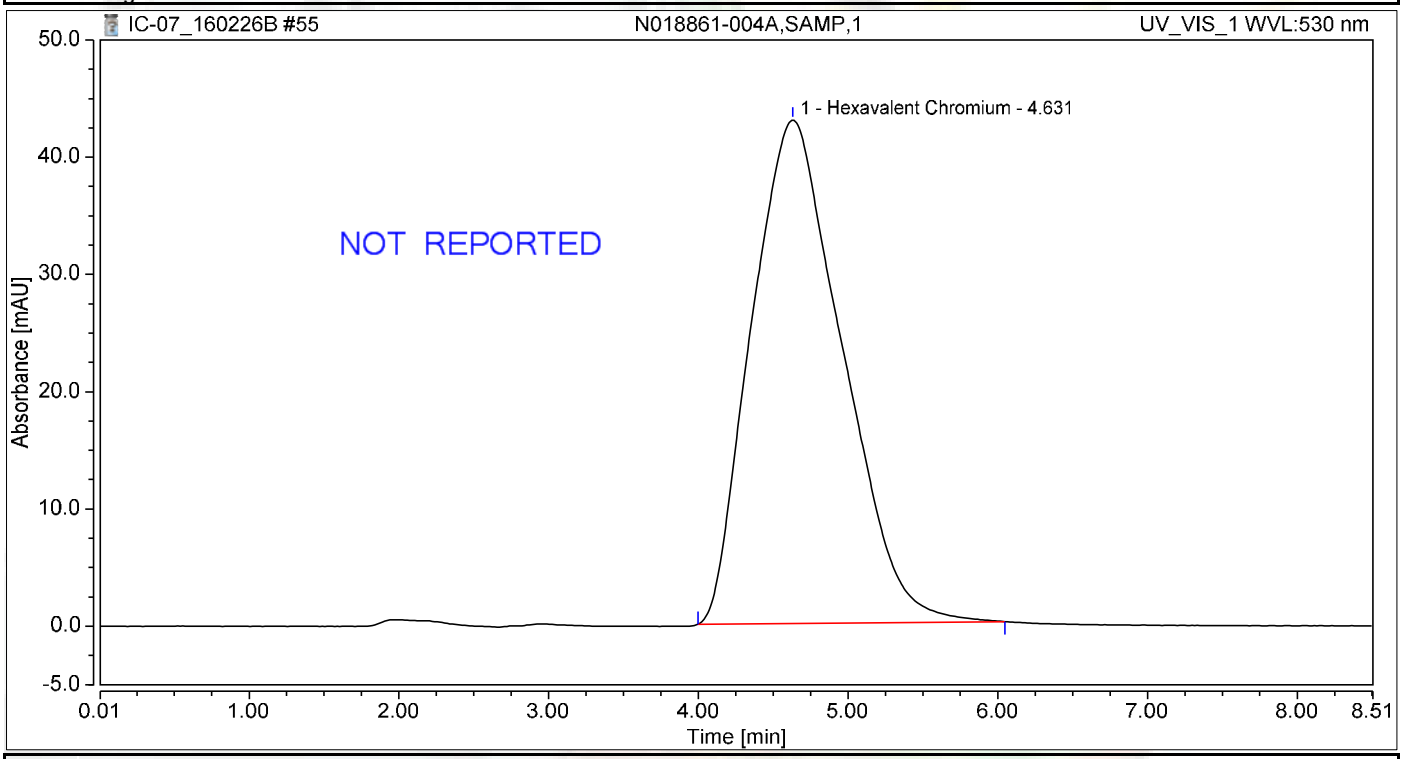
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**46**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

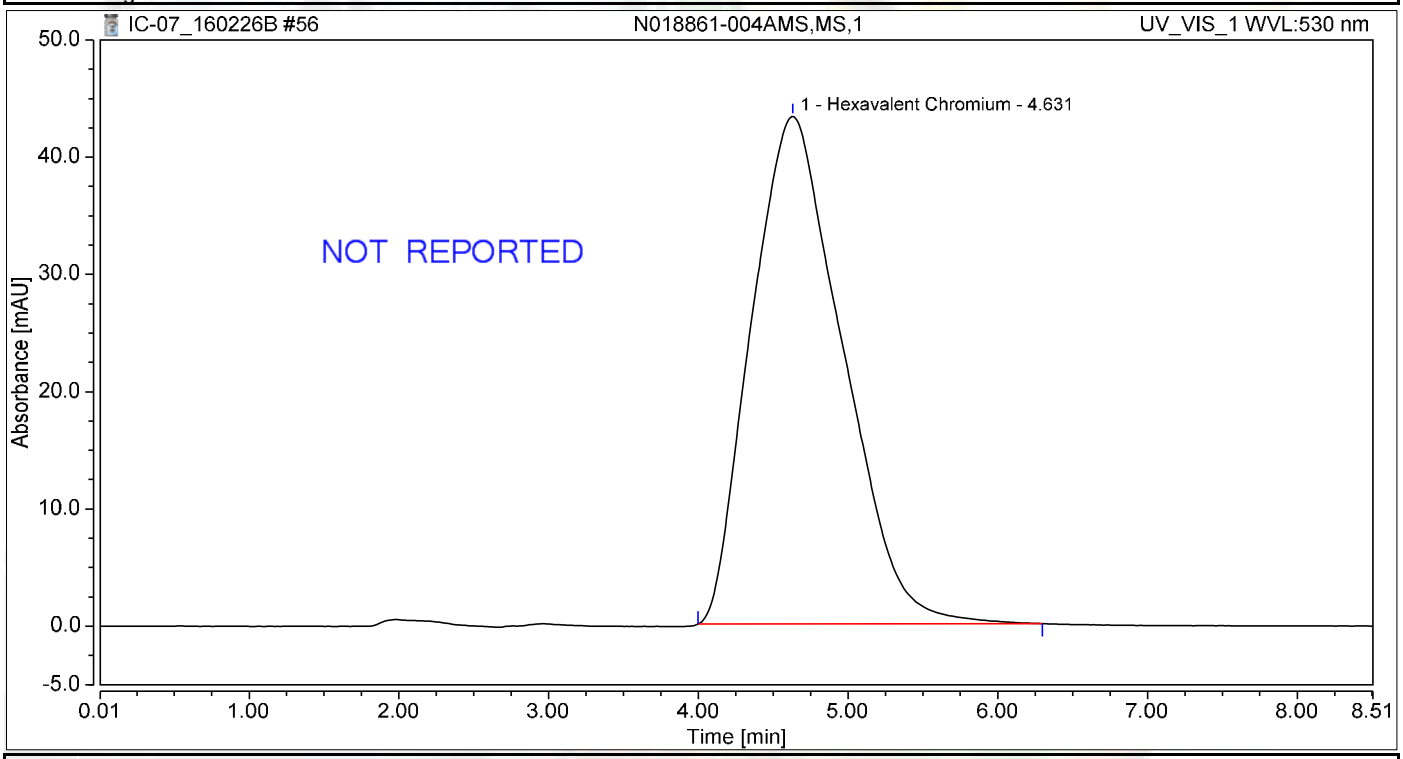
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.631	30.123	42.956	100.00	100.00	127.2667
Total:			**30.123**	**42.956**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**47**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

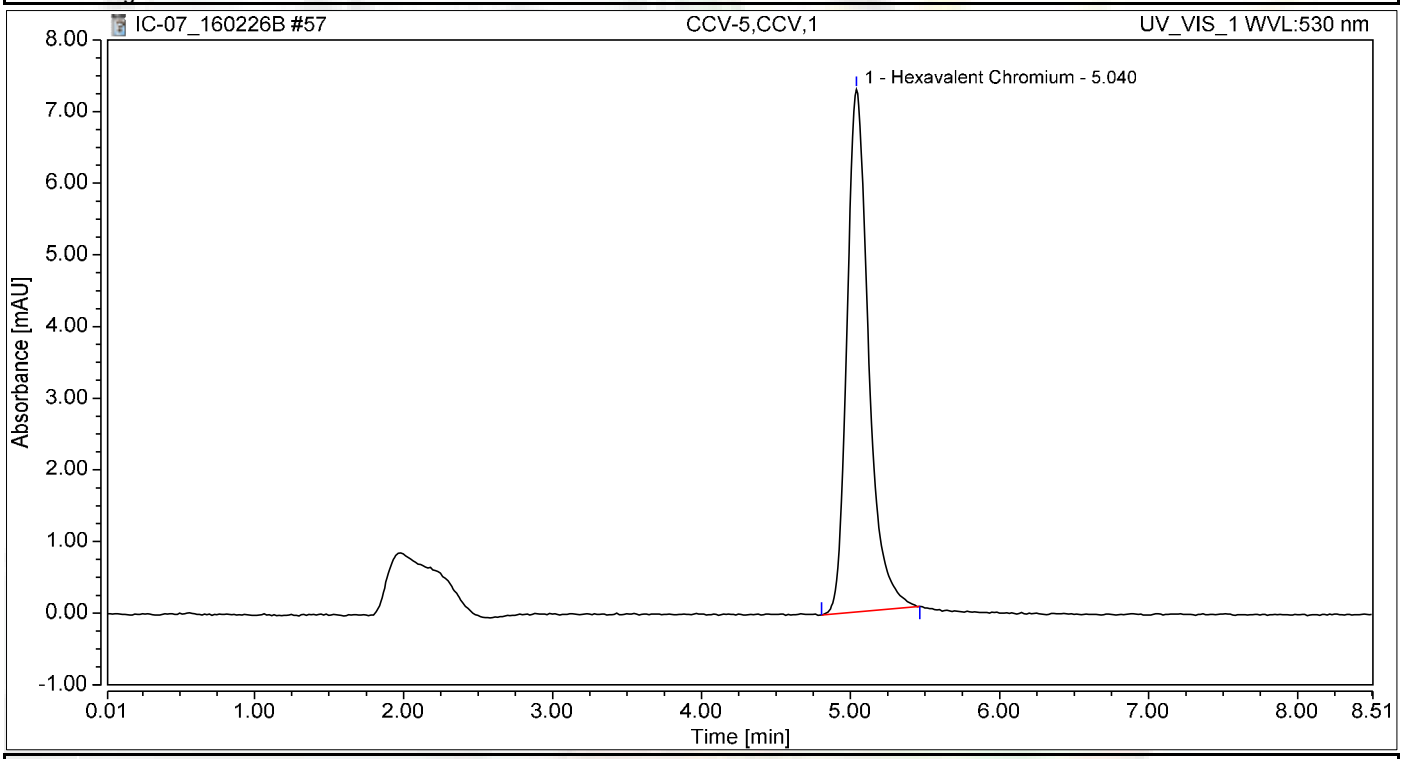
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.631	30.523	43.306	100.00	100.00	128.9587
Total:			**30.523**	**43.306**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**48**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

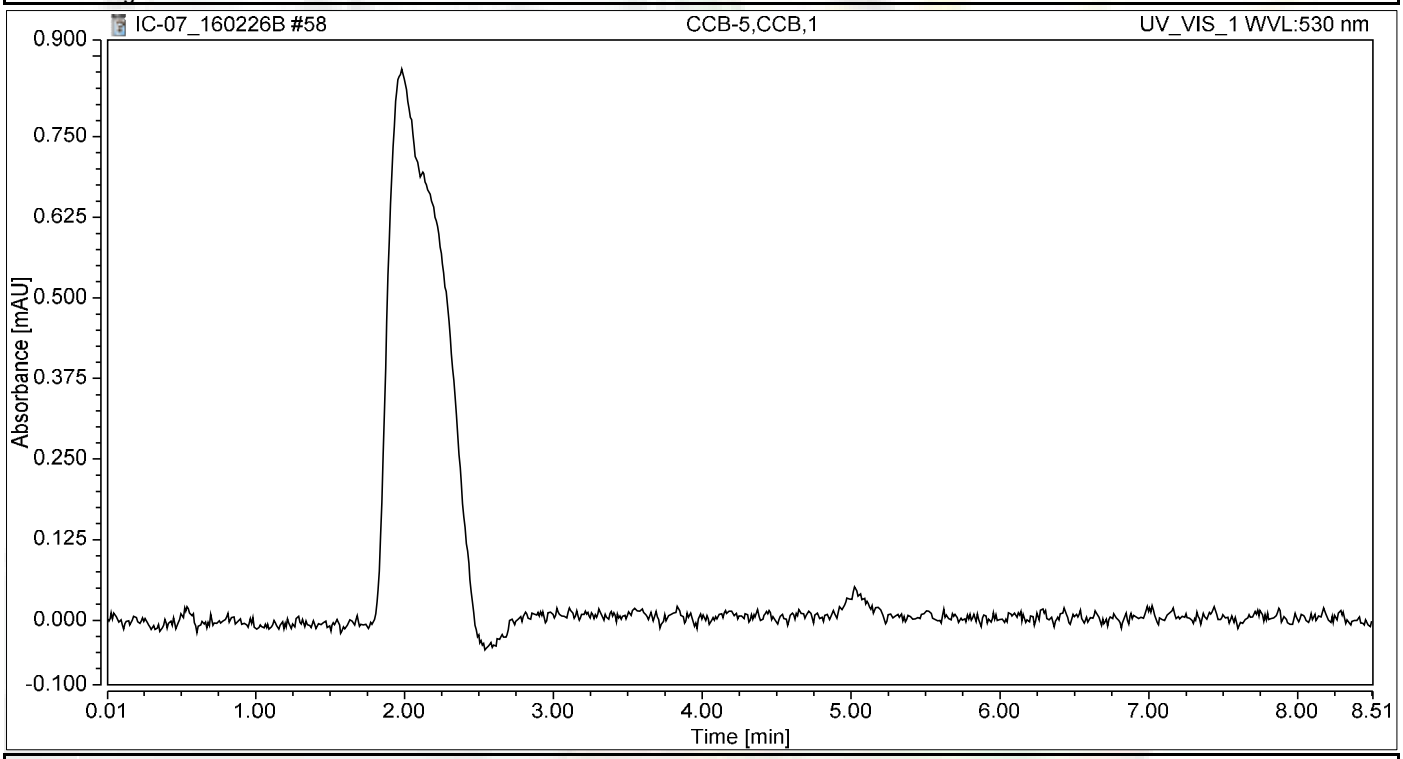
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.225	7.294	100.00	100.00	5.1751
Total:			**1.225**	**7.294**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**49**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106281 **Analyst:** REB

ASSET #: N018833 **Date Analyzed:** 3/4/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/8/2016 Date:

2nd Level Reviewer Nancy 3/8/2016 Date:

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: Water

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018833-001E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.5156*1

= 0.5156 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 0.52

Reb 3/8/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

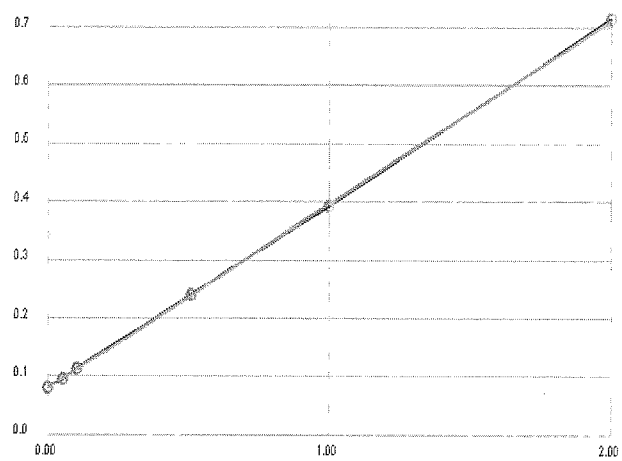
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3165x + 0.0806
Correlation	.999977



Calibrant	Energy	Set	Conc
1	0.0807	0.0000	0.0002
2	0.0963	0.0500	0.0495
3	0.1130	0.1000	0.1023
4	0.2402	0.5000	0.5042
5	0.3939	1.0000	0.9899
6	0.7148	2.0000	2.0039

Notes:

R1 Buffer - R160217C
Coloring Rgt. - R160217D
2% $CuSO_4$ - R160217B

1° 1SST - 150206D
2° 1SST - 150730E

Reb 3/8/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ICV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.532	0.050	0.5000	0	106	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.498	0.050	0.5000	0	99.6	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.505	0.050	0.5000	0	101	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2254004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.508	0.050	0.5000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ICB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2254005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-04-2016 15:07
Time end: 03-04-2016 17:56

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	17:16:39	-0.0036		0.0795
2	<BLANK>	17:17:39	0.0015		0.0811
3	<CAL1>	17:18:33	0.0002	[0]	0.0807
4	<CAL2>	17:19:29	0.0495	[0.05]	0.0963
5	<CAL3>	17:20:30	0.1023	[0.1]	0.1130
6	<CAL4>	17:21:24	0.5042	[0.5]	0.2402
7	<CAL5>	17:22:26	0.9899	[1]	0.3939
8	<CAL6>	17:23:21	2.0039	[2]	0.7148
9	,BLANK,BLANK,1,	17:24:17	0.0419		0.0939
10	,ICV,ICV,1,	17:25:17	0.5323		0.2491
11	,ICB,ICB,1,	17:26:12	0.0163		0.0858
12	,MB-H2O,MBLK,1,	17:27:08	0.0068		0.0828
13	,LCS-H2O,LCS,1,	17:28:08	0.4909		0.2360
14	,N018833-001E,SAMP,1,	17:29:03	0.5156		0.2438
15	,N018833-001EDUP,DUP,1,	17:30:05	0.5244		0.2466
16	,N018833-001EMS,MS,1,	17:31:00	1.0231		0.4044
17	,N018833-001EMSD,MSD,1,	17:32:01	1.0367		0.4087
18	,N018833-002E,SAMP,1,	17:32:56	0.5077		0.2413
19	,N018833-003E,SAMP,1,	17:33:52	0.4963		0.2377
20	,N018833-004E,SAMP,1,	17:34:53	0.5014		0.2393
21	,BLANK,BLANK,1	17:35:47	0.0151		0.0854
22	,CCV-1,CCV,1,	17:36:43	0.4979		0.2382
23	,CCB-1,CCB,1,	17:37:45	0.0100		0.0838
24	,N018833-005E,SAMP,1,	17:38:39	0.5115		0.2425
25	,N018833-006E,SAMP,1,	17:39:40	0.5137		0.2432
26	,N018833-007E,SAMP,1,	17:40:24	0.4998		0.2388

			EPA 353.2 NO3 as N ppm	Flags	OD
27	,N018833-008E,SAMP,1,	17:41:12	0.4998		0.2388
28	,N018833-009E,SAMP,1,	17:41:55	0.5567		0.2568
29	,N018833-010E,SAMP,1,	17:42:37	0.5099		0.2420
30	,N018834-001E,SAMP,1,	17:43:27	0.5526		0.2555
31	,N018834-004E,SAMP,1,	17:44:10	0.4868		0.2347
32	,N018861-001C,SAMP,5,	17:44:52	0.9280		0.3743
33	,BLANK,BLANK,1	17:45:42	0.0170		0.0860
34	,CCV-2,CCV,1,	17:46:24	0.5048		0.2404
35	,CCB-2,CCB,1,	17:47:07	0.0062		0.0826
36	,N018861-002C,SAMP,1,	17:47:55	0.9248		0.3733
37	,N018861-003C,SAMP,1,	17:48:38	-0.0055		0.0789
38	,N018861-004C,SAMP,1,	17:49:28	0.9077		0.3679
39	,N018861-005C,SAMP,5,	17:50:10	0.9317		0.3755
40	,N018861-006C,SAMP,1,	17:50:53	0.0309		0.0904
41	,N018861-007C,SAMP,1,	17:51:41	0.1032		0.1133
42	,BLANK,BLANK,1	17:52:25	-0.0124		0.0767
43	,CCV-3,CCV,1,	17:53:07	0.5080		0.2414
44	,CCB-3,CCB,1,	17:53:56	-0.0061		0.0787

Reb 3/8/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/4/2016
Time Analyzed: 03:07 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018833-001E		8.44						
2)	N018833-002E		8.95						
3)	N018833-003E		8.62						
4)	N018833-004E		8.37						
5)	N018833-005E		8.28						
6)	N018833-006E		7.02						
7)	N018833-007E		8.97						
8)	N018833-008E		8.38						
9)	N018833-009E		8.45						
10)	N018833-010E		8.82						
11)	N018834-001E		7.21						
12)	N018834-004E		8.71						
13)	N018861-001E		8.99						
14)	N018861-002E		8.92						
15)	N018861-003E		8.18						
16)	N018861-004E		8.31						
17)	N018861-005E		8.47						
18)	N018861-006E		8.13						
19)	N018861-007E		8.58						
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/8/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56471 **Instrument ID:** ICP-02
ASSET #: N018833 **Analyst:** CEI
Method: **Date Analyzed:** 3/3/2016

[X] EPA 6010B / 200.7 Diss [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018833-001B to 010B only.
% Rec of Mg in ICSA3 failed, low bias. However Mg is not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/7/2016 Date:
2nd Level Reviewer 3/9/2016 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018833-002B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.03109 * 1 * (25/25) * 1000

Iron , ug/L = 31.09

Reporting results in two significant figures,

Iron , ug/L = 31

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
MB-56471	MBLK	1	Fe	0.0077	8.0096	15	PASS
LCS-56471	LCS	1	Fe	0.11	0.38	15	PASS
N018833-001B	SAMP	1	Fe	0.012	4.028	15	PASS
N018833-001B	SAMP	5	Fe	0.0031	15.32	15	<PQL
N018833-001B-PS	PS	1	Fe	0.11	0.7	15	PASS
N018833-001B-MS	MS	1	Fe	0.11	0.48	15	PASS
N018833-001B-MSD	MSD	1	Fe	0.11	0.79	15	PASS
N018833-002B	SAMP	1	Fe	0.031	0.8	15	PASS
N018833-003B	SAMP	1	Fe	0.42	0.55	15	PASS
N018833-004B	SAMP	1	Fe	0.035	1.42	15	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
N018833-005B	SAMP	1	Fe	0.0064	1.66	15	PASS
N018833-006B	SAMP	1	Fe	0.014	4.64	15	PASS
N018833-007B	SAMP	1	Fe	0.029	0.85	15	PASS
N018833-008B	SAMP	1	Fe	0.0081	2.29	15	PASS
N018833-009B	SAMP	1	Fe	0.0057	12.76	15	PASS
N018833-010B	SAMP	1	Fe	0.0063	1.71	15	PASS
N018834-001B	SAMP	1	Fe	0.0057	11.8	15	PASS
N018834-001B-MS	MS	1	Fe	0.11	0.37	15	PASS
N018834-004B	SAMP	1	Fe	0.0069	1.42	15	PASS
N018843-001B	SAMP	1	Fe	0.0089	2.82	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
N018843-002B	SAMP	1	Fe	0.0059	2.069	15	PASS
N018843-003B	SAMP	1	Fe	0.0085	6.87	15	PASS
N018843-004B	SAMP	1	Fe	0.015	2.25	15	PASS
N018843-005B	SAMP	1	Fe	0.0061	4.29	15	PASS
N018843-006B	SAMP	1	Fe	0.013	5.042	15	PASS
N018843-007B	SAMP	1	Fe	0.005	2.32	15	PASS
N018843-008B	SAMP	1	Fe	0.0052	10.24	15	PASS
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV4	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:49:11 A**
Prep End Date: **3/2/2016 1:05:00 P**

Initials/ Date: For: 3/7/2016

Prep Batch **56471** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56471	Aqueous		25	☐	0	0	25	1.000		
MB-56471	Aqueous		25	☐	0	0	25	1.000		
N018833-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:49:11 A**
Prep End Date: **3/2/2016 1:05:00 P**

Initials/ Date: For: 3/7/2016

Prep Batch **56471** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	CCV7	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	CCV	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251588

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID	CCV8	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	CCV	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID	CCV9	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	CCV	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID	LLCCV4	SampType:	CCV2	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	ZZZZZZ	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCB5** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID **CCB6** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID **CCB7** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID **CCB8** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID **CCB9** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte.

3/9/201

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSA4	SampType:	ICSA	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	ICSA	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251607

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID	ICSAB4	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	ICSAB	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
MB-56471	MBLK	1	1.048	104.83	65-125	PASS
LCS-56471	LCS	1	1.015	101.48	65-125	PASS
N018833-001B	SAMP	1	0.98	97.63	65-125	PASS
N018833-001B	SAMP	5	1.0043	100.43	65-125	PASS
N018833-001B-PS	PS	1	0.98	98.009	65-125	PASS
N018833-001B-MS	MS	1	0.97	97.25	65-125	PASS
N018833-001B-MSD	MSD	1	0.97	97.35	65-125	PASS
N018833-002B	SAMP	1	0.99	99.42	65-125	PASS
N018833-003B	SAMP	1	0.98	98.2	65-125	PASS
N018833-004B	SAMP	1	0.99	98.51	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
N018833-005B	SAMP	1	1.028	102.84	65-125	PASS
N018833-006B	SAMP	1	1.0034	100.34	65-125	PASS
N018833-007B	SAMP	1	0.99	99.34	65-125	PASS
N018833-008B	SAMP	1	0.99	99.26	65-125	PASS
N018833-009B	SAMP	1	0.97	97.39	65-125	PASS
N018833-010B	SAMP	1	0.98	98.022	65-125	PASS
N018834-001B	SAMP	1	0.99	99.21	65-125	PASS
N018834-001B-MS	MS	1	0.99	98.72	65-125	PASS
N018834-004B	SAMP	1	1.0026	100.26	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018843-001B	SAMP	1	0.99	99.16	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
N018843-002B	SAMP	1	0.98	97.72	65-125	PASS
N018843-003B	SAMP	1	0.97	96.85	65-125	PASS
N018843-004B	SAMP	1	0.99	99.23	65-125	PASS
N018843-005B	SAMP	1	0.99	99.23	65-125	PASS
N018843-006B	SAMP	1	0.98	98.14	65-125	PASS
N018843-007B	SAMP	1	0.98	98.23	65-125	PASS
N018843-008B	SAMP	1	1	99.52	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV4	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018833
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56471

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018833-001B-DT 5X	Iron	ug/L	0	NA	0		10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N018833-001B-PS**	SampType:	**PS**	TestCode:	**6010_WDPG**	Units:	**ug/L**	Prep Date:		RunNo:	**106233**
Client ID:	**ZZZZZZ**	Batch ID:	**56471**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**3/3/2016**	SeqNo:	**2251519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.200	20	100.0	0	107	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6010B

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56472
ASSET #: N018833

Instrument ID: ICP-02
Analyst: CEI
Date Analyzed: 3/3/2016

Method:
[X] EPA 6010B / 200.7 Total
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018833-001C to 010C only.
% Rec of Fe in N018833-001C PS & N018834-001C MS fialed. However LCS passed criteria.
% Rec of Mg in ICSA3 failed, low bias. However Mg is not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/7/2016 Date: —
2nd Level Reviewer 3/9/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018833-001C** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.13773 * 1 * (25/25) * 1000

Iron , ug/L = 137.73

Reporting results in two significant figures,

Iron , ug/L = 140

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
MB-56472	MBLK	1	Fe	0.0052	7.28	15	PASS
LCS-56472	LCS	1	Fe	0.11	1.58	15	PASS
N018833-001C	SAMP	1	Fe	0.14	1.027	15	PASS
N018833-001C	SAMP	5	Fe	0.03	3.14	15	PASS
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
N018833-001C-PS	PS	1	Fe	0.26	0.79	15	PASS
N018833-001C-MS	MS	1	Fe	0.26	0.44	15	PASS
N018833-001C-MSD	MSD	1	Fe	0.26	0.45	15	PASS
N018833-002C	SAMP	1	Fe	0.15	0.21	15	PASS
N018833-003C	SAMP	1	Fe	3.2	0.17	15	PASS
N018833-004C	SAMP	1	Fe	2.19	0.24	15	PASS
N018833-005C	SAMP	1	Fe	0.12	0.91	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018833-006C	SAMP	1	Fe	0.12	0.43	15	PASS
N018833-007C	SAMP	1	Fe	0.13	0.98	15	PASS
N018833-008C	SAMP	1	Fe	0.1	0.14	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
N018833-009C	SAMP	1	Fe	0.15	0.51	15	PASS
N018833-010C	SAMP	1	Fe	0.11	0.32	15	PASS
N018834-001C	SAMP	1	Fe	0.4	0.29	15	PASS
N018834-001C-MS	MS	1	Fe	0.44	0.41	15	PASS
N018834-004C	SAMP	1	Fe	0.094	0.94	15	PASS
N018843-001C	SAMP	1	Fe	0.15	0.34	15	PASS
N018843-002C	SAMP	1	Fe	0.12	0.076	15	PASS
N018843-003C	SAMP	1	Fe	0.16	0.66	15	PASS
N018843-004C	SAMP	1	Fe	0.091	0.93	15	PASS
N018843-005C	SAMP	1	Fe	0.12	0.76	15	PASS
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
N018843-006C	SAMP	1	Fe	0.092	0.46	15	PASS
N018843-007C	SAMP	1	Fe	0.13	0.091	15	PASS
N018843-008C	SAMP	1	Fe	0.1	0.43	15	PASS
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV4	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:53:38 A**
Prep End Date: **3/2/2016 1:00:00 P**

For:
Initials/ Date: 3/9/2016

Prep Batch **56472** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56472	Aqueous		25	☐	0	0	25	1.000		
MB-56472	Aqueous		25	☐	0	0	25	1.000		
N018833-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:53:38 A**
Prep End Date: **3/2/2016 1:00:00 P**

Initials/ Date: For: 3/9/2016

Prep Batch **56472** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	CCV7	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	CCV	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251704

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID	CCV8	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	CCV	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251716

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID	CCV9	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	CCV	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251720

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID	LLCCV4	SampType:	CCV2	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251722

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB5	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/3/2016**	SeqNo: **2251678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB6	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB7	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB8	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB9	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte.

3/9/201

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
MB-56472	MBLK	1	1.061	106.12	65-125	PASS
LCS-56472	LCS	1	0.98	98.092	65-125	PASS
N018833-001C	SAMP	1	0.97	96.95	65-125	PASS
N018833-001C	SAMP	5	1	99.95	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
N018833-001C-PS	PS	1	0.97	97.057	65-125	PASS
N018833-001C-MS	MS	1	1	99.68	65-125	PASS
N018833-001C-MSD	MSD	1	0.99	99.07	65-125	PASS
N018833-002C	SAMP	1	0.98	98.16	65-125	PASS
N018833-003C	SAMP	1	0.98	97.84	65-125	PASS
N018833-004C	SAMP	1	0.96	96.3	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018833-005C	SAMP	1	1.0052	100.52	65-125	PASS
N018833-006C	SAMP	1	0.97	96.94	65-125	PASS
N018833-007C	SAMP	1	0.97	96.68	65-125	PASS
N018833-008C	SAMP	1	0.99	99.5	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
N018833-009C	SAMP	1	0.97	97.39	65-125	PASS
N018833-010C	SAMP	1	0.98	97.67	65-125	PASS
N018834-001C	SAMP	1	0.98	98.32	65-125	PASS
N018834-001C-MS	MS	1	0.99	98.98	65-125	PASS
N018834-004C	SAMP	1	1.0031	100.31	65-125	PASS
N018843-001C	SAMP	1	0.99	98.99	65-125	PASS
N018843-002C	SAMP	1	0.98	98.35	65-125	PASS
N018843-003C	SAMP	1	1	99.97	65-125	PASS
N018843-004C	SAMP	1	0.98	98.45	65-125	PASS
N018843-005C	SAMP	1	0.99	98.71	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
N018843-006C	SAMP	1	0.98	98.052	65-125	PASS
N018843-007C	SAMP	1	0.98	98.44	65-125	PASS
N018843-008C	SAMP	1	0.98	97.81	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV4	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018833
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56472

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018833-001C-DT 5X	Iron	ug/L	147.8492	NA	137.7292	7.35%	10

Note: NA - Not Applicable

ASSET Laboratories

Date: *06-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	**N018833-001C-PS**	SampType:	**PS**	TestCode:	**6010_WPGE**	Units:	**ug/L**	Prep Date:		RunNo:	**106236**
Client ID:	**ZZZZZZ**	Batch ID:	**56472**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**3/4/2016**	SeqNo:	**2251682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	259.790	20	100.0	137.7	122	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018833

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

Ba in N018833-001B PS/MS/MSD & N018834-001B MS is over linear range. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date: —

2nd Level Reviewer 3/9/2016 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018833

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For dilution of Ba in N018833-001B PS/MS/MSD & N018834-001B Ms only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date: —

2nd Level Reviewer 3/9/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018833-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 0.00284 * 1 * (25/25)

Chromium , ug/L = 0.002840

Reporting results in two significant figures,

Chromium , ug/L = 0

Since PQL of Chromium ,in ug/L = 1.0

Chromium , ug/L = ND

% RSD SUMMARY

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.055	4.43	15	PASS	0.098	8.75	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	2.18	15	PASS	0.5	1.81	15	PASS
Std3-5/50 ppb	ICAL	1	5.24	0.95	15	PASS	5	0.72	15	PASS
Std4-10/100 ppb	ICAL	1	10.58	0.64	15	PASS	10.098	0.3	15	PASS
Std5-20/200 ppb	ICAL	1	20.78	0.6	15	PASS	19.95	0.4	15	PASS
Std6-40/400 ppb	ICAL	1	41.3	0.21	15	PASS	39.77	0.53	15	PASS
Std7-100/1000 ppb	ICAL	1	101	0.92	15	PASS	100.69	1.42	15	PASS
Std8-200/2000 ppb	ICAL	1	199.13	0.59	15	PASS	199.7	0.68	15	PASS
ICV	ICV	1	91.96	0.7	15	PASS	10.34	0.46	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.024	1.33	20	PASS	1.045	0.58	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.17	3.069	15	PASS
ICSAB1	ICSAB	1	20.49	0.46	15	PASS	20.12	0.63	15	PASS
MB-56418	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56418	LCS	1	99.66	0.66	15	PASS	9.76	0.86	15	PASS
N018833-001B	SAMP	1	134.52	0.44	15	PASS	0.0028	169.57	15	<PQL
N018833-001B	SAMP	5	28.51	0.88	15	PASS	<0.000	N/A	15	<PQL
N018833-001B-PS	PS	1	229.062	0.52	15	PASS	9.17	0.77	15	PASS
N018833-001B-MS	MS	1	226.76	0.24	15	PASS	9.31	0.26	15	PASS
N018833-001B-MSD	MSD	1	225.71	0.46	15	PASS	9.29	0.62	15	PASS
N018833-002B	SAMP	1	135.21	1.41	15	PASS	0.031	26.37	15	<PQL
N018833-003B	SAMP	1	141.78	0.4	15	PASS	0.37	4.23	15	PASS
N018833-004B	SAMP	1	140.11	0.87	15	PASS	0.025	50.98	15	<PQL
CCV1	CCV	1	21.0079	0.94	15	PASS	20.24	0.99	15	PASS
CCB1	CCB	1	0.0049	123.099	15	<PQL	<0.000	N/A	15	<PQL
N018833-005B	SAMP	1	139.27	0.87	15	PASS	0.045	3.7	15	PASS
N018833-006B	SAMP	1	132.42	0.43	15	PASS	0.056	7.31	15	PASS
N018833-007B	SAMP	1	137.31	1.018	15	PASS	0.052	1.44	15	PASS
N018833-008B	SAMP	1	136.8	0.95	15	PASS	0.023	20.7	15	<PQL
N018833-009B	SAMP	1	134.89	0.5	15	PASS	0.0069	62.81	15	<PQL
N018833-010B	SAMP	1	132.049	0.74	15	PASS	0.11	11.42	15	PASS
N018834-001B	SAMP	1	133.17	0.58	15	PASS	0.021	45.57	15	<PQL
N018834-001B-MS	MS	1	235.62	0.27	15	PASS	9.19	0.43	15	PASS
N018834-002B	SAMP	1	117.24	1.25	15	PASS	<0.000	N/A	15	<PQL
N018834-003B	SAMP	1	119.34	0.51	15	PASS	0.051	27.54	15	<PQL
CCV2	CCV	1	20.88	0.72	15	PASS	20.38	1.42	15	PASS
CCB2	CCB	1	0.0079	27.49	15	<PQL	<0.000	N/A	15	<PQL
N018834-004B	SAMP	1	138.97	0.37	15	PASS	<0.000	N/A	15	<PQL
N018861-001B	SAMP	1	37.67	0.28	15	PASS	553.94	0.97	15	PASS
N018861-002B	SAMP	1	32.24	0.12	15	PASS	2.084	0.69	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	151.13	0.58	15	PASS	<0.000	N/A	15	<PQL
N018861-004B	SAMP	1	57.64	0.58	15	PASS	110.93	0.66	15	PASS
N018861-005B	SAMP	1	77.13	2.22	15	PASS	48.64	0.63	15	PASS
N018861-006B	SAMP	1	46.55	0.29	15	PASS	0.42	6.14	15	PASS
CCV3	CCV	1	21.53	0.31	15	PASS	20.16	0.062	15	PASS
CCB3	CCB	1	0.046	183.78	15	<PQL	0.0025	310.52	15	<PQL
CCV4	CCV	1	21.43	0.6	15	PASS	20.098	1.071	15	PASS
CCB4	CCB	1	0.0083	108.52	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.039	0.58	20	PASS	1.014	2.92	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.16	5.75	15	PASS
ICSAB2	ICSAB	1	20.88	0.34	15	PASS	19.74	0.54	15	PASS
CCV5	CCV	1	21.55	0.64	15	PASS	20.09	0.9	15	PASS
CCB5	CCB	1	0.0036	118.025	15	<PQL	0.032	17.27	15	<PQL
CCV6	CCV	1	21.64	0.65	15	PASS	27.92	1.98	15	PASS
CCB6	CCB	1	0.0065	33.46	15	<PQL	4.053	14.037	15	PASS
LLCCV2	CCV2	1	1.07	1.63	20	PASS	3.027	7.16	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	1.58	10.41	15	PASS
ICSAB3	ICSAB	1	21.14	0.7	15	PASS	20.66	1.27	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.064	6.65	15	PASS	0.095	19.59	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.46	1.93	15	PASS	0.48	5.026	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.49	15	PASS	5.053	0.78	15	PASS
Std4-10/100 ppb	ICAL	1	10.0032	0.91	15	PASS	10.25	1.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.68	0.44	15	PASS	20.27	0.95	15	PASS
Std6-40/400 ppb	ICAL	1	39.12	0.31	15	PASS	40.24	1.38	15	PASS
Std7-100/1000 ppb	ICAL	1	98.18	0.5	15	PASS	100.75	0.86	15	PASS
Std8-200/2000 ppb	ICAL	1	201.12	0.47	15	PASS	199.53	0.85	15	PASS
ICV	ICV	1	97.95	0.43	15	PASS	9.96	3.61	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.49	4.81	20	PASS	0.11	9.71	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	16.46	1.38	15	PASS	20.2	0.5	15	PASS
MB-56418	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56418	LCS	1	94.58	0.23	15	PASS	9.34	2.019	15	PASS
N018833-001B	SAMP	1	<0.000	N/A	15	<PQL	2.3	2.072	15	PASS
N018833-001B	SAMP	5	<0.000	N/A	15	<PQL	0.47	1.8	15	PASS
N018833-001B-PS	PS	1	88.66	0.095	15	PASS	12.12	1.65	15	PASS
N018833-001B-MS	MS	1	96.6	0.55	15	PASS	11.91	0.46	15	PASS
N018833-001B-MSD	MSD	1	89.87	0.34	15	PASS	12.031	1.47	15	PASS
N018833-002B	SAMP	1	0.24	22.54	15	<PQL	2.29	1.85	15	PASS
N018833-003B	SAMP	1	113.69	0.096	15	PASS	2.55	1.17	15	PASS
N018833-004B	SAMP	1	110.56	0.74	15	PASS	2.36	2.12	15	PASS
CCV1	CCV	1	20.07	0.56	15	PASS	20.27	1.71	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0063	21.16	15	<PQL
N018833-005B	SAMP	1	0.071	19.95	15	<PQL	2.36	2.79	15	PASS
N018833-006B	SAMP	1	6.83	1.9	15	PASS	2.27	3.59	15	PASS
N018833-007B	SAMP	1	0.44	7.65	15	PASS	2.39	1.056	15	PASS
N018833-008B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.16	15	PASS
N018833-009B	SAMP	1	<0.000	N/A	15	<PQL	2.33	2.22	15	PASS
N018833-010B	SAMP	1	<0.000	N/A	15	<PQL	2.21	3.99	15	PASS
N018834-001B	SAMP	1	0.61	1.94	15	PASS	2.27	1.5	15	PASS
N018834-001B-MS	MS	1	90.16	0.72	15	PASS	12.02	1.4	15	PASS
N018834-002B	SAMP	1	15.55	0.59	15	PASS	2.27	1.63	15	PASS
N018834-003B	SAMP	1	12.39	0.98	15	PASS	2.11	2.015	15	PASS
CCV2	CCV	1	20.43	1.43	15	PASS	20.1	0.93	15	PASS
CCB2	CCB	1	0.015	16.52	15	<PQL	<0.000	N/A	15	<PQL
N018834-004B	SAMP	1	<0.000	N/A	15	<PQL	2.45	0.4	15	PASS
N018861-001B	SAMP	1	2.3	0.93	15	PASS	1.26	1.35	15	PASS
N018861-002B	SAMP	1	1.34	2.65	15	PASS	1.53	1.42	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	888.95	0.49	15	PASS	3.69	2.3	15	PASS
N018861-004B	SAMP	1	26.24	0.39	15	PASS	10.58	1.094	15	PASS
N018861-005B	SAMP	1	16.24	0.47	15	PASS	1.54	1.19	15	PASS
N018861-006B	SAMP	1	12.99	1.35	15	PASS	6.75	3	15	PASS
CCV3	CCV	1	20.0093	0.26	15	PASS	20.31	1.19	15	PASS
CCB3	CCB	1	0.00054	829.95	15	<PQL	0.0024	199.86	15	<PQL
CCV4	CCV	1	20.005	0.87	15	PASS	20.37	0.54	15	PASS
CCB4	CCB	1	0.013	45.073	15	<PQL	0.0012	56.32	15	<PQL
LLCCV1	CCV2	1	0.49	5.23	20	PASS	0.098	16.56	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	16.35	1.29	15	PASS	20.37	0.37	15	PASS
CCV5	CCV	1	19.89	0.53	15	PASS	20.62	1.48	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.00014	4234.47	15	<PQL
CCV6	CCV	1	20.085	1.63	15	PASS	20.39	0.54	15	PASS
CCB6	CCB	1	0.0032	114.36	15	<PQL	0.0051	292.0053	15	<PQL
LLCCV2	CCV2	1	0.48	4.33	20	PASS	0.083	24.88	20	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	16.51	1.12	15	PASS	20.35	0.75	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	26.28	15	<PQL	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	8.85	15	PASS	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	4.98	3.95	15	PASS	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	2.89	15	PASS	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	20.73	1.38	15	PASS	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	40.54	0.69	15	PASS	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.44	1.19	15	PASS	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	199.59	0.88	15	PASS	200.0022	1.13	15	PASS
ICV	ICV	1	10.16	3.87	15	PASS	9.54	0.89	15	PASS
ICB	ICB	1	0.025	68.0016	15	<PQL	0.27	4.45	15	PASS
LLICV	CCV1	1	0.49	11.65	20	PASS	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.028	26.29	15	<PQL	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	19.28	1.34	15	PASS	23.2	0.96	15	PASS
MB-56418	MBLK	1	0.016	0.1	15	PASS	0.099	2.54	15	PASS
LCS-56418	LCS	1	8.77	1.65	15	PASS	9.91	0.61	15	PASS
N018833-001B	SAMP	1	1.65	3.38	15	PASS	5.36	0.83	15	PASS
N018833-001B	SAMP	5	0.39	16.94	15	<PQL	1.065	2.67	15	PASS
N018833-001B-PS	PS	1	10.48	2.84	15	PASS	16.013	1.038	15	PASS
N018833-001B-MS	MS	1	10.73	0.77	15	PASS	16.054	0.92	15	PASS
N018833-001B-MSD	MSD	1	10.63	0.88	15	PASS	16.03	1.36	15	PASS
N018833-002B	SAMP	1	1.66	8.5	15	PASS	5.37	1.23	15	PASS
N018833-003B	SAMP	1	1.57	11.87	15	PASS	5.63	0.85	15	PASS
N018833-004B	SAMP	1	1.52	8.16	15	PASS	5.78	2.38	15	PASS
CCV1	CCV	1	20.13	1.29	15	PASS	19.89	1.67	15	PASS
CCB1	CCB	1	0.019	48.038	15	<PQL	0.11	5.59	15	PASS
N018833-005B	SAMP	1	1.57	9.55	15	PASS	5.53	0.98	15	PASS
N018833-006B	SAMP	1	1.53	11.34	15	PASS	5.22	2.036	15	PASS
N018833-007B	SAMP	1	1.59	3.35	15	PASS	5.44	0.64	15	PASS
N018833-008B	SAMP	1	1.66	6.28	15	PASS	5.46	1.34	15	PASS
N018833-009B	SAMP	1	1.7	4.17	15	PASS	5.37	3.3	15	PASS
N018833-010B	SAMP	1	1.59	1.97	15	PASS	5.2	0.52	15	PASS
N018834-001B	SAMP	1	1.62	1.7	15	PASS	5.33	0.99	15	PASS
N018834-001B-MS	MS	1	10.79	3.38	15	PASS	16.31	1.64	15	PASS
N018834-002B	SAMP	1	1.41	9.93	15	PASS	6.37	0.57	15	PASS
N018834-003B	SAMP	1	1.24	8.19	15	PASS	5.84	0.99	15	PASS
CCV2	CCV	1	20.039	1.27	15	PASS	19.97	1.33	15	PASS
CCB2	CCB	1	0.0073	195.95	15	<PQL	0.11	12.11	15	PASS
N018834-004B	SAMP	1	1.78	1.37	15	PASS	5.43	0.85	15	PASS
N018861-001B	SAMP	1	3.81	1.27	15	PASS	14.5	0.55	15	PASS
N018861-002B	SAMP	1	0.92	9.91	15	PASS	20.96	0.7	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	0.097	51.37	15	<PQL	71.8	1.66	15	PASS
N018861-004B	SAMP	1	1.28	14.76	15	PASS	80.91	0.86	15	PASS
N018861-005B	SAMP	1	4.67	6.024	15	PASS	25.47	0.34	15	PASS
N018861-006B	SAMP	1	2.72	9.67	15	PASS	67.5	1.65	15	PASS
CCV3	CCV	1	20.2	3	15	PASS	20.37	0.56	15	PASS
CCB3	CCB	1	0.0051	287.87	15	<PQL	0.17	16.46	15	<PQL
CCV4	CCV	1	20.8	2.25	15	PASS	20.039	1.18	15	PASS
CCB4	CCB	1	0.006	179.56	15	<PQL	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	13.31	20	PASS	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.023	80	15	<PQL	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	19.51	1.44	15	PASS	23.23	0.89	15	PASS
CCV5	CCV	1	20.45	2.34	15	PASS	20.19	0.37	15	PASS
CCB5	CCB	1	0.0051	290.48	15	<PQL	0.12	1.077	15	PASS
CCV6	CCV	1	20.61	0.84	15	PASS	20.16	0.61	15	PASS
CCB6	CCB	1	0.024	63.98	15	<PQL	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.5	3.6	20	PASS	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.024	100.78	15	<PQL	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	19.19	1.78	15	PASS	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.14	2.88	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	2.16	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	0.92	15	PASS
Std4-10/100 ppb	ICAL	1	9.73	0.32	15	PASS
Std5-20/200 ppb	ICAL	1	19.66	0.31	15	PASS
Std6-40/400 ppb	ICAL	1	39.4	0.39	15	PASS
Std7-100/1000 ppb	ICAL	1	98.86	0.29	15	PASS
Std8-200/2000 ppb	ICAL	1	200.74	0.64	15	PASS
ICV	ICV	1	104.058	0.53	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.09	1.77	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.72	0.17	15	PASS
LLICV	CCV1	1	1.074	0.71	20	PASS
CCV1	CCV	1	19.87	0.82	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
N018833-001B	SAMP	25	5.82	1.19	15	PASS
N018833-001B-PS	PS	5	50.65	0.56	15	PASS
N018833-001B-MS	MS	5	50.17	0.23	15	PASS
N018833-001B-MSD	MSD	5	50.0035	0.054	15	PASS
N018834-001B	SAMP	5	27.8	0.27	15	PASS
N018834-001B-MS	MS	5	50.62	0.45	15	PASS
CCV2	CCV	1	19.67	0.61	15	PASS
CCB2	CCB	1	0.0011	366.62	15	<PQL
LLCCV1	CCV2	1	1.092	2	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	18.84	0.67	15	PASS
N018861-001B	SAMP	1	37.64	0.13	15	PASS
N018861-001B	SAMP	5	7.92	0.47	15	PASS
N018861-002B	SAMP	1	32.2	0.36	15	PASS
N018861-002B	SAMP	5	6.5	0.64	15	PASS
N018861-003B	SAMP	1	153.33	0.42	15	PASS
N018861-003B	SAMP	5	31.79	0.12	15	PASS
N018861-003B	SAMP	10	15.98	0.8	15	PASS
N018861-004B	SAMP	1	57.57	0.18	15	PASS
N018861-004B	SAMP	5	12.49	0.26	15	PASS
N018861-005B	SAMP	1	78.24	0.44	15	PASS
CCV3	CCV	1	19.9	0.33	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
N018861-005B	SAMP	5	15.48	1.13	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]			
			Conc. [ppb]	RSD	Criteria	Comment
N018861-006B	SAMP	1	45.84	0.39	15	PASS
N018861-006B	SAMP	5	9.21	0.64	15	PASS
CCV4	CCV	1	19.8	0.74	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.7	0.93	15	PASS
CCB5	CCB	1	0.0042	31.095	15	<PQL
CCV6	CCV	1	19.6	0.62	15	PASS
CCB6	CCB	1	0.0021	237.91	15	<PQL
LLCCV2	CCV2	1	1.098	1.46	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	19.0072	0.5	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB2	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MS	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:01:25**
Prep End Date: **2/26/2016 12:30:00**

Initials/ Date: 3/9/2016

Prep Batch **56418** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**02-25**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56418	Aqueous		25	☐	0	0	25	1.000		
MB-56418	Aqueous		25	☐	0	0	25	1.000		
N018833-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:01:25**
Prep End Date: **2/26/2016 12:30:00**

Initials/ Date: 3/9/2016

Prep Batch **56418** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**02-25**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-006B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 26 Feb 2016 01:09:35 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	86884.50	0.00	
24 Mg	368440.00	0.00	
25 Mg	49147.30	0.00	
26 Mg	58400.50	0.00	
59 Co	712632.00	0.00	
115 In	1577600.00	0.00	
206 Pb	461718.00	0.00	
207 Pb	404323.00	0.00	
208 Pb	985724.00	0.00	

RSD (%)

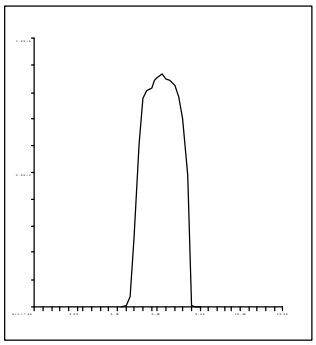
Element	Actual	Required	Flag
9 Be	0.78	5.00	
24 Mg	1.13	5.00	
25 Mg	1.29	5.00	
26 Mg	0.76	5.00	
59 Co	0.84	5.00	
115 In	0.38	5.00	
206 Pb	1.01	5.00	
207 Pb	0.85	5.00	
208 Pb	1.94	5.00	

Ion Ratio

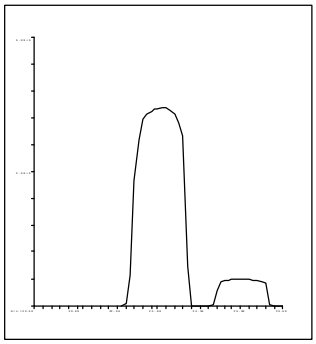
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

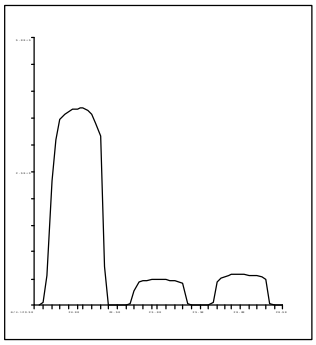
Element	Actual	Required	Flag



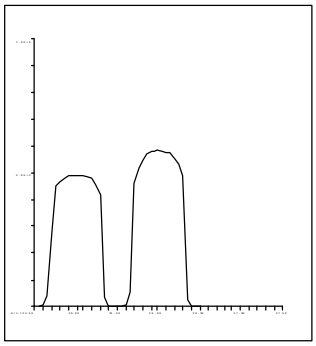
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



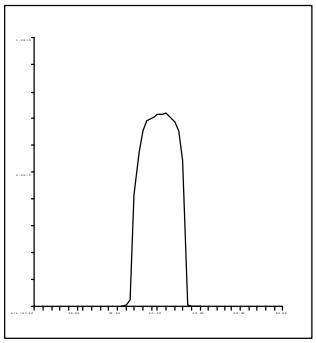
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



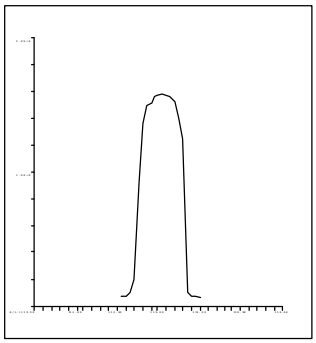
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



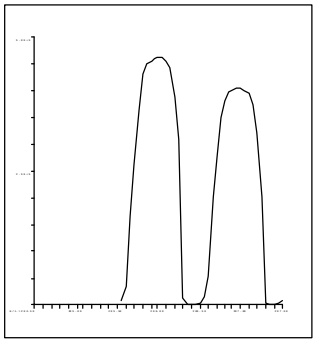
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



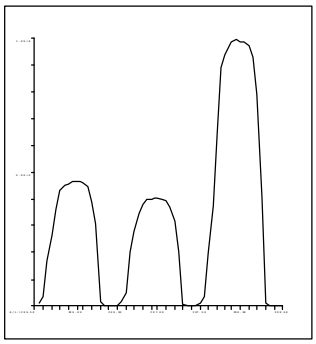
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

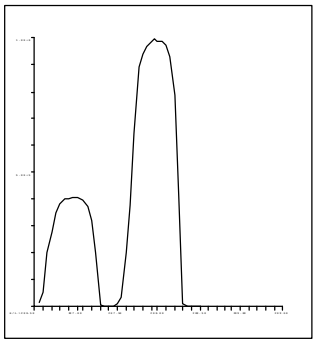


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

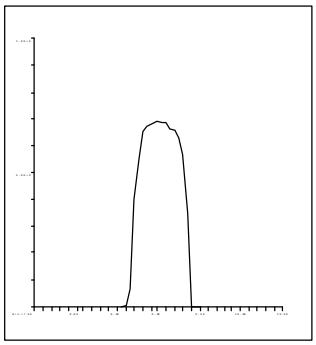
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

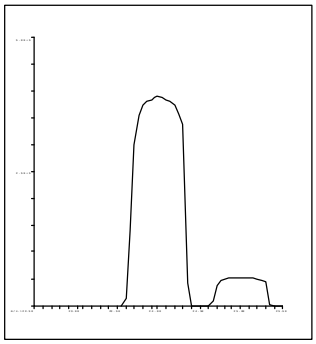
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

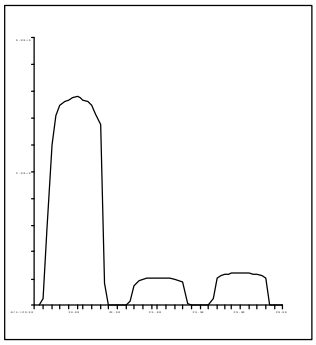
Element	Actual	Required	Flag



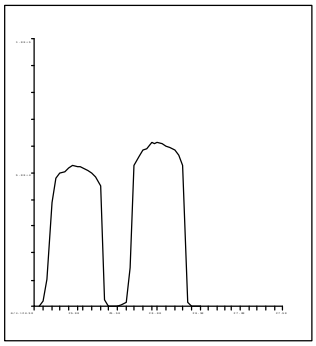
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



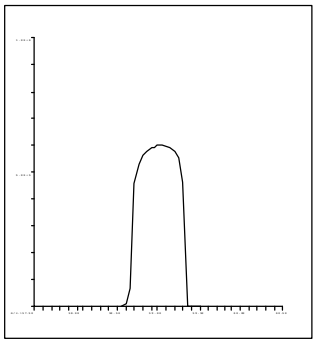
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



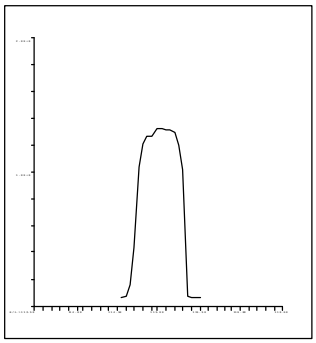
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



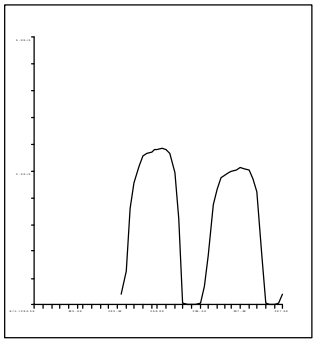
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



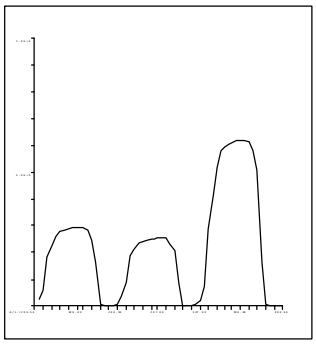
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

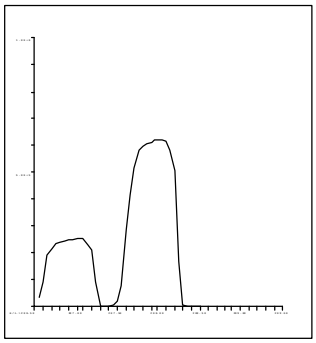


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160226A1

Instrument ID: ICPMS-02

Analyte	Data File	A0226002.D	A0226003.D	A0226004.D	A0226005.D	A0226006.D	A0226007.D	A0226008.D	A0226009.D	A0226010.D	
	Acq. Date-Time	02/26/2016 07:35 PM	02/26/2016 07:41 PM	02/26/2016 07:47 PM	02/26/2016 07:52 PM	02/26/2016 07:58 PM	02/26/2016 08:03 PM	02/26/2016 08:09 PM	02/26/2016 08:14 PM	02/26/2016 08:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	203921.1		219372.2	216758.8	213499.5	209337.4	209526.9	202738.2	200626.5	
55 Mn [2]	CPS	419.2		4510.6	44194.4	86721.2	166868.5	331604.7	804556.2	1630499.1	0.9999
52 Cr [2]	CPS	430		8290.4	78095.1	155015.8	299802.9	597867.8	1463807.5	2872645.4	1.0000
72 Ge (ISTD) [1]	CPS	164771.4		176991.3	176108.1	171058.3	168702.9	170189.2	166024.5	164349.5	
78 Se [1]	CPS	5.6		363.4	3783.9	7555.4	15064.2	29720.4	71825.8	141288.1	1.0000
72 Ge (ISTD) [2]	CPS	135207	147912.9	146598.5	145259.7	142616.2	139991.3	141092.9	136435.5	135652.3	
75 As [2]	CPS	42.7	212.9	886.3	8740.6	17366.7	33656.5	67293.5	162863.1	320668.9	1.0000
103 Rh (ISTD) [2]	CPS	3649054.4		3919515.8	3891447.1	3870199.5	3833322.2	3850266.1	3726860.3	3690356.2	
95 Mo [2]	CPS	535.6		5023.2	47934.9	93869.6	185151.6	372272.6	909396.3	1797219.2	1.0000
159 Tb (ISTD) [3]	CPS	12406544		13552421.6	13598866	13450887.6	13309725.2	13478300.6	13223698.7	13284122.3	
137 Ba [3]	CPS	1401.6		12608.2	122186.7	242377.5	469729.3	943719.1	2262164.3	4479034.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
159 Tb (ISTD) [3]	CPS	10274792.6	10060154.8	9947741.5	9909177.6	9833876.5	9881767.6	9830372.8	9680702.6	
137 Ba [3]	CPS	290.8	9176.2	85385.8	169393.2	339221.5	683027.9	1704303.2	3407686.3	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.958	0.10	10.00	0	99.6	90	110				
Barium	91.960	1.0	100.0	0	92.0	90	110				
Manganese	97.945	0.50	100.0	0	97.9	90	110				
Molybdenum	9.539	0.50	10.00	0	95.4	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.109	0.10	0.1000	0	109	80	120				
Barium	1.024	1.0	1.000	0	102	80	120				
Manganese	0.490	0.50	0.5000	0	98.0	80	120				
Molybdenum	0.590	0.50	0.5000	0	118	80	120				
Selenium	0.489	0.50	0.5000	0	97.8	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.269	0.10	20.00	0	101	90	110				
Barium	21.008	1.0	20.00	0	105	90	110				
Manganese	20.070	0.50	20.00	0	100	90	110				
Molybdenum	19.888	0.50	20.00	0	99.4	90	110				
Selenium	20.131	0.50	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.100	0.10	20.00	0	101	90	110				
Barium	20.882	1.0	20.00	0	104	90	110				
Manganese	20.430	0.50	20.00	0	102	90	110				
Molybdenum	19.971	0.50	20.00	0	99.9	90	110				
Selenium	20.039	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.307	0.10	20.00	0	102	90	110				
Barium	21.533	1.0	20.00	0	108	90	110				
Manganese	20.009	0.50	20.00	0	100	90	110				
Molybdenum	20.366	0.50	20.00	0	102	90	110				
Selenium	20.198	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	90	110				
Barium	21.433	1.0	20.00	0	107	90	110				
Manganese	20.005	0.50	20.00	0	100	90	110				
Molybdenum	20.039	0.50	20.00	0	100	90	110				
Selenium	20.800	0.50	20.00	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10	0.1000	0	97.5	70	130				
Barium	1.039	1.0	1.000	0	104	70	130				
Manganese	0.492	0.50	0.5000	0	98.4	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.7	70	130				
Selenium	0.495	0.50	0.5000	0	99.0	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.621	0.10	20.00	0	103	90	110				
Barium	21.550	1.0	20.00	0	108	90	110				
Manganese	19.891	0.50	20.00	0	99.5	90	110				
Molybdenum	20.187	0.50	20.00	0	101	90	110				
Selenium	20.453	0.50	20.00	0	102	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Barium	21.639	1.0	20.00	0	108	90	110				
Manganese	20.085	0.50	20.00	0	100	90	110				
Molybdenum	20.162	0.50	20.00	0	101	90	110				
Selenium	20.607	0.50	20.00	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ZZZZZZ	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.083	0.10	0.1000	0	82.9	70	130				
Barium	1.070	1.0	1.000	0	107	70	130				
Manganese	0.481	0.50	0.5000	0	96.2	70	130				
Molybdenum	0.524	0.50	0.5000	0	105	70	130				
Selenium	0.504	0.50	0.5000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICV	SampType:	ICV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICV	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254551

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	104.058	1.0	100.0	0	104	90	110				

Sample ID	LLICV	SampType:	CCV1	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254556

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.074	1.0	1.000	0	107	80	120				

Sample ID	CCV1	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCV	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254567

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.874	1.0	20.00	0	99.4	90	110				

Sample ID	CCV2	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCV	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.668	1.0	20.00	0	98.3	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.092	1.0	1.000	0	109	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV3	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.902	1.0	20.00	0	99.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV4	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.798	1.0	20.00	0	99.0	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV5	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.696	1.0	20.00	0	98.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV6	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.599	1.0	20.00	0	98.0	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLCCV2	**CCV2**	**6020_DIS**	**µg/L**		**106294**
Client ID: **ZZZZZZ**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.098	1.0	1.000	0	110	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.336	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.045	1.0	1.000	0	105	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.382	1.0	20.00	0	102	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.164	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	CCV	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.098	1.0	20.00	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.014	1.0	1.000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.267	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.108	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.167	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.124	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.142	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **ICB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/7/2016**	SeqNo: **2254552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB1	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/7/2016**	SeqNo: **2254568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB2	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/7/2016**	SeqNo: **2254580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB3	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB4	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB5	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.057	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	80	120				
Barium	20.485	1.0	20.00	0	102	80	120				
Manganese	16.459	0.50	20.00	0	82.3	80	120				
Molybdenum	23.196	0.50	20.00	0	116	80	120				
Selenium	19.281	0.50	20.00	0	96.4	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	80	120				
Barium	20.879	1.0	20.00	0	104	80	120				
Manganese	16.347	0.50	20.00	0	81.7	80	120				
Molybdenum	23.232	0.50	20.00	0	116	80	120				
Selenium	19.506	0.50	20.00	0	97.5	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.348	0.10	20.00	0	102	80	120				
Barium	21.142	1.0	20.00	0	106	80	120				
Manganese	16.506	0.50	20.00	0	82.5	80	120				
Molybdenum	23.406	0.50	20.00	0	117	80	120				
Selenium	19.192	0.50	20.00	0	96.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	20.721	1.0	20.00	0	104	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	18.841	1.0	20.00	0	94.2	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.007	1.0	20.00	0	95.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.172	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.118	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.163	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.744	1.0	20.00	0	98.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	12406544	12406544	100	PASS	70-130	203921.1	203921.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	13541261.7	12406544	109.15	PASS	70-130	220681.7	203921.1	108.22	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	13552421.6	12406544	109.24	PASS	70-130	219372.2	203921.1	107.58	PASS	70-130
Std3-5/50 ppb	ICAL	1	13598866	12406544	109.61	PASS	70-130	216758.8	203921.1	106.3	PASS	70-130
Std4-10/100 ppb	ICAL	1	13450887.6	12406544	108.42	PASS	70-130	213499.5	203921.1	104.7	PASS	70-130
Std5-20/200 ppb	ICAL	1	13309725.2	12406544	107.28	PASS	70-130	209337.4	203921.1	102.66	PASS	70-130
Std6-40/400 ppb	ICAL	1	13478300.6	12406544	108.64	PASS	70-130	209526.9	203921.1	102.75	PASS	70-130
Std7-100/1000 ppb	ICAL	1	13223698.7	12406544	106.59	PASS	70-130	202738.2	203921.1	99.42	PASS	70-130
Std8-200/2000 ppb	ICAL	1	13284122.3	12406544	107.07	PASS	70-130	200626.5	203921.1	98.38	PASS	70-130
ICV	ICV	1	11249142.3	12406544	90.67	PASS	70-130	147643.7	203921.1	72.4	PASS	70-130
ICB	ICB	1	12061233.6	12406544	97.22	PASS	70-130	185314	203921.1	90.88	PASS	70-130
LLICV	CCV1	1	12742367.4	12406544	102.71	PASS	70-130	191313.1	203921.1	93.82	PASS	70-130
ICSA1	ICSA	1	12516305.4	12406544	100.88	PASS	70-130	213396.6	203921.1	104.65	PASS	70-130
ICSAB1	ICSAB	1	12408632.5	12406544	100.02	PASS	70-130	221245.2	203921.1	108.5	PASS	70-130
MB-56418	MBLK	1	12119176.1	12406544	97.68	PASS	70-130	197227.2	203921.1	96.72	PASS	70-130
LCS-56418	LCS	1	12282296.9	12406544	99	PASS	70-130	191773.3	203921.1	94.043	PASS	70-130
N018833-001B	SAMP	1	11390374.8	12406544	91.81	PASS	70-130	179476	203921.1	88.012	PASS	70-130
N018833-001B	SAMP	5	11718750.5	12406544	94.46	PASS	70-130	179122.8	203921.1	87.84	PASS	70-130
N018833-001B-PS	PS	1	11813151.4	12406544	95.22	PASS	70-130	185048.1	203921.1	90.74	PASS	70-130
N018833-001B-MS	MS	1	11774261.9	12406544	94.9	PASS	70-130	187361.1	203921.1	91.88	PASS	70-130
N018833-001B-MSD	MSD	1	11817887	12406544	95.26	PASS	70-130	186373.1	203921.1	91.39	PASS	70-130
N018833-002B	SAMP	1	11230623.9	12406544	90.52	PASS	70-130	175717.8	203921.1	86.17	PASS	70-130
N018833-003B	SAMP	1	11443955.8	12406544	92.24	PASS	70-130	182050	203921.1	89.27	PASS	70-130
N018833-004B	SAMP	1	11144472.1	12406544	89.83	PASS	70-130	176505.8	203921.1	86.56	PASS	70-130
CCV1	CCV	1	12663523.1	12406544	102.07	PASS	70-130	195379.1	203921.1	95.81	PASS	70-130
CCB1	CCB	1	11697980	12406544	94.29	PASS	70-130	174751.1	203921.1	85.7	PASS	70-130
N018833-005B	SAMP	1	11298122.6	12406544	91.066	PASS	70-130	174045.1	203921.1	85.35	PASS	70-130
N018833-006B	SAMP	1	11291773.2	12406544	91.015	PASS	70-130	178177.5	203921.1	87.38	PASS	70-130
N018833-007B	SAMP	1	11100113.7	12406544	89.47	PASS	70-130	173685	203921.1	85.17	PASS	70-130
N018833-008B	SAMP	1	11090078.7	12406544	89.39	PASS	70-130	171625.6	203921.1	84.16	PASS	70-130
N018833-009B	SAMP	1	11426788.3	12406544	92.1	PASS	70-130	176487.2	203921.1	86.55	PASS	70-130
N018833-010B	SAMP	1	11199010.4	12406544	90.27	PASS	70-130	173223.5	203921.1	84.95	PASS	70-130
N018834-001B	SAMP	1	10928022.1	12406544	88.083	PASS	70-130	166541.9	203921.1	81.67	PASS	70-130
N018834-001B-MS	MS	1	11257774.7	12406544	90.74	PASS	70-130	173828.8	203921.1	85.24	PASS	70-130
N018834-002B	SAMP	1	11111072.3	12406544	89.56	PASS	70-130	169921.8	203921.1	83.33	PASS	70-130
N018834-003B	SAMP	1	11037312.3	12406544	88.96	PASS	70-130	168987.2	203921.1	82.87	PASS	70-130
CCV2	CCV	1	12289033.2	12406544	99.053	PASS	70-130	179607.1	203921.1	88.077	PASS	70-130
CCB2	CCB	1	11252748.3	12406544	90.7	PASS	70-130	160161.7	203921.1	78.54	PASS	70-130
N018834-004B	SAMP	1	10858567.9	12406544	87.52	PASS	70-130	161063.3	203921.1	78.98	PASS	70-130
N018861-001B	SAMP	1	9394287.1	12406544	75.72	PASS	70-130	160184.7	203921.1	78.55	PASS	70-130
N018861-002B	SAMP	1	9108159.2	12406544	73.41	PASS	70-130	160340.1	203921.1	78.63	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	7623611.6	12406544	61.45	NR!	70-130	147189.3	203921.1	72.18	PASS	70-130
N018861-004B	SAMP	1	7712596.6	12406544	62.17	NR!	70-130	152389.6	203921.1	74.73	PASS	70-130
N018861-005B	SAMP	1	8241870.4	12406544	66.43	NR!	70-130	156122.6	203921.1	76.56	PASS	70-130
N018861-006B	SAMP	1	6663079	12406544	53.71	NR!	70-130	135921.5	203921.1	66.65	NR!	70-130
CCV3	CCV	1	13496201.2	12406544	108.78	PASS	70-130	218523.1	203921.1	107.16	PASS	70-130
CCB3	CCB	1	12186571.5	12406544	98.23	PASS	70-130	194355	203921.1	95.31	PASS	70-130
CCV4	CCV	1	12644594.3	12406544	101.92	PASS	70-130	202073.9	203921.1	99.094	PASS	70-130
CCB4	CCB	1	11591555.9	12406544	93.43	PASS	70-130	180430.1	203921.1	88.48	PASS	70-130
LLCCV1	CCV2	1	12162976.6	12406544	98.037	PASS	70-130	189392	203921.1	92.88	PASS	70-130
ICSA2	ICSA	1	12058001.9	12406544	97.19	PASS	70-130	207757.1	203921.1	101.88	PASS	70-130
ICSAB2	ICSAB	1	11982098.4	12406544	96.58	PASS	70-130	212702.2	203921.1	104.31	PASS	70-130
CCV5	CCV	1	12956269	12406544	104.43	PASS	70-130	213508.1	203921.1	104.7	PASS	70-130
CCB5	CCB	1	11661632.2	12406544	94	PASS	70-130	190287	203921.1	93.31	PASS	70-130
CCV6	CCV	1	12248258.2	12406544	98.72	PASS	70-130	190726	203921.1	93.53	PASS	70-130
CCB6	CCB	1	11214394	12406544	90.39	PASS	70-130	175643	203921.1	86.13	PASS	70-130
LLCCV2	CCV2	1	11845429.5	12406544	95.48	PASS	70-130	186336.9	203921.1	91.38	PASS	70-130
ICSA3	ICSA	1	11441629.6	12406544	92.22	PASS	70-130	193457.1	203921.1	94.87	PASS	70-130
ICSAB3	ICSAB	1	11422788	12406544	92.071	PASS	70-130	197474.6	203921.1	96.84	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	135207	135207	100	PASS	70-130	164771.4	164771.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	147912.9	135207	109.4	PASS	70-130	178524.1	164771.4	108.35	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146598.5	135207	108.43	PASS	70-130	176991.3	164771.4	107.42	PASS	70-130
Std3-5/50 ppb	ICAL	1	145259.7	135207	107.44	PASS	70-130	176108.1	164771.4	106.88	PASS	70-130
Std4-10/100 ppb	ICAL	1	142616.2	135207	105.48	PASS	70-130	171058.3	164771.4	103.82	PASS	70-130
Std5-20/200 ppb	ICAL	1	139991.3	135207	103.54	PASS	70-130	168702.9	164771.4	102.39	PASS	70-130
Std6-40/400 ppb	ICAL	1	141092.9	135207	104.35	PASS	70-130	170189.2	164771.4	103.29	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136435.5	135207	100.91	PASS	70-130	166024.5	164771.4	100.76	PASS	70-130
Std8-200/2000 ppb	ICAL	1	135652.3	135207	100.33	PASS	70-130	164349.5	164771.4	99.74	PASS	70-130
ICV	ICV	1	98316.8	135207	72.72	PASS	70-130	116781.5	164771.4	70.87	PASS	70-130
ICB	ICB	1	126582.2	135207	93.62	PASS	70-130	149925.6	164771.4	90.99	PASS	70-130
LLICV	CCV1	1	133211.4	135207	98.52	PASS	70-130	159338.6	164771.4	96.7	PASS	70-130
ICSA1	ICSA	1	135652.7	135207	100.33	PASS	70-130	156599	164771.4	95.04	PASS	70-130
ICSAB1	ICSAB	1	137509.6	135207	101.7	PASS	70-130	162406	164771.4	98.56	PASS	70-130
MB-56418	MBLK	1	134376.2	135207	99.39	PASS	70-130	163788.1	164771.4	99.4	PASS	70-130
LCS-56418	LCS	1	128830.2	135207	95.28	PASS	70-130	159994.4	164771.4	97.1	PASS	70-130
N018833-001B	SAMP	1	117522.4	135207	86.92	PASS	70-130	142334.8	164771.4	86.38	PASS	70-130
N018833-001B	SAMP	5	122369.2	135207	90.51	PASS	70-130	148331.9	164771.4	90.023	PASS	70-130
N018833-001B-PS	PS	1	119251.7	135207	88.2	PASS	70-130	144643.9	164771.4	87.78	PASS	70-130
N018833-001B-MS	MS	1	122718.2	135207	90.76	PASS	70-130	146793.6	164771.4	89.089	PASS	70-130
N018833-001B-MSD	MSD	1	121886	135207	90.15	PASS	70-130	148235.2	164771.4	89.96	PASS	70-130
N018833-002B	SAMP	1	114749.2	135207	84.87	PASS	70-130	140384.1	164771.4	85.2	PASS	70-130
N018833-003B	SAMP	1	117894.1	135207	87.2	PASS	70-130	141149.1	164771.4	85.66	PASS	70-130
N018833-004B	SAMP	1	115541	135207	85.45	PASS	70-130	141158.1	164771.4	85.67	PASS	70-130
CCV1	CCV	1	134446.3	135207	99.44	PASS	70-130	166758.6	164771.4	101.21	PASS	70-130
CCB1	CCB	1	120968.8	135207	89.47	PASS	70-130	144543.2	164771.4	87.72	PASS	70-130
N018833-005B	SAMP	1	115206.9	135207	85.21	PASS	70-130	139307.9	164771.4	84.55	PASS	70-130
N018833-006B	SAMP	1	117501.1	135207	86.9	PASS	70-130	144423.7	164771.4	87.65	PASS	70-130
N018833-007B	SAMP	1	114780	135207	84.89	PASS	70-130	140678.6	164771.4	85.38	PASS	70-130
N018833-008B	SAMP	1	114249.9	135207	84.5	PASS	70-130	138484.2	164771.4	84.046	PASS	70-130
N018833-009B	SAMP	1	116684.5	135207	86.3	PASS	70-130	141912.3	164771.4	86.13	PASS	70-130
N018833-010B	SAMP	1	115659.1	135207	85.54	PASS	70-130	139598	164771.4	84.72	PASS	70-130
N018834-001B	SAMP	1	111358.2	135207	82.36	PASS	70-130	136835.5	164771.4	83.046	PASS	70-130
N018834-001B-MS	MS	1	115298	135207	85.28	PASS	70-130	139359.4	164771.4	84.58	PASS	70-130
N018834-002B	SAMP	1	112053.6	135207	82.88	PASS	70-130	138608.3	164771.4	84.12	PASS	70-130
N018834-003B	SAMP	1	112992.7	135207	83.57	PASS	70-130	138027.6	164771.4	83.77	PASS	70-130
CCV2	CCV	1	126298.5	135207	93.41	PASS	70-130	156637.1	164771.4	95.063	PASS	70-130
CCB2	CCB	1	113420.9	135207	83.89	PASS	70-130	136446.8	164771.4	82.81	PASS	70-130
N018834-004B	SAMP	1	107640.9	135207	79.61	PASS	70-130	127590.5	164771.4	77.43	PASS	70-130
N018861-001B	SAMP	1	98515.1	135207	72.86	PASS	70-130	114696.4	164771.4	69.61	NR!	70-130
N018861-002B	SAMP	1	96796.2	135207	71.59	PASS	70-130	111953.1	164771.4	67.94	NR!	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	83820.5	135207	61.99	NR!	70-130	95590.9	164771.4	58.014	NR!	70-130
N018861-004B	SAMP	1	83622	135207	61.85	NR!	70-130	96271.6	164771.4	58.43	NR!	70-130
N018861-005B	SAMP	1	88008.9	135207	65.092	NR!	70-130	99885.7	164771.4	60.62	NR!	70-130
N018861-006B	SAMP	1	74083.2	135207	54.79	NR!	70-130	83654.1	164771.4	50.77	NR!	70-130
CCV3	CCV	1	147319.6	135207	108.96	PASS	70-130	180298.9	164771.4	109.42	PASS	70-130
CCB3	CCB	1	131180.5	135207	97.022	PASS	70-130	158917.8	164771.4	96.45	PASS	70-130
CCV4	CCV	1	137979.7	135207	102.05	PASS	70-130	173239.7	164771.4	105.14	PASS	70-130
CCB4	CCB	1	123115.4	135207	91.057	PASS	70-130	148965.3	164771.4	90.41	PASS	70-130
LLCCV1	CCV2	1	129440.7	135207	95.74	PASS	70-130	155869.7	164771.4	94.6	PASS	70-130
ICSA2	ICSA	1	130512.1	135207	96.53	PASS	70-130	150867.6	164771.4	91.56	PASS	70-130
ICSAB2	ICSAB	1	132273.4	135207	97.83	PASS	70-130	158271.8	164771.4	96.055	PASS	70-130
CCV5	CCV	1	143851.3	135207	106.39	PASS	70-130	179680.3	164771.4	109.05	PASS	70-130
CCB5	CCB	1	128120.7	135207	94.76	PASS	70-130	159505.7	164771.4	96.8	PASS	70-130
CCV6	CCV	1	130106.5	135207	96.23	PASS	70-130	161230.3	164771.4	97.85	PASS	70-130
CCB6	CCB	1	119420.7	135207	88.32	PASS	70-130	146286.4	164771.4	88.78	PASS	70-130
LLCCV2	CCV2	1	127750.8	135207	94.49	PASS	70-130	154368	164771.4	93.69	PASS	70-130
ICSA3	ICSA	1	123555.9	135207	91.38	PASS	70-130	146304.2	164771.4	88.79	PASS	70-130
ICSAB3	ICSAB	1	124020.1	135207	91.73	PASS	70-130	148570.5	164771.4	90.17	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	3649054.4	3649054.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	3936389.5	3649054.4	107.87	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	3919515.8	3649054.4	107.41	PASS	70-130
Std3-5/50 ppb	ICAL	1	3891447.1	3649054.4	106.64	PASS	70-130
Std4-10/100 ppb	ICAL	1	3870199.5	3649054.4	106.06	PASS	70-130
Std5-20/200 ppb	ICAL	1	3833322.2	3649054.4	105.05	PASS	70-130
Std6-40/400 ppb	ICAL	1	3850266.1	3649054.4	105.51	PASS	70-130
Std7-100/1000 ppb	ICAL	1	3726860.3	3649054.4	102.13	PASS	70-130
Std8-200/2000 ppb	ICAL	1	3690356.2	3649054.4	101.13	PASS	70-130
ICV	ICV	1	3036599.5	3649054.4	83.22	PASS	70-130
ICB	ICB	1	3466105.7	3649054.4	94.99	PASS	70-130
LLICV	CCV1	1	3608489	3649054.4	98.89	PASS	70-130
ICSA1	ICSA	1	3377494.3	3649054.4	92.56	PASS	70-130
ICSAB1	ICSAB	1	3395422	3649054.4	93.049	PASS	70-130
MB-56418	MBLK	1	3572840.6	3649054.4	97.91	PASS	70-130
LCS-56418	LCS	1	3530333	3649054.4	96.75	PASS	70-130
N018833-001B	SAMP	1	2995769.3	3649054.4	82.097	PASS	70-130
N018833-001B	SAMP	5	3223592.9	3649054.4	88.34	PASS	70-130
N018833-001B-PS	PS	1	3084349.6	3649054.4	84.52	PASS	70-130
N018833-001B-MS	MS	1	3125040.1	3649054.4	85.64	PASS	70-130
N018833-001B-MSD	MSD	1	3105185.2	3649054.4	85.096	PASS	70-130
N018833-002B	SAMP	1	2965100.2	3649054.4	81.26	PASS	70-130
N018833-003B	SAMP	1	2987292.3	3649054.4	81.86	PASS	70-130
N018833-004B	SAMP	1	2956967.2	3649054.4	81.034	PASS	70-130
CCV1	CCV	1	3637663.8	3649054.4	99.69	PASS	70-130
CCB1	CCB	1	3292290.8	3649054.4	90.22	PASS	70-130
N018833-005B	SAMP	1	2946250.6	3649054.4	80.74	PASS	70-130
N018833-006B	SAMP	1	3016141.9	3649054.4	82.66	PASS	70-130
N018833-007B	SAMP	1	2934750.4	3649054.4	80.42	PASS	70-130
N018833-008B	SAMP	1	2912824.9	3649054.4	79.82	PASS	70-130
N018833-009B	SAMP	1	2971967.3	3649054.4	81.44	PASS	70-130
N018833-010B	SAMP	1	2939254.3	3649054.4	80.55	PASS	70-130
N018834-001B	SAMP	1	2830123.6	3649054.4	77.56	PASS	70-130
N018834-001B-MS	MS	1	2943232.9	3649054.4	80.66	PASS	70-130
N018834-002B	SAMP	1	2889236	3649054.4	79.18	PASS	70-130
N018834-003B	SAMP	1	2870308.5	3649054.4	78.66	PASS	70-130
CCV2	CCV	1	3429982.5	3649054.4	94	PASS	70-130
CCB2	CCB	1	3110562	3649054.4	85.24	PASS	70-130
N018834-004B	SAMP	1	2798394.3	3649054.4	76.69	PASS	70-130
N018861-001B	SAMP	1	2372642.9	3649054.4	65.021	NR!	70-130
N018861-002B	SAMP	1	2311667	3649054.4	63.35	NR!	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	1952100.6	3649054.4	53.5	NR!	70-130
N018861-004B	SAMP	1	1934760.8	3649054.4	53.021	NR!	70-130
N018861-005B	SAMP	1	2088705.1	3649054.4	57.24	NR!	70-130
N018861-006B	SAMP	1	1699196.7	3649054.4	46.57	NR!	70-130
CCV3	CCV	1	3895709.1	3649054.4	106.76	PASS	70-130
CCB3	CCB	1	3505563	3649054.4	96.068	PASS	70-130
CCV4	CCV	1	3640849	3649054.4	99.78	PASS	70-130
CCB4	CCB	1	3275233.4	3649054.4	89.76	PASS	70-130
LLCCV1	CCV2	1	3446043.8	3649054.4	94.44	PASS	70-130
ICSA2	ICSA	1	3213929.4	3649054.4	88.076	PASS	70-130
ICSAB2	ICSAB	1	3224762.2	3649054.4	88.37	PASS	70-130
CCV5	CCV	1	3748949.6	3649054.4	102.74	PASS	70-130
CCB5	CCB	1	3364377.4	3649054.4	92.2	PASS	70-130
CCV6	CCV	1	3441226.2	3649054.4	94.3	PASS	70-130
CCB6	CCB	1	3180107.3	3649054.4	87.15	PASS	70-130
LLCCV2	CCV2	1	3364032	3649054.4	92.19	PASS	70-130
ICSA3	ICSA	1	3007549.2	3649054.4	82.42	PASS	70-130
ICSAB3	ICSAB	1	3002123.9	3649054.4	82.27	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	10274792.6	10274792.6	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	10013811.8	10274792.6	97.46	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	10060154.8	10274792.6	97.91	PASS	70-130
Std3-5/50 ppb	ICAL	1	9947741.5	10274792.6	96.82	PASS	70-130
Std4-10/100 ppb	ICAL	1	9909177.6	10274792.6	96.44	PASS	70-130
Std5-20/200 ppb	ICAL	1	9833876.5	10274792.6	95.71	PASS	70-130
Std6-40/400 ppb	ICAL	1	9881767.6	10274792.6	96.17	PASS	70-130
Std7-100/1000 ppb	ICAL	1	9830372.8	10274792.6	95.67	PASS	70-130
Std8-200/2000 ppb	ICAL	1	9680702.6	10274792.6	94.22	PASS	70-130
ICV	ICV	1	10685283.7	10274792.6	104	PASS	70-130
ICB	ICB	1	10017451.5	10274792.6	97.5	PASS	70-130
LLICV	CCV1	1	10255095.8	10274792.6	99.81	PASS	70-130
ICSA1	ICSA	1	9560743.2	10274792.6	93.05	PASS	70-130
ICSAB1	ICSAB	1	8558570.6	10274792.6	83.3	PASS	70-130
LLICV	CCV1	1	10361934.5	10274792.6	100.85	PASS	70-130
CCV1	CCV	1	9809066	10274792.6	95.47	PASS	70-130
CCB1	CCB	1	9801052.9	10274792.6	95.39	PASS	70-130
N018833-001B	SAMP	25	9797954.2	10274792.6	95.36	PASS	70-130
N018833-001B-PS	PS	5	9757272.2	10274792.6	94.96	PASS	70-130
N018833-001B-MS	MS	5	9784496.2	10274792.6	95.23	PASS	70-130
N018833-001B-MSD	MSD	5	9860356.9	10274792.6	95.97	PASS	70-130
N018834-001B	SAMP	5	9733044.6	10274792.6	94.73	PASS	70-130
N018834-001B-MS	MS	5	9679385.1	10274792.6	94.21	PASS	70-130
CCV2	CCV	1	9581000.7	10274792.6	93.25	PASS	70-130
CCB2	CCB	1	9738744	10274792.6	94.78	PASS	70-130
LLCCV1	CCV2	1	9901281.2	10274792.6	96.36	PASS	70-130
ICSA2	ICSA	1	9501460.7	10274792.6	92.47	PASS	70-130
ICSAB2	ICSAB	1	11152296.4	10274792.6	108.54	PASS	70-130
N018861-001B	SAMP	1	7567248.4	10274792.6	73.65	PASS	70-130
N018861-001B	SAMP	5	8439432.7	10274792.6	82.14	PASS	70-130
N018861-002B	SAMP	1	7116247.7	10274792.6	69.26	NR!	70-130
N018861-002B	SAMP	5	8507889.7	10274792.6	82.8	PASS	70-130
N018861-003B	SAMP	1	5867477.1	10274792.6	57.11	NR!	70-130
N018861-003B	SAMP	5	8148735.4	10274792.6	79.31	PASS	70-130
N018861-003B	SAMP	10	8552263.3	10274792.6	83.24	PASS	70-130
N018861-004B	SAMP	1	5848106.9	10274792.6	56.92	NR!	70-130
N018861-004B	SAMP	5	8065124.4	10274792.6	78.49	PASS	70-130
N018861-005B	SAMP	1	6225682	10274792.6	60.59	NR!	70-130
CCV3	CCV	1	9220588	10274792.6	89.74	PASS	70-130
CCB3	CCB	1	9128620.1	10274792.6	88.84	PASS	70-130
N018861-005B	SAMP	5	8070628.7	10274792.6	78.55	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]				
			CPS	REF	%REC	Comment	Criteria
N018861-006B	SAMP	1	5202803.7	10274792.6	50.64	NR!	70-130
N018861-006B	SAMP	5	7854519.2	10274792.6	76.44	PASS	70-130
CCV4	CCV	1	9498284.5	10274792.6	92.44	PASS	70-130
CCB4	CCB	1	9389099.9	10274792.6	91.38	PASS	70-130
CCV5	CCV	1	8726002.5	10274792.6	84.93	PASS	70-130
CCB5	CCB	1	8980966.5	10274792.6	87.41	PASS	70-130
CCV6	CCV	1	8787476.5	10274792.6	85.52	PASS	70-130
CCB6	CCB	1	8822683.1	10274792.6	85.87	PASS	70-130
LLCCV2	CCV2	1	8899868.9	10274792.6	86.62	PASS	70-130
ICSA3	ICSA	1	8341254.7	10274792.6	81.18	PASS	70-130
ICSAB3	ICSAB	1	11419229.3	10274792.6	111.14	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018833
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56418

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to several analytes. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018833-001B DT 5X	Arsenic	ug/L	2.361276	NA	2.295541	2.86%	10
N018833-001B DT 5X	Chromium	ug/L	0	NA	0		10
N018833-001B DT 5X	Manganese	ug/L	0	NA	0		10
N018833-001B DT 5X	Molybdenum	ug/L	5.327166	NA	5.356014	0.54%	10
N018833-001B DT 5X	Selenium	ug/L	1.961576	NA	1.654206	18.58%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018833
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56418

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018833-001B DT 25X	Barium	ug/L	145.4311	PASS	142.5696	2.01%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.121	0.10	10.00	2.296	98.3	80	120				
Manganese	88.656	0.50	100.0	0	88.7	80	120				
Molybdenum	16.013	0.50	10.00	5.356	107	80	120				
Selenium	10.476	0.50	10.00	1.654	88.2	80	120				

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	253.234	5.0	100.0	142.6	111	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018833
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	**N018833-001B-PS**	SampType:	**PS**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:			RunNo:	**106153**
Client ID:	**ZZZZZZ**	Batch ID:	**56418**	TestNo:	**EPA 6020**		**EPA 3010A**	Analysis Date:	**2/26/2016**		SeqNo:	**2246818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.168	1.0	10.00	0	91.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock – RMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018834

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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March 09, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018834

RE: PG&E Topock - RMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 23, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018834

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) is outside recovery criteria for Iron on QC sample N018834-001C-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *09-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018834
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018834-001A	R63-D-Q116	Groundwater	2/23/2016 10:05:00 AM	2/23/2016	3/9/2016
N018834-001B	R63-D-Q116	Groundwater	2/23/2016 10:05:00 AM	2/23/2016	3/9/2016
N018834-001C	R63-D-Q116	Groundwater	2/23/2016 10:05:00 AM	2/23/2016	3/9/2016
N018834-001D	R63-D-Q116	Groundwater	2/23/2016 10:05:00 AM	2/23/2016	3/9/2016
N018834-001E	R63-D-Q116	Groundwater	2/23/2016 10:05:00 AM	2/23/2016	3/9/2016
N018834-002A	SW-1-D-Q116	Groundwater	2/23/2016 3:10:00 PM	2/23/2016	3/9/2016
N018834-002B	SW-1-D-Q116	Groundwater	2/23/2016 3:10:00 PM	2/23/2016	3/9/2016
N018834-002C	SW-1-D-Q116	Groundwater	2/23/2016 3:10:00 PM	2/23/2016	3/9/2016
N018834-003A	SW-2-D-Q116	Groundwater	2/23/2016 3:25:00 PM	2/23/2016	3/9/2016
N018834-003B	SW-2-D-Q116	Groundwater	2/23/2016 3:25:00 PM	2/23/2016	3/9/2016
N018834-003C	SW-2-D-Q116	Groundwater	2/23/2016 3:25:00 PM	2/23/2016	3/9/2016
N018834-004A	C-I-3-S-Q116	Groundwater	2/23/2016 9:30:00 AM	2/23/2016	3/9/2016
N018834-004B	C-I-3-S-Q116	Groundwater	2/23/2016 9:30:00 AM	2/23/2016	3/9/2016
N018834-004C	C-I-3-S-Q116	Groundwater	2/23/2016 9:30:00 AM	2/23/2016	3/9/2016
N018834-004D	C-I-3-S-Q116	Groundwater	2/23/2016 9:30:00 AM	2/23/2016	3/9/2016
N018834-004E	C-I-3-S-Q116	Groundwater	2/23/2016 9:30:00 AM	2/23/2016	3/9/2016
N018834-005A	MW-62-065-Q116	Groundwater	2/23/2016 8:41:00 AM	2/23/2016	3/9/2016
N018834-005B	MW-62-065-Q116	Groundwater	2/23/2016 8:41:00 AM	2/23/2016	3/9/2016
N018834-005C	MW-62-065-Q116	Groundwater	2/23/2016 8:41:00 AM	2/23/2016	3/9/2016
N018834-006A	MW-63-065-Q116	Groundwater	2/23/2016 10:04:00 AM	2/23/2016	3/9/2016
N018834-006B	MW-63-065-Q116	Groundwater	2/23/2016 10:04:00 AM	2/23/2016	3/9/2016
N018834-006C	MW-63-065-Q116	Groundwater	2/23/2016 10:04:00 AM	2/23/2016	3/9/2016
N018834-007A	MW-64BR-Q116	Groundwater	2/22/2016 12:23:00 PM	2/23/2016	3/9/2016
N018834-007B	MW-64BR-Q116	Groundwater	2/22/2016 12:23:00 PM	2/23/2016	3/9/2016
N018834-007C	MW-64BR-Q116	Groundwater	2/22/2016 12:23:00 PM	2/23/2016	3/9/2016
N018834-008A	MW-72-080-Q116	Groundwater	2/23/2016 10:40:00 AM	2/23/2016	3/9/2016
N018834-008B	MW-72-080-Q116	Groundwater	2/23/2016 10:40:00 AM	2/23/2016	3/9/2016
N018834-008C	MW-72-080-Q116	Groundwater	2/23/2016 10:40:00 AM	2/23/2016	3/9/2016
N018834-009A	MW-73-080-Q116	Groundwater	2/23/2016 11:00:00 AM	2/23/2016	3/9/2016

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018834
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018834-009B	MW-73-080-Q116	Groundwater	2/23/2016 11:00:00 AM	2/23/2016	3/9/2016
N018834-009C	MW-73-080-Q116	Groundwater	2/23/2016 11:00:00 AM	2/23/2016	3/9/2016
N018834-010A	MW-60BR-245-Q116	Groundwater	2/23/2016 11:35:00 AM	2/23/2016	3/9/2016
N018834-010B	MW-60BR-245-Q116	Groundwater	2/23/2016 11:35:00 AM	2/23/2016	3/9/2016
N018834-010C	MW-60BR-245-Q116	Groundwater	2/23/2016 11:35:00 AM	2/23/2016	3/9/2016
N018834-011A	MW-72BR-200-Q116	Groundwater	2/23/2016 4:01:00 PM	2/23/2016	3/9/2016
N018834-011B	MW-72BR-200-Q116	Groundwater	2/23/2016 4:01:00 PM	2/23/2016	3/9/2016
N018834-011C	MW-72BR-200-Q116	Groundwater	2/23/2016 4:01:00 PM	2/23/2016	3/9/2016
N018834-012A	MW-210A-Q116	Groundwater	2/23/2016 4:10:00 PM	2/23/2016	3/9/2016

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW-1-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 3:10:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW-2-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 3:25:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160224F**	QC Batch: **R106067**			PrepDate			Analyst: **LR**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	2/24/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018833-003DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106067**
Client ID: **ZZZZZZ** Batch ID: **R106067** TestNo: **EPA 120.1** Analysis Date: **2/24/2016** SeqNo: **2243198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1084.000	0.10						1088	0.368	10	

Sample ID **N018834-004DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106067**
Client ID: **ZZZZZZ** Batch ID: **R106067** TestNo: **EPA 120.1** Analysis Date: **2/24/2016** SeqNo: **2243210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1003.000	0.10						1002	0.0998	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.1	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW-1-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 3:10:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	7.7	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW-2-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 3:25:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	7.7	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160224E**	QC Batch: **R106066**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/24/2016 02:20 PM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	2/24/2016 02:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018833-004DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106066**
Client ID: **ZZZZZZ** Batch ID: **R106066** TestNo: **SM4500-H+B** Analysis Date: **2/24/2016** SeqNo: **2243181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.840	0.10						7.810	0.383	10	H
Temp. at time of pH Analysis	17.400	0.10						17.50	0.573	10	H

Sample ID **N018834-001DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106066**
Client ID: **ZZZZZZ** Batch ID: **R106066** TestNo: **SM4500-H+B** Analysis Date: **2/24/2016** SeqNo: **2243189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.150	0.10						8.120	0.369	10	H
Temp. at time of pH Analysis	18.100	0.10						18.30	1.10	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
SM2540D							
RunID: **WETCHEM_160224C** QC Batch: **56388** PrepDate **2/24/2016** Analyst: **LR**							
Suspended Solids (Residue, Non-Filterable)	19	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160224C**	QC Batch: **56388**				PrepDate	**2/24/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/24/2016 12:22 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID	MB-56388	SampType:	MBLK	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/24/2016	RunNo:	106064
Client ID:	PBW	Batch ID:	56388	TestNo:	SM2540D			Analysis Date:	2/24/2016	SeqNo:	2243150

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID	LCS-56388	SampType:	LCS	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/24/2016	RunNo:	106064
Client ID:	LCSW	Batch ID:	56388	TestNo:	SM2540D			Analysis Date:	2/24/2016	SeqNo:	2243151

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	948.000	10	1000	0	94.8	80	120				

Sample ID	N018836-001ADUP	SampType:	DUP	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/24/2016	RunNo:	106064
Client ID:	ZZZZZZ	Batch ID:	56388	TestNo:	SM2540D			Analysis Date:	2/24/2016	SeqNo:	2243160

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	46.000	10						44.00	4.44	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 08:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:34 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW-1-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 3:10:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 08:48 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW-2-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 3:25:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B**	QC Batch: **R106238**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 09:26 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 10:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B** QC Batch: **R106238**				PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/26/2016 09:45 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160226A** QC Batch: **56418**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 11:07 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R106238** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **PBW** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106238** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **LCSW** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.106	0.20	5.000	0	102	90	110				

Sample ID **N018833-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.078	0.20						0.07580	0	20	

Sample ID **N018833-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.164	0.20	1.000	0.07580	109	90	110				

Sample ID **N018833-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.118	0.20	1.000	0.07580	104	90	110	1.164	4.08	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018833-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0.05400	101	90	110				

Sample ID **N018833-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.106	0.20	1.000	0.09780	101	90	110				

Sample ID **N018833-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.1016	101	90	110				

Sample ID **N018833-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.076	0.20	1.000	0.07000	101	90	110				

Sample ID **N018833-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.132	0.20	1.000	0.08900	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018833-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.110	0.20	1.000	0.09340	102	90	110				

Sample ID **N018833-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0.05850	96.5	90	110				

Sample ID **N018833-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.108	0.20	1.000	0.06560	104	90	110				

Sample ID **N018833-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0.05460	104	90	110				

Sample ID **N018834-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.139	0.20	1.000	0.1067	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018834-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.211	0.20	1.000	0.1764	103	90	110				

Sample ID **N018834-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.193	0.20	1.000	0.1548	104	90	110				

Sample ID **N018834-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.06590	105	90	110				

Sample ID **N018861-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.507	0.20	1.000	1.455	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56418** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **PBW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56418** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **LCSW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.764	1.0	10.00	0	97.6	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.312	1.0	10.00	0	93.1	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.285	1.0	10.00	0	92.9	75	125	9.312	0.287	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.188	1.0	10.00	0	91.9	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.55	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.49	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106281** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **PBW** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106281** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **LCSW** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.491	0.050	0.5000	0	98.2	85	115				

Sample ID **N018833-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.524	0.050						0.5156	1.69	20	

Sample ID **N018833-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.023	0.050	0.5000	0.5156	102	75	125				

Sample ID **N018833-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.037	0.050	0.5000	0.5156	104	75	125	1.023	1.32	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:26 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	400	17	20		ug/L	1	3/4/2016 01:27 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:37 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	94	17	20		ug/L	1	3/4/2016 01:38 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56471** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **PBW** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56471** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **LCSW** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.800	20	100.0	0	106	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.627	20	100.0	0	110	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.306	20	100.0	0	109	75	125	109.6	0.293	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.805	20	100.0	0	112	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **MB-56472** SampType: **MBLK** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **PBW** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56472** SampType: **LCS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **LCSW** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	112.924	20	100.0	0	113	85	115				

Sample ID **N018833-001C-MS** SampType: **MS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	257.559	20	100.0	137.7	120	75	125				

Sample ID **N018833-001C-MSD** SampType: **MSD** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	257.738	20	100.0	137.7	120	75	125	257.6	0.0693	20	

Sample ID **N018834-001C-MS** SampType: **MS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251697**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	441.975	20	100.0	396.3	45.6	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-D-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 10:05:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/26/2016 10:34 PM
Barium	140	0.36	5.0		µg/L	5	3/7/2016 10:56 PM
Manganese	0.61	0.023	0.50		µg/L	1	2/26/2016 10:34 PM
Molybdenum	5.3	0.029	0.50		µg/L	1	2/26/2016 10:34 PM
Selenium	1.6	0.070	0.50		µg/L	1	2/26/2016 10:34 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q116
Lab Order:	N018834	**Collection Date:**	2/23/2016 9:30:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018834-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/26/2016 11:07 PM
Barium	140	0.072	1.0		µg/L	1	2/26/2016 11:07 PM
Manganese	ND	0.023	0.50		µg/L	1	2/26/2016 11:07 PM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/26/2016 11:07 PM
Selenium	1.8	0.070	0.50		µg/L	1	2/26/2016 11:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56418** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.099	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56418** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.337	0.10	10.00	0	93.4	85	115				
Barium	99.662	1.0	100.0	0	99.7	85	115				
Manganese	94.576	0.50	100.0	0	94.6	85	115				
Molybdenum	9.908	0.50	10.00	0	99.1	85	115				
Selenium	8.768	0.50	10.00	0	87.7	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.911	0.10	10.00	2.296	96.2	75	125				
Manganese	96.605	0.50	100.0	0	96.6	75	125				
Molybdenum	16.054	0.50	10.00	5.356	107	75	125				
Selenium	10.729	0.50	10.00	1.654	90.7	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.031	0.10	10.00	2.296	97.4	75	125	11.91	0.998	20	
Manganese	89.874	0.50	100.0	0	89.9	75	125	96.60	7.22	20	
Molybdenum	16.030	0.50	10.00	5.356	107	75	125	16.05	0.148	20	
Selenium	10.633	0.50	10.00	1.654	89.8	75	125	10.73	0.894	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.020	0.10	10.00	2.271	97.5	75	125				
Manganese	90.157	0.50	100.0	0.6141	89.5	75	125				
Molybdenum	16.307	0.50	10.00	5.329	110	75	125				
Selenium	10.790	0.50	10.00	1.617	91.7	75	125				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.856	5.0	100.0	142.6	108	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.018	5.0	100.0	142.6	107	75	125	250.9	0.335	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	253.101	5.0	100.0	139.0	114	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Gary Clift
Title: SR. Technicain
Signature: Date: 2-23-16
I hereby authorize ASSET Labs to perform the tests indicated below.
Project Name: PG&E Topock - RMP
Project Number: RC000753.0801

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Jason Mahn
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for
Signature: Date: 2/23/16

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com P.O.#
Phone: 949-727-1400, ext 200 Fax:

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		✓
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		✓
Specify: RWQCB		LEVEL IV		5. IR number		✓
Global ID:		Regulatory		6. Method of Cooling: IC		
		Specify State:		Sample Temp: 3.7, 2.8, 5.0°C, 1.9		

Courier: ASSET
Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6); (NH4)2, SO4, NH4, OH (3x250 mL poly)	Field QC Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Cr (3x500mL poly)	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Ca, Mg, K, Na, B (3x500mL poly)	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 As, Mn, Fe, Se, Mo, Ba (3x500mL poly)	Total metals (SW6010B); HNO3 Fe (500 mL poly)	Anions (E300.0); Br, Cl, SO4 (2x1 liter poly)	Specific Conductance (E120.1) (2x1 liter poly)	pH (SM4500HB) (2x1 liter poly)	TDS (SM2540C) (2x1 liter poly)	Alkalinity (Total, reported as CaCO3) (SM2320B) (2x1 liter poly)	TSS (SM2540) (2x1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N018834 - 1	R63-D-Q116	2/23/2016	1005		X		X		X	X		X	X			X	X	E	10	P	BN	
2	- 2	SW-1-D-Q116	2/23/2016	1510		X		X					X	X					E	8	P	BN	
3	- 3	SW-2-D-Q116	2/23/2016	1525		X		X					X	X					E	8	P	BN	
4	- 4	C-I-3-S-Q116	2/23/2016	930		X		X		X	X		X	X			X	X	E	10	P	BN	
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by (Signature and Printed Name): Date/Time: 2/23/16
Relinquished by (Signature and Printed Name): Date/Time: 2/23/16 @ 1700
Relinquished by (Signature and Printed Name): Date/Time: 2/23/16 @ 1930
Relinquished by (Signature and Printed Name): Date/Time: 2/23/16 @ 1930
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/23/2016	Workorder:	N018834
Rep sample Temp (Deg C):	3.7/2.8/5.0/1.9	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See email. Sample for pH was past holding time upon receipt.

Checklist Completed B MBC For: 2/24/2016

Reviewed By: 03/04/16

ASSET LV Sample Control

From: Marlon B. Cartin <marlon@assetlaboratories.com>
Sent: Friday, February 26, 2016 10:59 AM
To: 'Madsen, Laura'; 'ASSET LV Sample Control'; 'Bush, Dan'; Daniel.Moore@critigen.com
Cc: 'Maurel, Sean'; 'Harmon, Alison'; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com
Subject: RE: N018825; N018833; N018834 COC and Work Order Summary for Samples Received 2/23/2016

Hi Laura,

Done. You will receive a new Work Order sample summary.

Thanks,

Marlon B. Cartin
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421

From: Madsen, Laura [mailto:Laura.Madsen@arcadis.com]
Sent: Friday, February 26, 2016 8:09 AM
To: ASSET LV Sample Control; Bush, Dan; Daniel.Moore@critigen.com
Cc: Maurel, Sean; Harmon, Alison; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; Marlon B. Cartin
Subject: RE: N018825; N018833; N018834 COC and Work Order Summary for Samples Received 2/23/2016

Hi,
The following samples need to be logged in as Topock GMP (not RMP) on SDG N018834

- MW-62-065-Q116
- MW-64BR-Q116
- MW-73-080-Q116
- MW-60BR-245-Q116
- MW-72BR-200-Q116
- MW-210A-Q116

Thanks,
Laura

From: ASSET LV Sample Control [mailto:samplecontrol.lv@assetlaboratories.com]
Sent: Wednesday, February 24, 2016 5:19 PM
To: Bush, Dan <Dan.Bush@arcadis.com>; Daniel.Moore@critigen.com
Cc: Madsen, Laura <Laura.Madsen@arcadis.com>; Maurel, Sean <Sean.Maurel@arcadis.com>; Harmon, Alison <Ali.Harmon@arcadis.com>; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; rsunjara@blainetech.com
Subject: N018825; N018833; N018834 COC and Work Order Summary for Samples Received 2/23/2016

Enclosed are COC and WO Summary for samples received 2/23/2016. If you have any questions, please contact your Project Manager listed below.

Marlon Cartin

3151 W. Post Road
Las Vegas, Nevada
89118
Tel. No.: (702)-307-2659 Ext. 410
Cel. No.: (702)-439-0421
Email: marlon@assetlaboratories.com

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ASSET Laboratories

WORK ORDER Summary

03-Mar-16

WorkOrder: N018834

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018834-001A	R63-D-Q116	2/23/2016 10:05:00 AM	3/8/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018834-001B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018834-001C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018834-001D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018834-001E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018834-002A	SW-1-D-Q116	2/23/2016 3:10:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018834-002B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018834-002C			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LR
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	LR
N018834-003A	SW-2-D-Q116	2/23/2016 3:25:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018834-003B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018834-003C			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LR

ASSET Laboratories

WORK ORDER Summary

03-Mar-16

WorkOrder: N018834

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018834-003C	SW-2-D-Q116	2/23/2016 3:25:00 PM	3/8/2016	Groundwater	SM4500-H+B	pH	☐	☐	☐	LR
N018834-004A	C-I-3-S-Q116	2/23/2016 9:30:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018834-004B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018834-004C			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018834-004D			3/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/8/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/8/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/8/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018834-004E			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018834-005A	MW-62-065-Q116	2/23/2016 8:41:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-005B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-005C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-006A	MW-63-065-Q116	2/23/2016 10:04:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-006B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-Mar-16

WorkOrder: N018834

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018834-006B	MW-63-065-Q116	2/23/2016 10:04:00 AM	3/8/2016	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-006C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-007A	MW-64BR-Q116	2/22/2016 12:23:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-007B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-007C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-008A	MW-72-080-Q116	2/23/2016 10:40:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-008B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-008C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-009A	MW-73-080-Q116	2/23/2016 11:00:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-009B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-009C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-010A	MW-60BR-245-Q116	2/23/2016 11:35:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-010B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-Mar-16

WorkOrder: N018834

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018834-010B	MW-60BR-245-Q116	2/23/2016 11:35:00 AM	3/8/2016	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-010C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-011A	MW-72BR-200-Q116	2/23/2016 4:01:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-011B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N018834-011C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☑	☐	☐	WW
N018834-012A	MW-210A-Q116	2/23/2016 4:10:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018834-013A	FOLDER		3/8/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/8/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018834**

NAME	TEST METHOD
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540D

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106067 **Analyst:** LSR

ASSET #: N018834 **Date Analyzed:** 2/24/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer Nancy 3/8/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 2/24/16 1435

Analyst: RK

Standard	Std ID	Reading	Comments
9.78	CNW- 150619A	9.84 uS/cm @21.9°C	% Rec: (90-110%)
1412	151012A	1435 @21.9°C	
9992	160111B	10240 @21.9°C	
99897	150112B	100001 @22.0°C	

	Sample ID	Matrix	Reading	Comments
1	N018833-001D	Water	1002 @19.7°C	
2	2D		983 @19.7°C	
3	3D		1088 @19.6°C	
4	4D		1085 @18.9°C	
5	5D		981 @19.6°C	
6	6D		983 @19.6°C	
7	7D		980 @19.8°C	
8	8D		974 @19.7°C	
9	9D		987 @19.5°C	
10	10D		985 @19.5°C	
Dup	3D DUP		1084 @19.3°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Date:

Analyst: CONTD

Lilia Ramit 3/2/2016

Standard	Std ID	Reading	Comments
1413	CNW - 150587A	1456 uS/cm @21.5°C	% Rec: (90-110%)
10000	CNW - 150909A	10430 @21.6°C	
99893	CNW - 151130A	96200 @21.5°C	

	Sample ID	Matrix	Reading	Comments
1	N018834-001D	Water	1001 @20.2°C	
2	2C		1072 @20.0°C	
3	3C		1074 @20.2°C	
4	4D		1002 @20.3°C	
5	4D DUP		1003 @20.1°C	
6				
7				
8	1413 uS/cm	CNW - 150587A	1467 uS/cm @21.5°C	
9	10000	150909A	10370 @21.9°C	
10	99893	151130A	95200 @22.0°C	
Dup				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Logbook # 5

SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106066 **Instrument ID:** pH meter

ASSET #: N018834 **Analyst:** LSR

Date Analyzed: 2/24/2016

Method: EPA 150.1

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer 3/8/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

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pH Logbook

Date: 2/24/16 1420
Analyst: LBR

Standard	Std ID	pH	Comments
Buffer 7	CMW - 150828A	7.02 @ 21.5°C	SLOPE: 98.1%
Buffer 4		4.00 @ 21.3°C	
Buffer 10	CMW - 150708A	10.05 @ 21.3°C	

	Sample ID	Matrix	pH	Comments
1	ND18823 - 001D	Water	8.22 @ 18.0°C	
2	2D		8.22 @ 18.2°C	
3	3D		7.85 @ 18.0°C	
4	4D		7.81 @ 17.5°C	
5	5D		8.22 @ 17.6°C	
6	6D		8.21 @ 17.4°C	
7	7D		8.21 @ 17.9°C	
8	8D		8.22 @ 18.0°C	
9	9D		8.23 @ 17.7°C	
10	10D		8.22 @ 17.6°C	
up	4D DUP		7.84 @ 17.4°C	Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CMW - 150624A	7.00 @ 21.4°C	Accept: +/-0.1 pH units from expected value

Date:
Analyst:

Standard	Std ID	pH	Comments
Buffer 7			
Buffer 4	CONT'D		
Buffer 10			

	Sample ID	Matrix	pH	Comments
1	ND18834 - 001D	Water	8.12 @ 18.3°C	
2	2C		7.68 @ 17.9°C	
3	3C		7.66 @ 18.17.8°C	LBR 2/24
4	4D		8.18 @ 18.2°C	
5	10 DUP		8.15 @ 18.1°C	
6				
7				Julia Ramit 3/2/2016
8				
9				
10				
up				Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CMW -150624A	7.00 @ 21.7°C	Accept: +/-0.1 pH units from expected value

Logbook #8

SM 2540D

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56388 **Analyst:** LSR

ASSET #: N018834 **Date Analyzed:** 2/24/2016

Method: EPA 160.2

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/1/2016

2nd Level Reviewer 3/8/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018834-001D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4293-1.4274)*1000000}{100}$$
$$= 19 \text{ mg/L}$$

Since reporting limit is 10 mg/L, therefore:

TSS = 19 mg/L

Julia Ramit 3/1/2016

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/24/2016 12:22:37**
Prep End Date: **2/24/2016 6:15:00 P**

Initials/ Date: Lilia Ramit 3/1/2016

Prep Batch **56388** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56388	Water		100	☐	0	0	100	1.000		
MB-56388	Water		100	☐	0	0	100	1.000		
N018819-001A	Surface Water		100	☐	0	0	100	1.000		
N018819-002A	Surface Water		100	☐	0	0	100	1.000		
N018820-001A	Surface Water		100	☐	0	0	100	1.000		
N018820-002A	Surface Water		100	☐	0	0	100	1.000		
N018820-003A	Surface Water		100	☐	0	0	100	1.000		
N018834-001D	Groundwater		100	☐	0	0	100	1.000		
N018834-004D	Groundwater		100	☐	0	0	100	1.000		
N018836-001A	Water		100	☐	0	0	100	1.000		
N018836-001A-DU	Water		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160215A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/24/2016 12:22:37**
Prep End Date:

Initials/ Date: Lilia Ramit 3/1/2016

Prep Batch **56388** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units
mL / mL

	Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
	LCS-56388	Water	INST160215A	100	☐	0	0	100	1.000		
	MB-56388	Water		100	☐	0	0	100	1.000		
11	N018819-001A	Surface Water		100	☐	0	0	100	1.000		
12	N018819-002A	Surface Water		100	☐	0	0	100	1.000		
13	N018820-001A	Surface Water		100	☐	0	0	100	1.000		
14	N018820-002A	Surface Water		100	☐	0	0	100	1.000		
15	N018820-003A	Surface Water		100	☐	0	0	100	1.000		
16	N018834-001D	Groundwater		100	☐	0	0	100	1.000		
17	N018834-004D	Groundwater		100	☐	0	0	100	1.000		
18	N018836-001A	Water		100	☐	0	0	100	1.000		
D2	N018836-001A-DU	Water		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #
150416

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST : TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/24/16 1222	MB1 56388	100	1.4440 1.4438	1.4437 1.4437	
	LCS1 56388	100	1.4335 1.4336	1.5282 1.5284	
11	NO 15819-001A	100	1.4418 1.4419	1.4424 1.4425	
12	2A	100	1.4395 1.4395	1.4398 1.4400	
13	NO15820-001A	100	1.4190 1.4192	1.4205 1.4203	
14	2A	100	1.4138 1.4139	1.4152 1.4150	
15	3A	100	1.4154 1.4155	1.4225 1.4222	
16	NO15834-001D	100	1.4276 1.4274	1.4293 1.4293	
17	4D	100	1.4215 1.4213	1.4222 1.4220	
18	NO15836-001A	100	1.4209 1.4208	1.4252 1.4252	

ASSET Laboratories

Logbook#1

Silia Ramit 3/1/2016

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/24/14	N018836-001A	100	1.4443 1.4443 1.4444 1.4444 2/24/14	1.4492 1.4492 1.4490 1.4490	
			1.4318 1.4317 2/24		

Julia Ramit 3/1/2016

ASSET Laboratories

Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 2/24/16						
MB-56388	100	1.4438	1.4437	-1.0000	1.00	-1
LCS-56388	100	1.4336	1.5284	948.0000	1.00	948
N018819-001A	100	1.4419	1.4425	6.0000	1.00	6
N018819-002A	100	1.4395	1.44	5.0000	1.00	5
N018820-001A	100	1.4192	1.4203	11.0000	1.00	11
N018820-002A	100	1.4139	1.415	11.0000	1.00	11
N018820-003A	100	1.4155	1.4222	67.0000	1.00	67
N018834-001D	100	1.4274	1.4293	19.0000	1.00	19
N018834-004D	100	1.4213	1.422	7.0000	1.00	7
N018836-001A	100	1.4208	1.4252	44.0000	1.00	44
N018836-001ADUP	100	1.4444	1.449	46.0000	1.00	46

Julia Ramit 3/1/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106238
ASSET #: N018834

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/8/2016 Date: —

2nd Level Reviewer Nancy 3/8/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018834-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.1067* 1

= 0.1067

Since reporting limit is 0.2 µg/L,

Cr^{+6}, µg/L = ND

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	CCV-1	CCV	1	Hexavalent Chromium	02/26/16 3:03 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/26/16 3:14 PM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	02/26/16 3:24 PM	Reported
13	MB-R106238	MBLK	1	Hexavalent Chromium	02/26/16 3:33 PM	Reported
14	LCS-R106238	LCS	1	Hexavalent Chromium	02/26/16 3:43 PM	Reported
15	N018478-019A	SAMP	200	Hexavalent Chromium	02/26/16 3:52 PM	Not Reported
16	N018478-019A	SAMP	100	Hexavalent Chromium	02/26/16 4:02 PM	Not Reported
17	N018833-001A	SAMP	1	Hexavalent Chromium	02/26/16 4:22 PM	Reported
18	N018833-001ADUP	DUP	1	Hexavalent Chromium	02/26/16 4:33 PM	Reported
19	N018833-001AMS	MS	1	Hexavalent Chromium	02/26/16 4:42 PM	Reported
20	N018833-001AMSD	MSD	1	Hexavalent Chromium	02/26/16 4:52 PM	Reported
21	N018833-002A	SAMP	1	Hexavalent Chromium	02/26/16 5:01 PM	Reported
22	N018833-002AMS	MS	1	Hexavalent Chromium	02/26/16 5:11 PM	Reported
23	CCV-2	CCV	1	Hexavalent Chromium	02/26/16 5:20 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	02/26/16 5:29 PM	Reported
25	N018833-003A	SAMP	1	Hexavalent Chromium	02/26/16 5:39 PM	Reported
26	N018833-003AMS	MS	1	Hexavalent Chromium	02/26/16 5:48 PM	Reported
27	N018833-004A	SAMP	1	Hexavalent Chromium	02/26/16 5:58 PM	Reported
28	N018833-004AMS	MS	1	Hexavalent Chromium	02/26/16 6:07 PM	Reported
29	N018833-005A	SAMP	1	Hexavalent Chromium	02/26/16 6:17 PM	Reported
30	N018833-005AMS	MS	1	Hexavalent Chromium	02/26/16 6:26 PM	Reported
31	N018833-006A	SAMP	1	Hexavalent Chromium	02/26/16 6:36 PM	Reported
32	N018833-006AMS	MS	1	Hexavalent Chromium	02/26/16 6:45 PM	Reported
33	N018833-007A	SAMP	1	Hexavalent Chromium	02/26/16 6:55 PM	Reported
34	N018833-007AMS	MS	1	Hexavalent Chromium	02/26/16 7:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	02/26/16 7:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	02/26/16 7:23 PM	Reported
37	N018833-008A	SAMP	1	Hexavalent Chromium	02/26/16 7:32 PM	Reported
38	N018833-008AMS	MS	1	Hexavalent Chromium	02/26/16 7:42 PM	Reported
39	N018833-009A	SAMP	1	Hexavalent Chromium	02/26/16 7:51 PM	Reported
40	N018833-009AMS	MS	1	Hexavalent Chromium	02/26/16 8:01 PM	Reported
41	N018833-010A	SAMP	1	Hexavalent Chromium	02/26/16 8:10 PM	Reported
42	N018833-010AMS	MS	1	Hexavalent Chromium	02/26/16 8:20 PM	Reported

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018834-001A	SAMP	1	Hexavalent Chromium	02/26/16 8:29 PM	Reported
44	N018834-001AMS	MS	1	Hexavalent Chromium	02/26/16 8:39 PM	Reported
45	N018834-002A	SAMP	1	Hexavalent Chromium	02/26/16 8:48 PM	Reported
46	N018834-002AMS	MS	1	Hexavalent Chromium	02/26/16 8:58 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	02/26/16 9:07 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	02/26/16 9:17 PM	Reported
49	N018834-003A	SAMP	1	Hexavalent Chromium	02/26/16 9:26 PM	Reported
50	N018834-003AMS	MS	1	Hexavalent Chromium	02/26/16 9:36 PM	Reported
51	N018834-004A	SAMP	1	Hexavalent Chromium	02/26/16 9:45 PM	Reported
52	N018834-004AMS	MS	1	Hexavalent Chromium	02/26/16 9:54 PM	Reported
53	N018861-002A	SAMP	1	Hexavalent Chromium	02/26/16 10:04 PM	Reported
54	N018861-002AMS	MS	1	Hexavalent Chromium	02/26/16 10:13 PM	Reported
55	N018861-004A	SAMP	1	Hexavalent Chromium	02/26/16 10:23 PM	Not Reported
56	N018861-004AMS	MS	1	Hexavalent Chromium	02/26/16 10:32 PM	Not Reported
57	CCV-5	CCV	1	Hexavalent Chromium	02/26/16 10:42 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	02/26/16 10:51 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160226B**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:20:39**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	CCV-1,CCV,1,	1	1000	Unknown		02/26/2016 15:03	Finished	CCV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	2	1000	Unknown		02/26/2016 15:14	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1	3	1000	Unknown		02/26/2016 15:24	Finished	CCB R160209C
13	MB-H2O,MBLK,1	4	1000	Unknown		02/26/2016 15:33	Finished	MB
14	LCS-H2O,LCS,1	5	1000	Unknown		02/26/2016 15:43	Finished	LCS @ 5ppb, IWST-160202B
15	N018478-019A,SAMP	6	1000	Unknown		02/26/2016 15:52	Finished	SAMP, 0.05 to 10mL
16	N018478-019A,SAMP	7	1000	Unknown		02/26/2016 16:02	Finished	SAMP, 0.1 to 10mL
17	N018833-001A,SAMP	8	1000	Unknown		02/26/2016 16:22	Finished	SAMP, 10mL
18	N018833-001ADUP,D	9	1000	Unknown		02/26/2016 16:33	Finished	DUP, 10mL
19	N018833-001AMS,MS	10	1000	Unknown		02/26/2016 16:42	Finished	MS(1ppb), IWST-160202B, 10r
20	N018833-001AMSD,M	11	1000	Unknown		02/26/2016 16:52	Finished	MSD(1ppb), IWST-160202B, 1
21	N018833-002A,SAMP	12	1000	Unknown		02/26/2016 17:01	Finished	SAMP, 10mL
22	N018833-002AMS,MS	13	1000	Unknown		02/26/2016 17:11	Finished	MS(1ppb), IWST-160202B, 10r
23	CCV-2,CCV,1	14	1000	Unknown		02/26/2016 17:20	Finished	CCV @ 10ppb, IWST 160202A
24	CCB-2,CCB,1	15	1000	Unknown		02/26/2016 17:29	Finished	CCB
25	N018833-003A,SAMP	16	1000	Unknown		02/26/2016 17:39	Finished	SAMP, 10mL
26	N018833-003AMS,MS	17	1000	Unknown		02/26/2016 17:48	Finished	MS(1ppb), IWST-160202B, 10r
27	N018833-004A,SAMP	18	1000	Unknown		02/26/2016 17:58	Finished	SAMP, 10mL
28	N018833-004AMS,MS	19	1000	Unknown		02/26/2016 18:07	Finished	MS(1ppb), IWST-160202B, 10r
29	N018833-005A,SAMP	20	1000	Unknown		02/26/2016 18:17	Finished	SAMP, 10mL
30	N018833-005AMS,MS	21	1000	Unknown		02/26/2016 18:26	Finished	MS(1ppb), IWST-160202B, 10r
31	N018833-006A,SAMP	22	1000	Unknown		02/26/2016 18:36	Finished	SAMP, 10mL
32	N018833-006AMS,MS	23	1000	Unknown		02/26/2016 18:45	Finished	MS(1ppb), IWST-160202B, 10r
33	N018833-007A,SAMP	24	1000	Unknown		02/26/2016 18:55	Finished	SAMP, 10mL
34	N018833-007AMS,MS	25	1000	Unknown		02/26/2016 19:04	Finished	MS(1ppb), IWST-160202B, 10r
35	CCV-3,CCV,1	26	1000	Unknown		02/26/2016 19:14	Finished	CCV @ 5ppb, IWST 160202A
36	CCB-3,CCB,1	27	1000	Unknown		02/26/2016 19:23	Finished	CCB
37	N018833-008A,SAMP	28	1000	Unknown		02/26/2016 19:32	Finished	SAMP, 10mL
38	N018833-008AMS,MS	29	1000	Unknown		02/26/2016 19:42	Finished	MS(1ppb), IWST-160202B, 10r
39	N018833-009A,SAMP	30	1000	Unknown		02/26/2016 19:51	Finished	SAMP, 10mL
40	N018833-009AMS,MS	31	1000	Unknown		02/26/2016 20:01	Finished	MS(1ppb), IWST-160202B, 10r
41	N018833-010A,SAMP	32	1000	Unknown		02/26/2016 20:10	Finished	SAMP, 10mL
42	N018833-010AMS,MS	33	1000	Unknown		02/26/2016 20:20	Finished	MS(1ppb), IWST-160202B, 10r
43	N018834-001A,SAMP	34	1000	Unknown		02/26/2016 20:29	Finished	SAMP, 10mL
44	N018834-001AMS,MS	35	1000	Unknown		02/26/2016 20:39	Finished	MS(1ppb), IWST-160202B, 10r
45	N018834-002A,SAMP	36	1000	Unknown		02/26/2016 20:48	Finished	SAMP, 10mL
46	N018834-002AMS,MS	37	1000	Unknown		02/26/2016 20:58	Finished	MS(1ppb), IWST-160202B, 10r
47	CCV-4,CCV,1	38	1000	Unknown		02/26/2016 21:07	Finished	CCV @ 10ppb, IWST 160202A
48	CCB-4,CCB,1	39	1000	Unknown		02/26/2016 21:17	Finished	CCB
49	N018834-003A,SAMP	40	1000	Unknown		02/26/2016 21:26	Finished	SAMP, 10mL
50	N018834-003AMS,MS	41	1000	Unknown		02/26/2016 21:36	Finished	MS(1ppb), IWST-160202B, 10r
51	N018834-004A,SAMP	42	1000	Unknown		02/26/2016 21:45	Finished	SAMP, 10mL
52	N018834-004AMS,MS	43	1000	Unknown		02/26/2016 21:54	Finished	MS(1ppb), IWST-160202B, 10r
53	N018861-002A,SAMP	44	1000	Unknown		02/26/2016 22:04	Finished	SAMP, 10mL
54	N018861-002AMS,MS	45	1000	Unknown		02/26/2016 22:13	Finished	MS(5ppb), IWST-160202B, 10r
55	N018861-004A,SAMP	46	1000	Unknown		02/26/2016 22:23	Finished	SAMP, 10mL
56	N018861-004AMS,MS	47	1000	Unknown		02/26/2016 22:32	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	48	1000	Unknown		02/26/2016 22:42	Finished	CCV @ 5ppb, IWST 160202A
58	CCB-5,CCB,1	49	1000	Unknown		02/26/2016 22:51	Finished	CCB
59	SHUTDOWN	50	1000	Unknown		02/26/2016 23:01	Finished	BLANK
60	Eluent: R160224A	51	1000	Unknown		n.a.	Finished	Eluent

61	PCR: R160226A	CurrentVial	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: KEM

Reagent ID:
Sulfuric Acid: CMW-151120D
Diphenylcarbazide: CMW-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018P53-006A1	9.34	—	—	—	—	R160219D
2)	A2	9.36	—	—	—	—	
3)	A3	9.37	—	—	—	—	
4)	7A1	9.34	—	—	—	—	
5)	A2	9.34	—	—	—	—	
6)	A3	9.34	—	—	—	—	
7)	8A1	9.35	—	—	—	—	
8)	A2	9.34	—	—	—	—	
9)	A3	9.33	—	—	—	—	
10)	9A1	9.38	—	—	—	—	
11)	A2	9.36	—	—	—	—	
12)	A3	9.35	—	—	—	—	
13)	10A1	9.36	—	—	—	—	
14)	A2	9.37	—	—	—	—	
15)	A3	9.36	—	—	—	—	

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: KEB

Reagent ID:
Sulfuric Acid: CMW-151130D
Diphenylcarbazide: CMW-151130F
NH4OH + NH4SO4 eluent: R160224A, R160302B
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018834-001A1	9.44	—	—	—	—	R160219D
2)	A2	9.41	—	—	—	—	
3)	A3	9.48	—	—	—	—	
4)	2A1	9.39	—	—	—	—	
5)	A2	9.38	—	—	—	—	
6)	A3	9.39	—	—	—	—	
7)	3A1	9.41	—	—	—	—	
8)	A2	9.38	—	—	—	—	
9)	A3	9.47	—	—	—	—	
10)	4A1	9.47	—	—	—	—	
11)	A2	9.44	—	—	—	—	
12)	A3	9.38	—	—	—	—	
13)	N018861- ~~5A~~ 001A	9.44	—	—	—	—	
14)	~~6A~~ 2A	9.31	—	—	—	—	
15)	~~7A~~ 3A	9.33	—	—	—	—	
	~~8A~~ 4A	9.35	—	—	—	—	

Logbook No. 10

Reb 3/8/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0546	0.2480	1.1957	2.3389	3.5494	4.7448	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ICV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.125	0.20	5.000	0	103	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.234	0.20	0.2000	0	117	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.185	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.138	0.20	5.000	0	103	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.092	0.20	10.00	0	101	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.175	0.20	5.000	0	104	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ICB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/26/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.040	
CCV-5	5.040	
Average	5.038	
Actual RT Window	4.958 - 5.118	
Applied RT Window	4.838 - 5.238	
MB-R106238	N.A.	N.A.
LCS-R106238	5.048	PASS
N018833-001A	5.048	PASS
N018833-001ADUP	5.023	PASS
N018833-001AMS	5.023	PASS
N018833-001AMSD	5.031	PASS
N018833-002A	5.031	PASS
N018833-002AMS	5.040	PASS
N018833-003A	5.023	PASS
N018833-003AMS	5.040	PASS
N018833-004A	5.040	PASS
N018833-004AMS	5.031	PASS
N018833-005A	5.031	PASS
N018833-005AMS	5.031	PASS
N018833-006A	5.040	PASS
N018833-006AMS	5.040	PASS
N018833-007A	5.023	PASS
N018833-007AMS	5.031	PASS
N018833-008A	5.015	PASS
N018833-008AMS	5.031	PASS
N018833-009A	5.031	PASS
N018833-009AMS	5.031	PASS
N018833-010A	5.023	PASS
N018833-010AMS	5.031	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/26/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.040	
CCV-5	5.040	
Average	5.038	
Actual RT Window	4.958 - 5.118	
Applied RT Window	4.838 - 5.238	
N018834-001A	5.031	PASS
N018834-001AMS	5.031	PASS
N018834-002A	5.056	PASS
N018834-002AMS	5.031	PASS
N018834-003A	5.040	PASS
N018834-003AMS	5.031	PASS
N018834-004A	5.040	PASS
N018834-004AMS	5.031	PASS
N018861-002A	4.923	PASS
N018861-002AMS	4.923	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Reb 2/8/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

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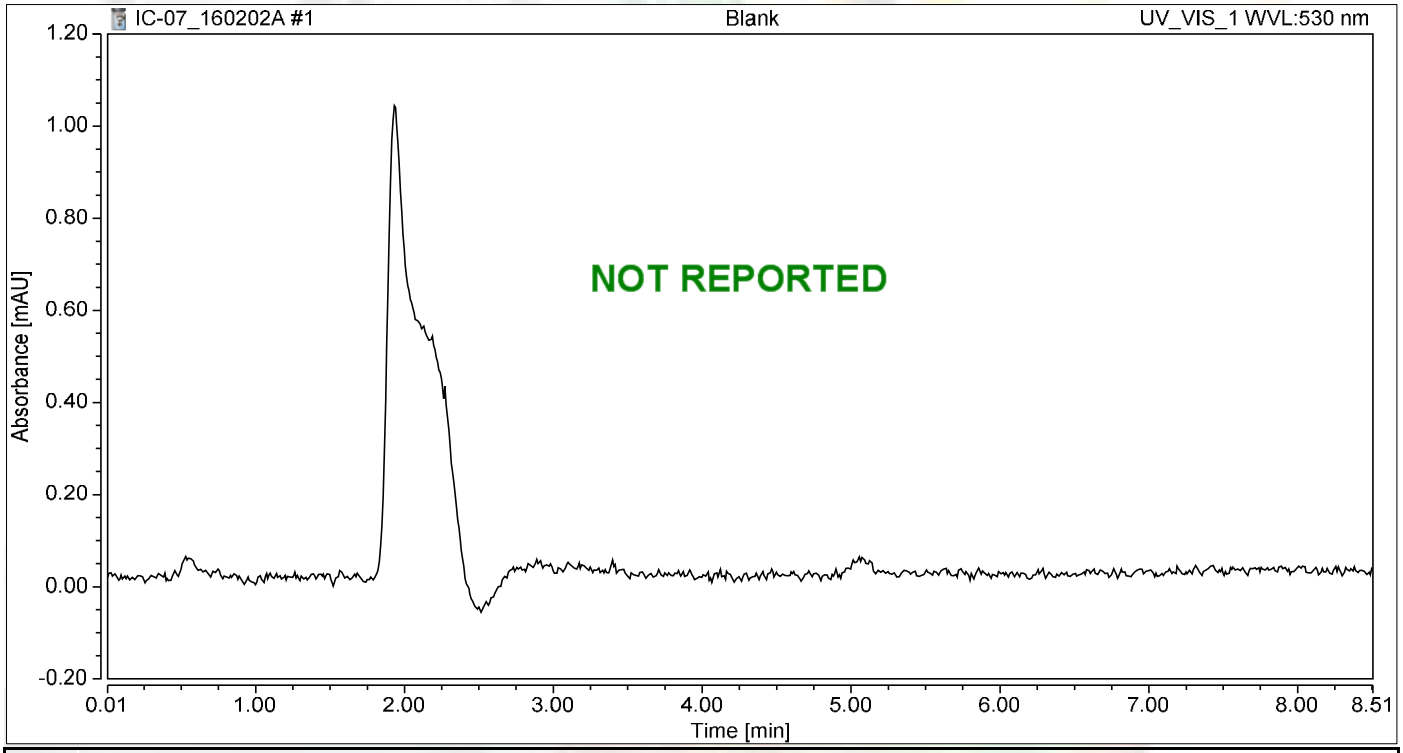
Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

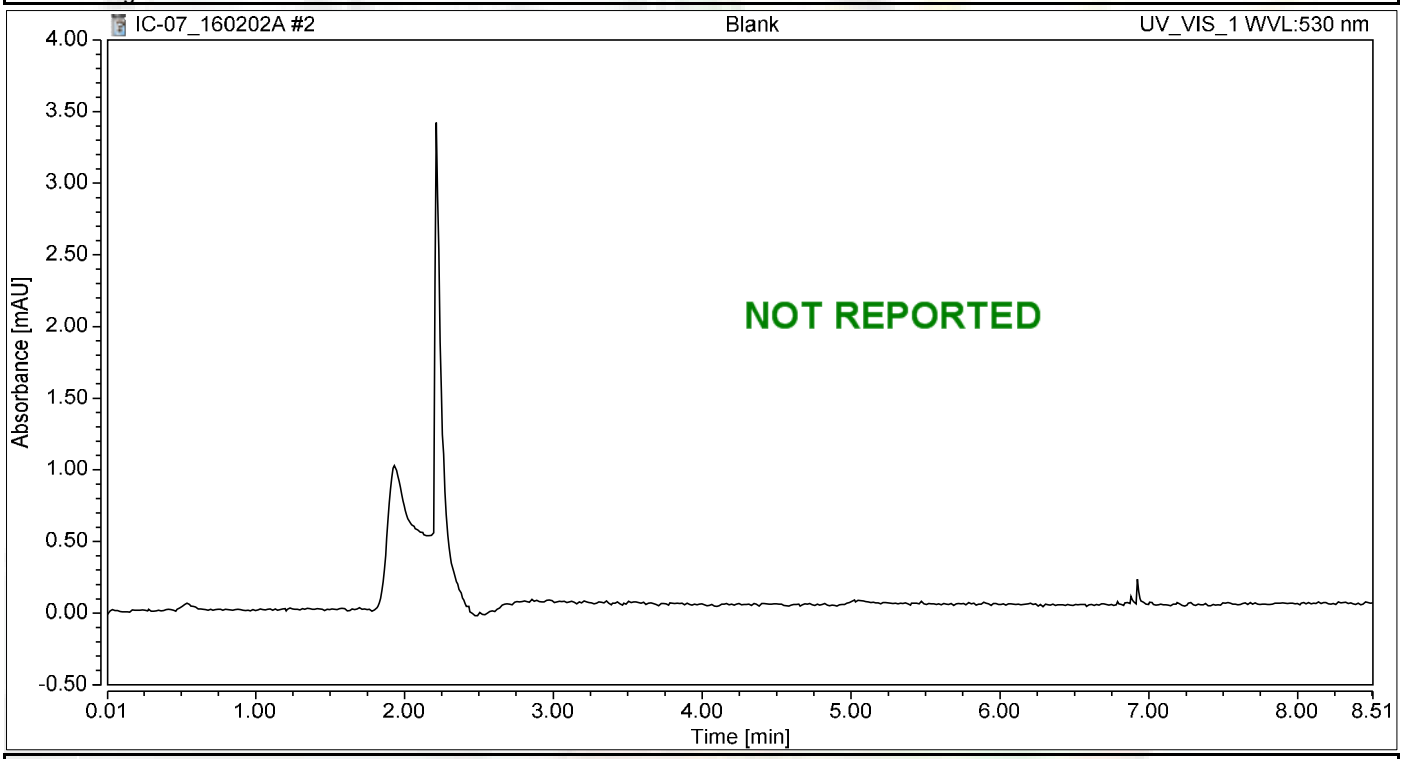
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

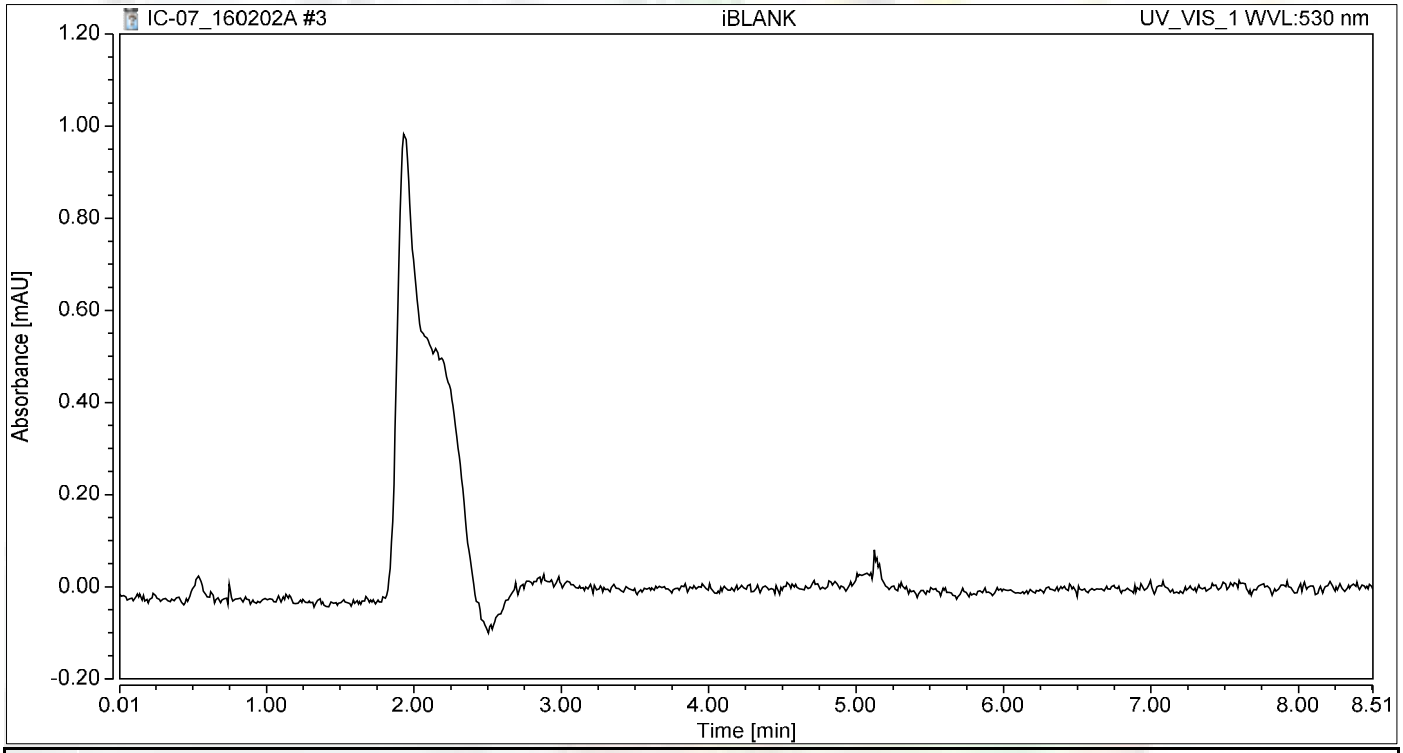
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

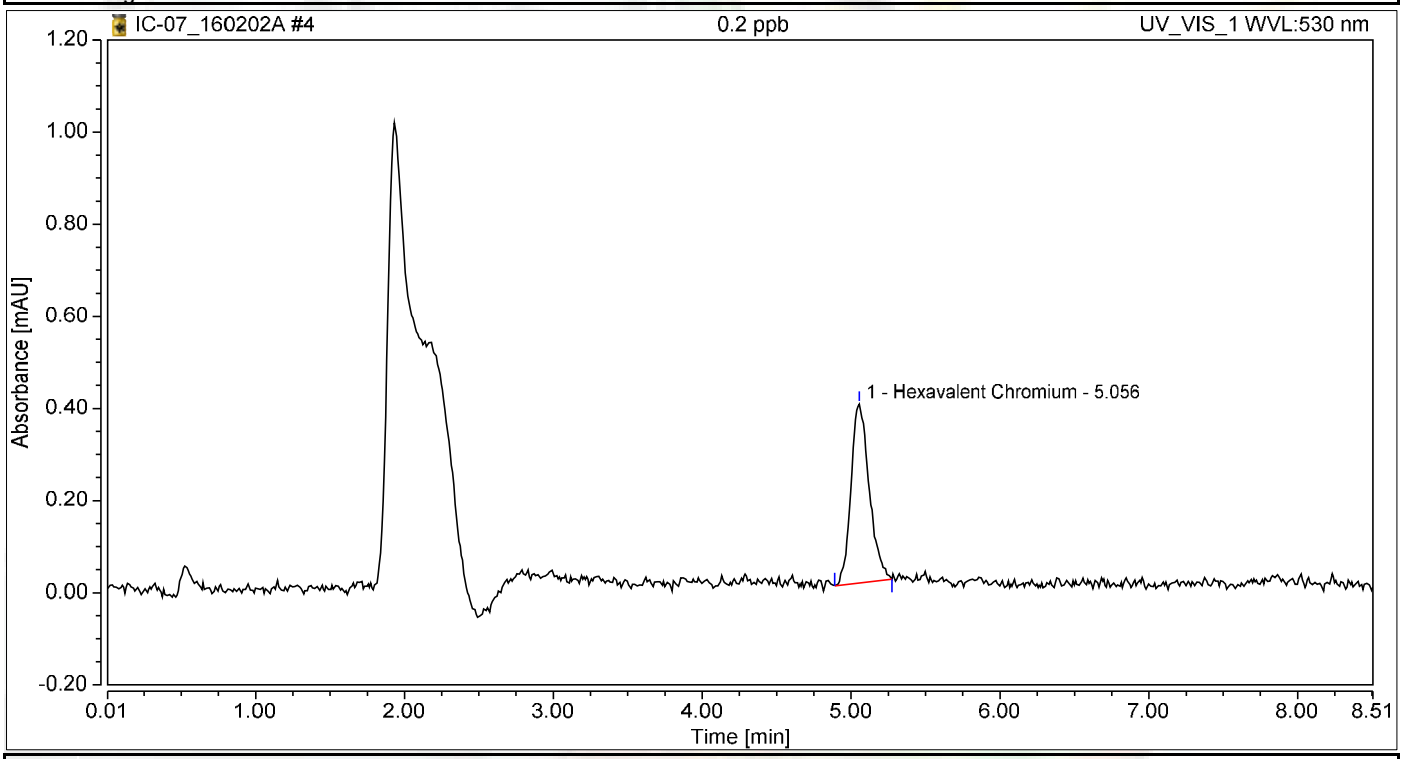
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

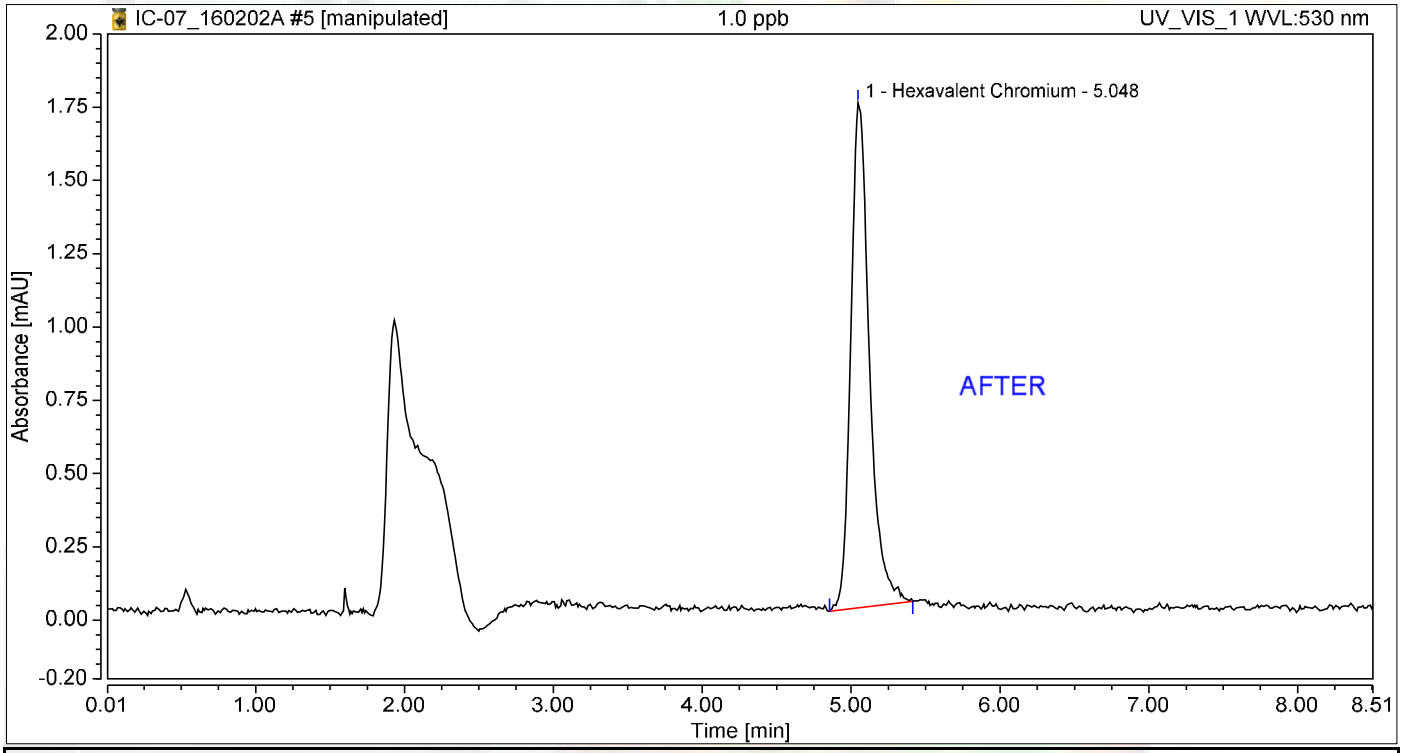
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.055	0.389	100.00	100.00	0.2305
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.723	100.00	100.00	1.0477
Total:			**0.248**	**1.723**	**100.00**	**100.00**	

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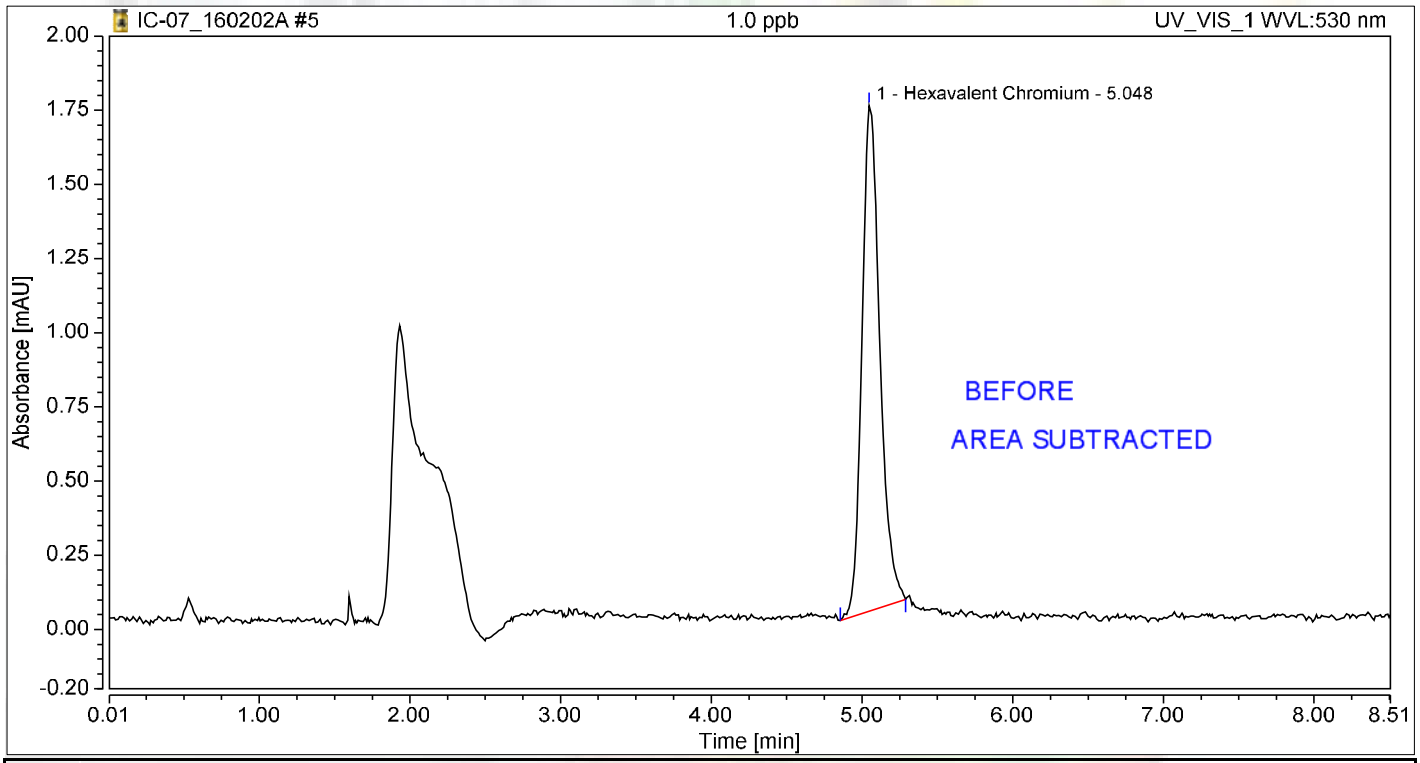
Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.235	1.704	100.00	100.00	0.9945
Total:			**0.235**	**1.704**	**100.00**	**100.00**	

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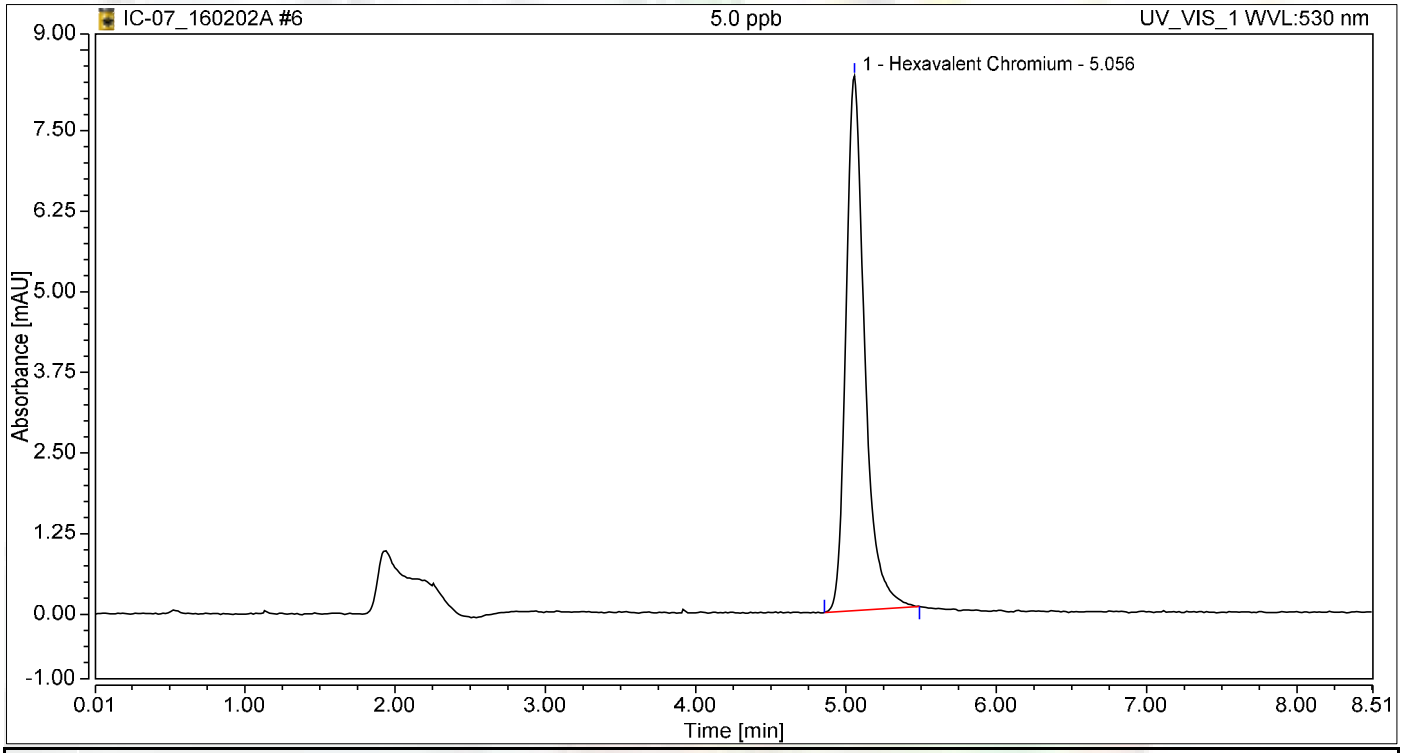
Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

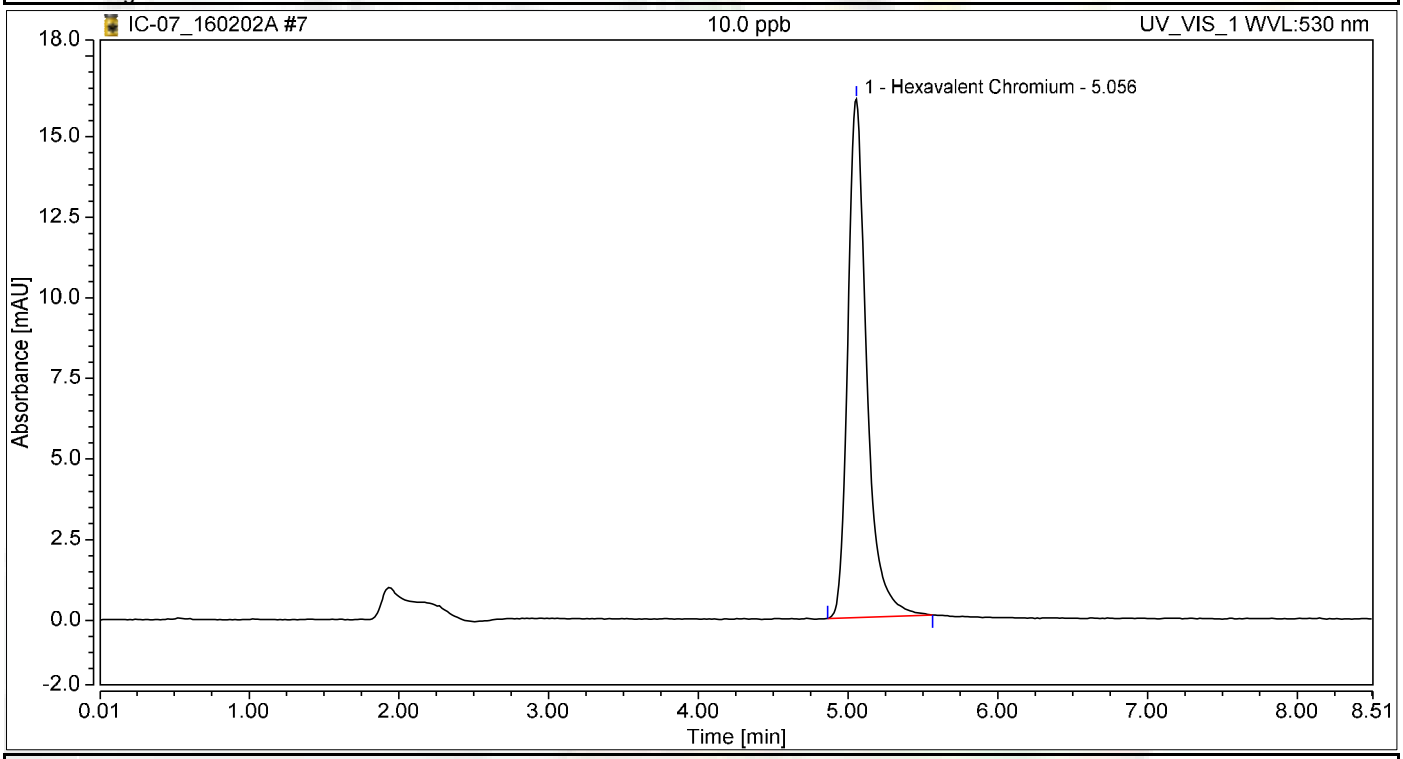
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.196	8.293	100.00	100.00	5.0518
Total:			**1.196**	**8.293**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

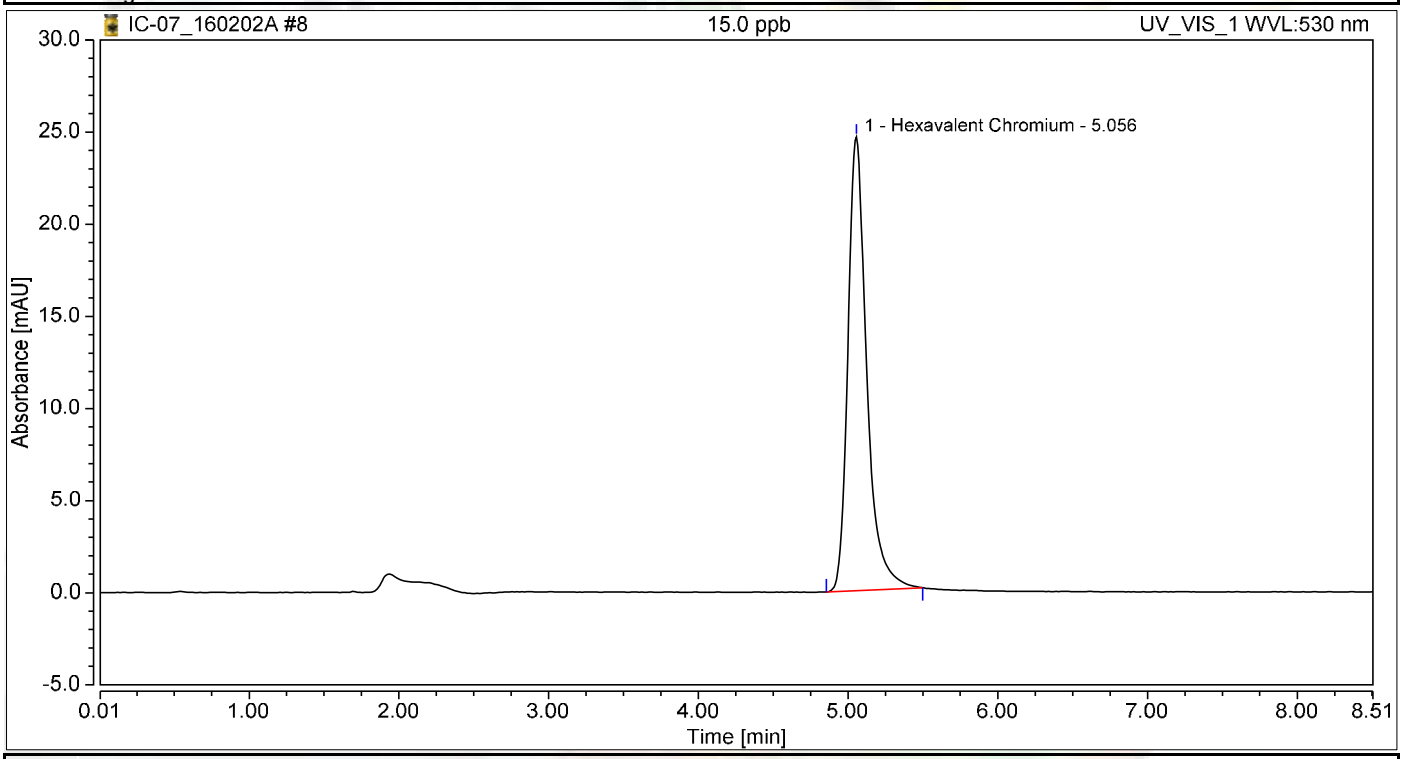
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.339	16.085	100.00	100.00	9.8818
Total:			**2.339**	**16.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

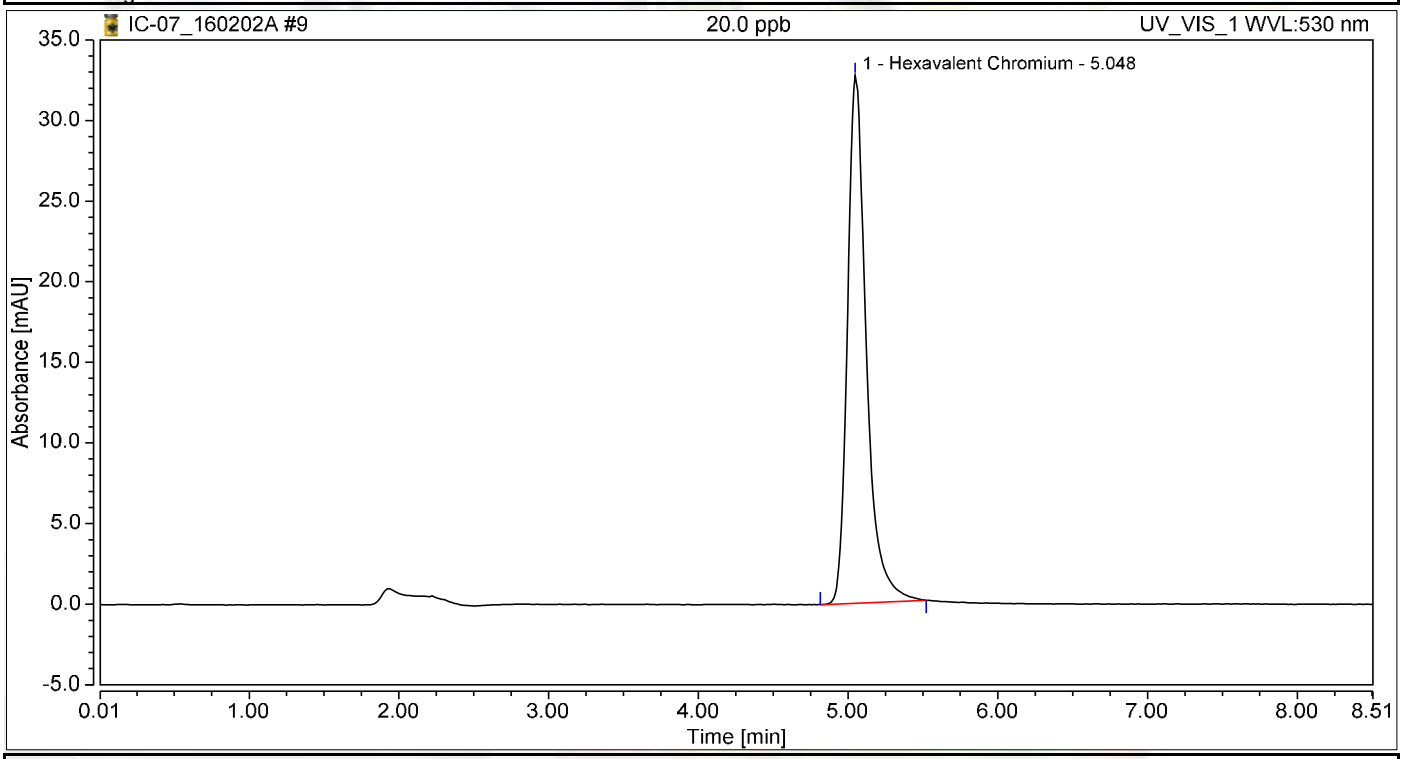
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.549	24.617	100.00	100.00	14.9960
Total:			**3.549**	**24.617**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



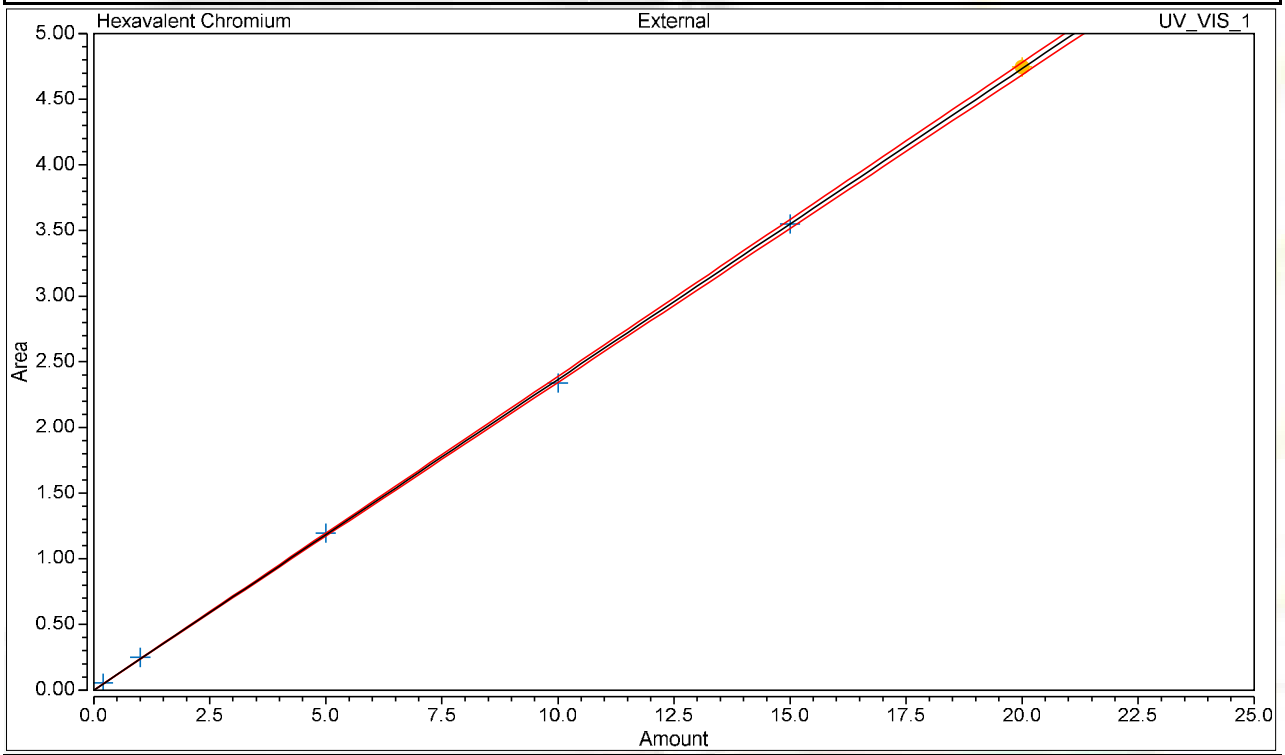
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	4.745	32.729	100.00	100.00	20.0465
Total:			**4.745**	**32.729**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2367
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99993

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

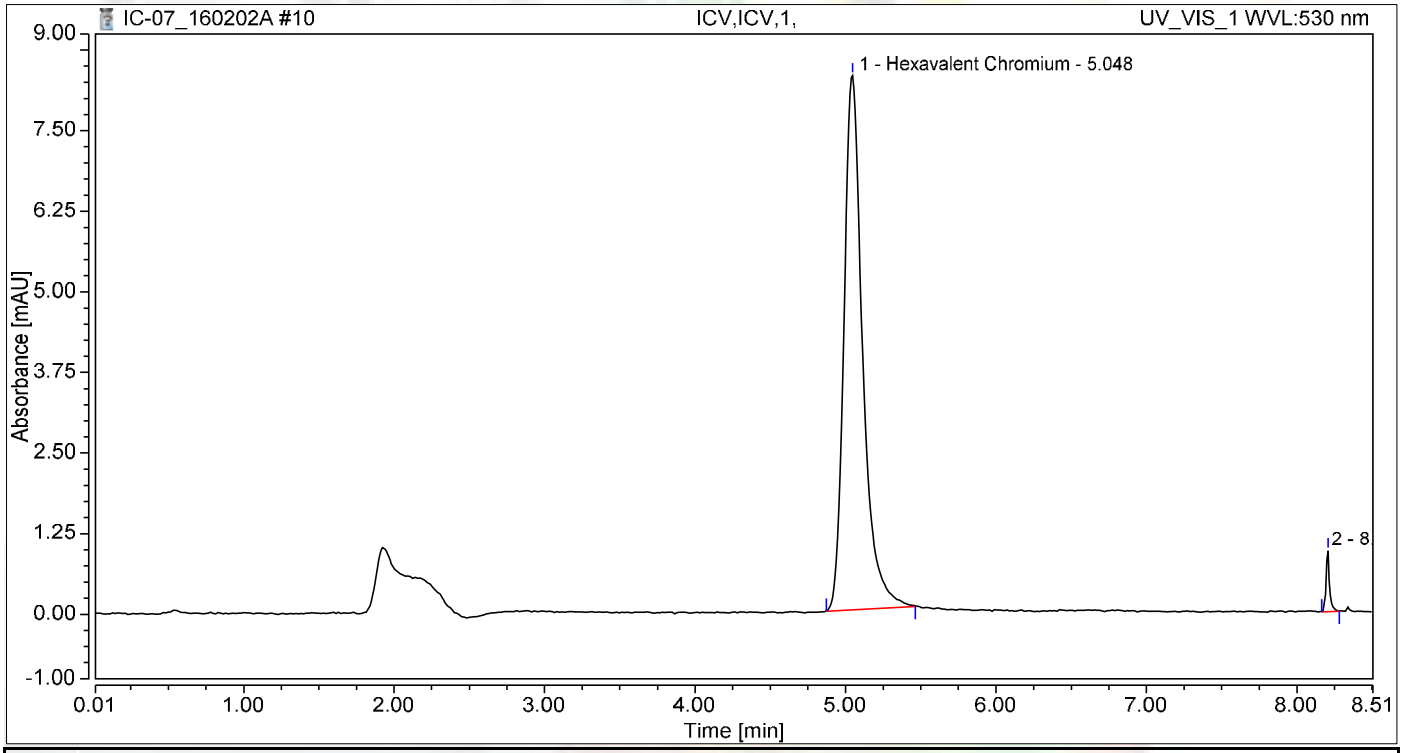
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0546	0.055	0.389
5	1.0 ppb	02	1.0000	0.2480	0.248	1.723
6	5.0 ppb	03	5.0000	1.1957	1.196	8.293
7	10.0 ppb	04	10.0000	2.3389	2.339	16.085
8	15.0 ppb	05	15.0000	3.5494	3.549	24.617
9	20.0 ppb	06	20.0000	4.7448	4.745	32.729

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

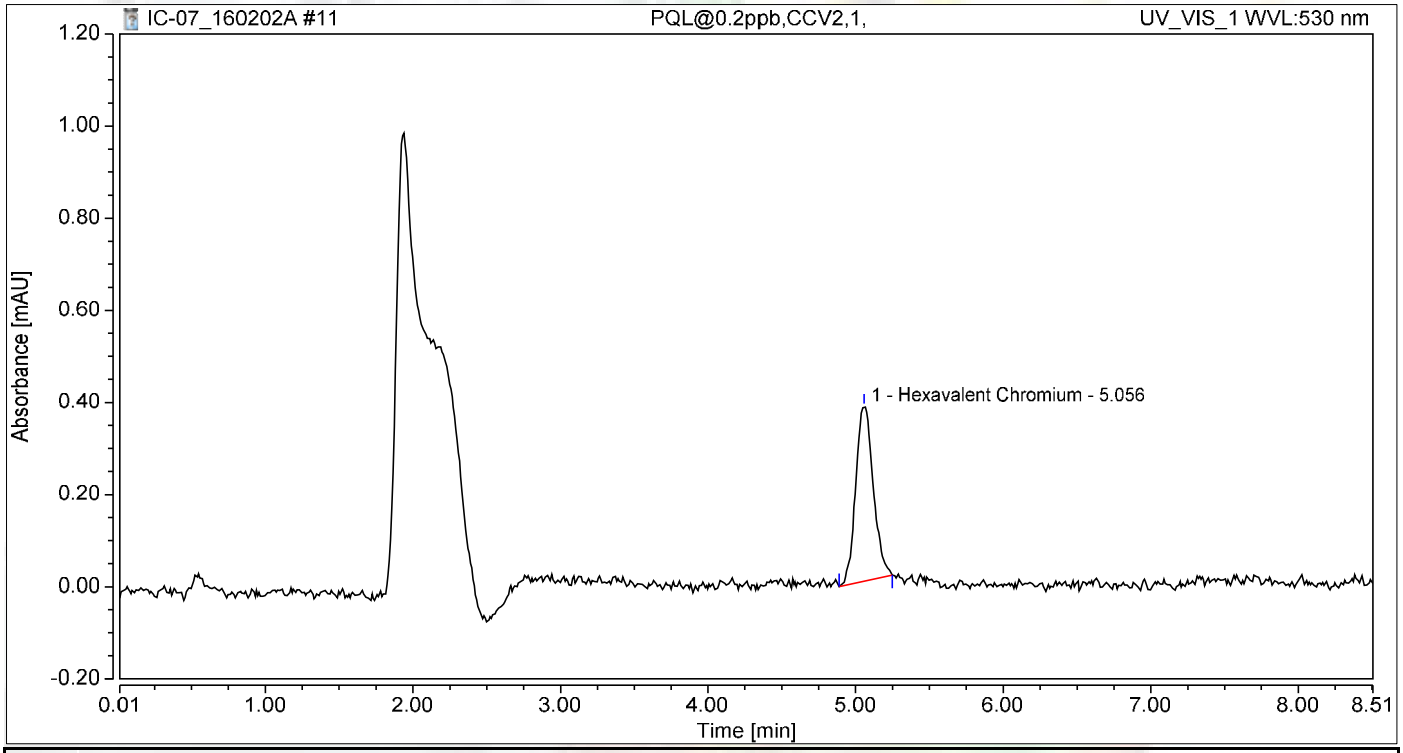
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.187	8.280	97.89	89.76	5.0149
2		8.206	0.026	0.944	2.11	10.24	n.a.
Total:			**1.213**	**9.225**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

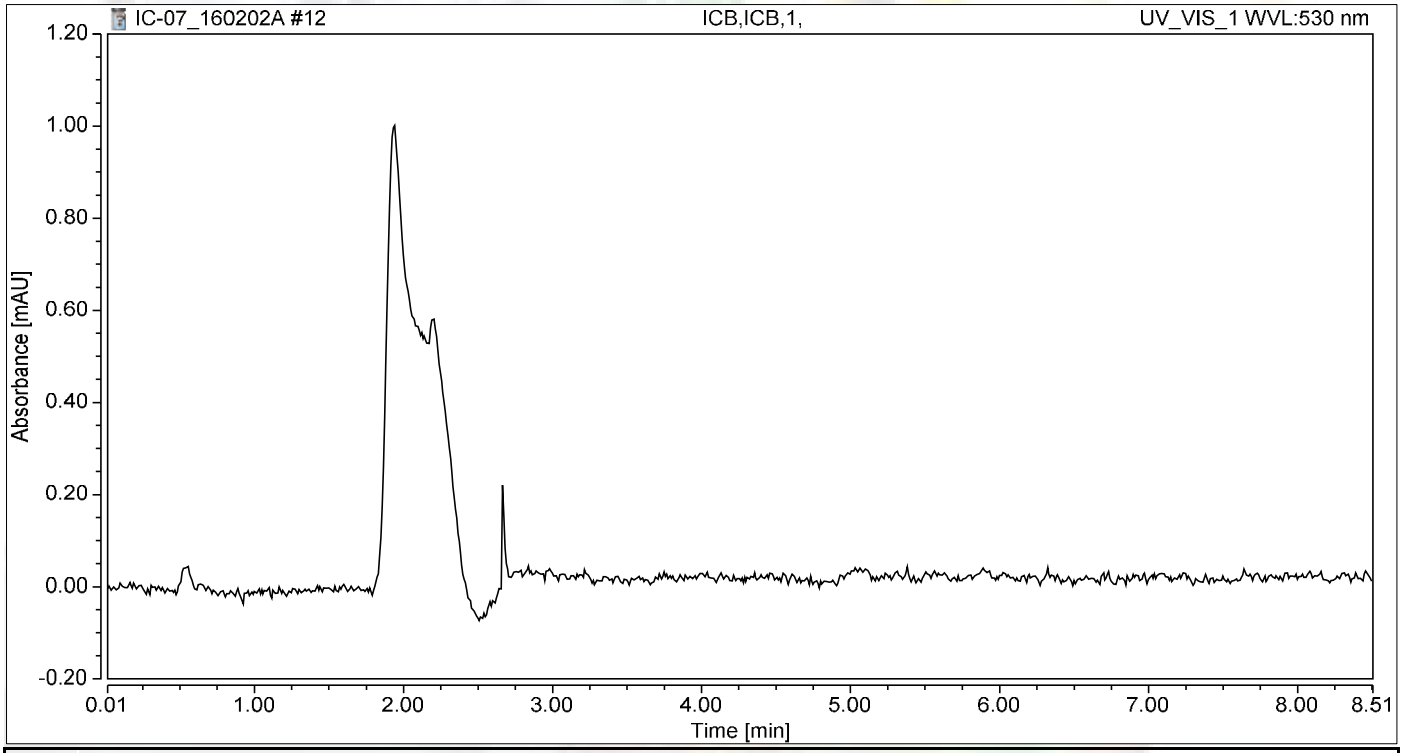
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.052	0.379	100.00	100.00	0.2196
Total:			**0.052**	**0.379**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

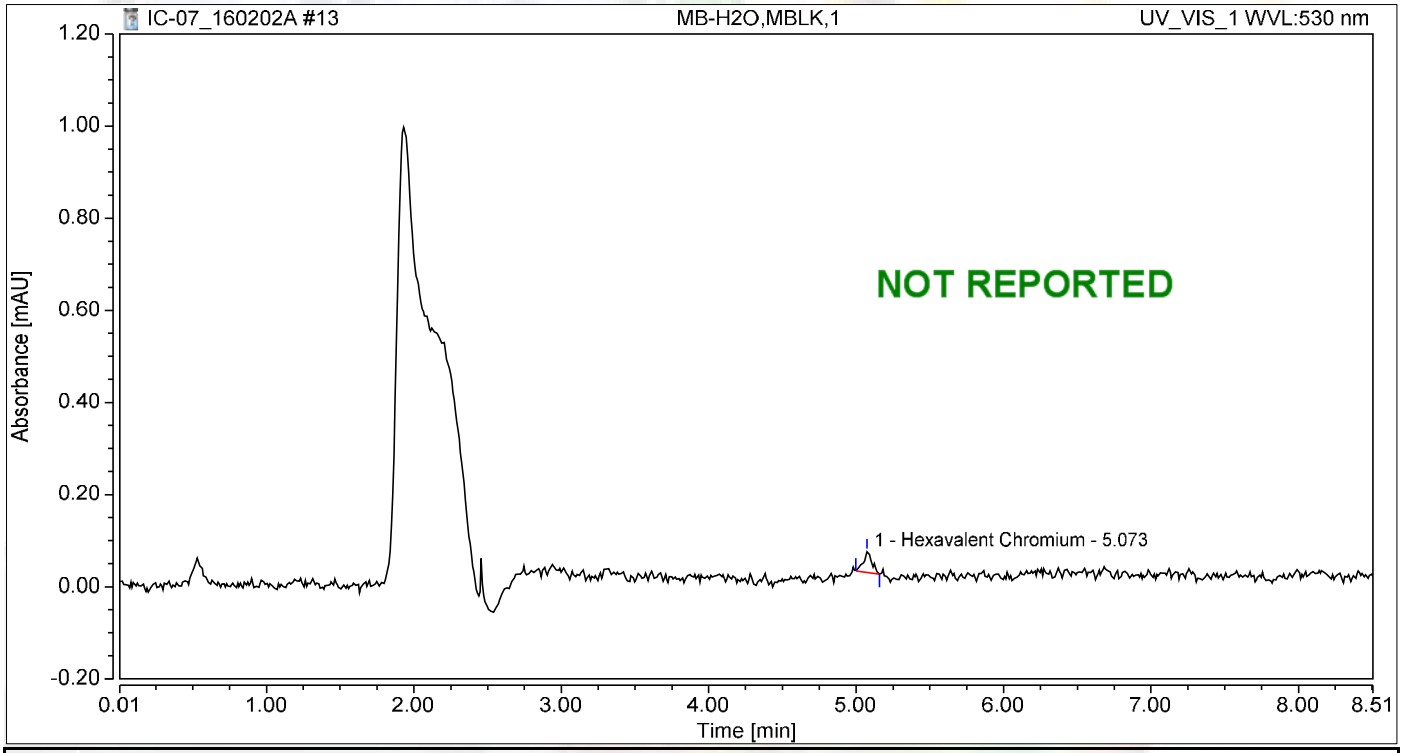
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

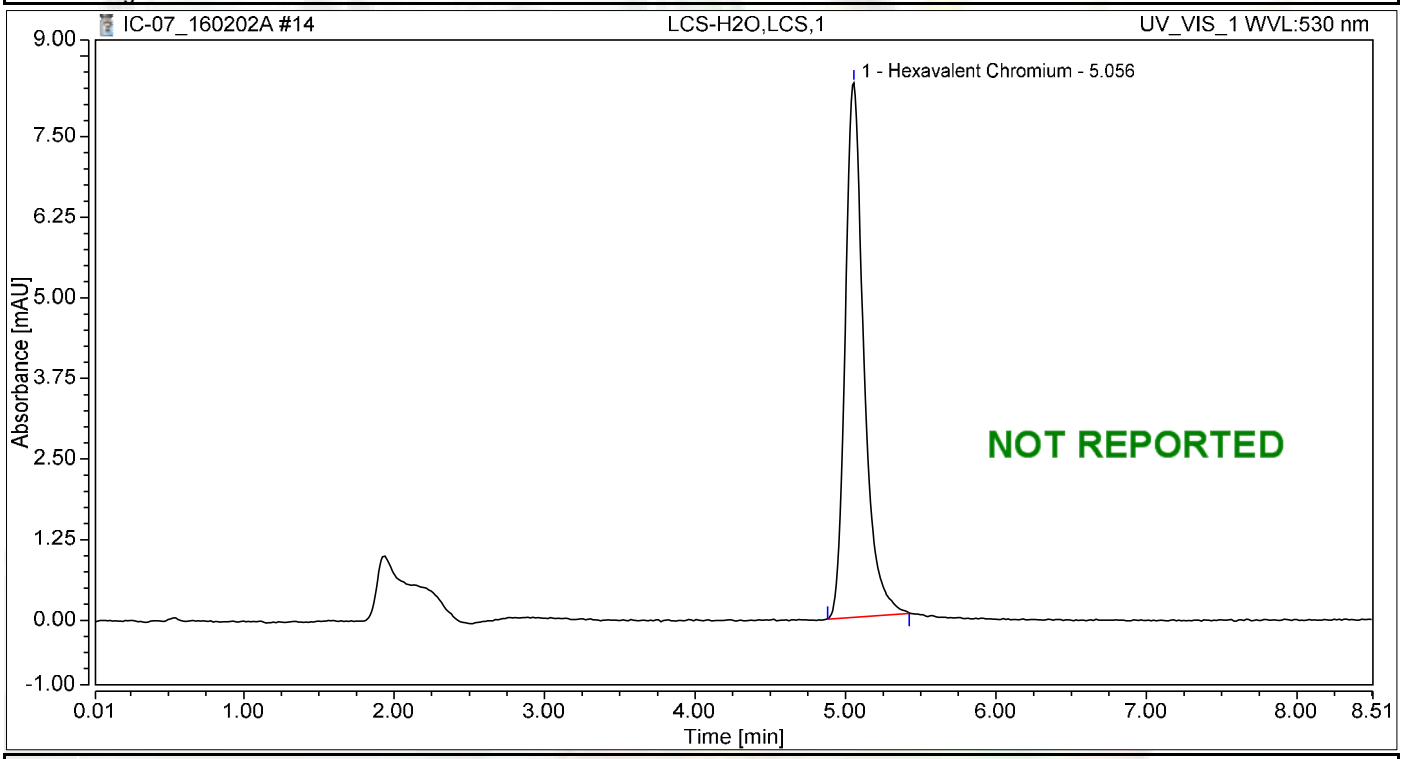
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.003	0.045	100.00	100.00	0.0130
Total:			**0.003**	**0.045**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.183	8.285	100.00	100.00	4.9980
Total:			**1.183**	**8.285**	**100.00**	**100.00**	

RAW DATA

Reb 3/8/2016

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	CCV-1	CCV	1	Hexavalent Chromium	02/26/16 3:03 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/26/16 3:14 PM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	02/26/16 3:24 PM	Reported
13	MB-R106238	MBLK	1	Hexavalent Chromium	02/26/16 3:33 PM	Reported
14	LCS-R106238	LCS	1	Hexavalent Chromium	02/26/16 3:43 PM	Reported
15	N018478-019A	SAMP	200	Hexavalent Chromium	02/26/16 3:52 PM	Not Reported
16	N018478-019A	SAMP	100	Hexavalent Chromium	02/26/16 4:02 PM	Not Reported
17	N018833-001A	SAMP	1	Hexavalent Chromium	02/26/16 4:22 PM	Reported
18	N018833-001ADUP	DUP	1	Hexavalent Chromium	02/26/16 4:33 PM	Reported
19	N018833-001AMS	MS	1	Hexavalent Chromium	02/26/16 4:42 PM	Reported
20	N018833-001AMSD	MSD	1	Hexavalent Chromium	02/26/16 4:52 PM	Reported
21	N018833-002A	SAMP	1	Hexavalent Chromium	02/26/16 5:01 PM	Reported
22	N018833-002AMS	MS	1	Hexavalent Chromium	02/26/16 5:11 PM	Reported
23	CCV-2	CCV	1	Hexavalent Chromium	02/26/16 5:20 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	02/26/16 5:29 PM	Reported
25	N018833-003A	SAMP	1	Hexavalent Chromium	02/26/16 5:39 PM	Reported
26	N018833-003AMS	MS	1	Hexavalent Chromium	02/26/16 5:48 PM	Reported
27	N018833-004A	SAMP	1	Hexavalent Chromium	02/26/16 5:58 PM	Reported
28	N018833-004AMS	MS	1	Hexavalent Chromium	02/26/16 6:07 PM	Reported
29	N018833-005A	SAMP	1	Hexavalent Chromium	02/26/16 6:17 PM	Reported
30	N018833-005AMS	MS	1	Hexavalent Chromium	02/26/16 6:26 PM	Reported
31	N018833-006A	SAMP	1	Hexavalent Chromium	02/26/16 6:36 PM	Reported
32	N018833-006AMS	MS	1	Hexavalent Chromium	02/26/16 6:45 PM	Reported
33	N018833-007A	SAMP	1	Hexavalent Chromium	02/26/16 6:55 PM	Reported
34	N018833-007AMS	MS	1	Hexavalent Chromium	02/26/16 7:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	02/26/16 7:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	02/26/16 7:23 PM	Reported
37	N018833-008A	SAMP	1	Hexavalent Chromium	02/26/16 7:32 PM	Reported
38	N018833-008AMS	MS	1	Hexavalent Chromium	02/26/16 7:42 PM	Reported
39	N018833-009A	SAMP	1	Hexavalent Chromium	02/26/16 7:51 PM	Reported
40	N018833-009AMS	MS	1	Hexavalent Chromium	02/26/16 8:01 PM	Reported
41	N018833-010A	SAMP	1	Hexavalent Chromium	02/26/16 8:10 PM	Reported
42	N018833-010AMS	MS	1	Hexavalent Chromium	02/26/16 8:20 PM	Reported

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018834-001A	SAMP	1	Hexavalent Chromium	02/26/16 8:29 PM	Reported
44	N018834-001AMS	MS	1	Hexavalent Chromium	02/26/16 8:39 PM	Reported
45	N018834-002A	SAMP	1	Hexavalent Chromium	02/26/16 8:48 PM	Reported
46	N018834-002AMS	MS	1	Hexavalent Chromium	02/26/16 8:58 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	02/26/16 9:07 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	02/26/16 9:17 PM	Reported
49	N018834-003A	SAMP	1	Hexavalent Chromium	02/26/16 9:26 PM	Reported
50	N018834-003AMS	MS	1	Hexavalent Chromium	02/26/16 9:36 PM	Reported
51	N018834-004A	SAMP	1	Hexavalent Chromium	02/26/16 9:45 PM	Reported
52	N018834-004AMS	MS	1	Hexavalent Chromium	02/26/16 9:54 PM	Reported
53	N018861-002A	SAMP	1	Hexavalent Chromium	02/26/16 10:04 PM	Reported
54	N018861-002AMS	MS	1	Hexavalent Chromium	02/26/16 10:13 PM	Reported
55	N018861-004A	SAMP	1	Hexavalent Chromium	02/26/16 10:23 PM	Not Reported
56	N018861-004AMS	MS	1	Hexavalent Chromium	02/26/16 10:32 PM	Not Reported
57	CCV-5	CCV	1	Hexavalent Chromium	02/26/16 10:42 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	02/26/16 10:51 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160226B**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:20:39**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	CCV-1,CCV,1,	1	1000	Unknown		02/26/2016 15:03	Finished	CCV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	2	1000	Unknown		02/26/2016 15:14	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1	3	1000	Unknown		02/26/2016 15:24	Finished	CCB R160209C
13	MB-H2O,MBLK,1	4	1000	Unknown		02/26/2016 15:33	Finished	MB
14	LCS-H2O,LCS,1	5	1000	Unknown		02/26/2016 15:43	Finished	LCS @ 5ppb, IWST-160202B
15	N018478-019A,SAMF	6	1000	Unknown		02/26/2016 15:52	Finished	SAMP, 0.05 to 10mL
16	N018478-019A,SAMF	7	1000	Unknown		02/26/2016 16:02	Finished	SAMP, 0.1 to 10mL
17	N018833-001A,SAMF	8	1000	Unknown		02/26/2016 16:22	Finished	SAMP, 10mL
18	N018833-001ADUP,D	9	1000	Unknown		02/26/2016 16:33	Finished	DUP, 10mL
19	N018833-001AMS,MS	10	1000	Unknown		02/26/2016 16:42	Finished	MS(1ppb), IWST-160202B, 10r
20	N018833-001AMSD,M	11	1000	Unknown		02/26/2016 16:52	Finished	MSD(1ppb), IWST-160202B, 1
21	N018833-002A,SAMF	12	1000	Unknown		02/26/2016 17:01	Finished	SAMP, 10mL
22	N018833-002AMS,MS	13	1000	Unknown		02/26/2016 17:11	Finished	MS(1ppb), IWST-160202B, 10r
23	CCV-2,CCV,1	14	1000	Unknown		02/26/2016 17:20	Finished	CCV @ 10ppb, IWST 160202A
24	CCB-2,CCB,1	15	1000	Unknown		02/26/2016 17:29	Finished	CCB
25	N018833-003A,SAMF	16	1000	Unknown		02/26/2016 17:39	Finished	SAMP, 10mL
26	N018833-003AMS,MS	17	1000	Unknown		02/26/2016 17:48	Finished	MS(1ppb), IWST-160202B, 10r
27	N018833-004A,SAMF	18	1000	Unknown		02/26/2016 17:58	Finished	SAMP, 10mL
28	N018833-004AMS,MS	19	1000	Unknown		02/26/2016 18:07	Finished	MS(1ppb), IWST-160202B, 10r
29	N018833-005A,SAMF	20	1000	Unknown		02/26/2016 18:17	Finished	SAMP, 10mL
30	N018833-005AMS,MS	21	1000	Unknown		02/26/2016 18:26	Finished	MS(1ppb), IWST-160202B, 10r
31	N018833-006A,SAMF	22	1000	Unknown		02/26/2016 18:36	Finished	SAMP, 10mL
32	N018833-006AMS,MS	23	1000	Unknown		02/26/2016 18:45	Finished	MS(1ppb), IWST-160202B, 10r
33	N018833-007A,SAMF	24	1000	Unknown		02/26/2016 18:55	Finished	SAMP, 10mL
34	N018833-007AMS,MS	25	1000	Unknown		02/26/2016 19:04	Finished	MS(1ppb), IWST-160202B, 10r
35	CCV-3,CCV,1	26	1000	Unknown		02/26/2016 19:14	Finished	CCV @ 5ppb, IWST 160202A
36	CCB-3,CCB,1	27	1000	Unknown		02/26/2016 19:23	Finished	CCB
37	N018833-008A,SAMF	28	1000	Unknown		02/26/2016 19:32	Finished	SAMP, 10mL
38	N018833-008AMS,MS	29	1000	Unknown		02/26/2016 19:42	Finished	MS(1ppb), IWST-160202B, 10r
39	N018833-009A,SAMF	30	1000	Unknown		02/26/2016 19:51	Finished	SAMP, 10mL
40	N018833-009AMS,MS	31	1000	Unknown		02/26/2016 20:01	Finished	MS(1ppb), IWST-160202B, 10r
41	N018833-010A,SAMF	32	1000	Unknown		02/26/2016 20:10	Finished	SAMP, 10mL
42	N018833-010AMS,MS	33	1000	Unknown		02/26/2016 20:20	Finished	MS(1ppb), IWST-160202B, 10r
43	N018834-001A,SAMF	34	1000	Unknown		02/26/2016 20:29	Finished	SAMP, 10mL
44	N018834-001AMS,MS	35	1000	Unknown		02/26/2016 20:39	Finished	MS(1ppb), IWST-160202B, 10r
45	N018834-002A,SAMF	36	1000	Unknown		02/26/2016 20:48	Finished	SAMP, 10mL
46	N018834-002AMS,MS	37	1000	Unknown		02/26/2016 20:58	Finished	MS(1ppb), IWST-160202B, 10r
47	CCV-4,CCV,1	38	1000	Unknown		02/26/2016 21:07	Finished	CCV @ 10ppb, IWST 160202A
48	CCB-4,CCB,1	39	1000	Unknown		02/26/2016 21:17	Finished	CCB
49	N018834-003A,SAMF	40	1000	Unknown		02/26/2016 21:26	Finished	SAMP, 10mL
50	N018834-003AMS,MS	41	1000	Unknown		02/26/2016 21:36	Finished	MS(1ppb), IWST-160202B, 10r
51	N018834-004A,SAMF	42	1000	Unknown		02/26/2016 21:45	Finished	SAMP, 10mL
52	N018834-004AMS,MS	43	1000	Unknown		02/26/2016 21:54	Finished	MS(1ppb), IWST-160202B, 10r
53	N018861-002A,SAMF	44	1000	Unknown		02/26/2016 22:04	Finished	SAMP, 10mL
54	N018861-002AMS,MS	45	1000	Unknown		02/26/2016 22:13	Finished	MS(5ppb), IWST-160202B, 10r
55	N018861-004A,SAMF	46	1000	Unknown		02/26/2016 22:23	Finished	SAMP, 10mL
56	N018861-004AMS,MS	47	1000	Unknown		02/26/2016 22:32	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	48	1000	Unknown		02/26/2016 22:42	Finished	CCV @ 5ppb, IWST 160202A
58	CCB-5,CCB,1	49	1000	Unknown		02/26/2016 22:51	Finished	CCB
59	SHUTDOWN	50	1000	Unknown		02/26/2016 23:01	Finished	BLANK
60	Eluent: R160224A	51	1000	Unknown		n.a.	Finished	Eluent

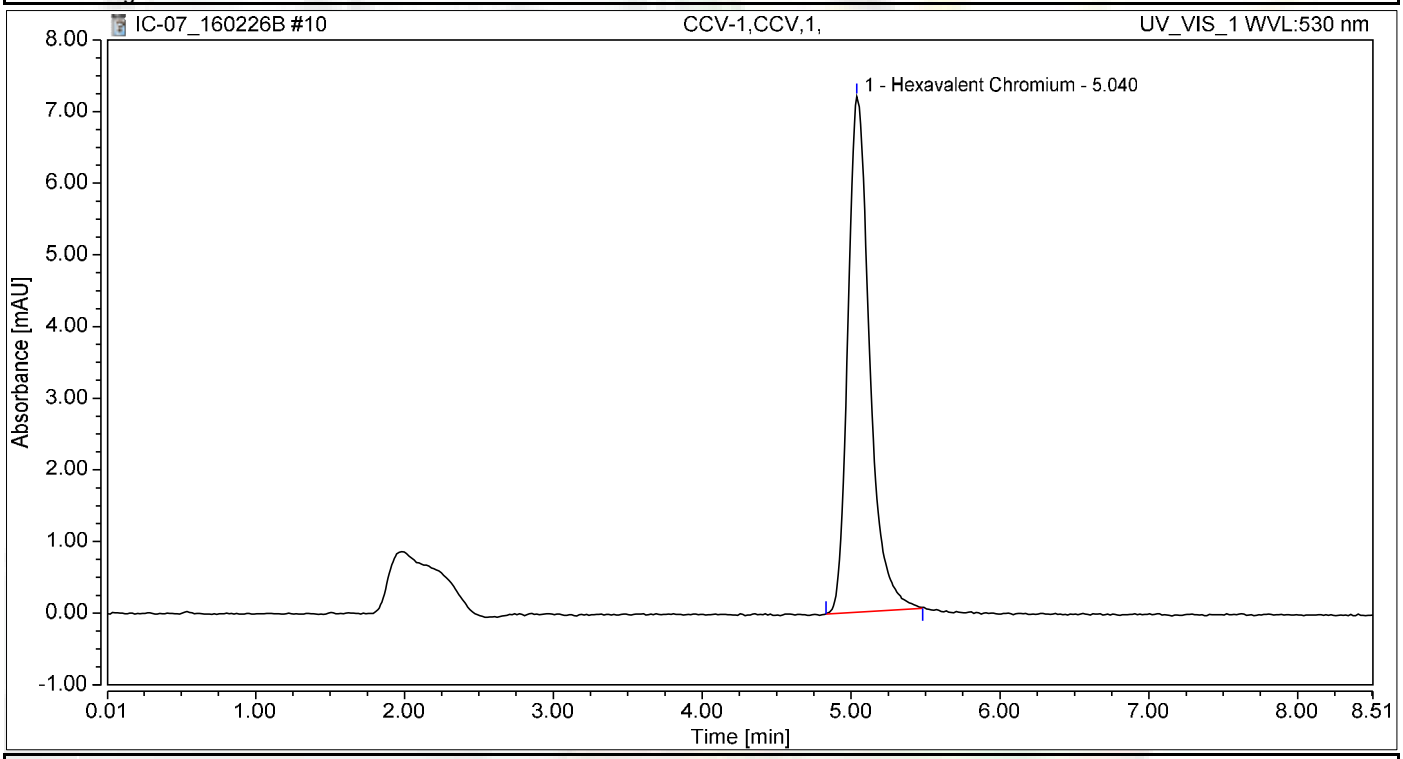
61	PCR: R160226A	CurrentVial	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

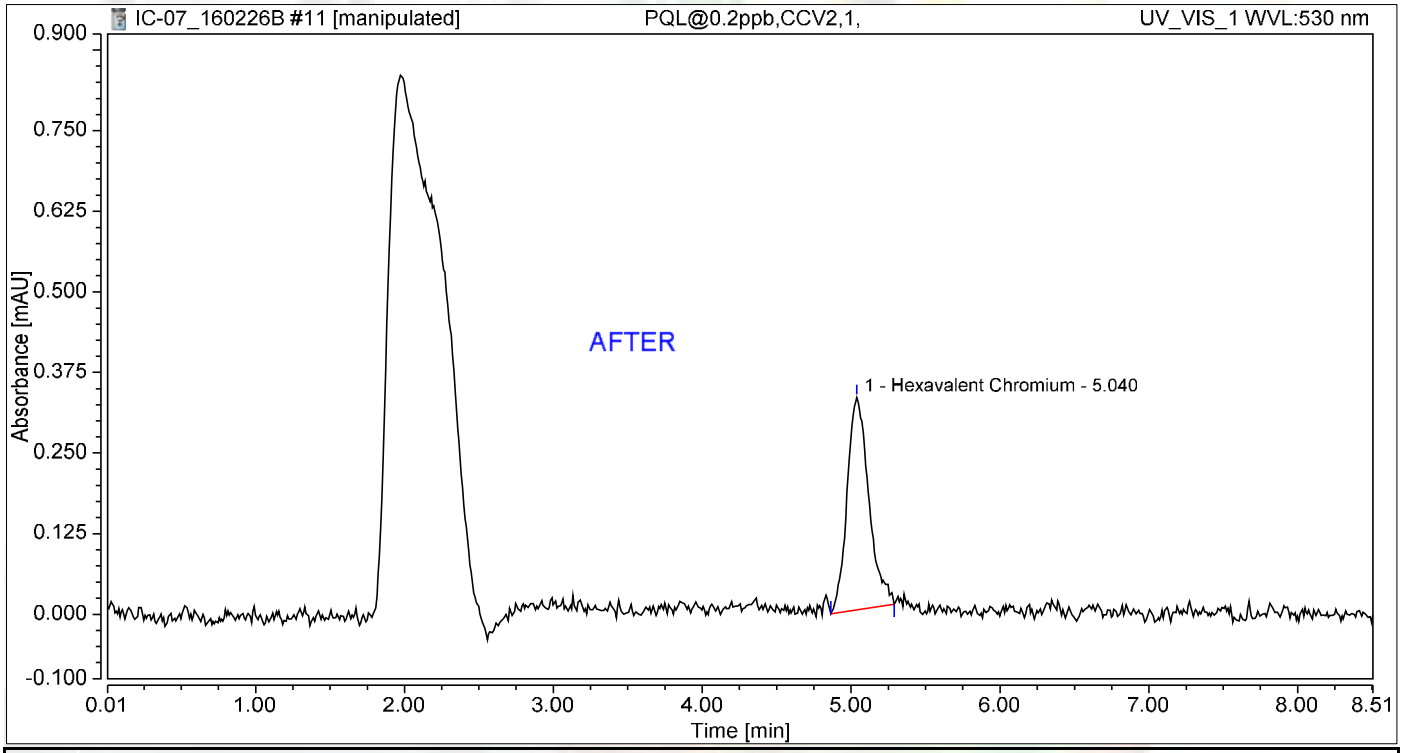
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.213	7.194	100.00	100.00	5.1252
Total:			**1.213**	**7.194**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.055	0.330	100.00	100.00	0.2338
Total:			**0.055**	**0.330**	**100.00**	**100.00**	

Reb 3/8/2016

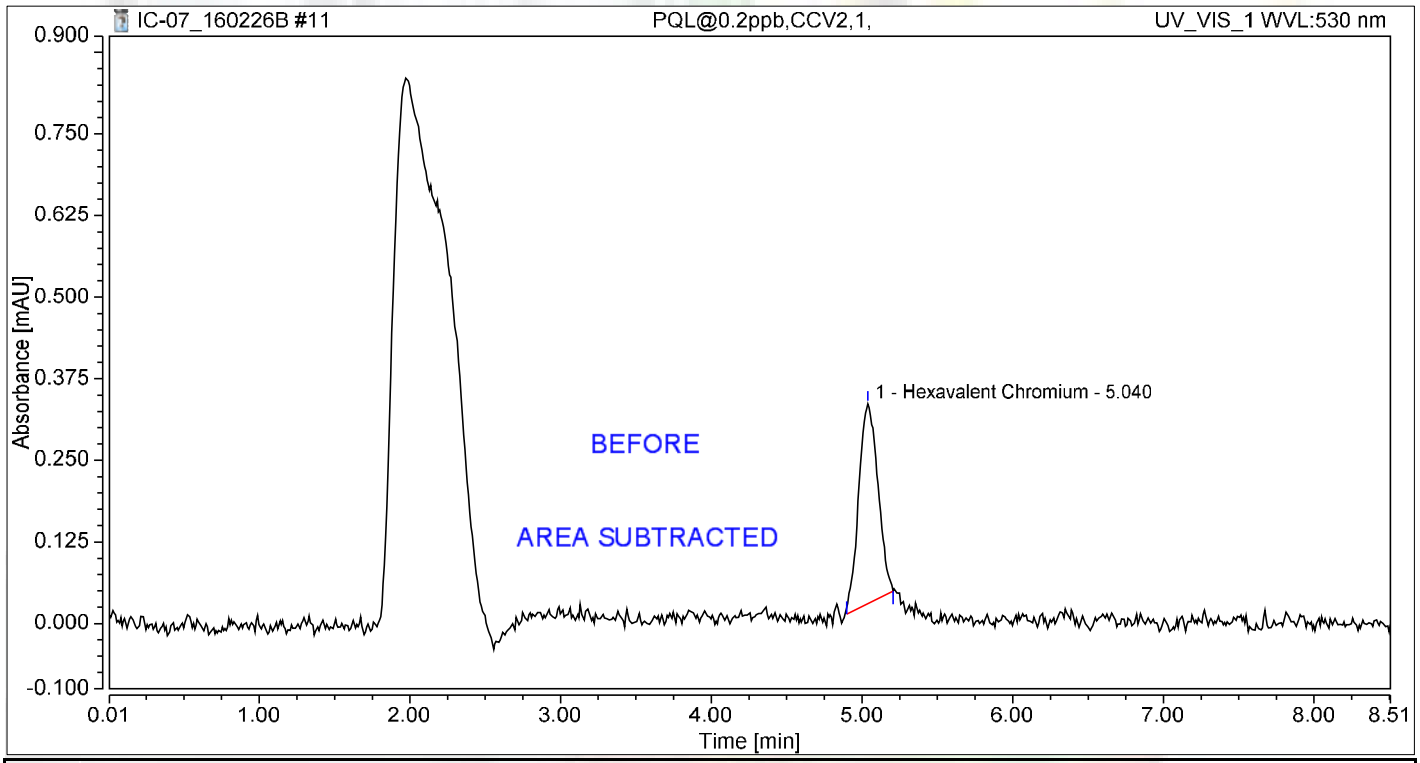
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.045	0.306	100.00	100.00	0.1913
Total:			**0.045**	**0.306**	**100.00**	**100.00**	

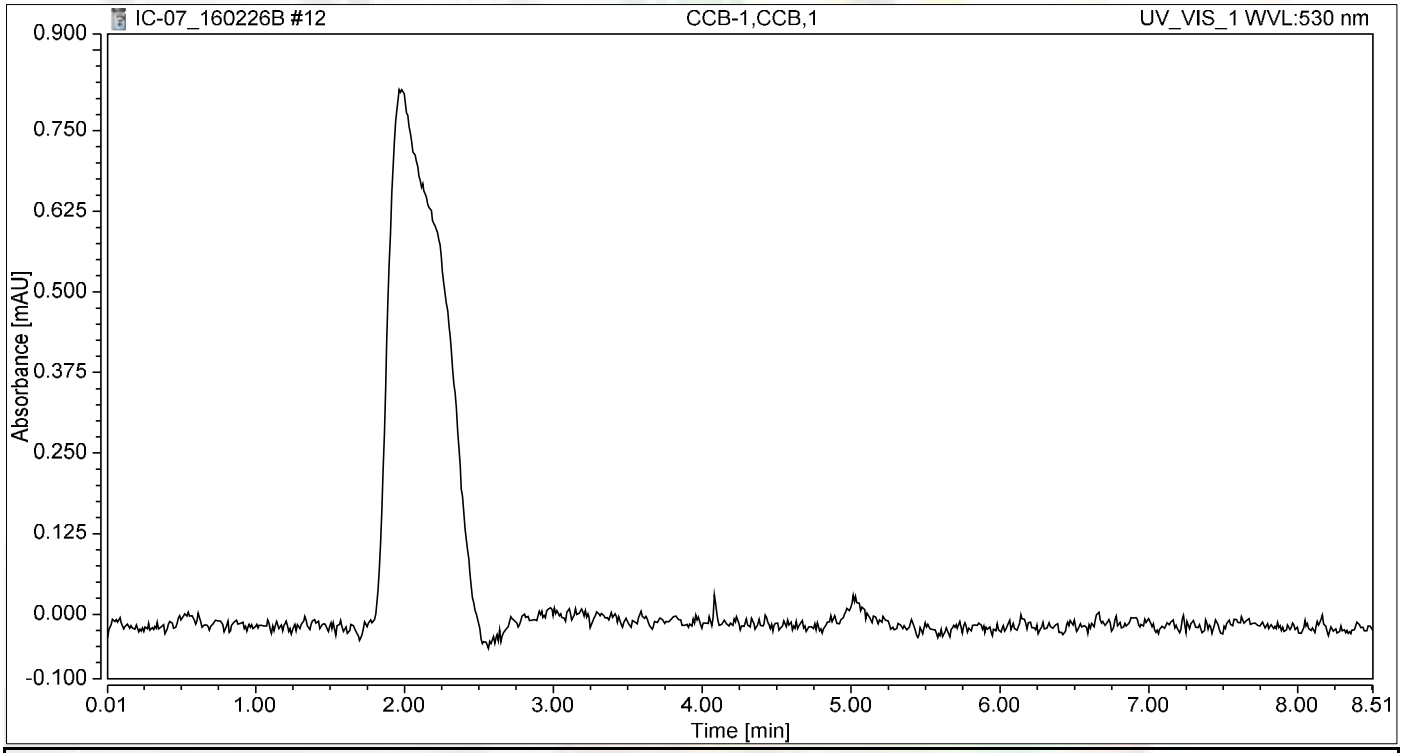
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

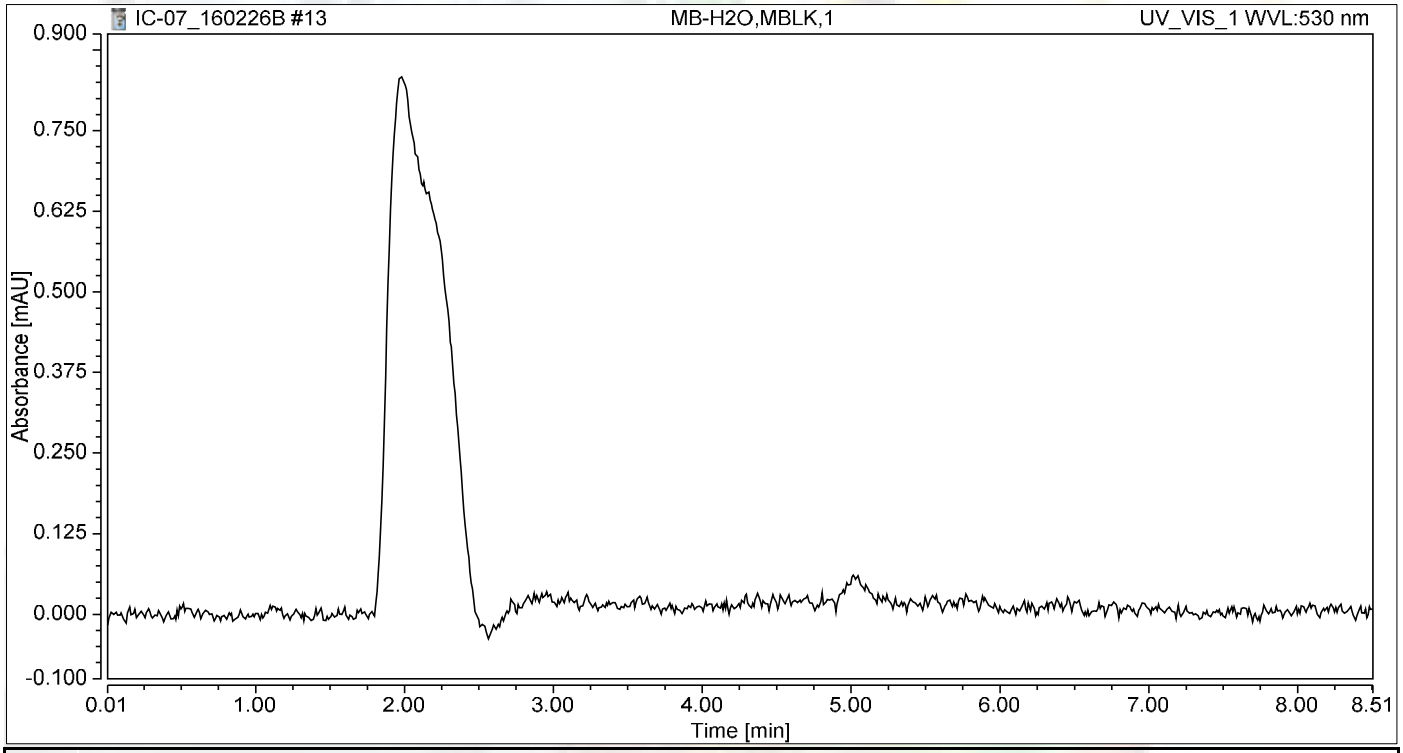
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

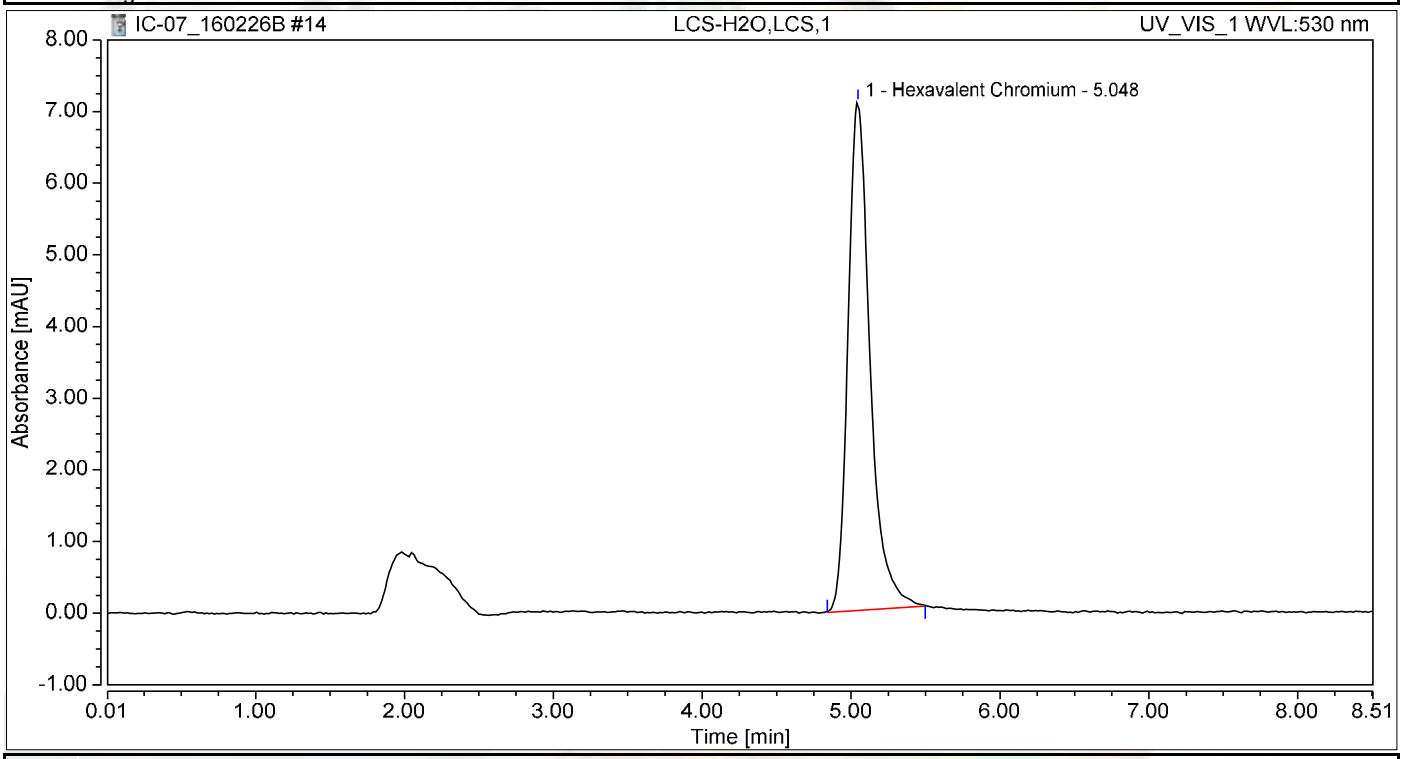
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

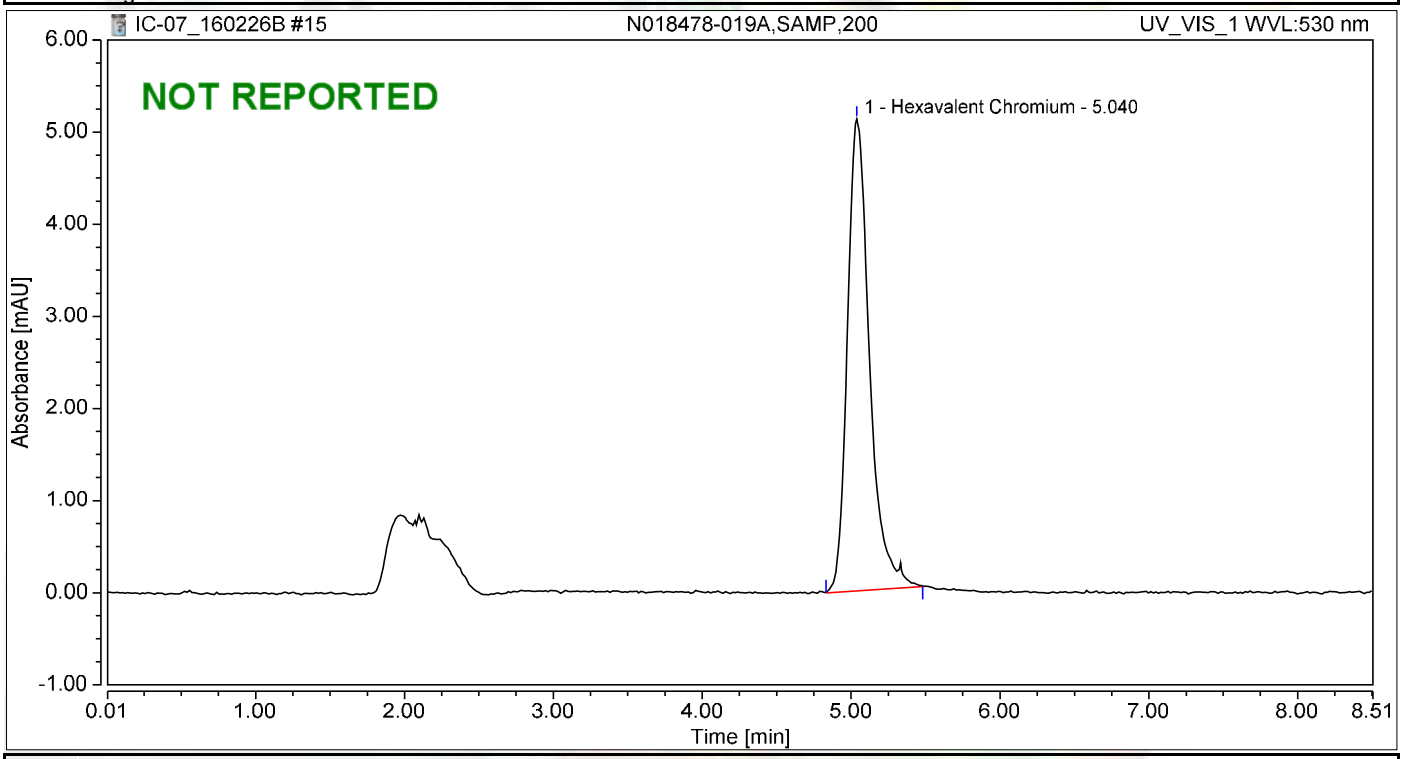
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.209	7.091	100.00	100.00	5.1060
Total:			**1.209**	**7.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018478-019A,SAMP,200**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

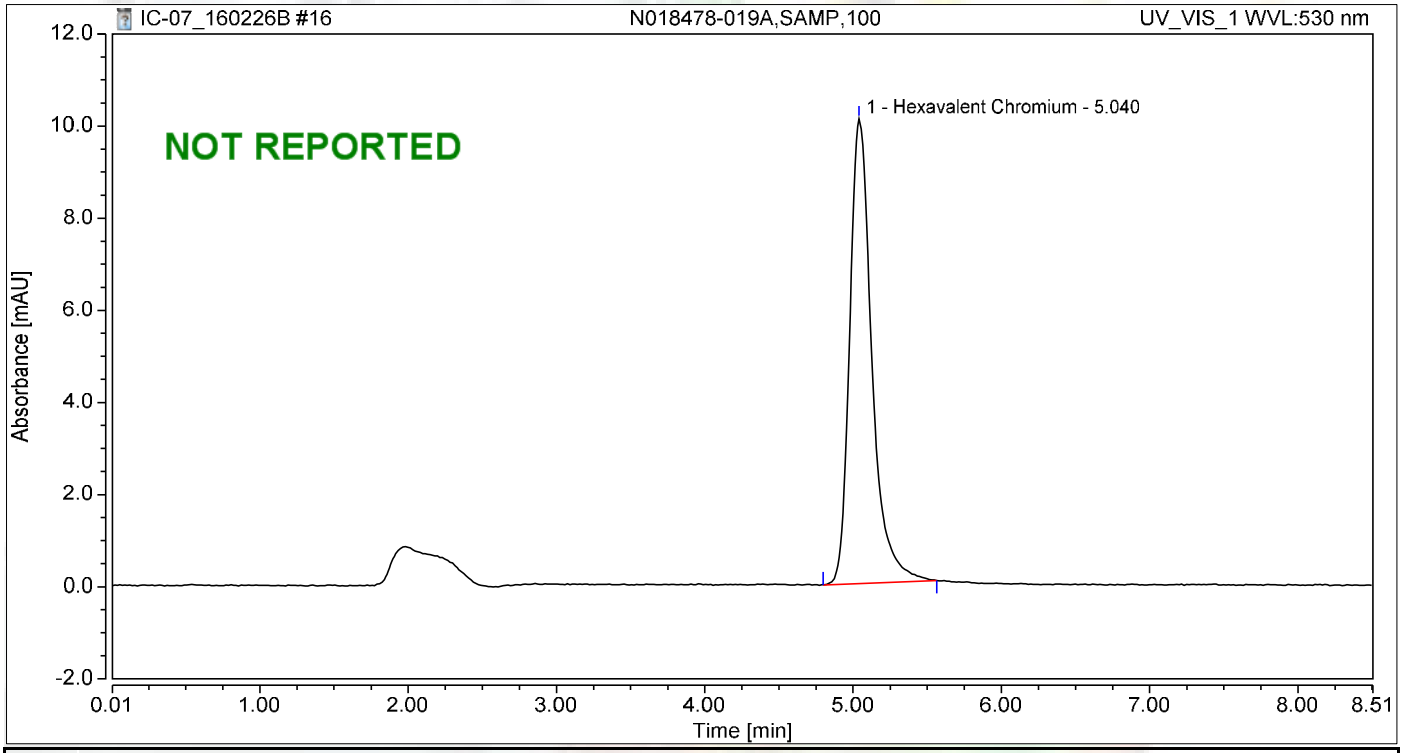
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.876	5.122	100.00	100.00	3.7002
Total:			**0.876**	**5.122**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018478-019A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

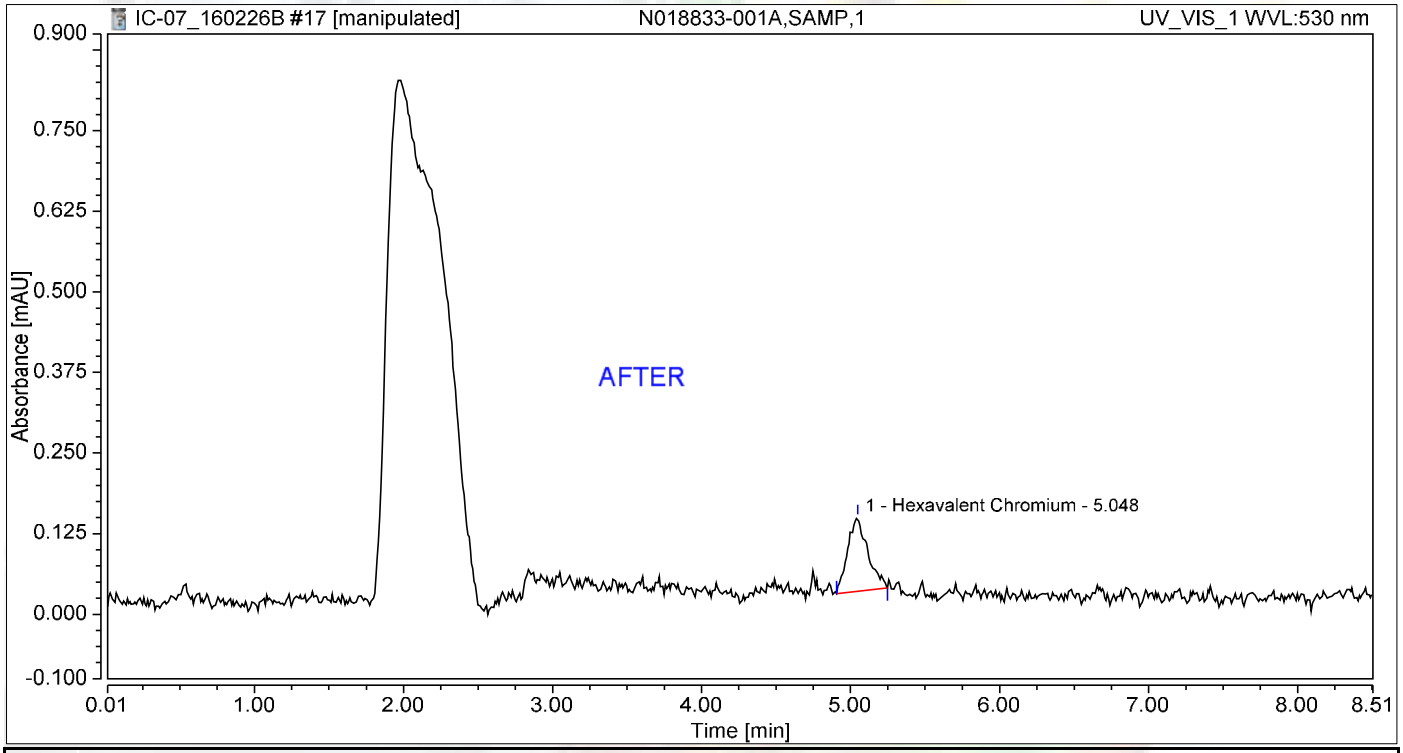
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.732	10.087	100.00	100.00	7.3156
Total:			**1.732**	**10.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.018	0.114	100.00	100.00	0.0758
Total:			**0.018**	**0.114**	**100.00**	**100.00**	

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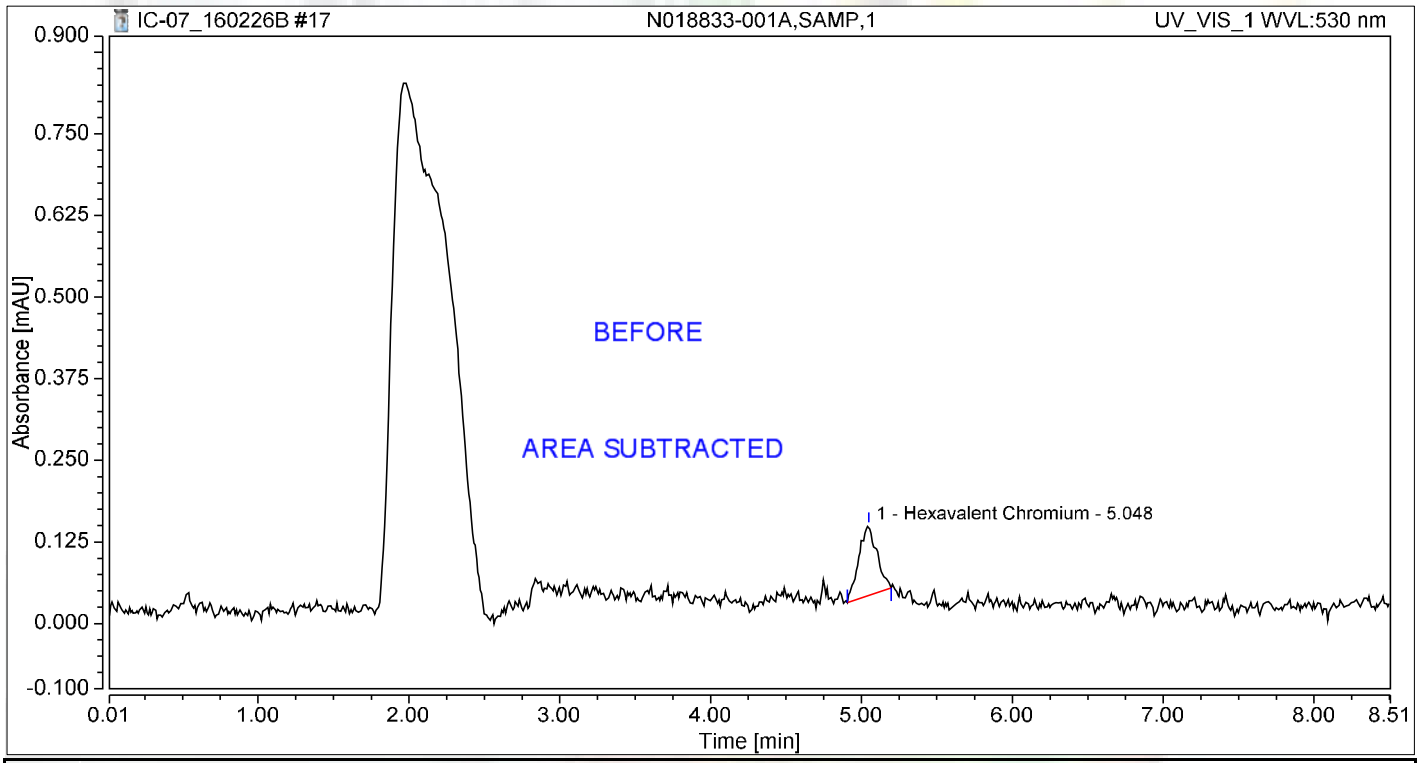
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.015	0.107	100.00	100.00	0.0640
Total:			**0.015**	**0.107**	**100.00**	**100.00**	

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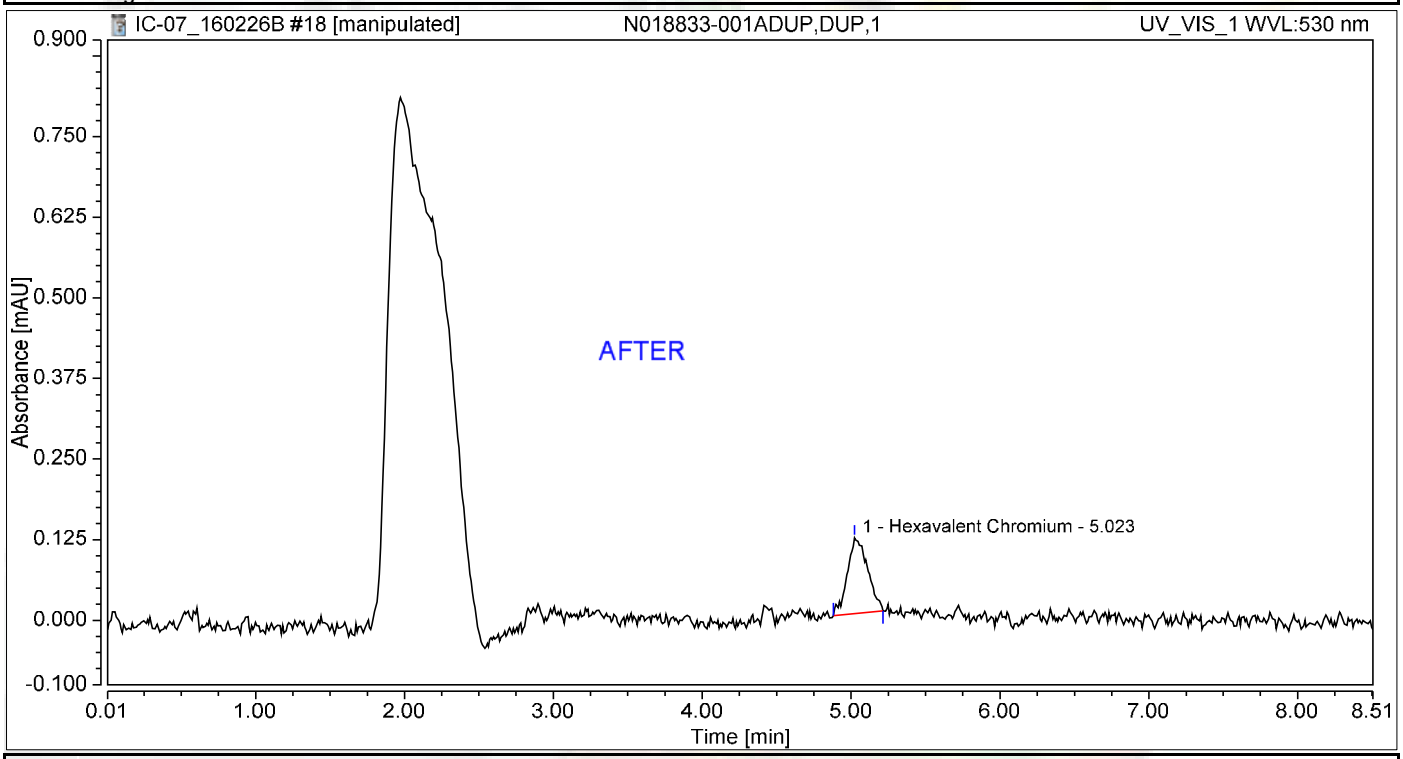
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.018	0.117	100.00	100.00	0.0777
Total:			**0.018**	**0.117**	**100.00**	**100.00**	

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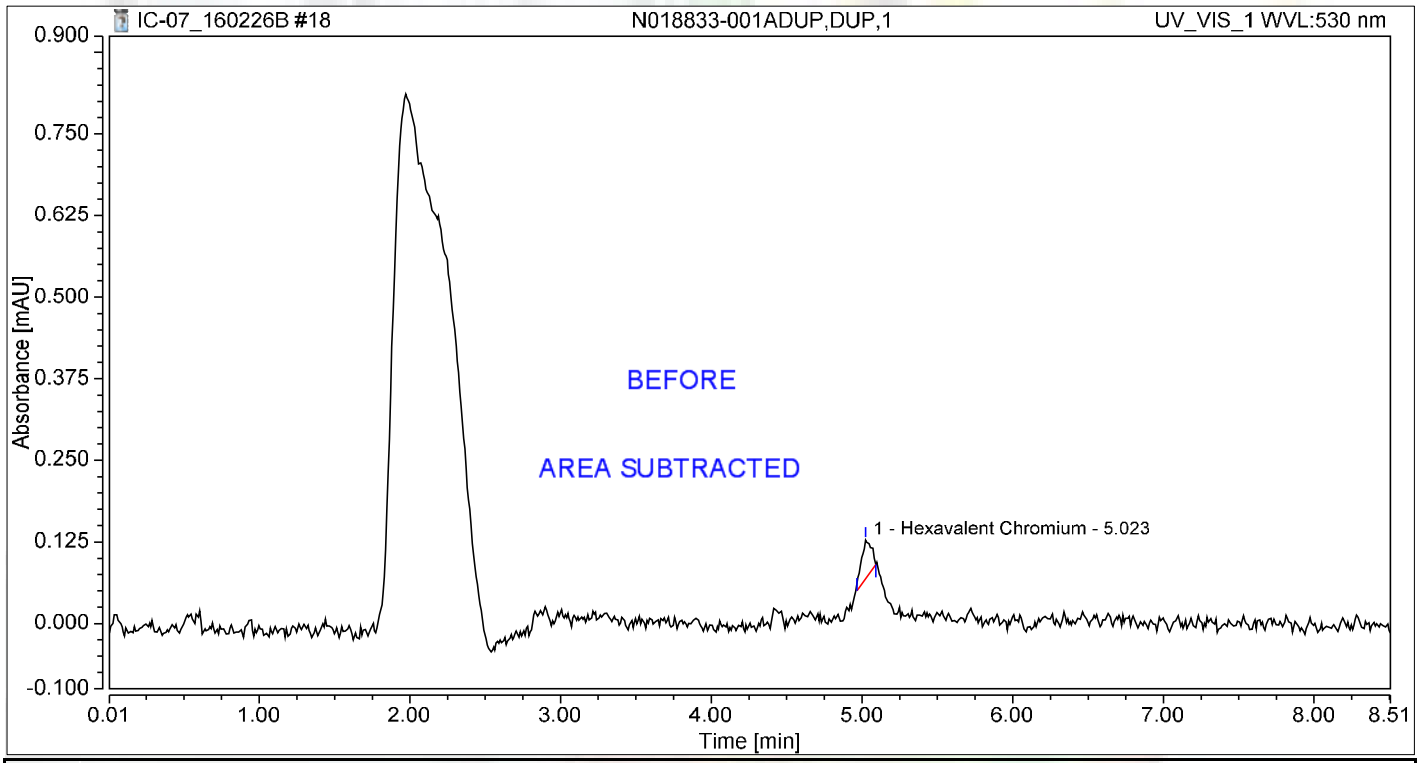
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.004	0.059	100.00	100.00	0.0185
Total:			**0.004**	**0.059**	**100.00**	**100.00**	

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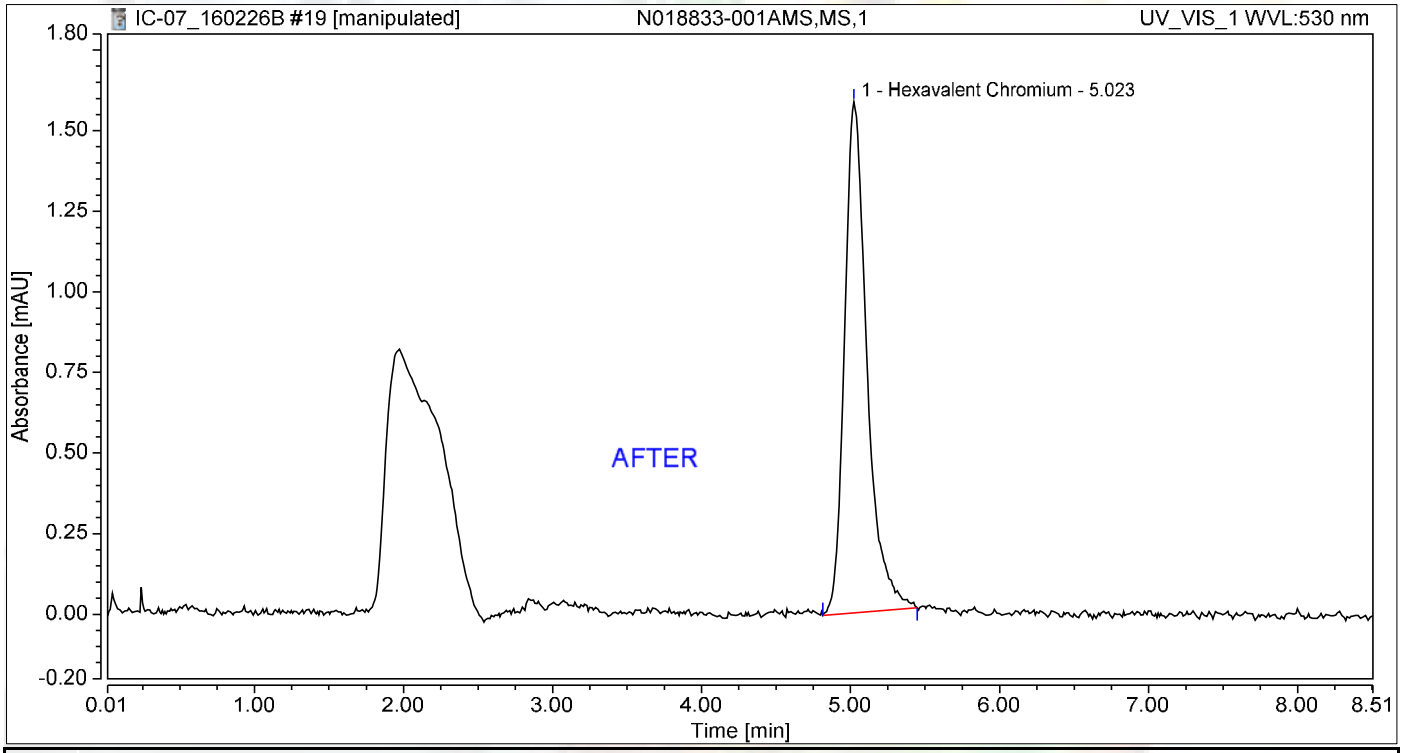
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.276	1.586	100.00	100.00	1.1644
Total:			**0.276**	**1.586**	**100.00**	**100.00**	

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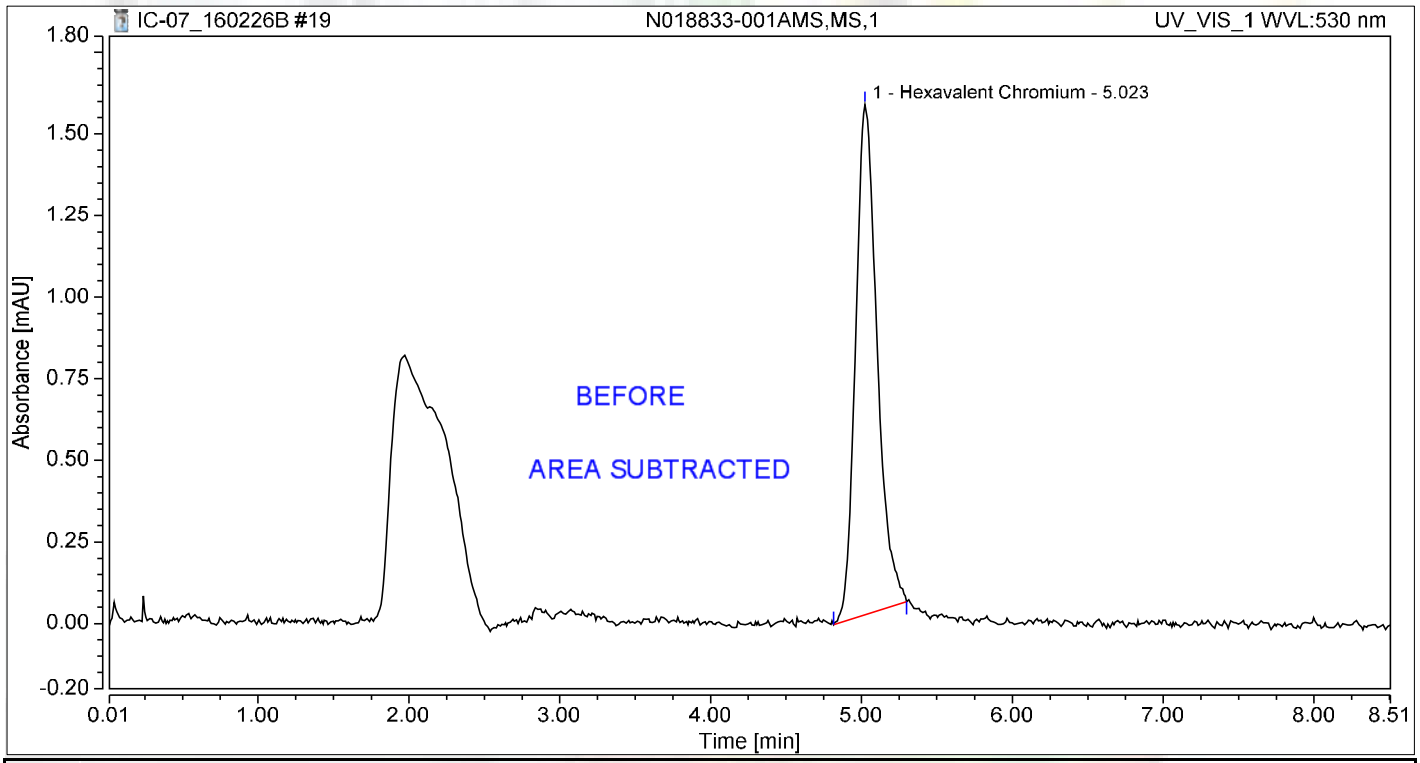
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

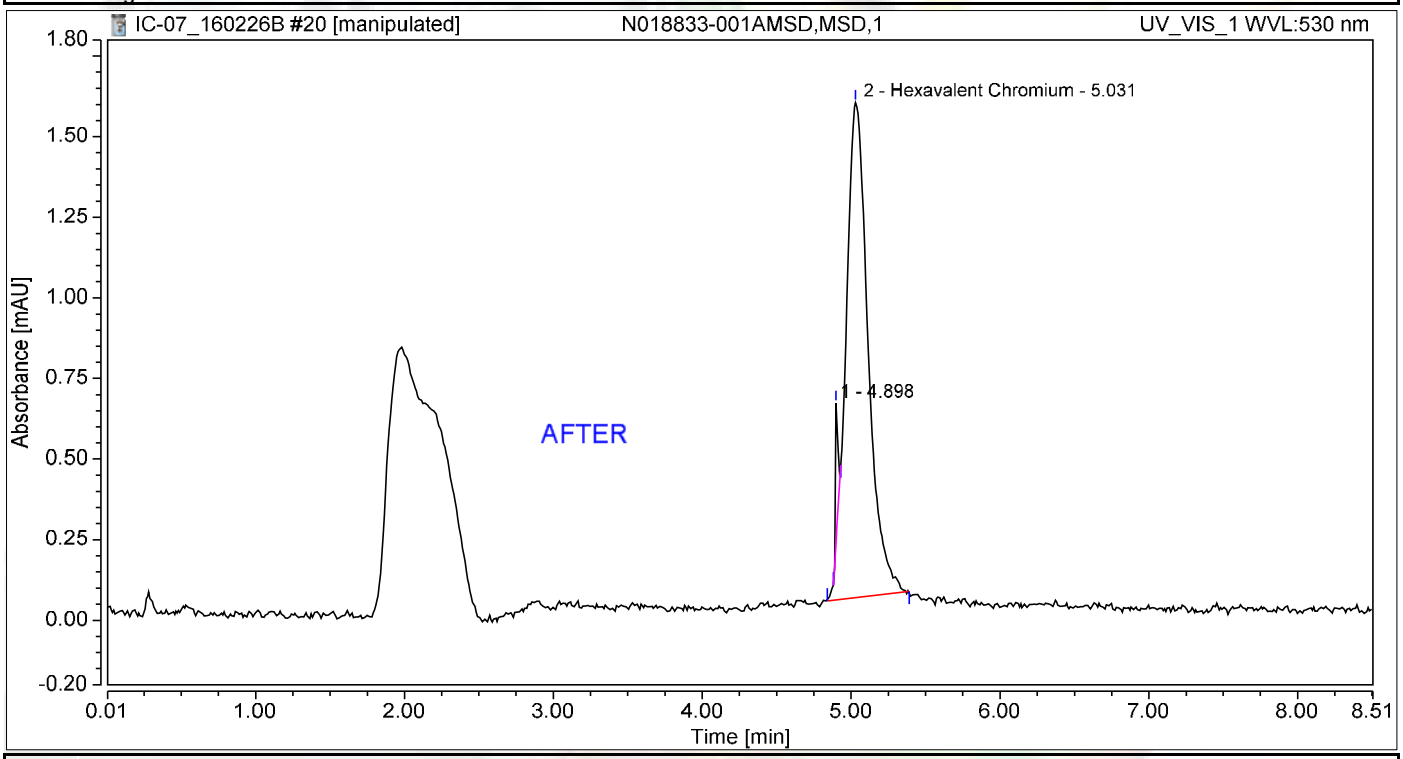
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.259	1.563	100.00	100.00	1.0922
Total:			**0.259**	**1.563**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.898	0.009	0.440	3.12	22.28	n.a.
2	Hexavalent Chromium	5.031	0.265	1.535	96.88	77.72	1.1178
Total:			**0.273**	**1.975**	**100.00**	**100.00**	

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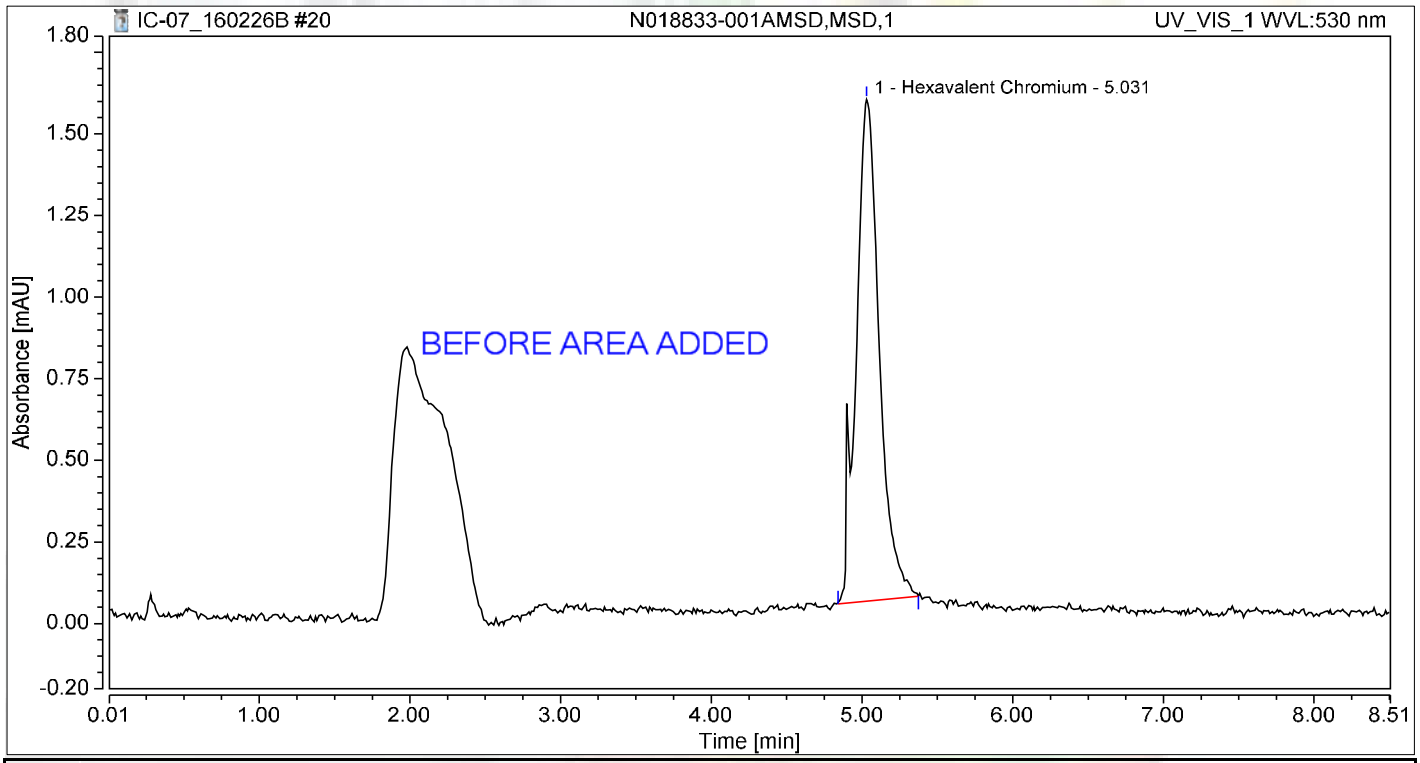
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.275	1.538	100.00	100.00	1.1612
Total:			**0.275**	**1.538**	**100.00**	**100.00**	

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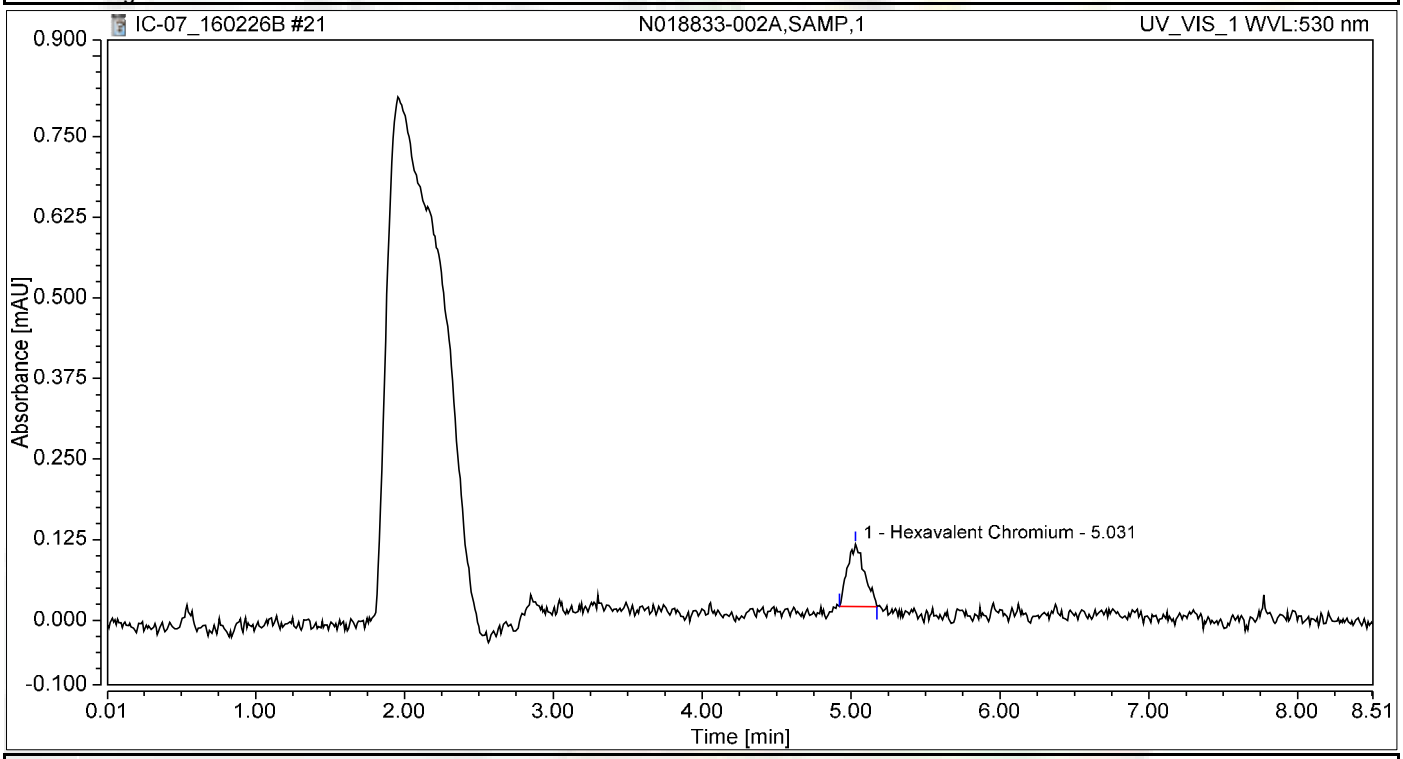
Chromatogram and Results

Injection Details

Injection Name:	**N018833-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

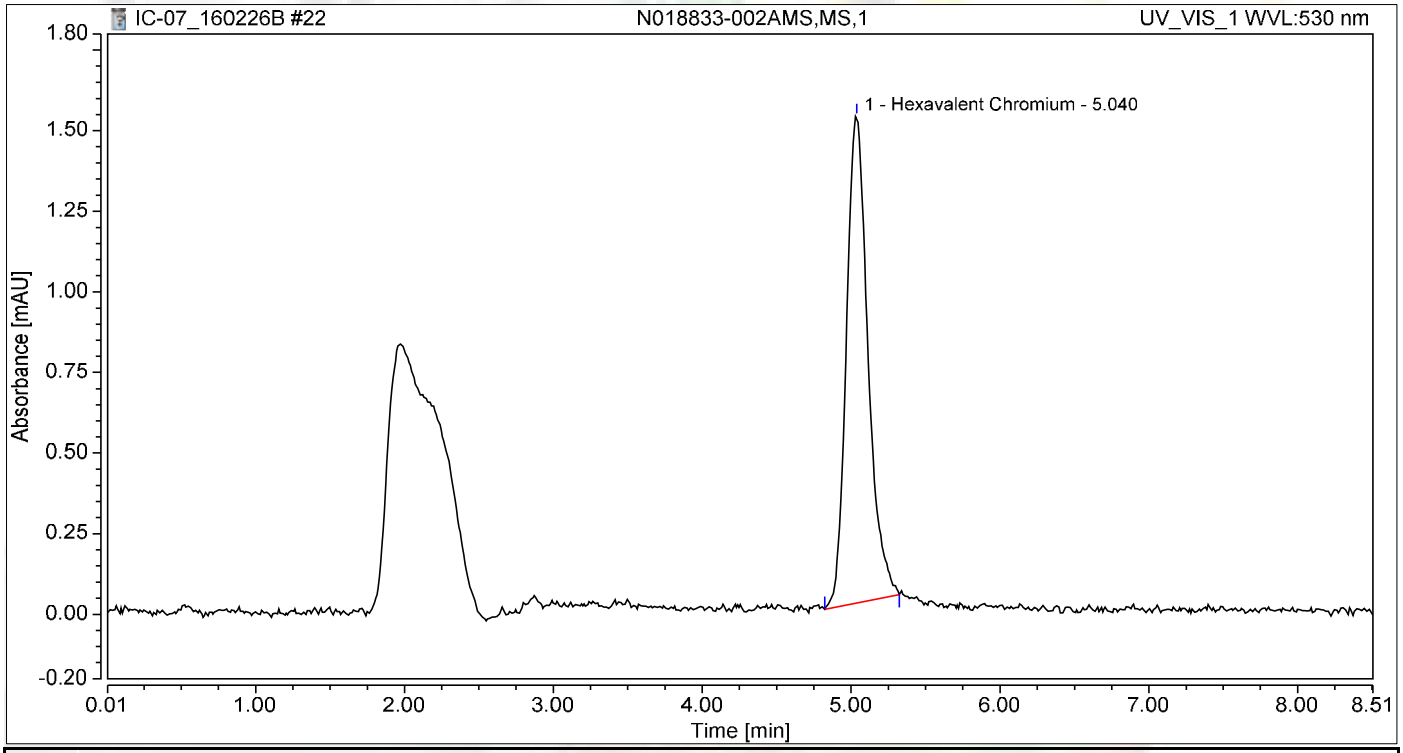
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.013	0.097	100.00	100.00	0.0540
Total:			**0.013**	**0.097**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

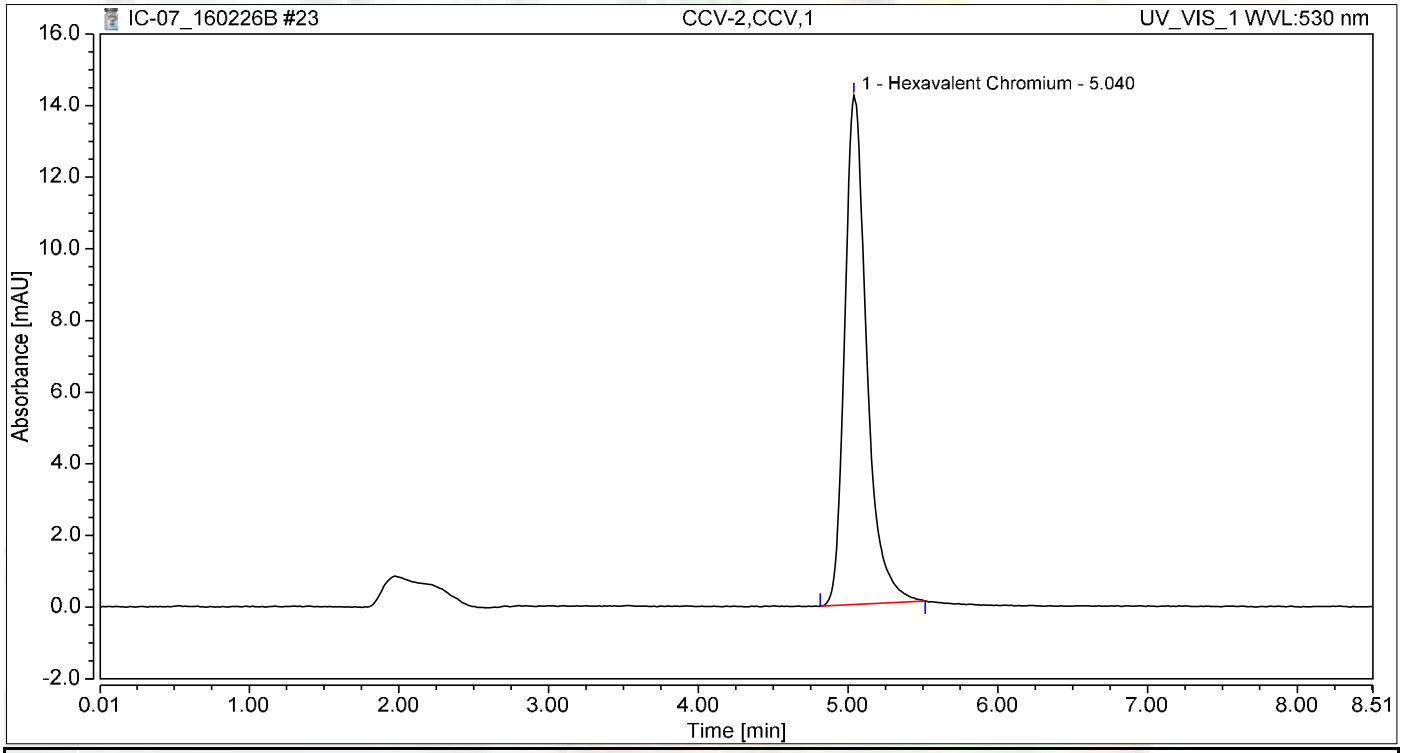
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.509	100.00	100.00	1.0658
Total:			**0.252**	**1.509**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

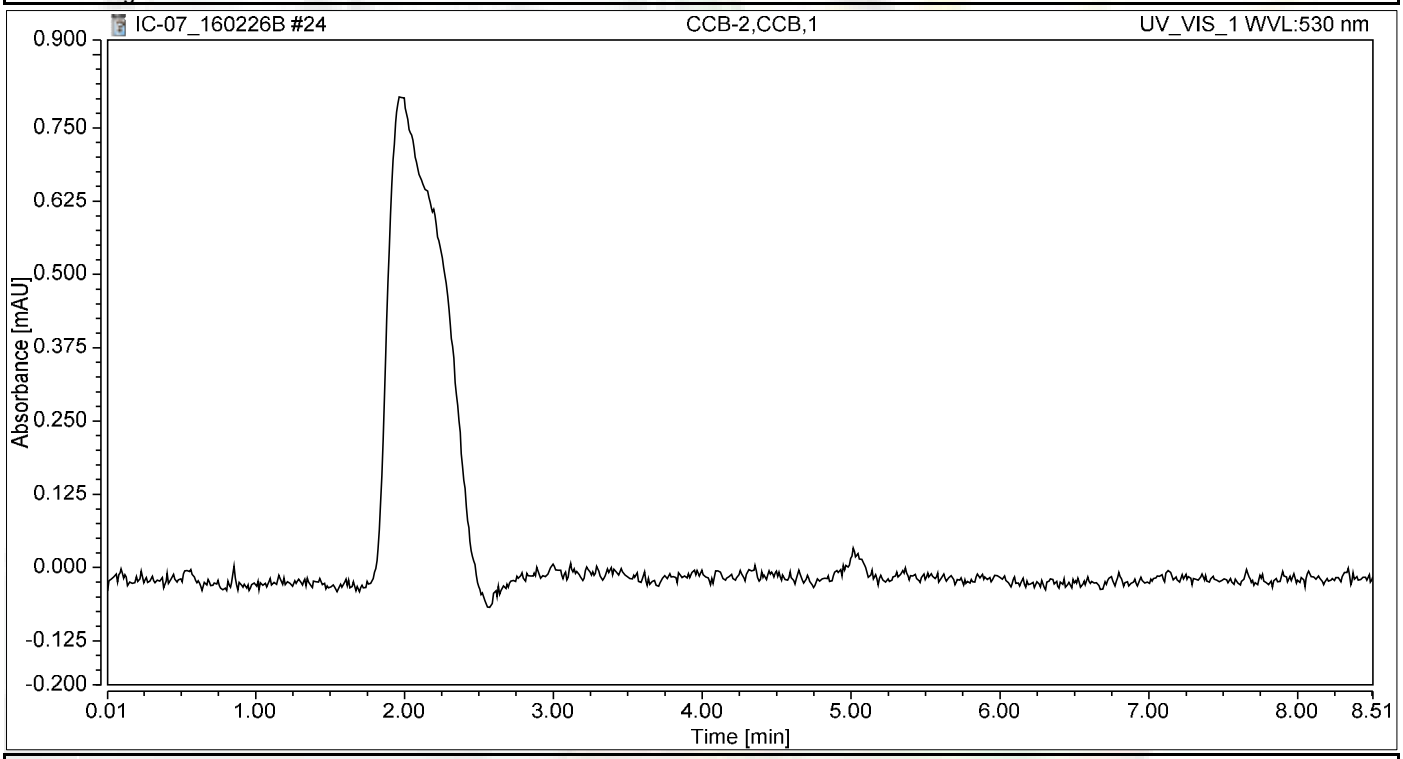
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.411	14.210	100.00	100.00	10.1848
Total:			**2.411**	**14.210**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

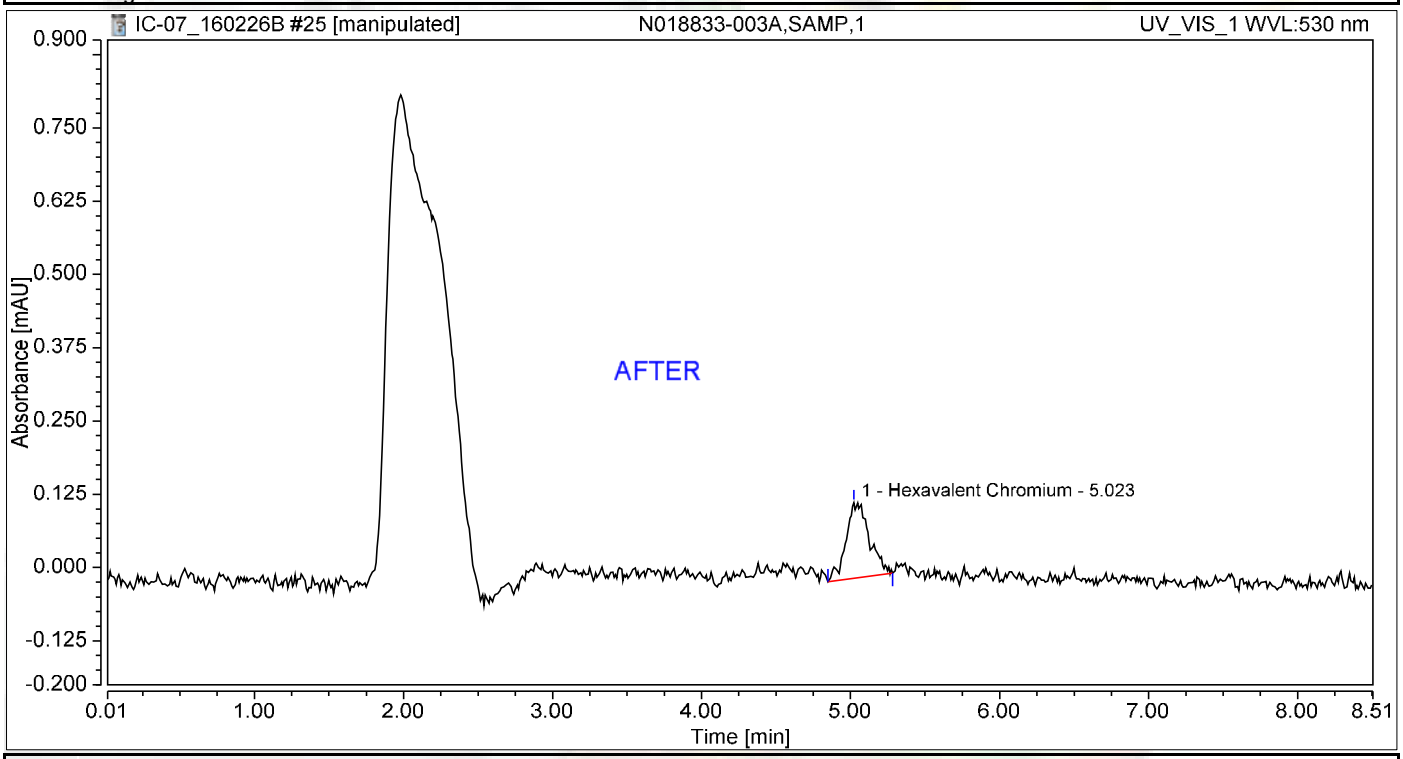
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.023	0.129	100.00	100.00	0.0978
Total:			**0.023**	**0.129**	**100.00**	**100.00**	

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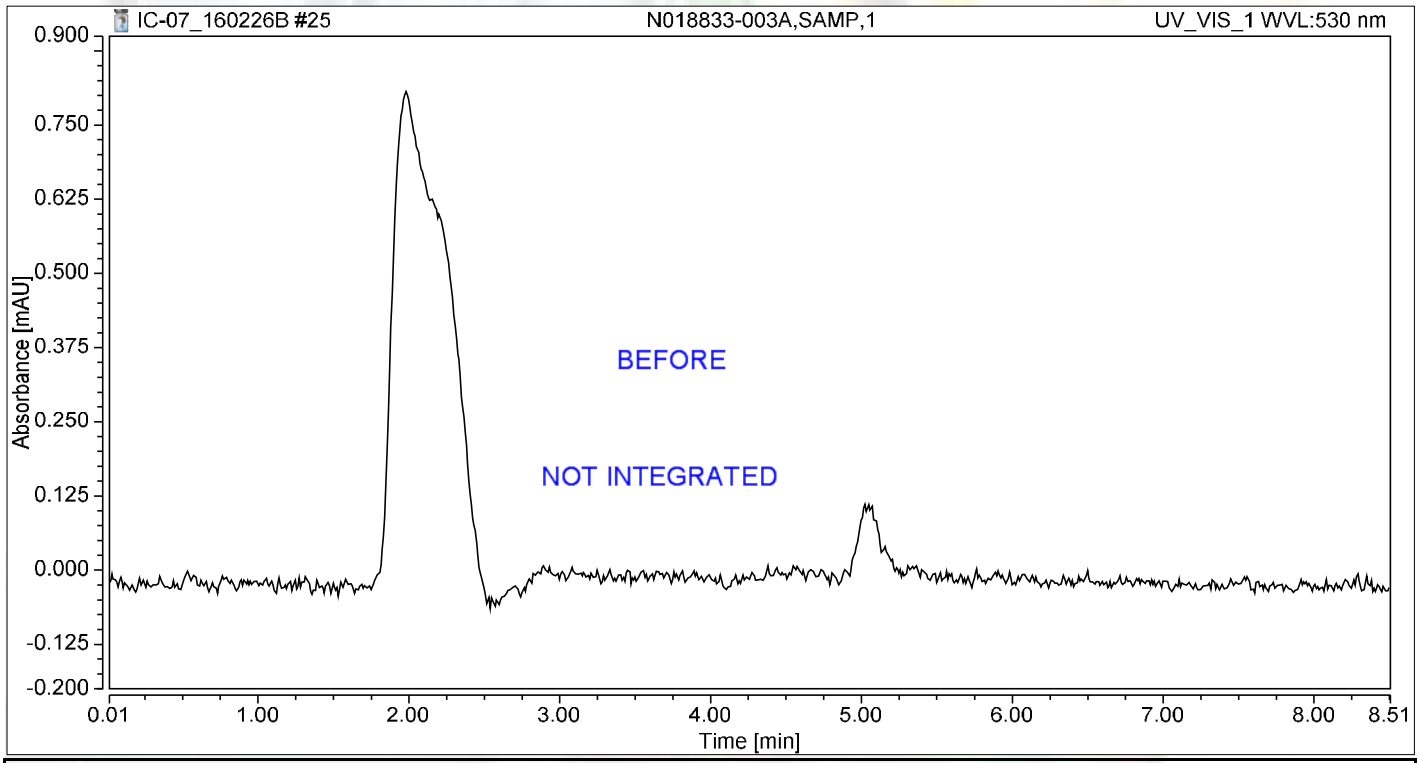
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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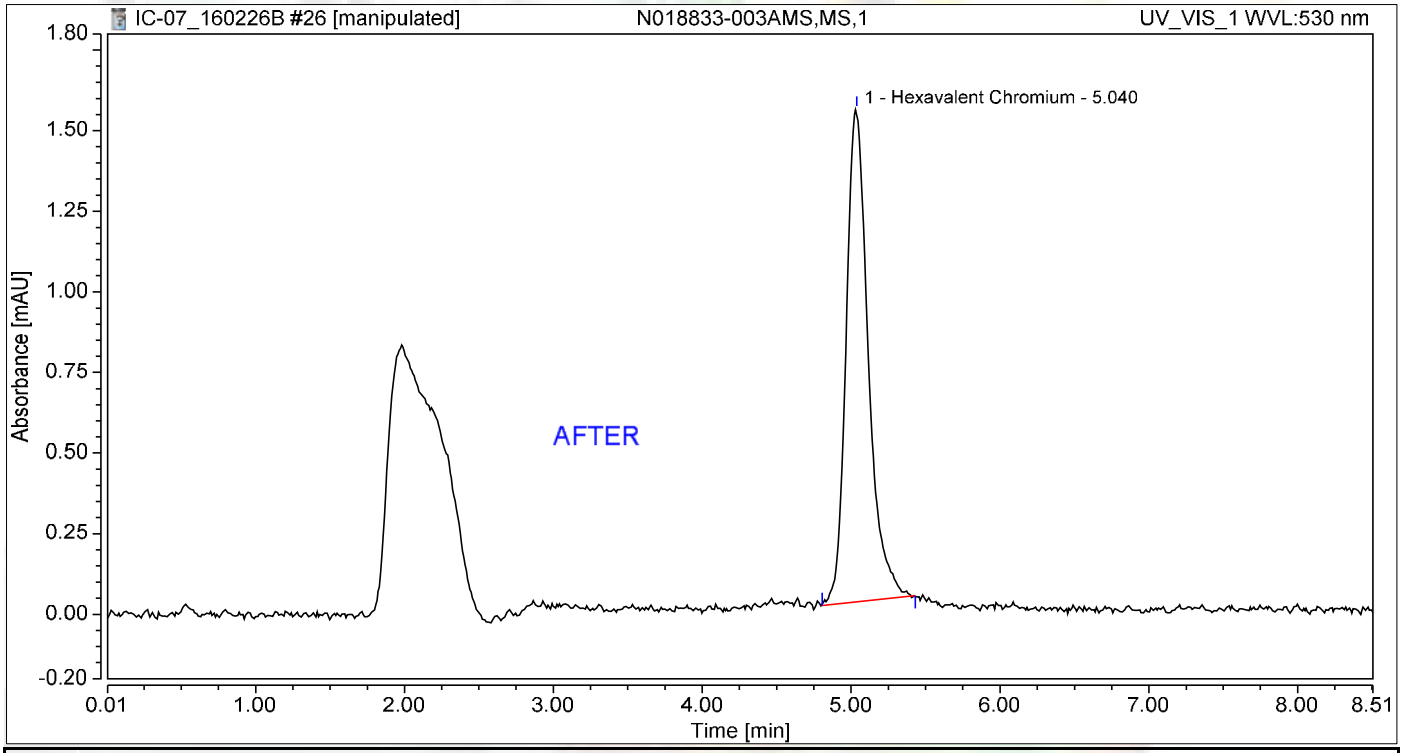
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.262	1.528	100.00	100.00	1.1058
Total:			**0.262**	**1.528**	**100.00**	**100.00**	

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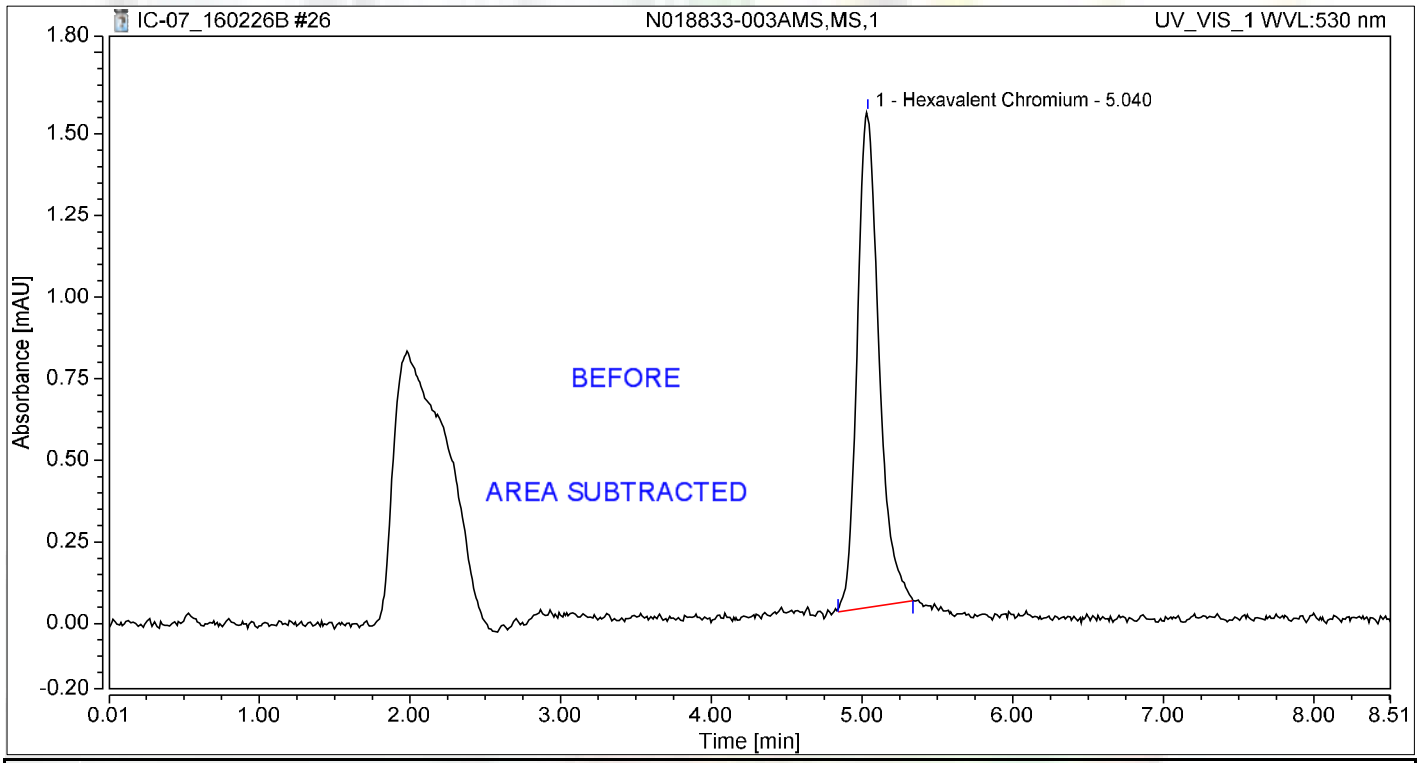
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.255	1.517	100.00	100.00	1.0765
Total:			**0.255**	**1.517**	**100.00**	**100.00**	

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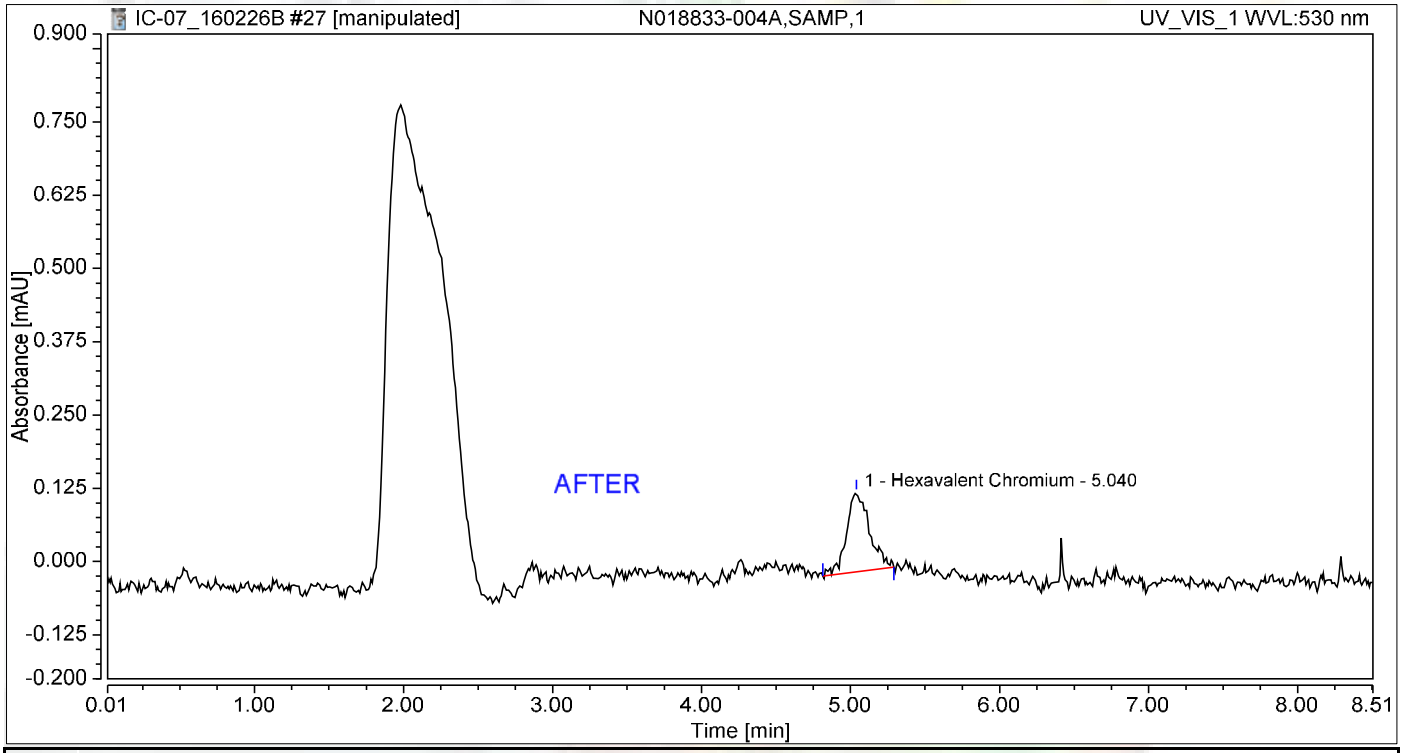
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.024	0.136	100.00	100.00	0.1016
Total:			**0.024**	**0.136**	**100.00**	**100.00**	

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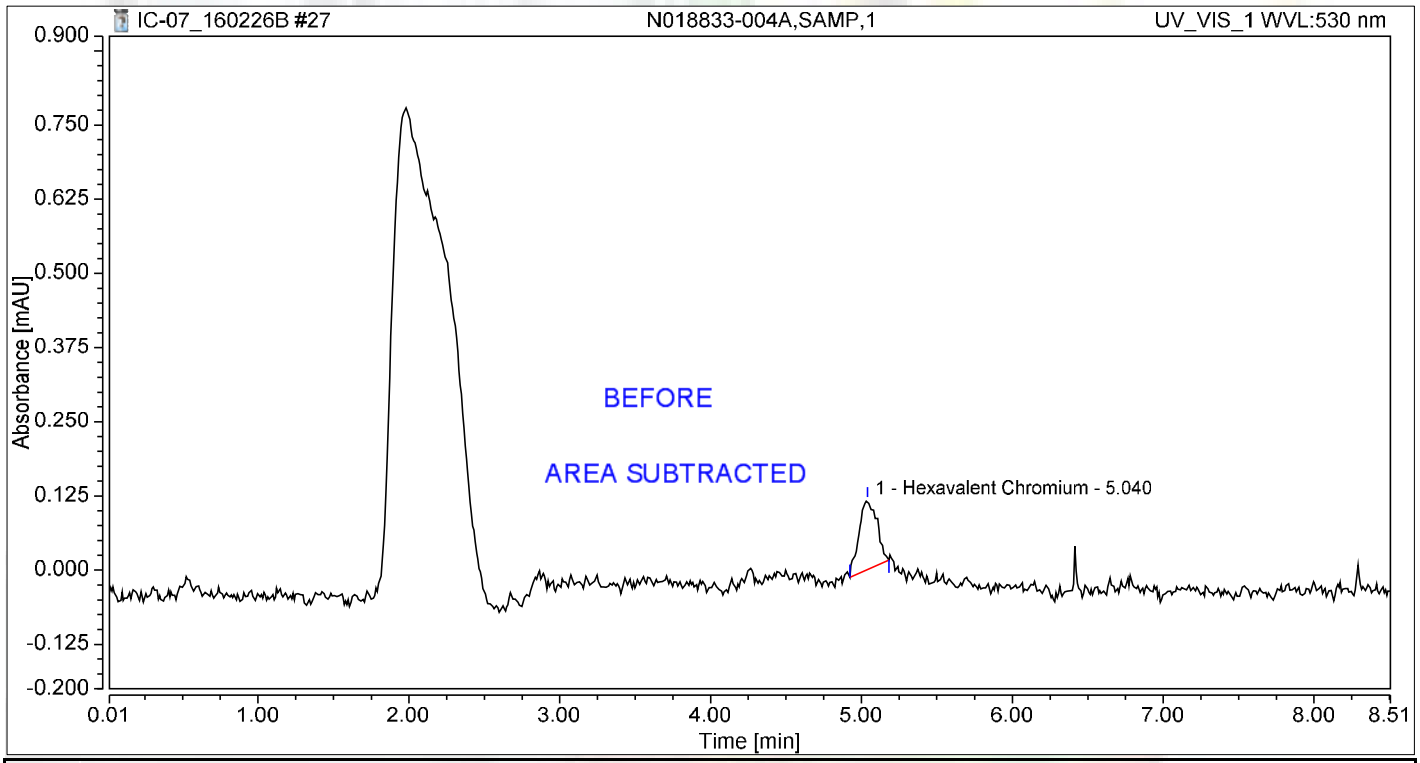
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.117	100.00	100.00	0.0679
Total:			**0.016**	**0.117**	**100.00**	**100.00**	

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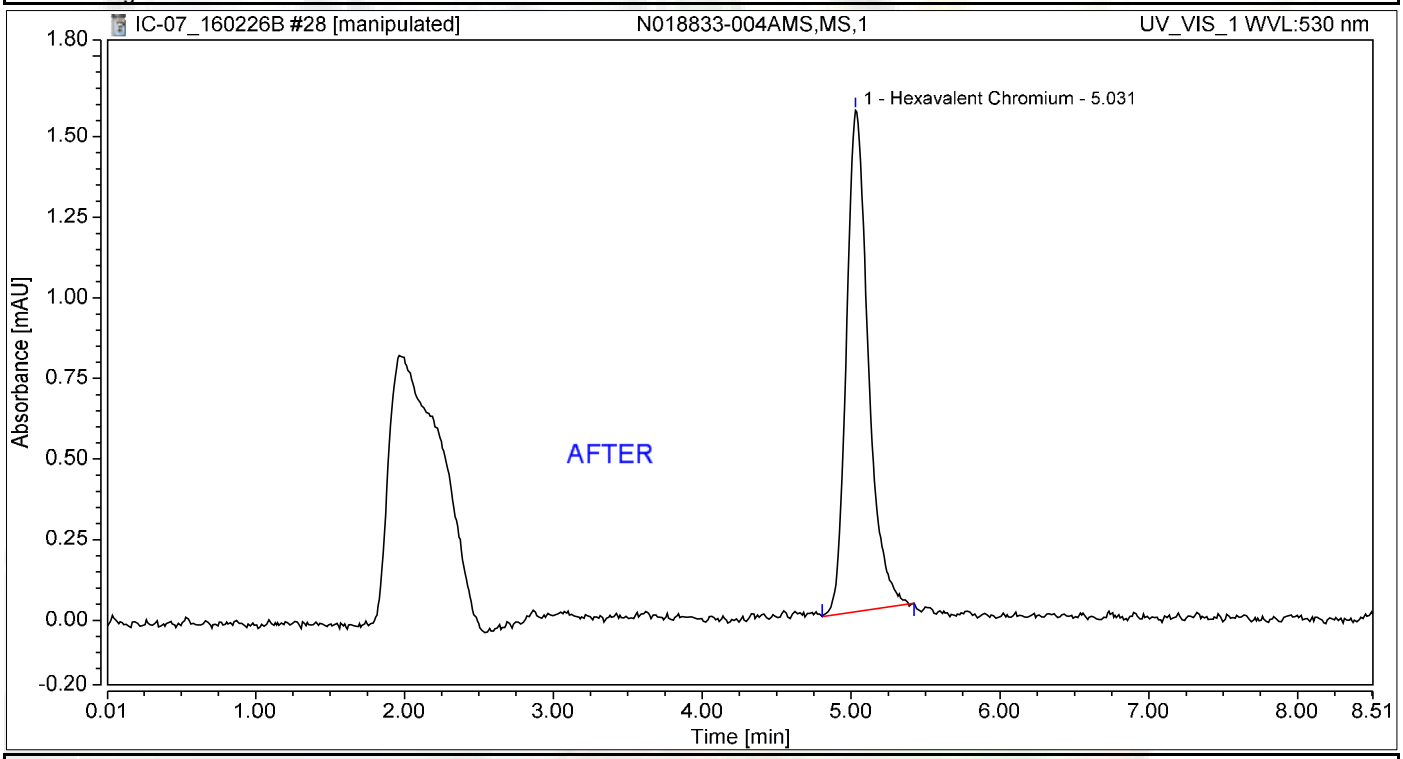
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.556	100.00	100.00	1.1131
Total:			**0.263**	**1.556**	**100.00**	**100.00**	

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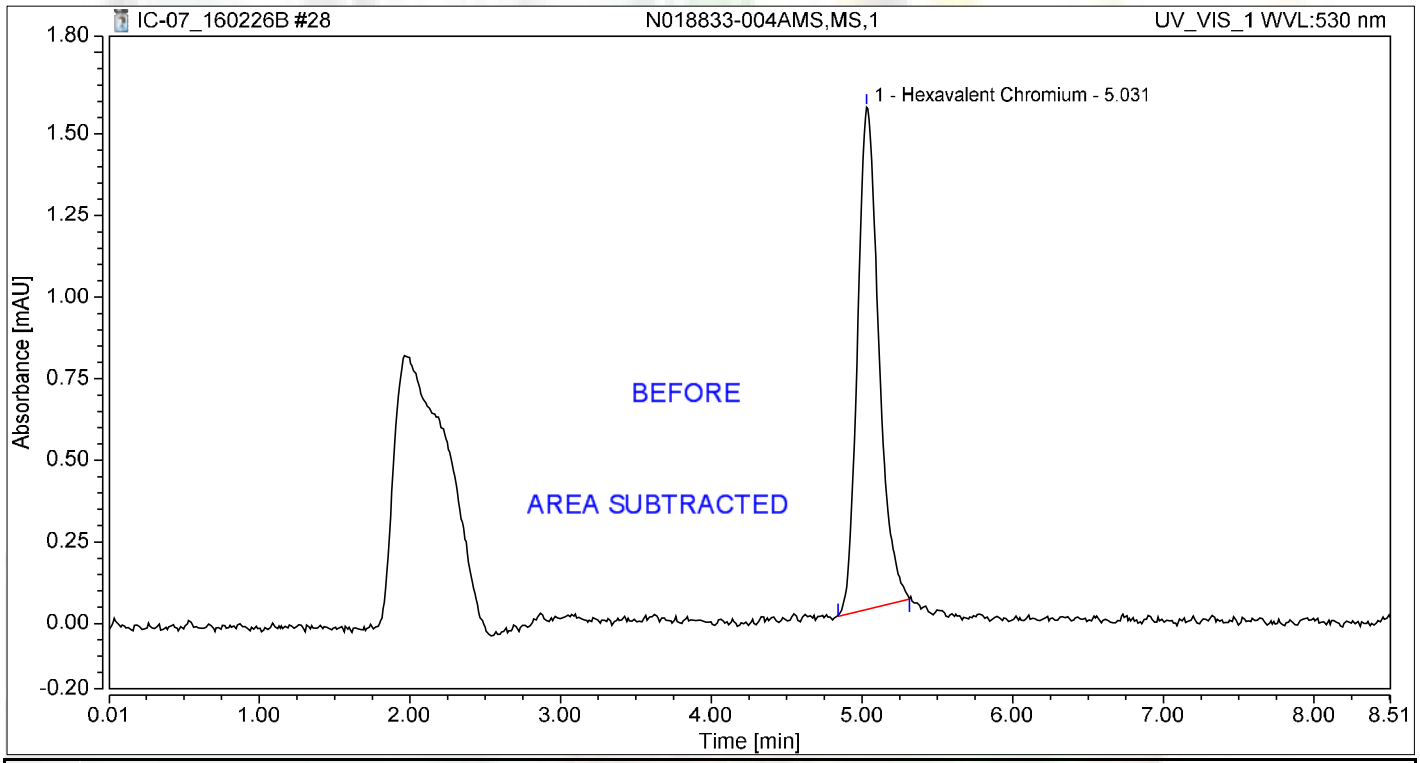
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.253	1.539	100.00	100.00	1.0688
Total:			**0.253**	**1.539**	**100.00**	**100.00**	

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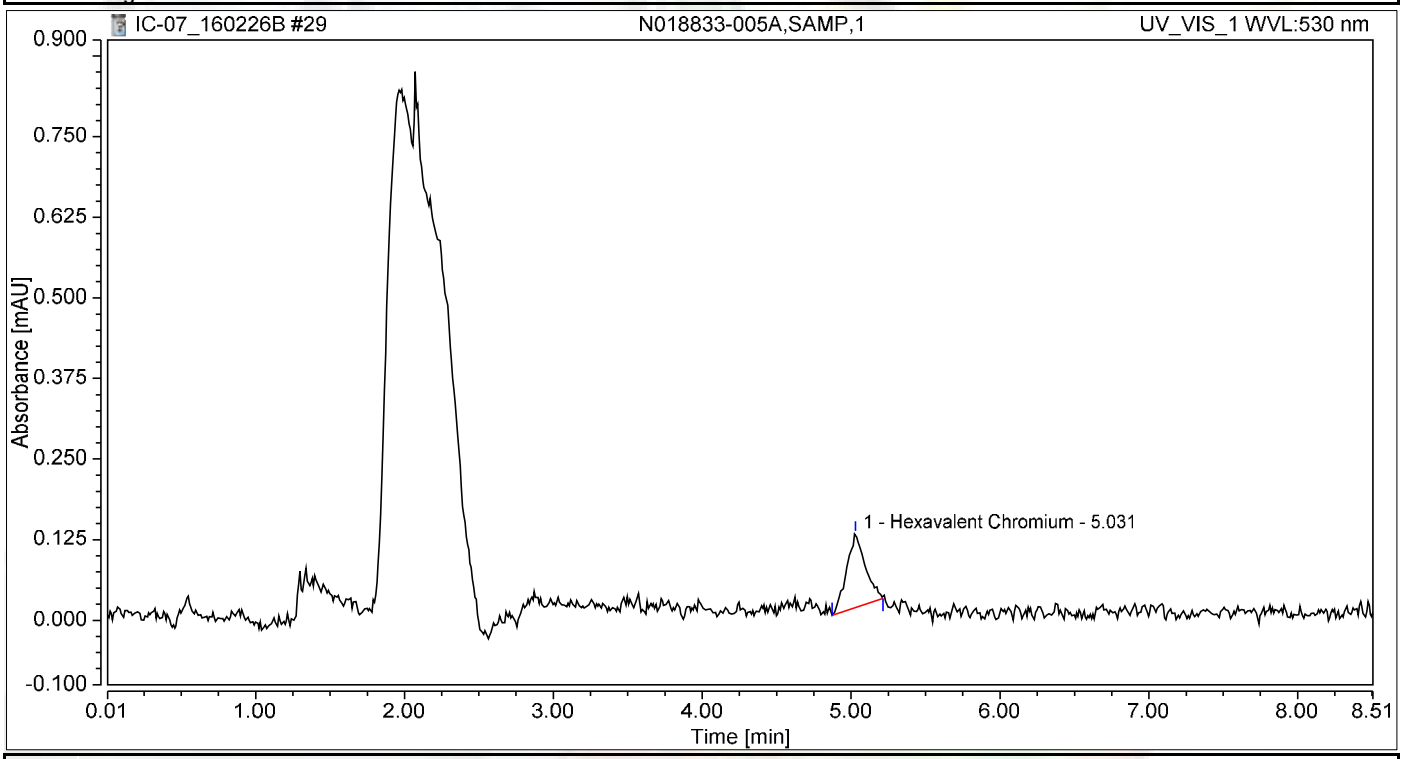
Chromatogram and Results

Injection Details

Injection Name:	**N018833-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

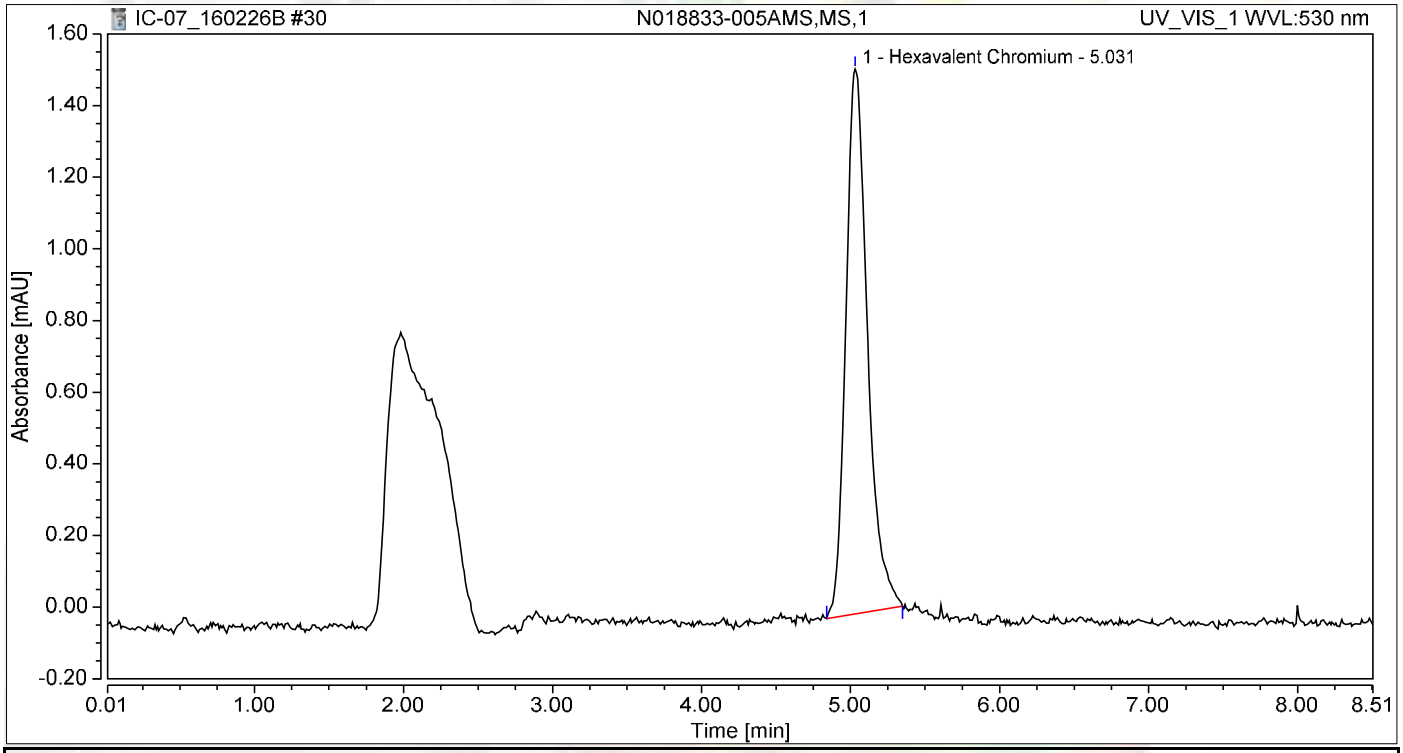
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.017	0.114	100.00	100.00	0.0700
Total:			**0.017**	**0.114**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

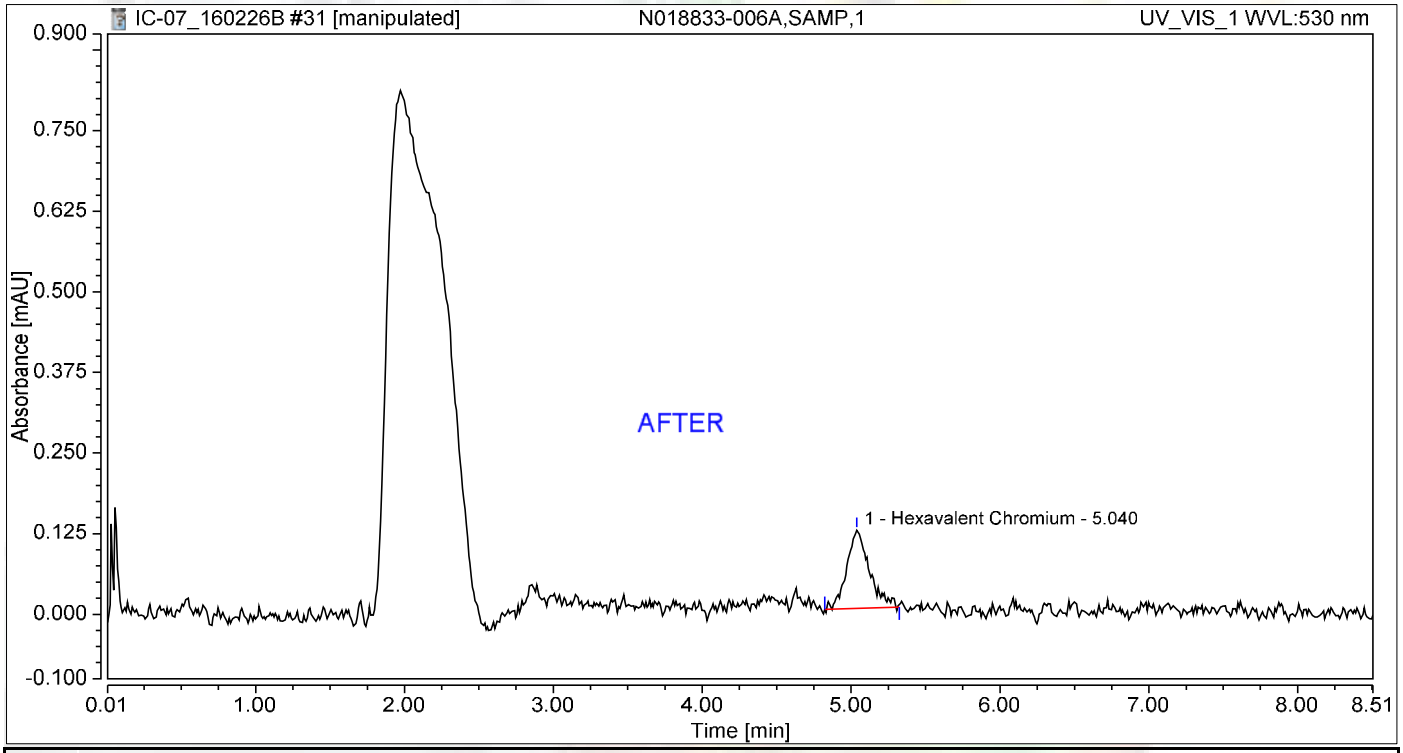
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.255	1.520	100.00	100.00	1.0757
Total:			**0.255**	**1.520**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.021	0.121	100.00	100.00	0.0890
Total:			**0.021**	**0.121**	**100.00**	**100.00**	

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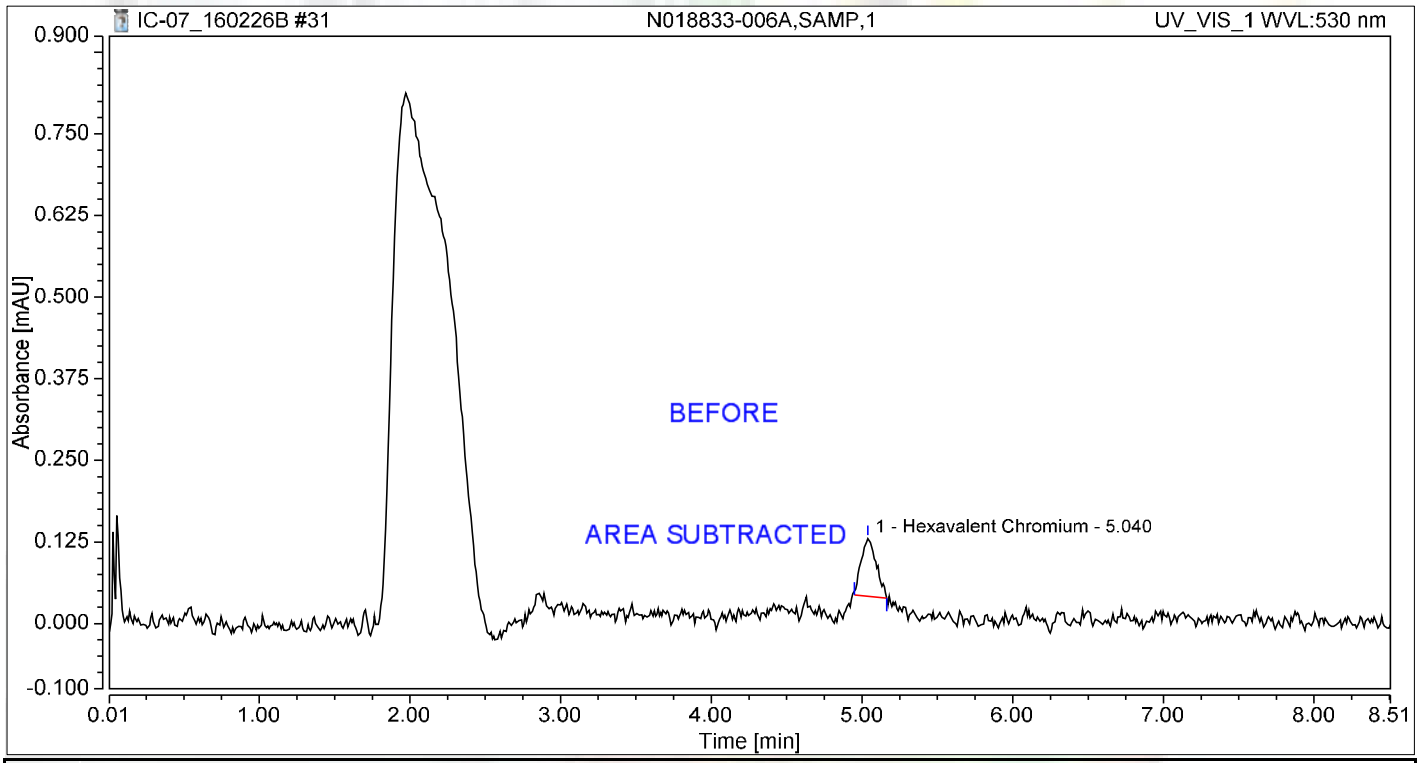
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.010	0.089	100.00	100.00	0.0434
Total:			**0.010**	**0.089**	**100.00**	**100.00**	

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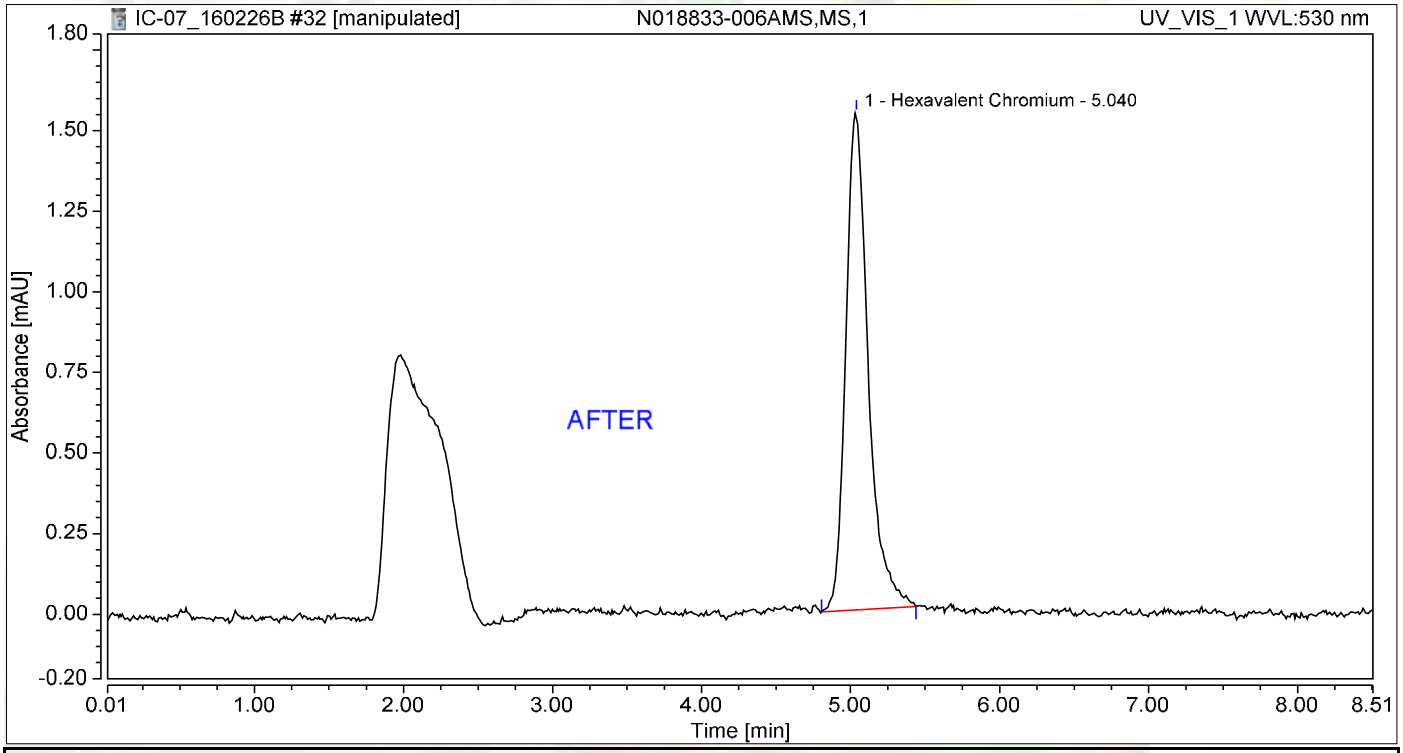
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.268	1.543	100.00	100.00	1.1321
Total:			**0.268**	**1.543**	**100.00**	**100.00**	

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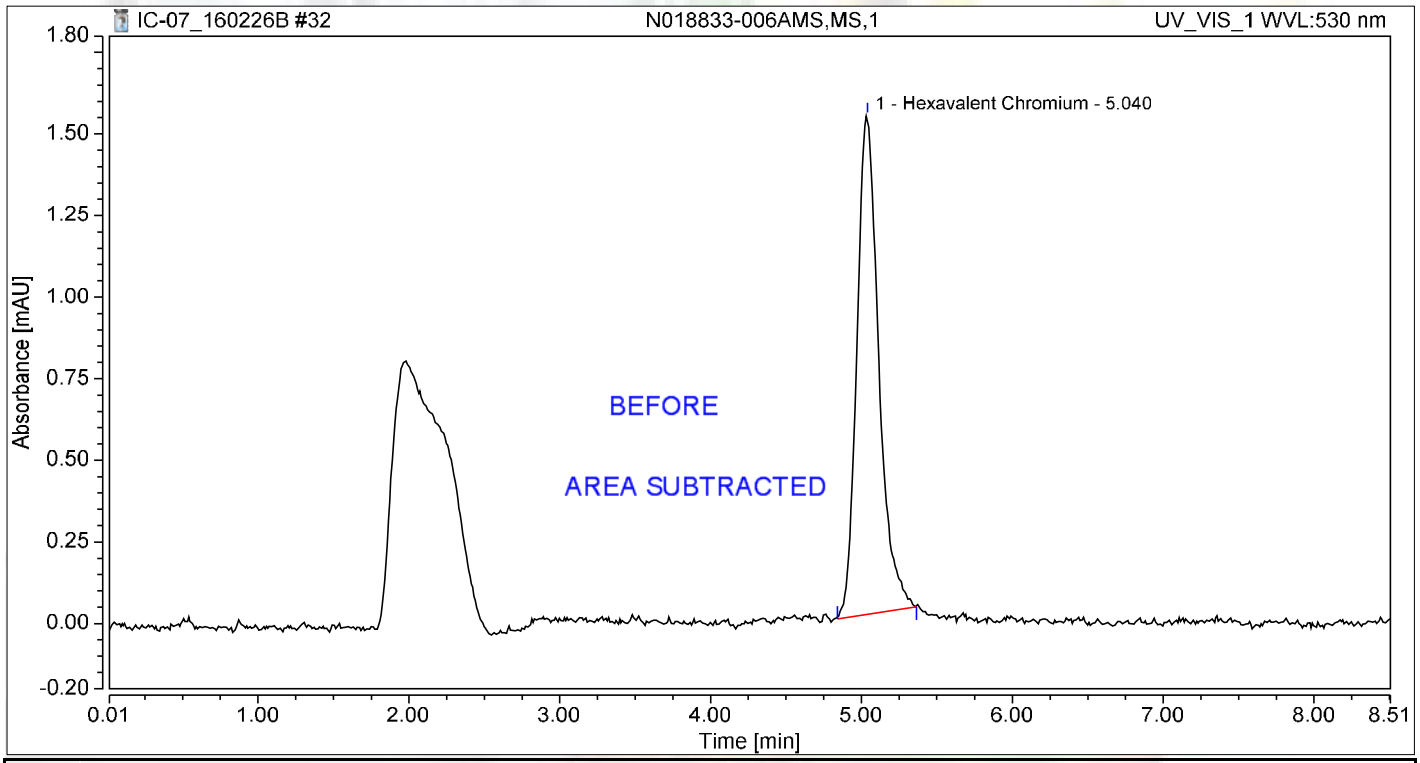
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.257	1.528	100.00	100.00	1.0864
Total:			**0.257**	**1.528**	**100.00**	**100.00**	

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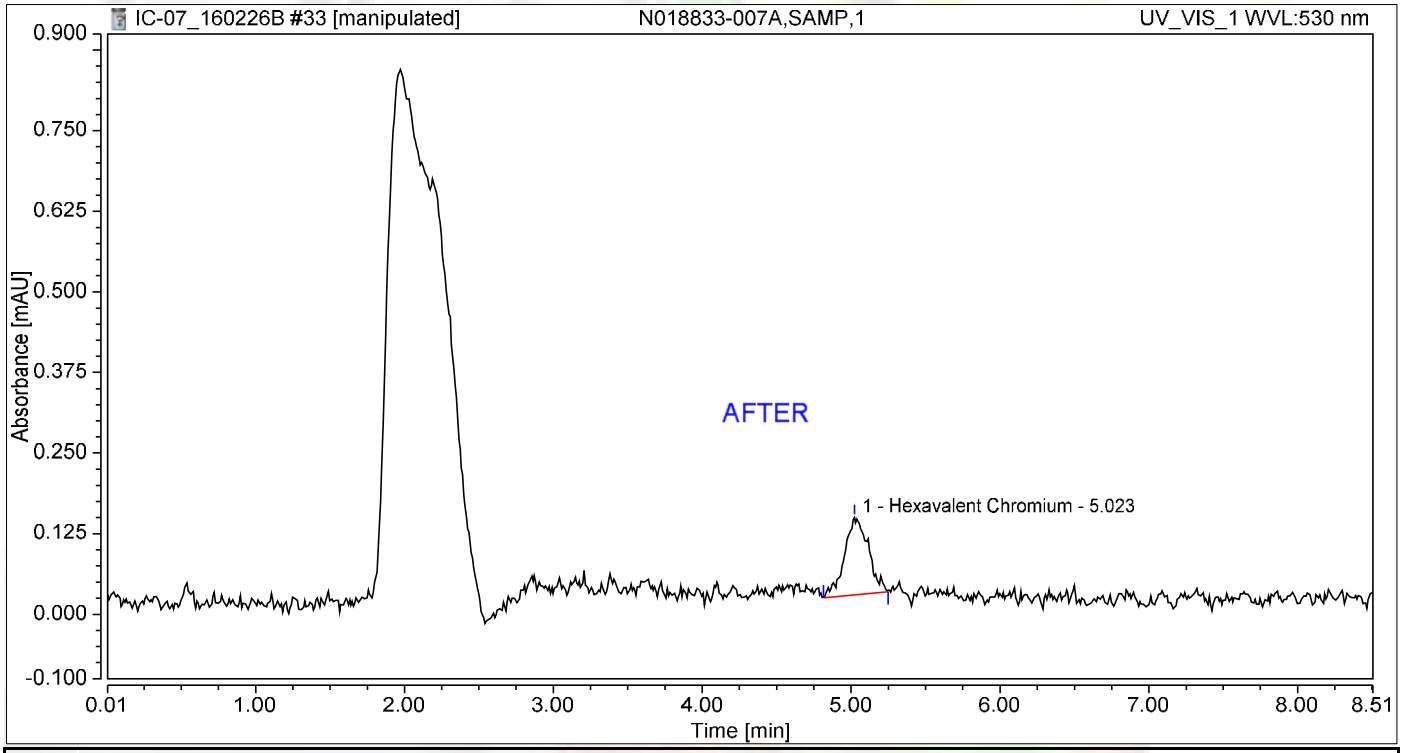
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.022	0.120	100.00	100.00	0.0934
Total:			**0.022**	**0.120**	**100.00**	**100.00**	

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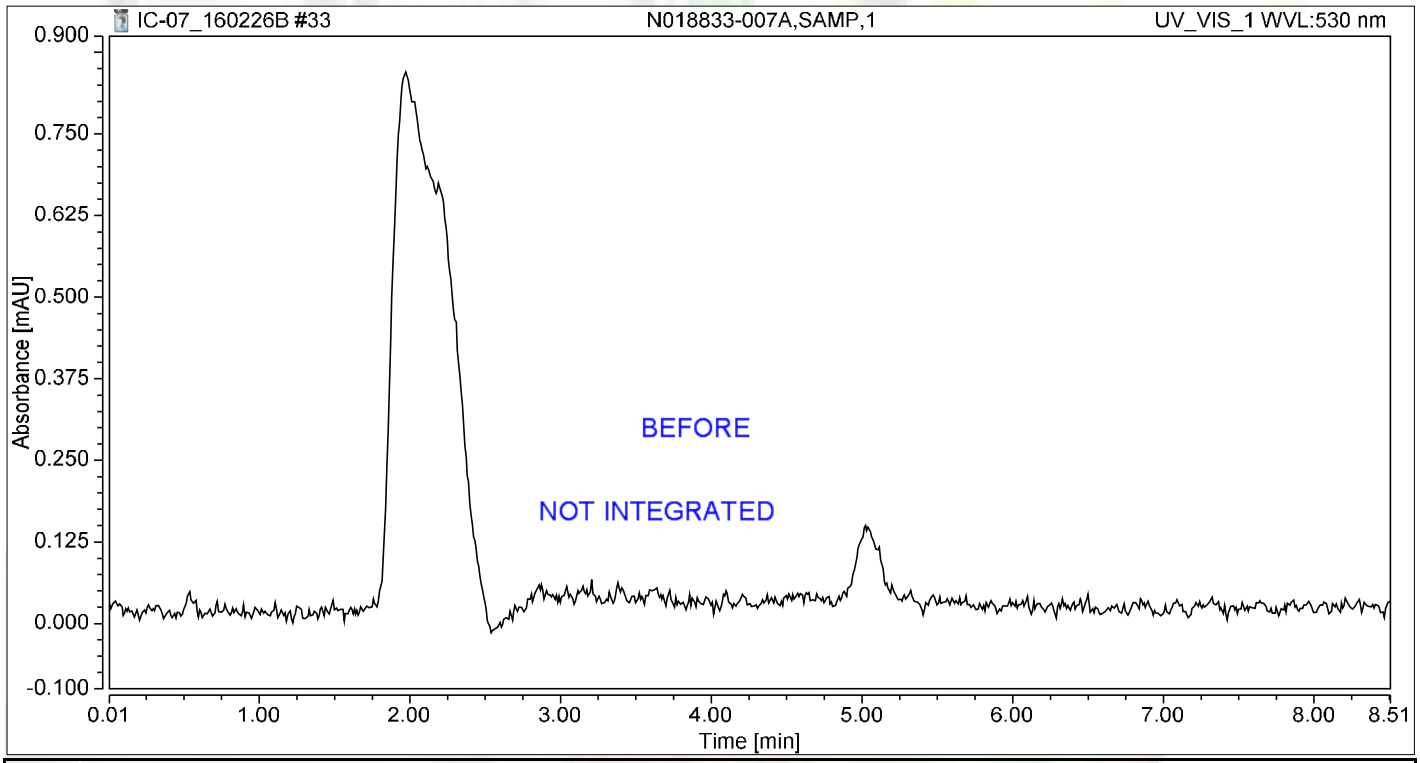
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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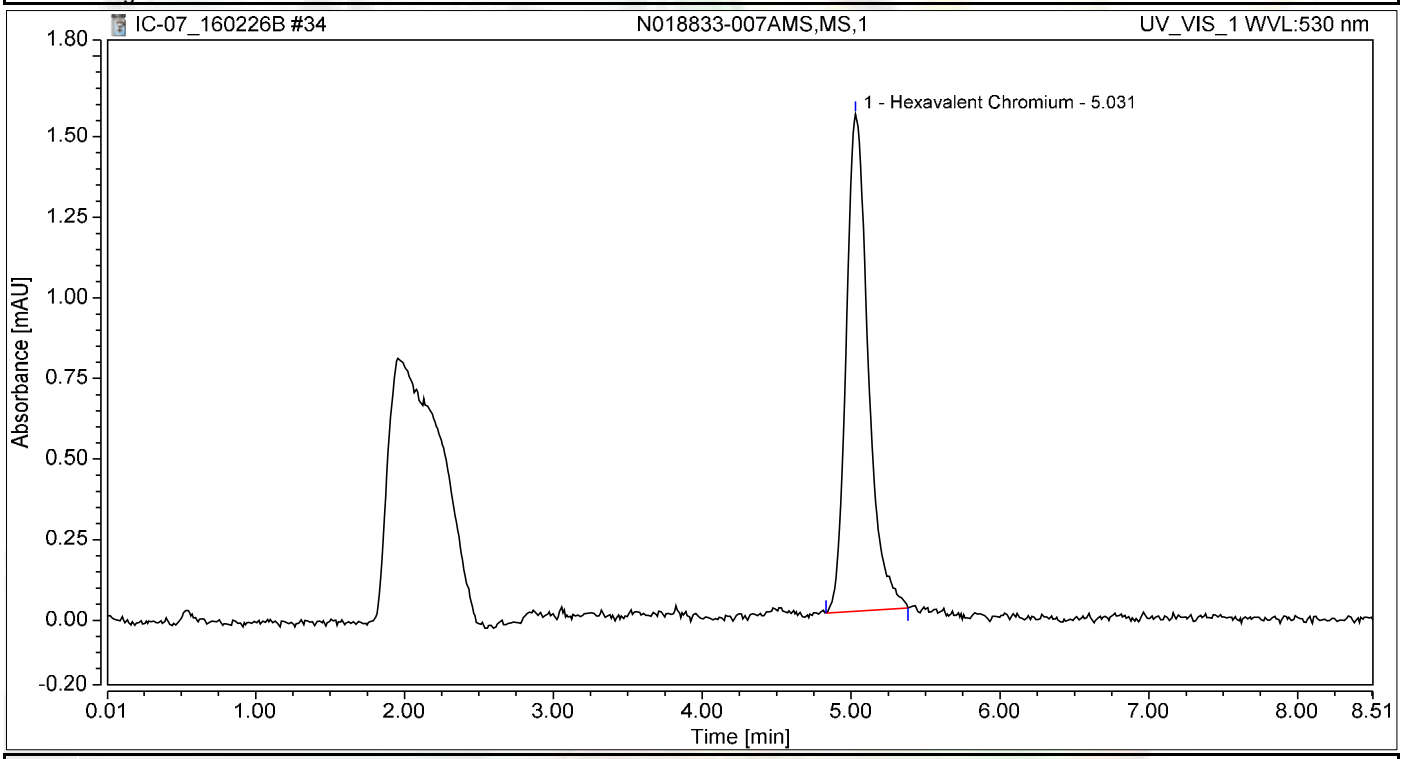
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

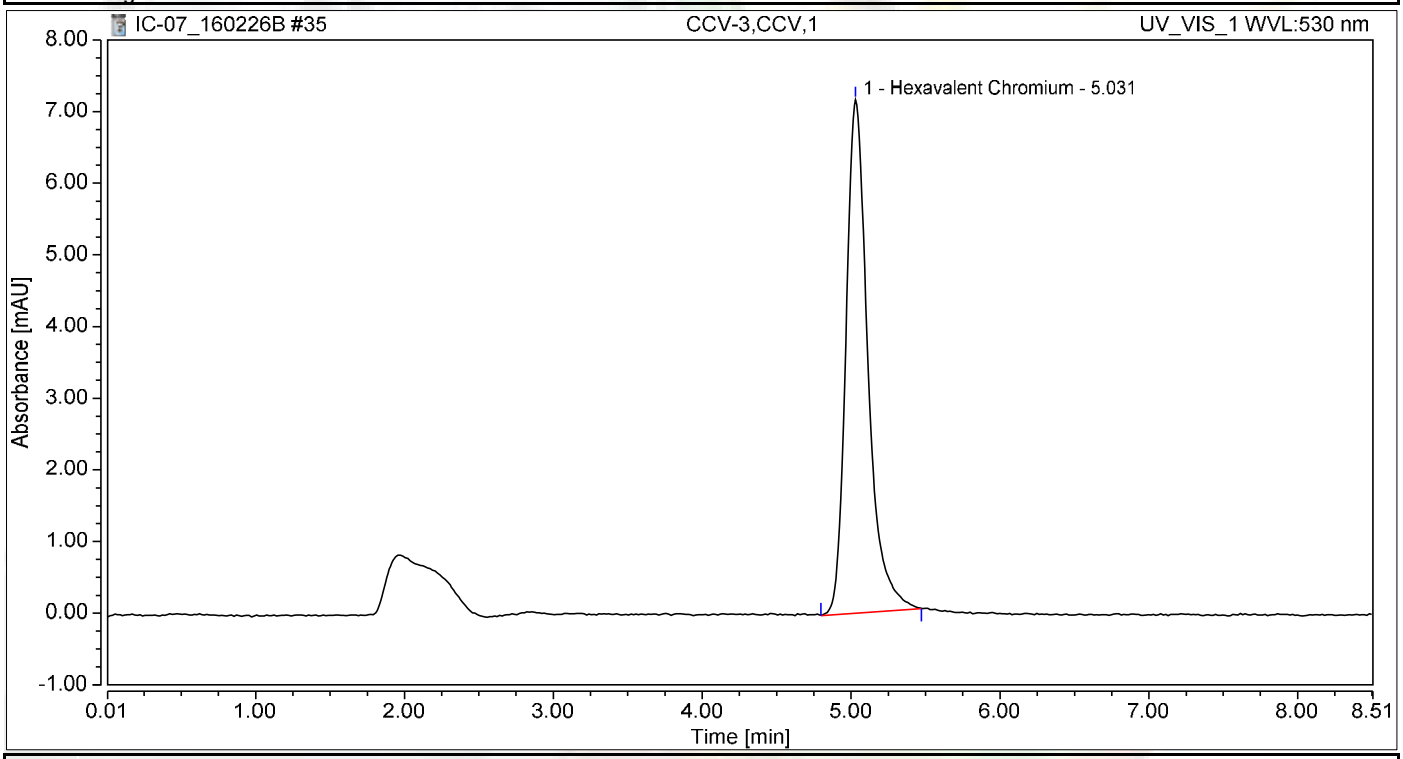
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.542	100.00	100.00	1.1098
Total:			**0.263**	**1.542**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

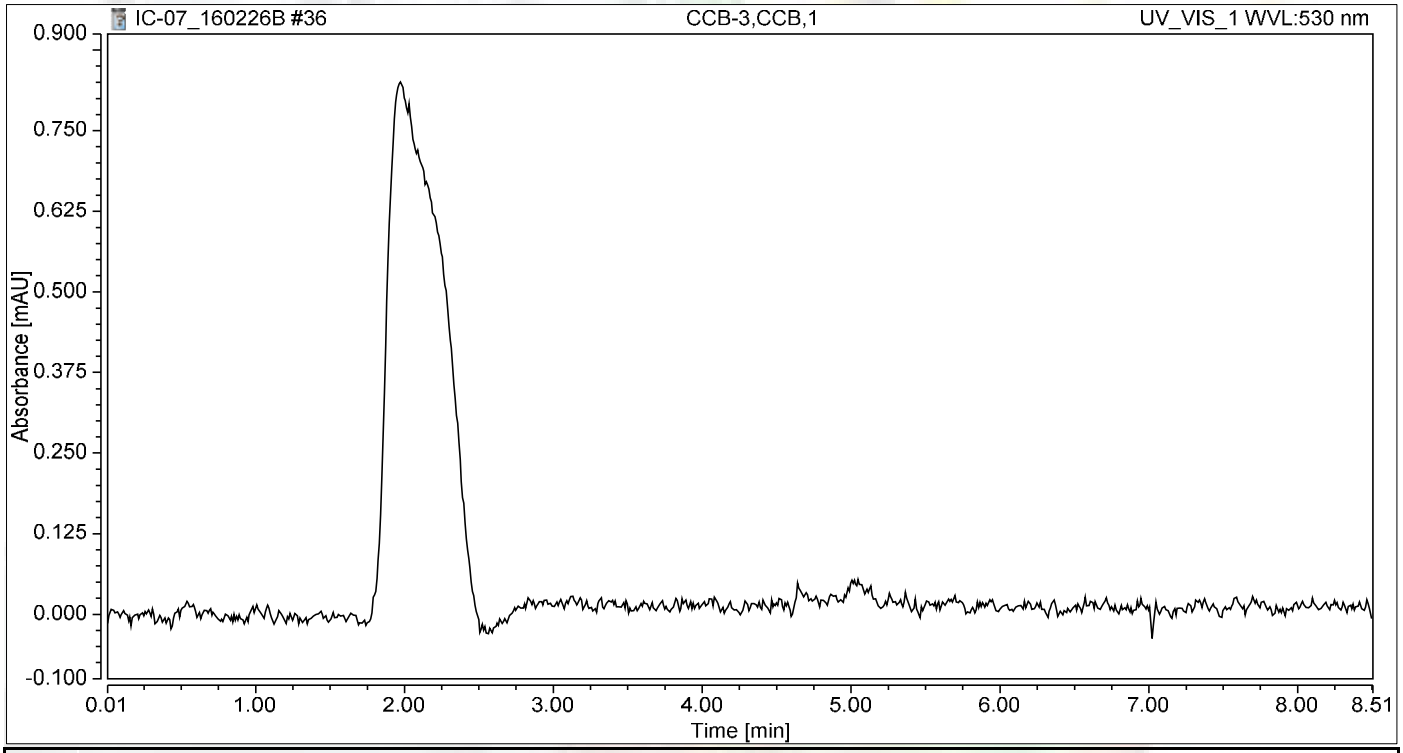
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.216	7.169	100.00	100.00	5.1380
Total:			**1.216**	**7.169**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

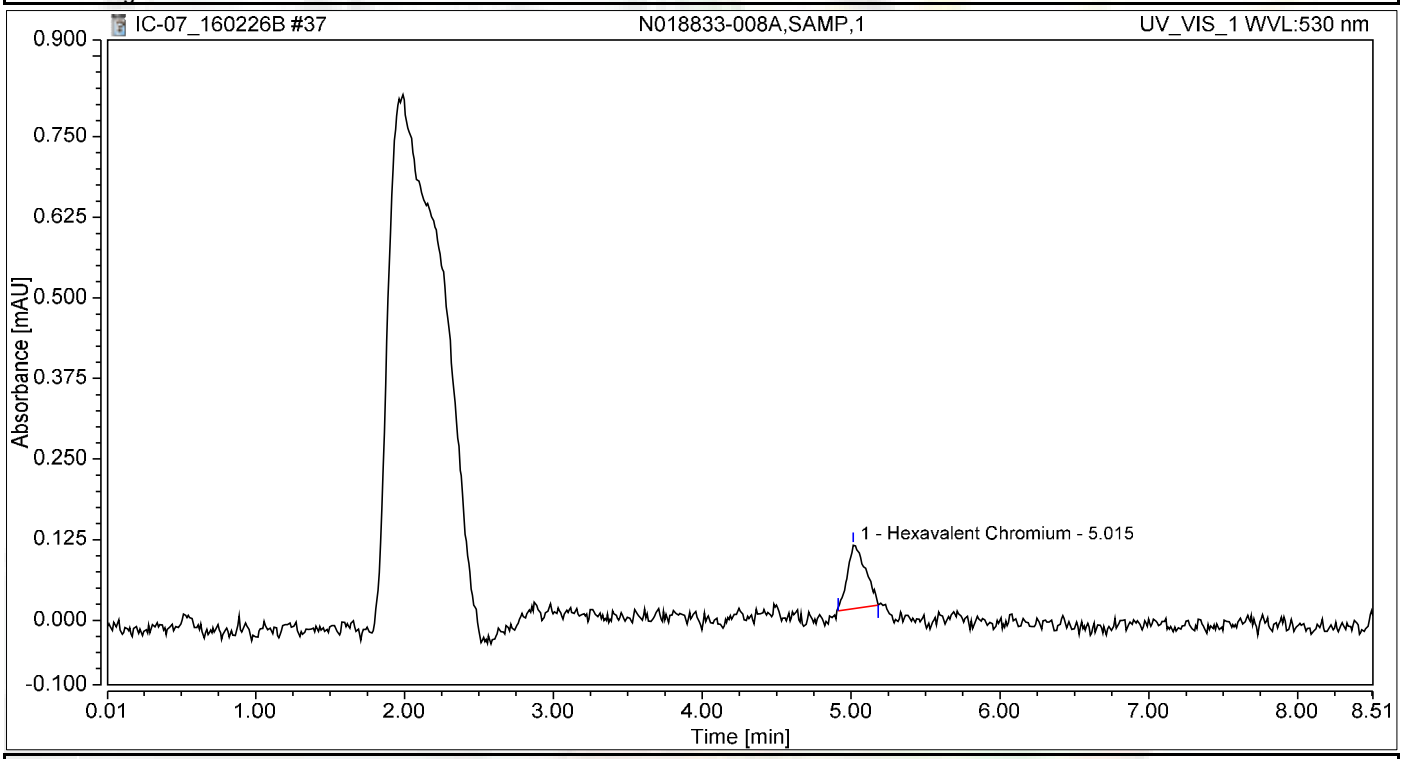
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

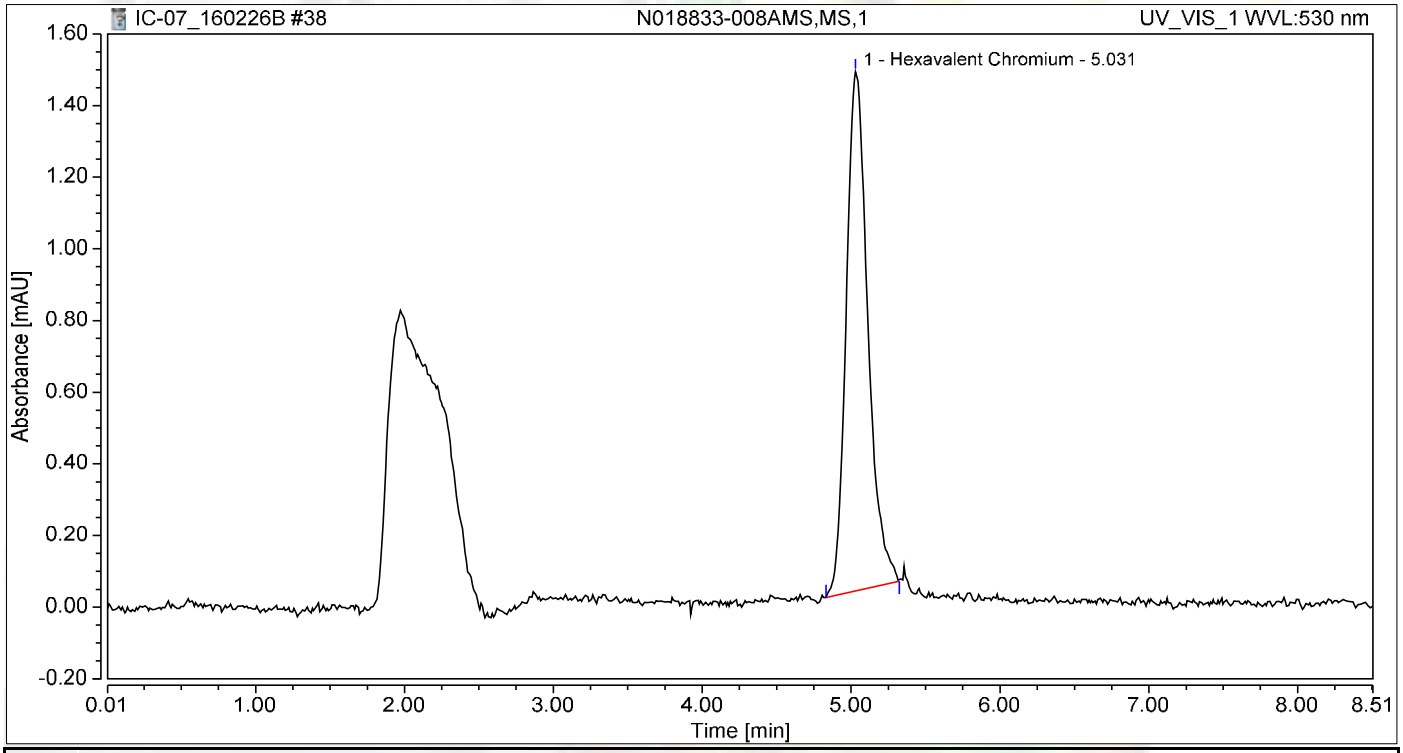
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.014	0.098	100.00	100.00	0.0585
Total:			**0.014**	**0.098**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

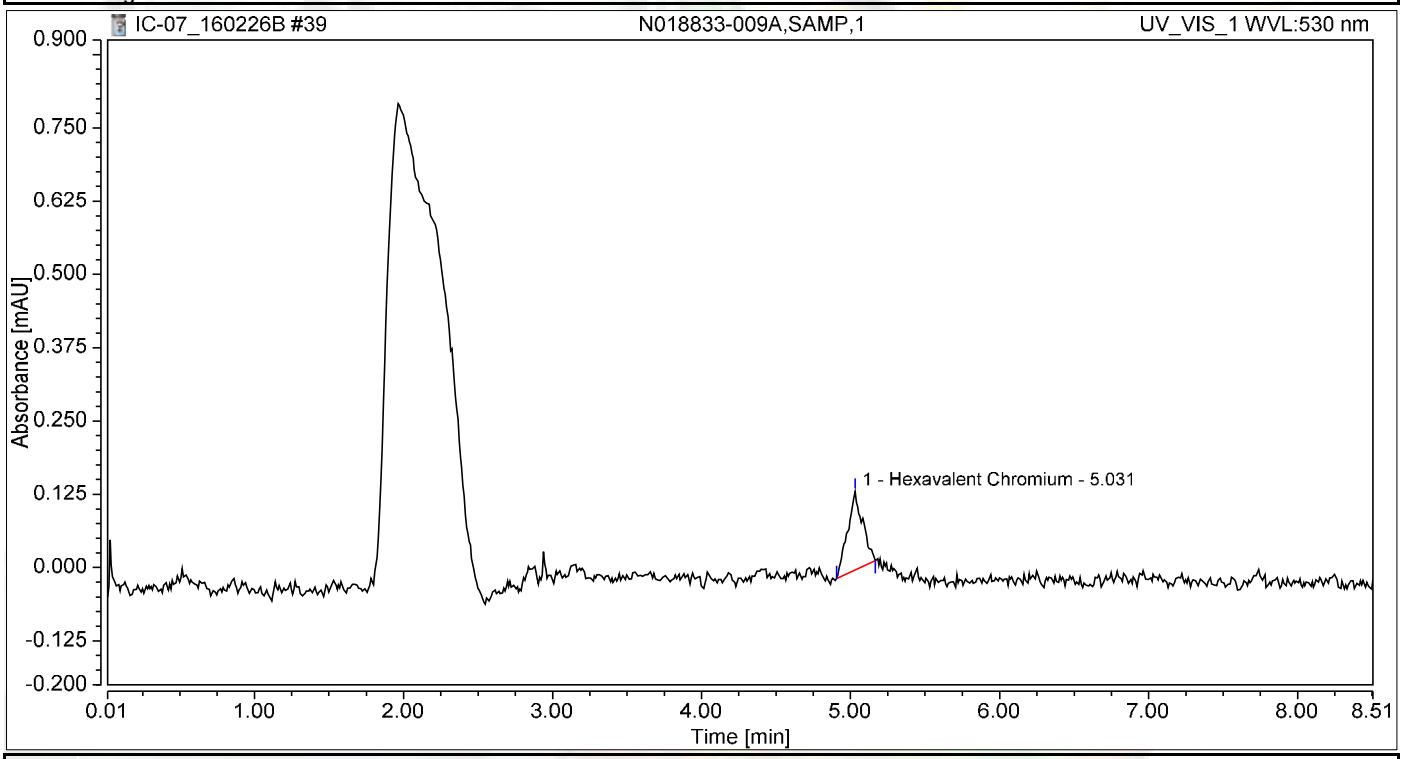
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.242	1.448	100.00	100.00	1.0233
Total:			**0.242**	**1.448**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

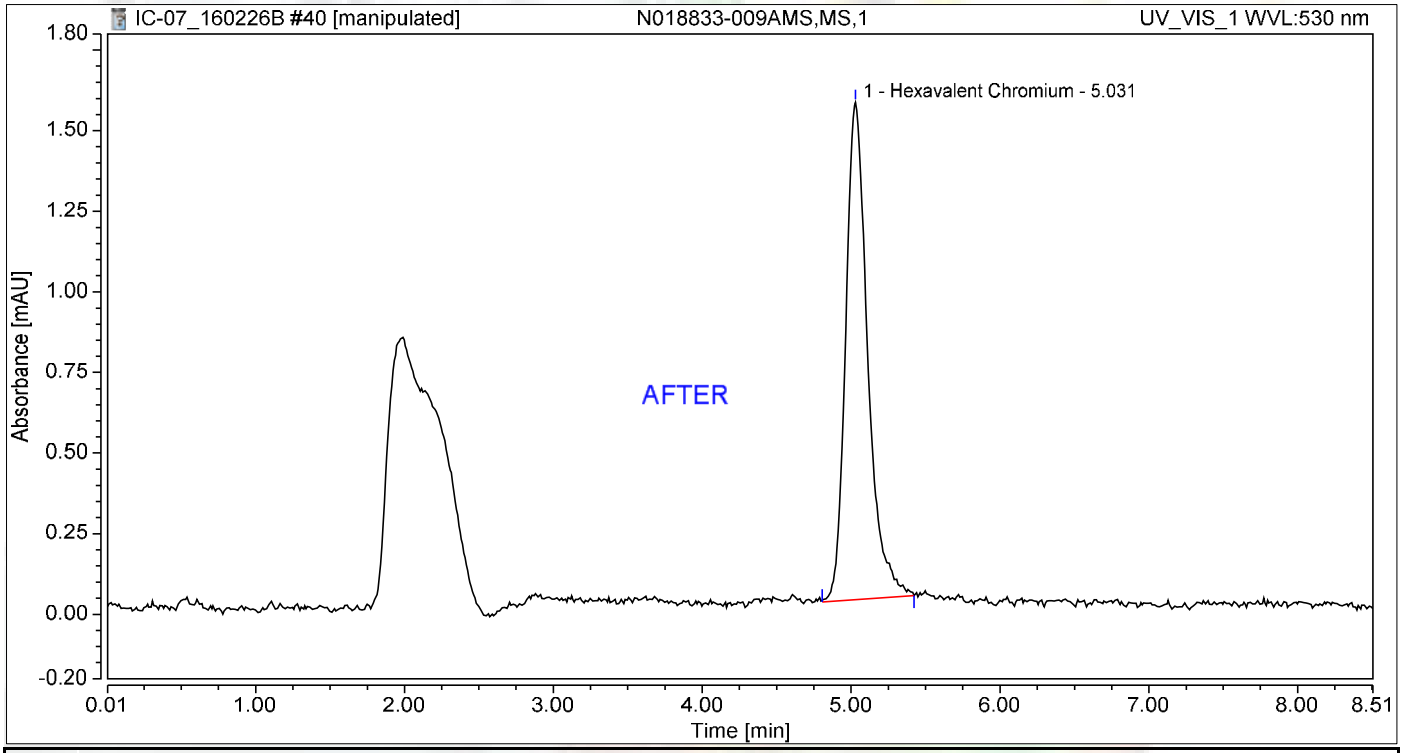
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.134	100.00	100.00	0.0656
Total:			**0.016**	**0.134**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.262	1.542	100.00	100.00	1.1084
Total:			**0.262**	**1.542**	**100.00**	**100.00**	

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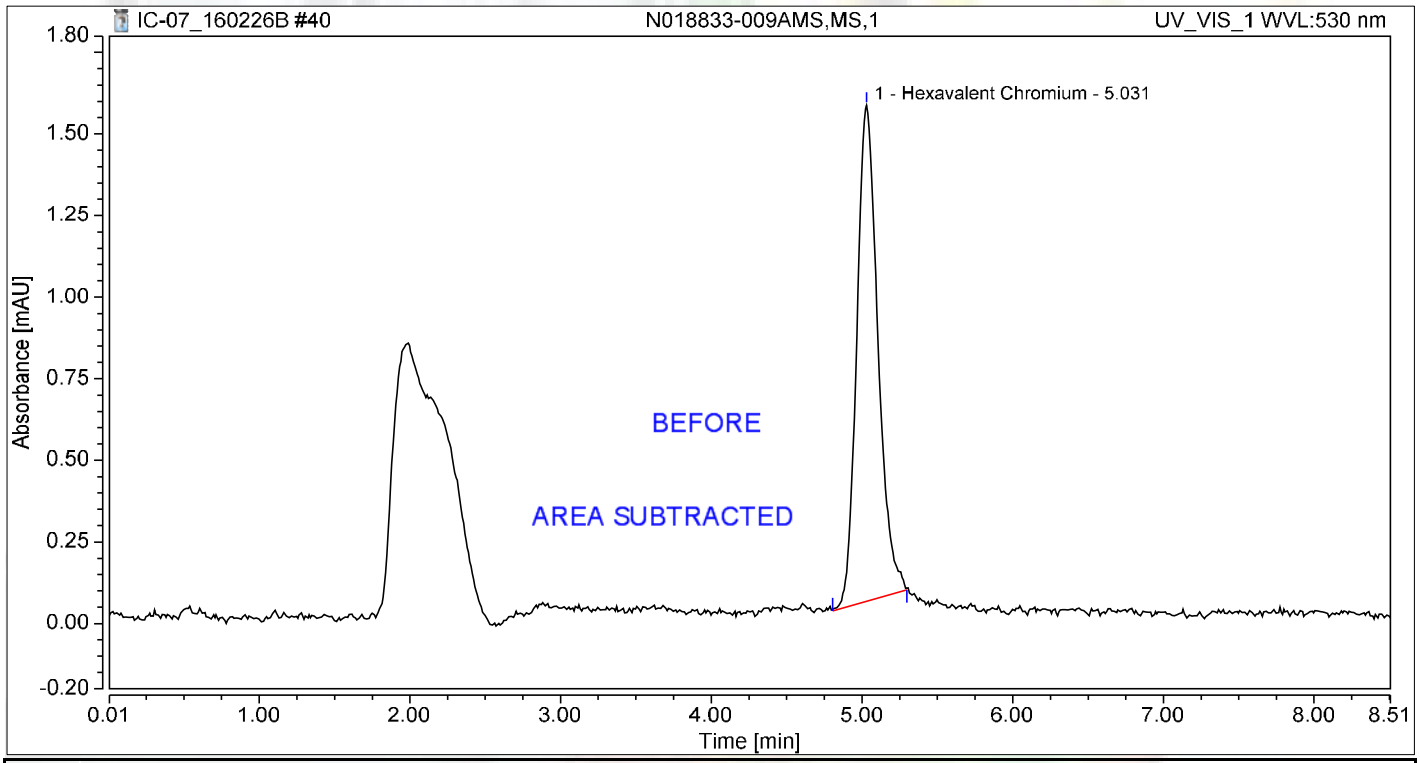
Chromatogram and Results

Injection Details

Injection Name:	**N018833-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.247	1.519	100.00	100.00	1.0439
Total:			**0.247**	**1.519**	**100.00**	**100.00**	

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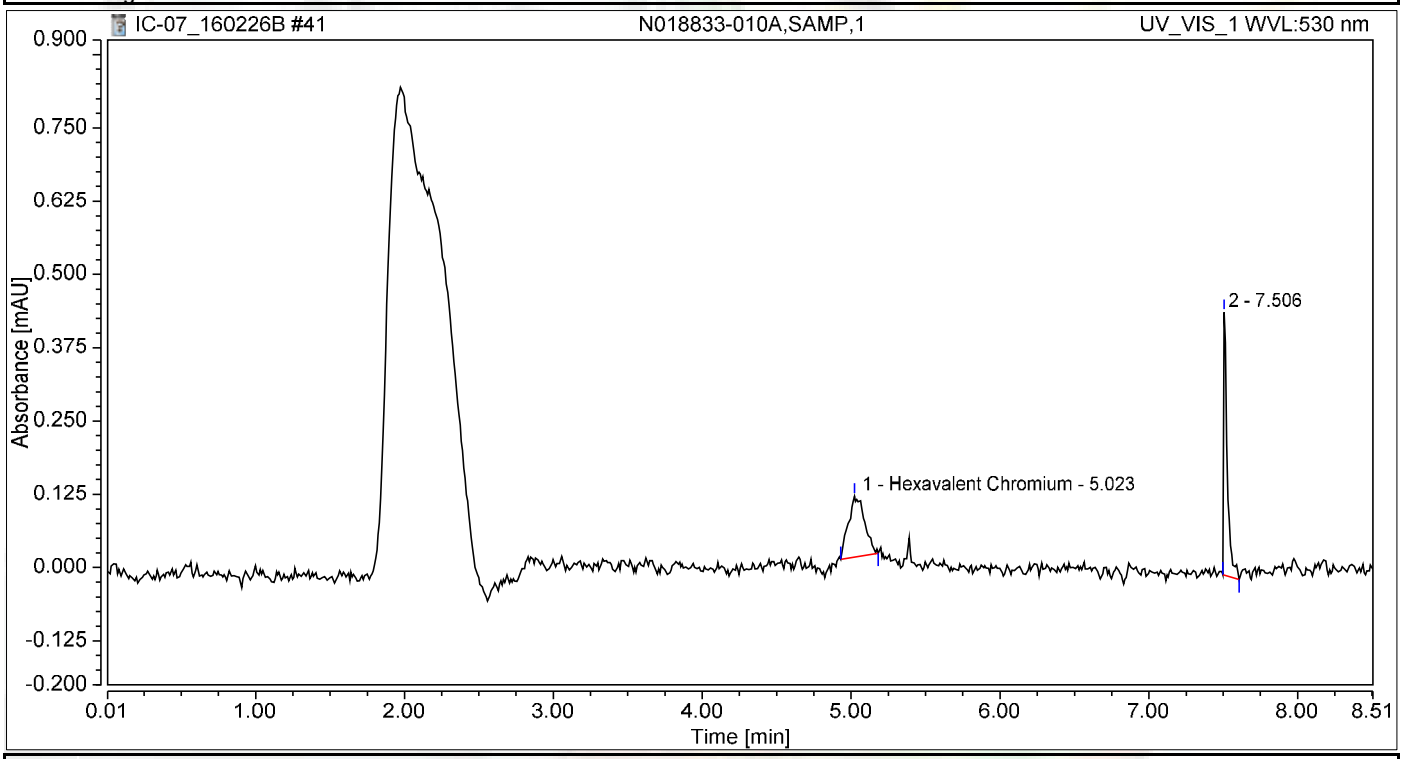
Chromatogram and Results

Injection Details

Injection Name:	**N018833-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

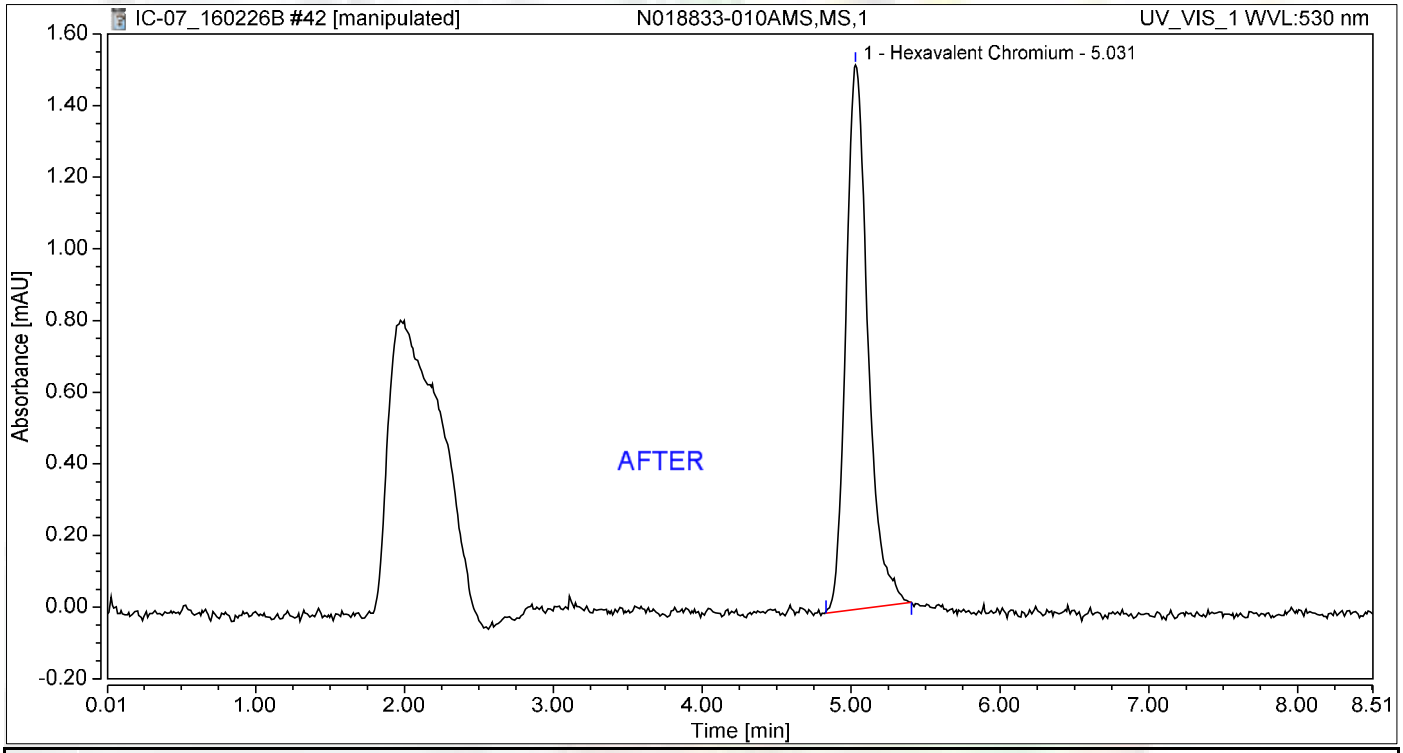
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.013	0.104	50.99	18.85	0.0546
2		7.506	0.012	0.449	49.01	81.15	n.a.
Total:			**0.025**	**0.553**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.258	1.520	100.00	100.00	1.0897
Total:			**0.258**	**1.520**	**100.00**	**100.00**	

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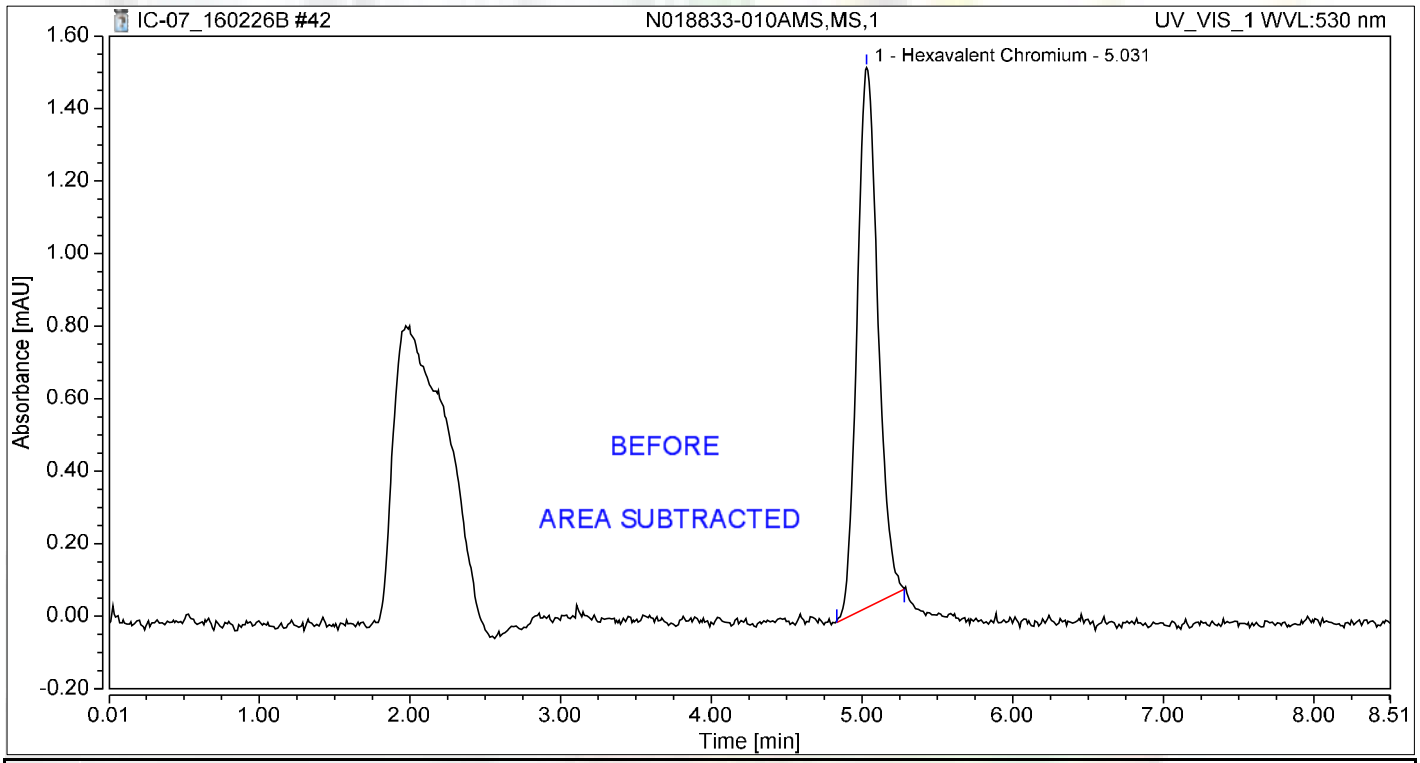
Chromatogram and Results

Injection Details

Injection Name:	**N018833-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.490	100.00	100.00	1.0125
Total:			**0.240**	**1.490**	**100.00**	**100.00**	

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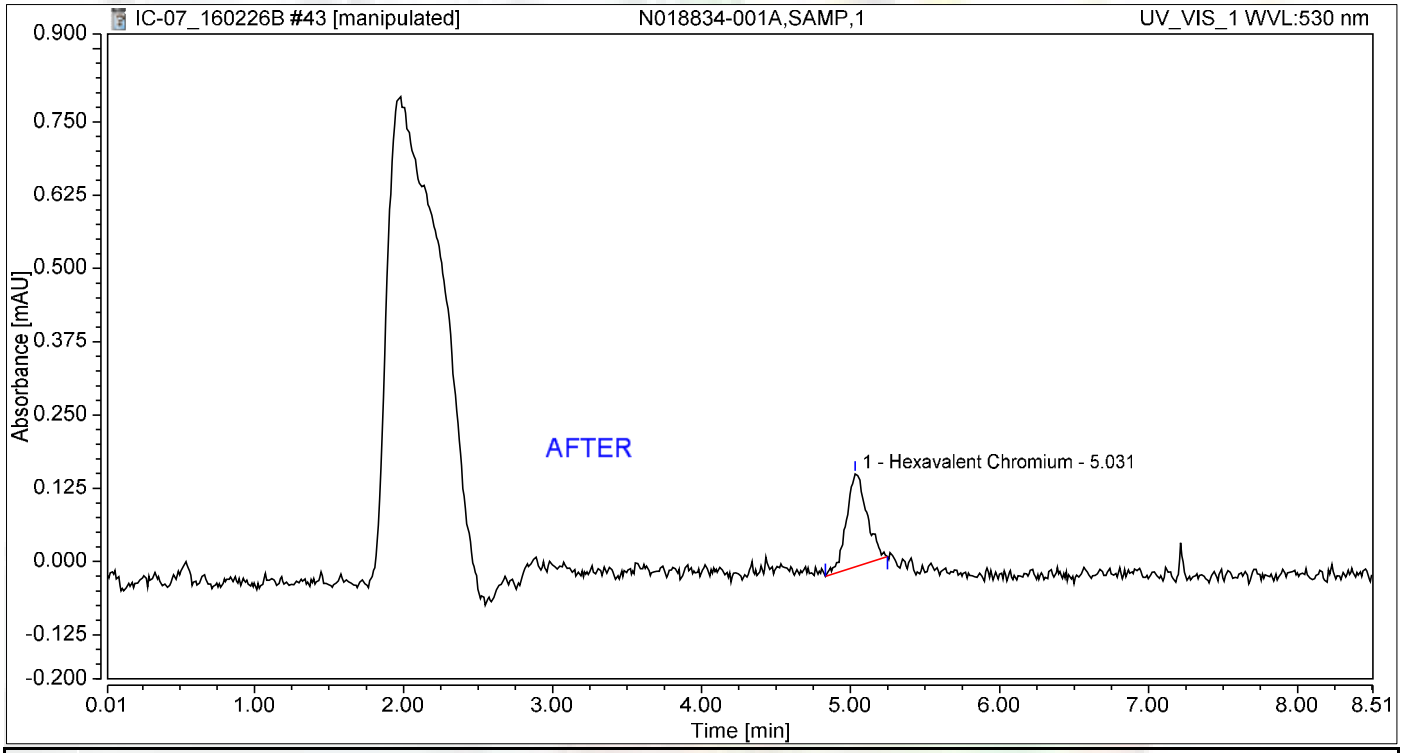
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.025	0.159	100.00	100.00	0.1067
Total:			**0.025**	**0.159**	**100.00**	**100.00**	

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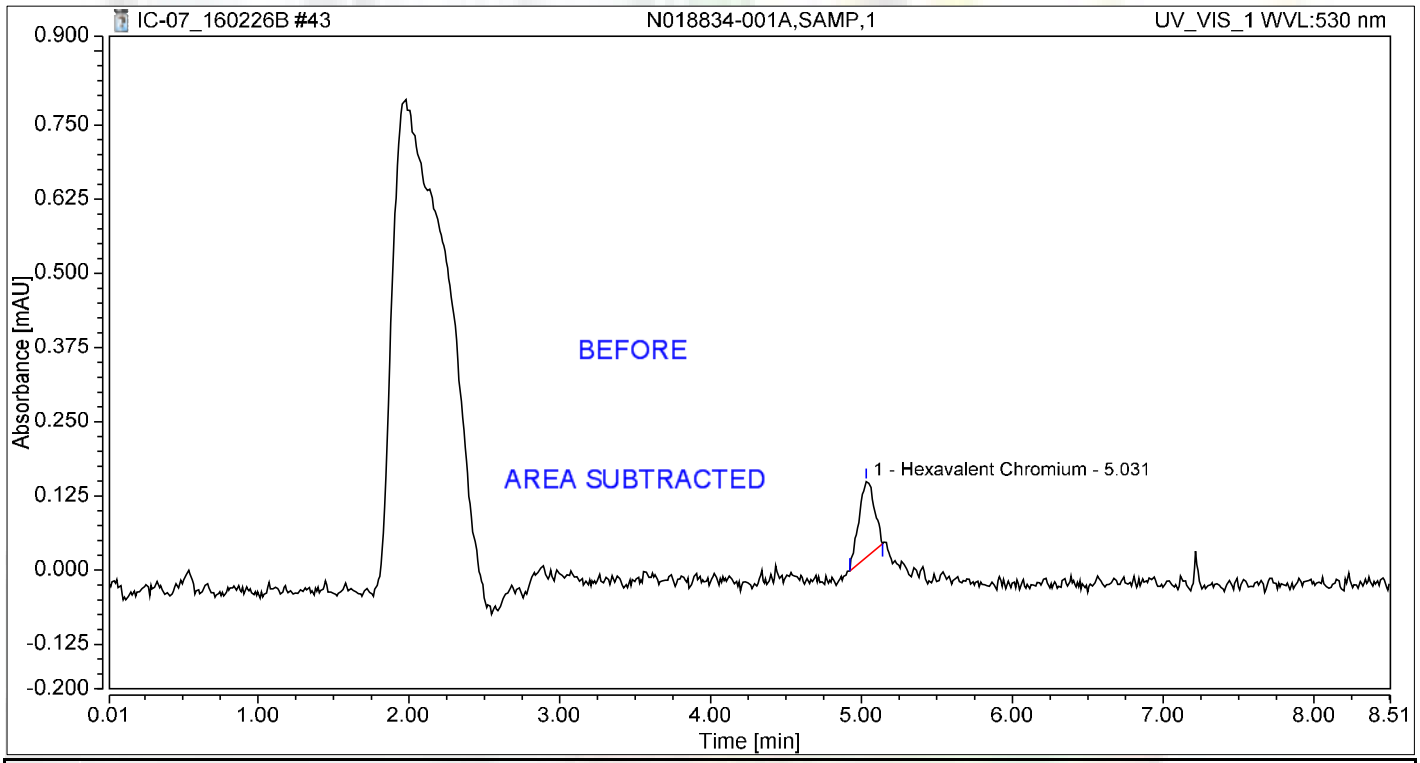
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.015	0.128	100.00	100.00	0.0647
Total:			**0.015**	**0.128**	**100.00**	**100.00**	

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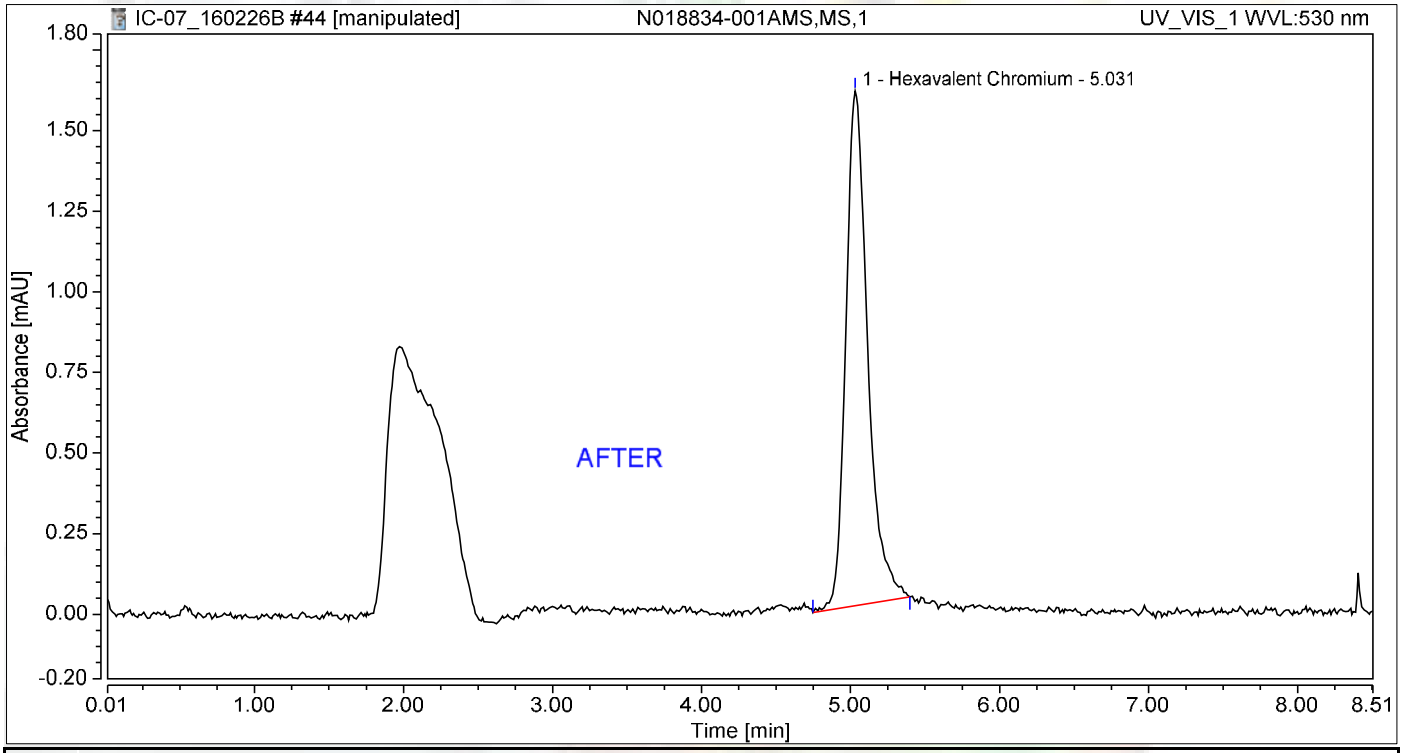
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.270	1.597	100.00	100.00	1.1394
Total:			**0.270**	**1.597**	**100.00**	**100.00**	

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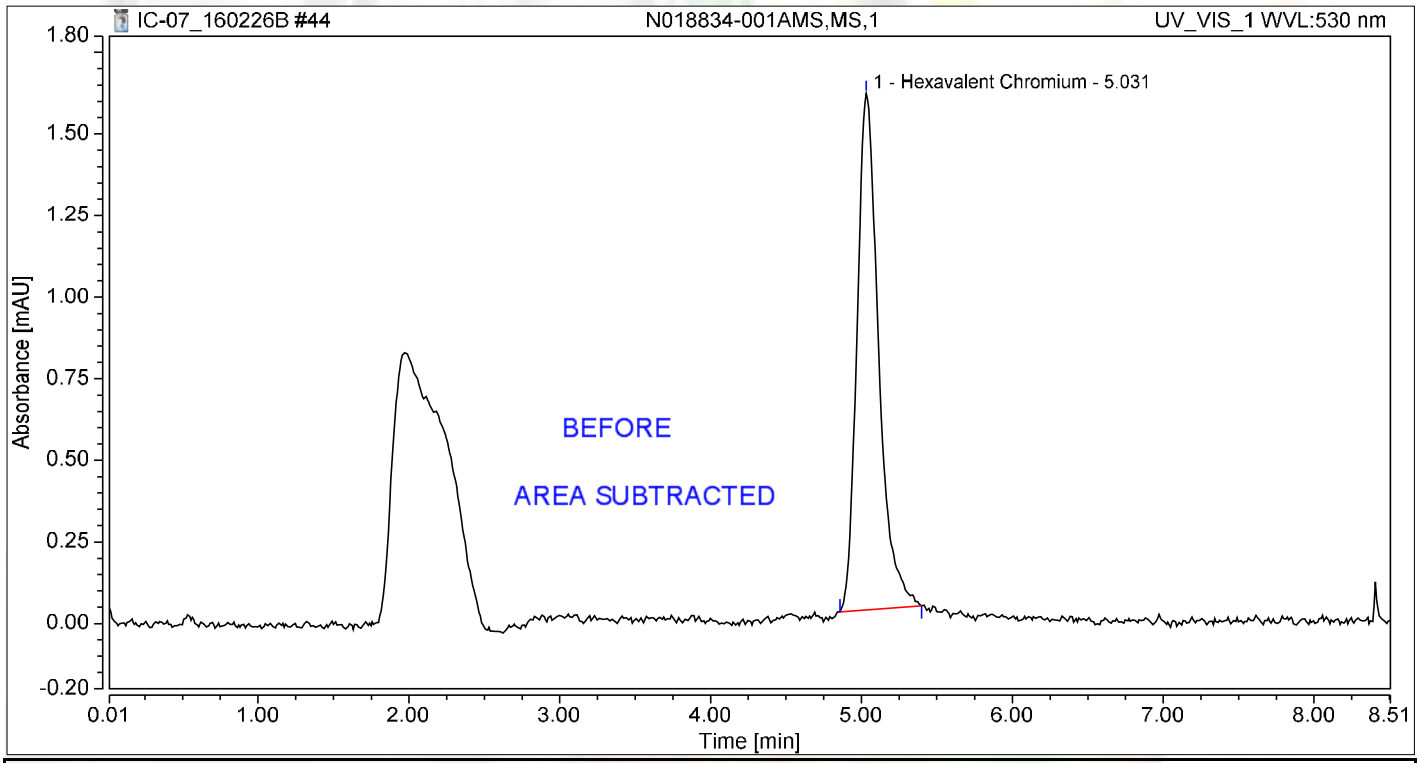
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.582	100.00	100.00	1.1103
Total:			**0.263**	**1.582**	**100.00**	**100.00**	

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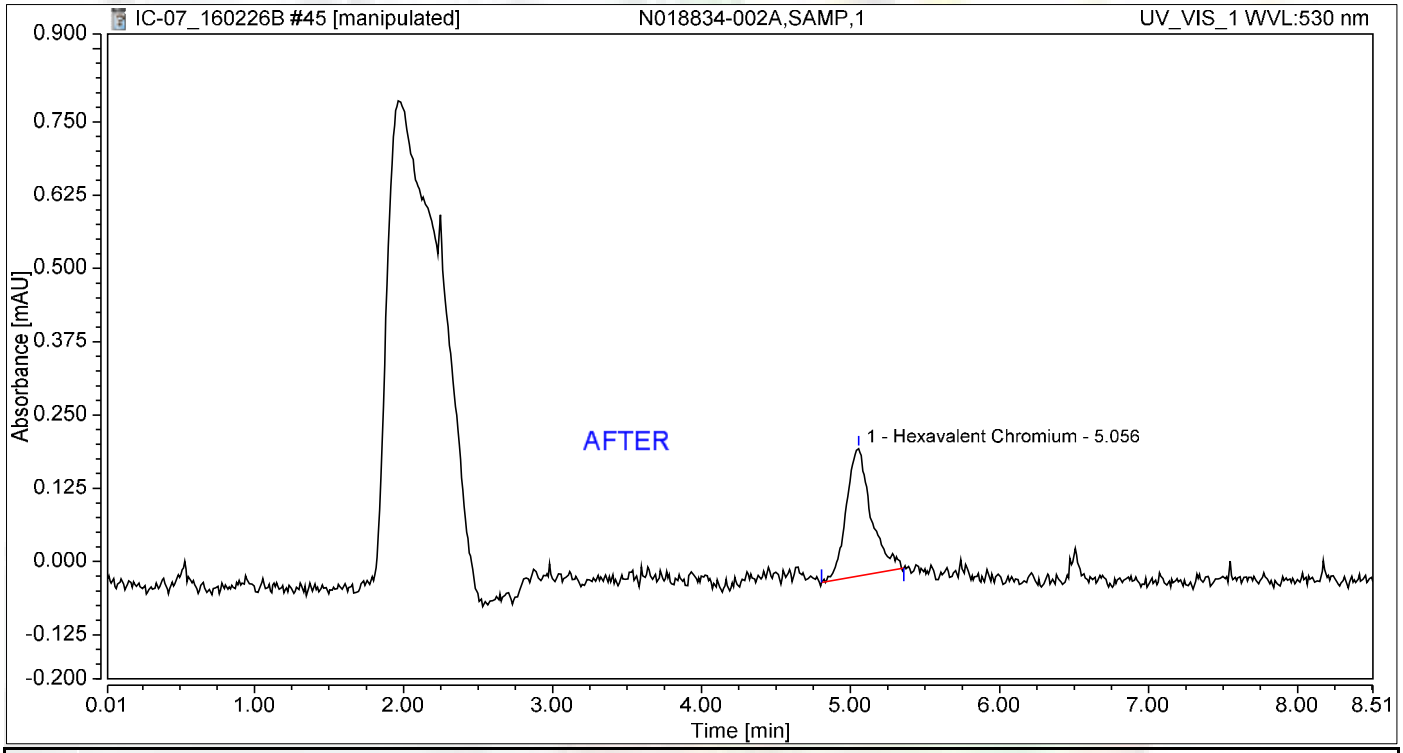
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.042	0.217	100.00	100.00	0.1764
Total:			**0.042**	**0.217**	**100.00**	**100.00**	

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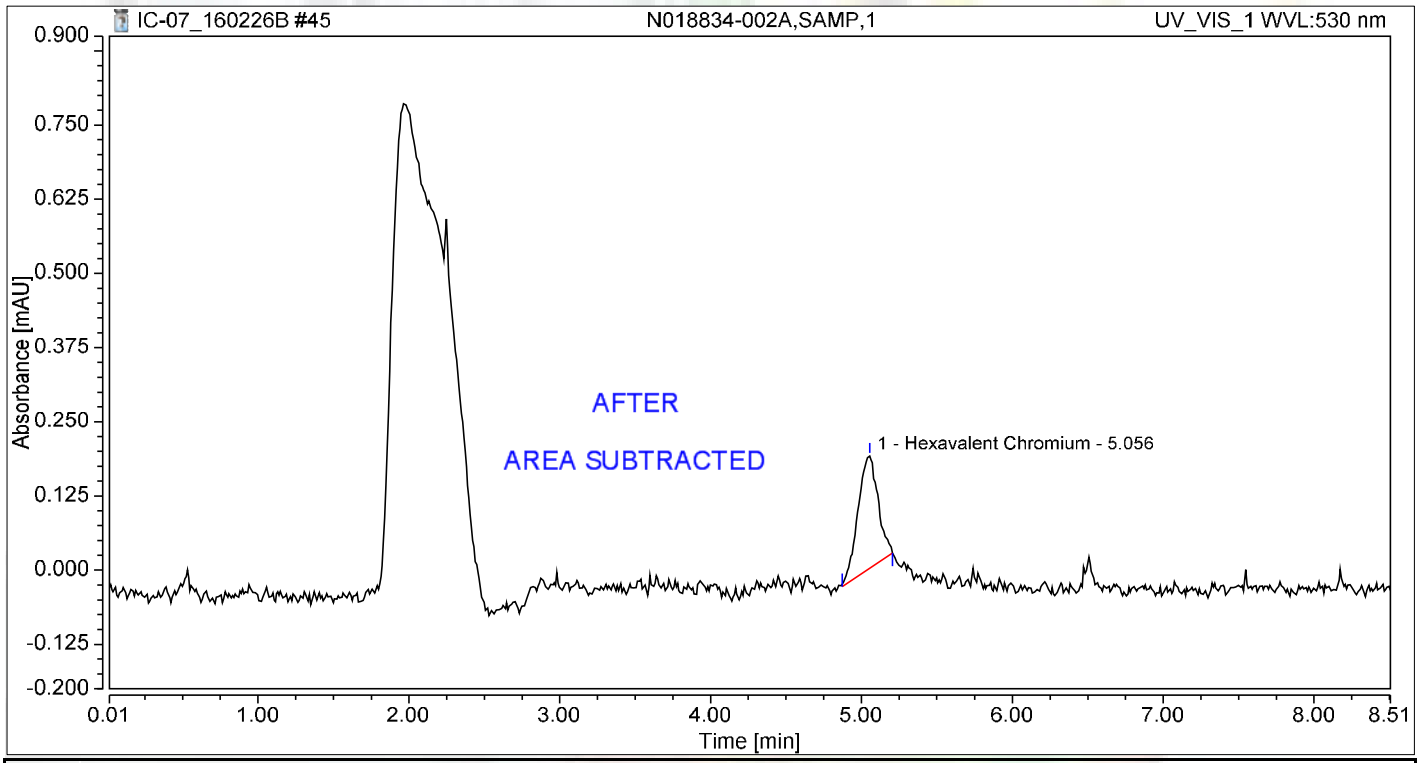
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.030	0.189	100.00	100.00	0.1248
Total:			**0.030**	**0.189**	**100.00**	**100.00**	

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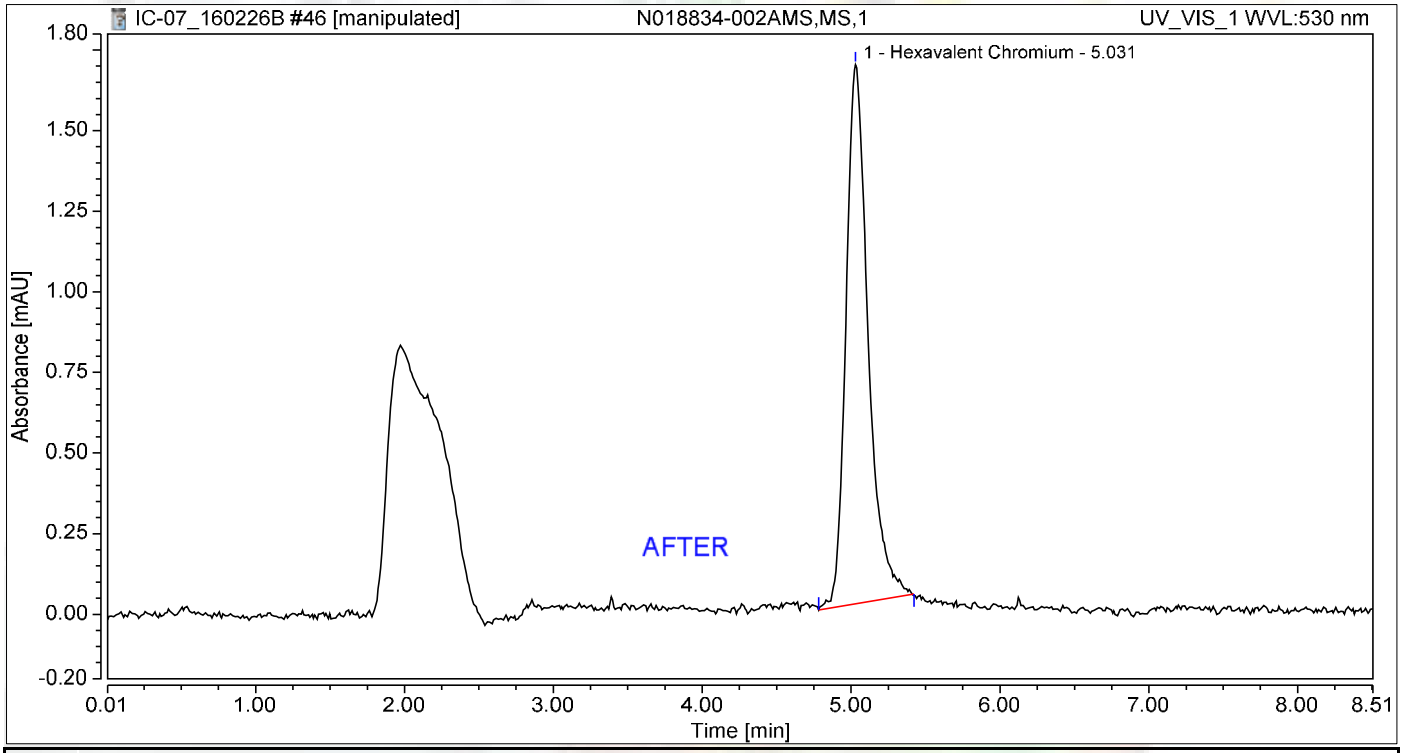
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.287	1.671	100.00	100.00	1.2106
Total:			**0.287**	**1.671**	**100.00**	**100.00**	

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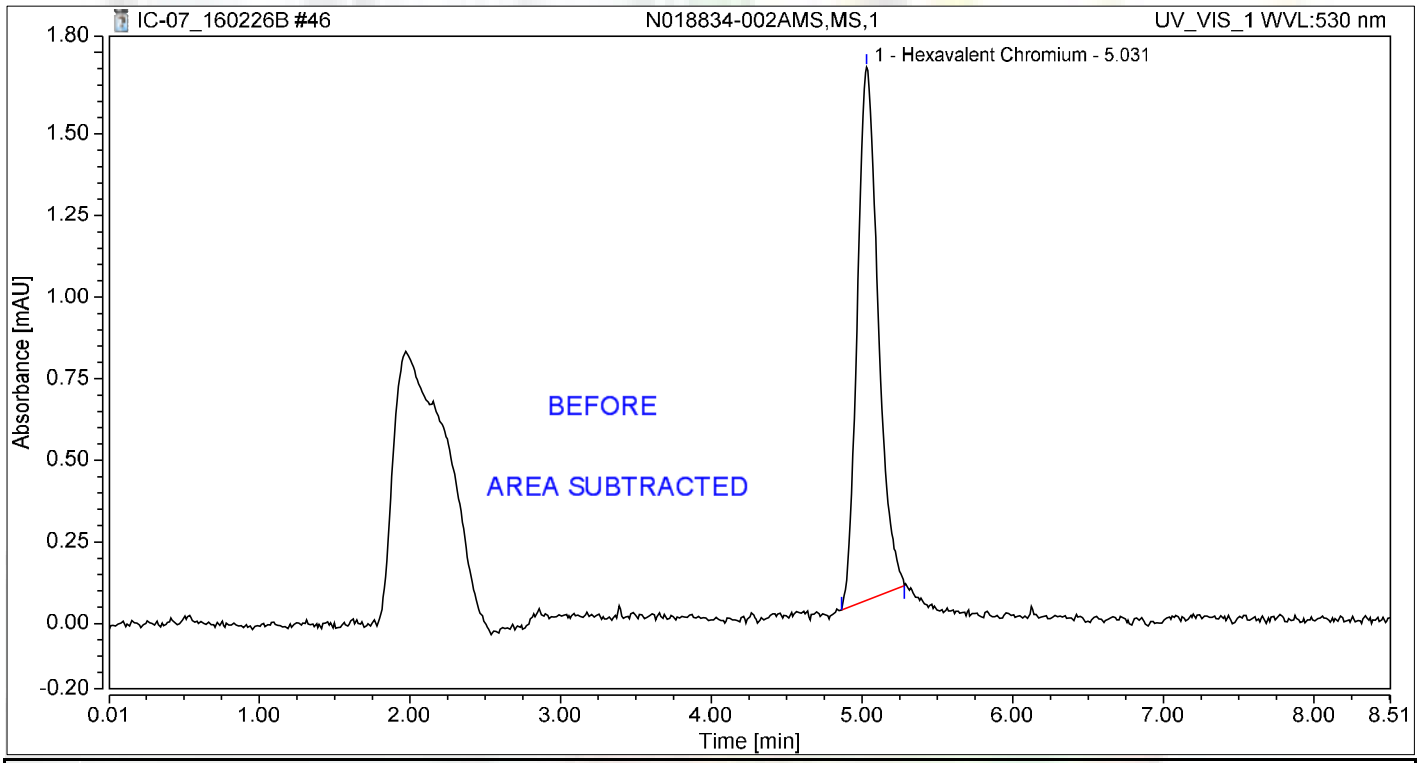
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.633	100.00	100.00	1.1102
Total:			**0.263**	**1.633**	**100.00**	**100.00**	

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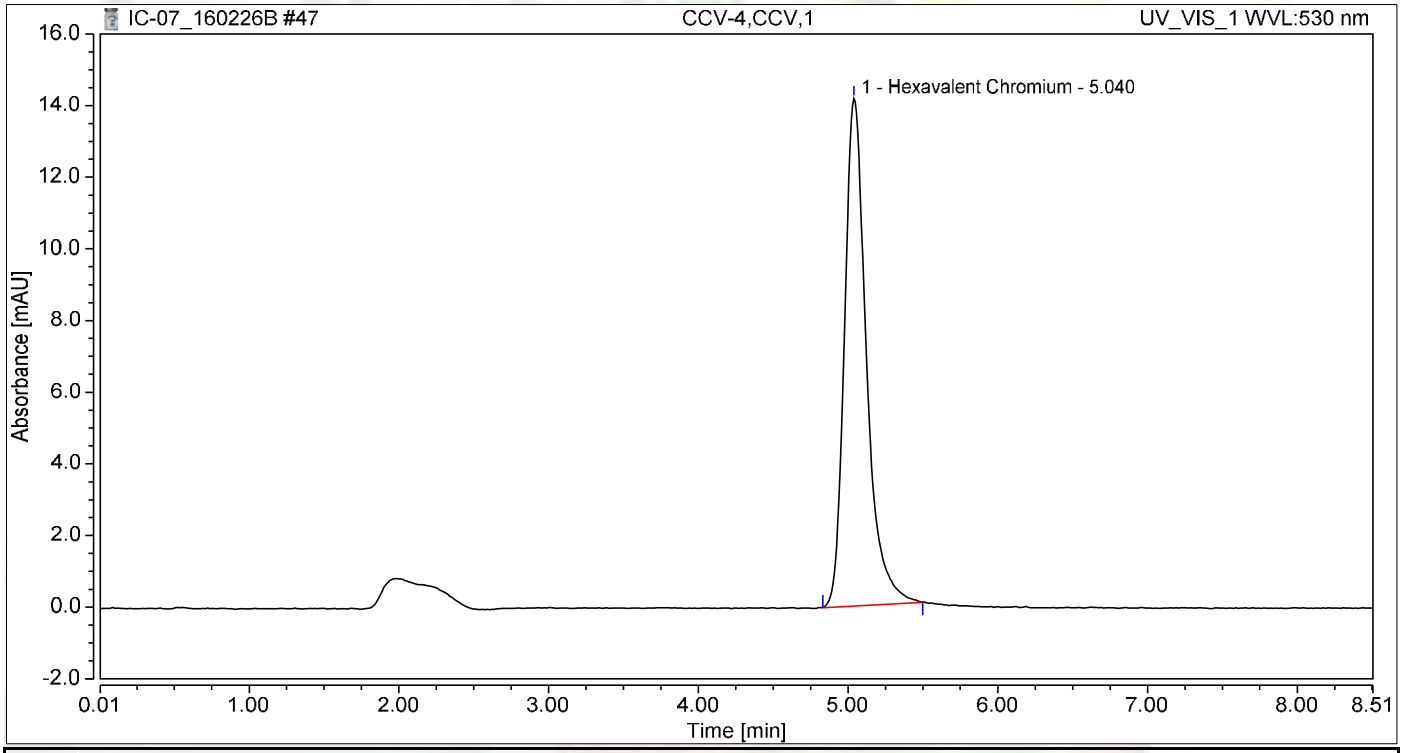
Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

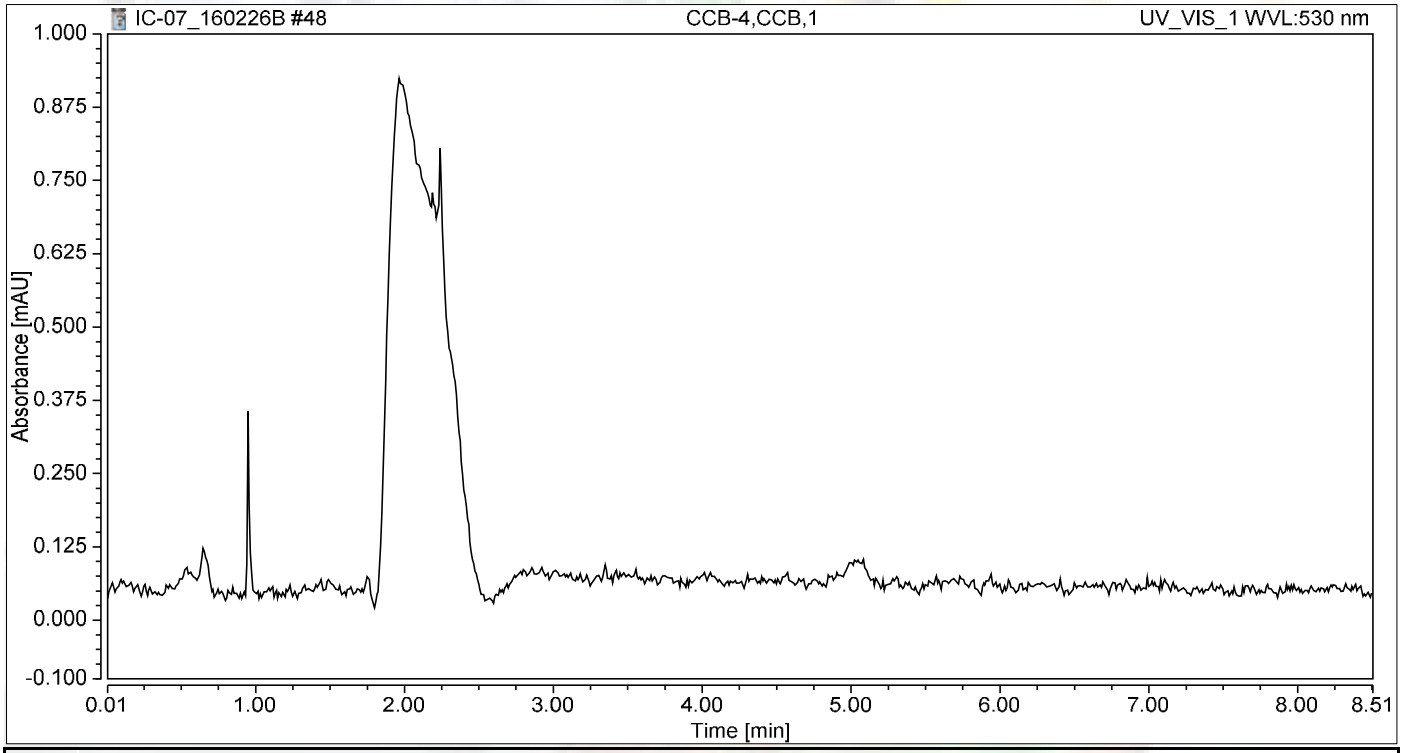
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.389	14.160	100.00	100.00	10.0918
Total:			**2.389**	**14.160**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

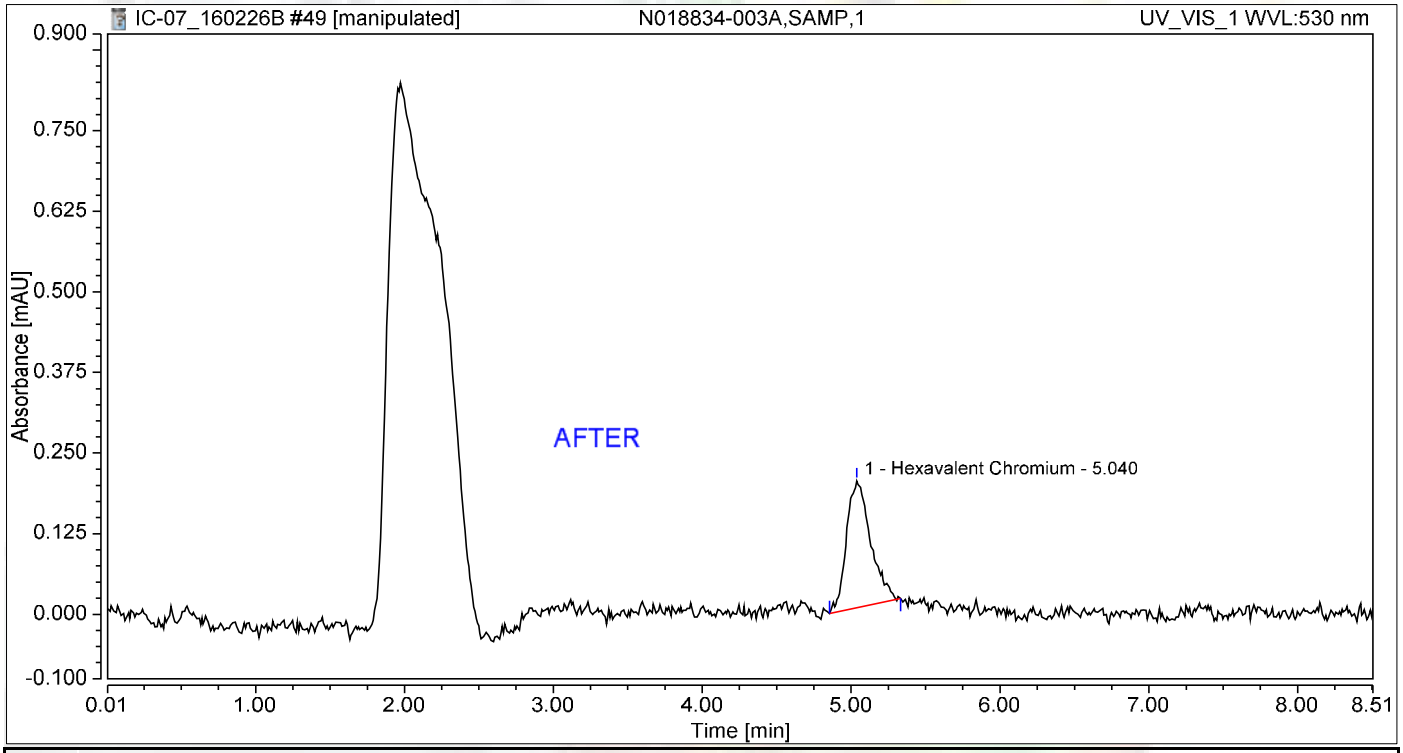
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.037	0.197	100.00	100.00	0.1548
Total:			**0.037**	**0.197**	**100.00**	**100.00**	

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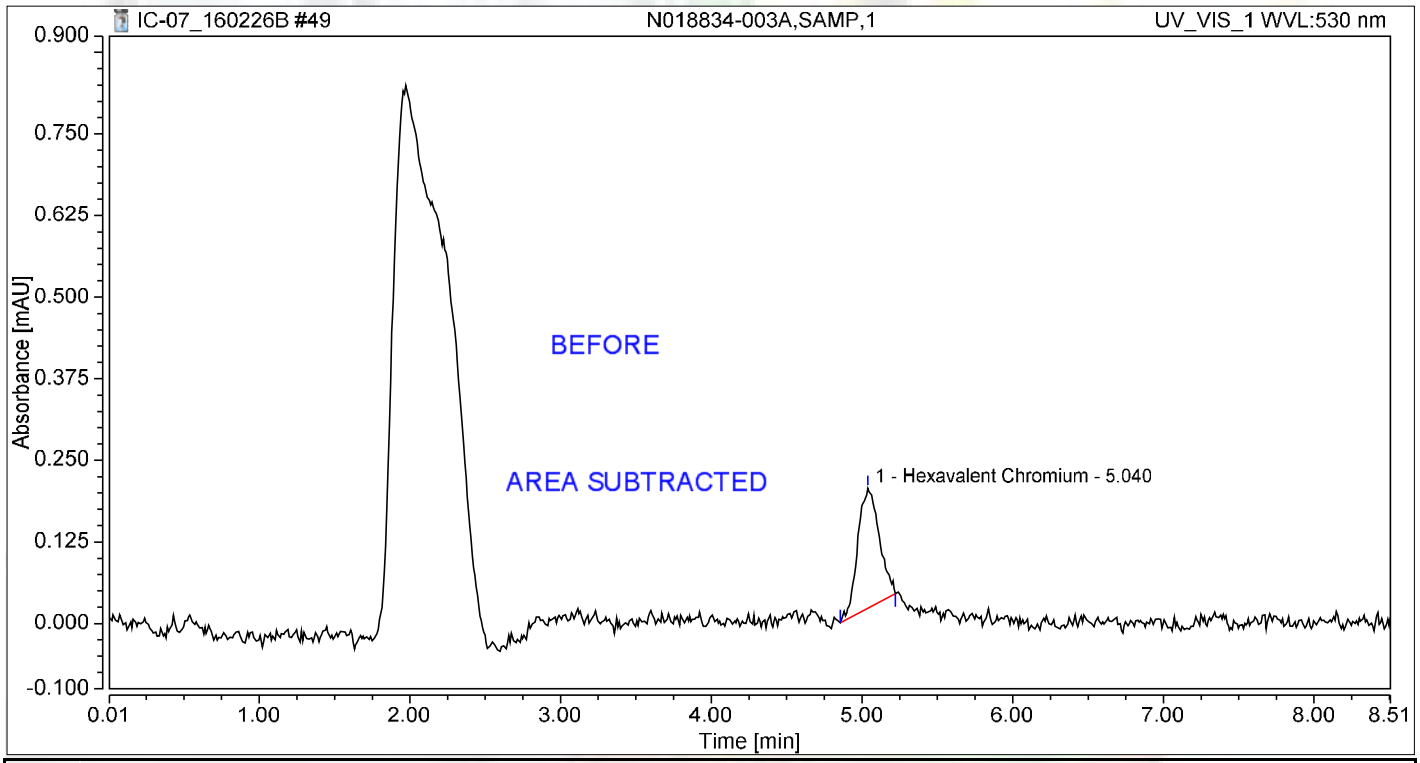
Chromatogram and Results

Injection Details

Injection Name:	**N018834-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.030	0.183	100.00	100.00	0.1285
Total:			**0.030**	**0.183**	**100.00**	**100.00**	

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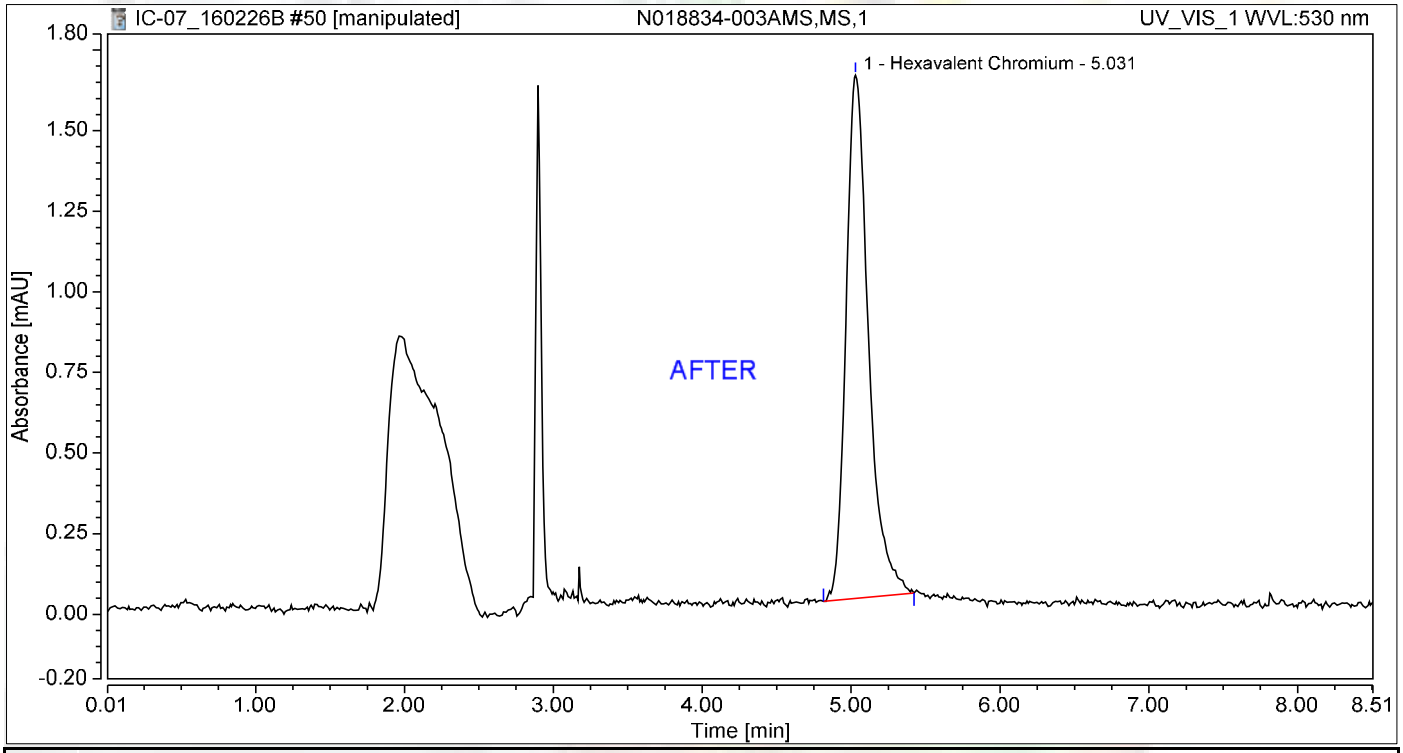
Chromatogram and Results

Injection Details

Injection Name:	**N018834-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

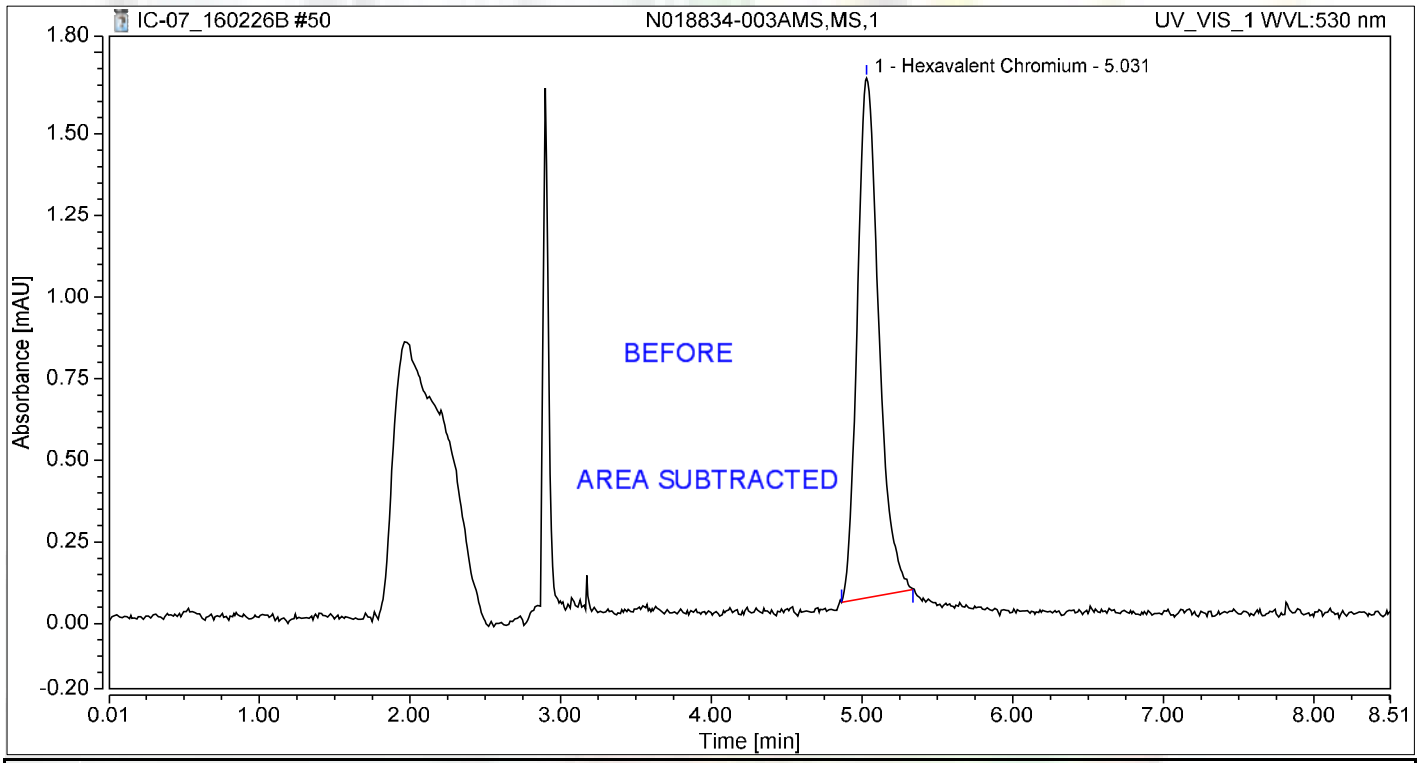
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.282	1.621	100.00	100.00	1.1933
Total:			**0.282**	**1.621**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

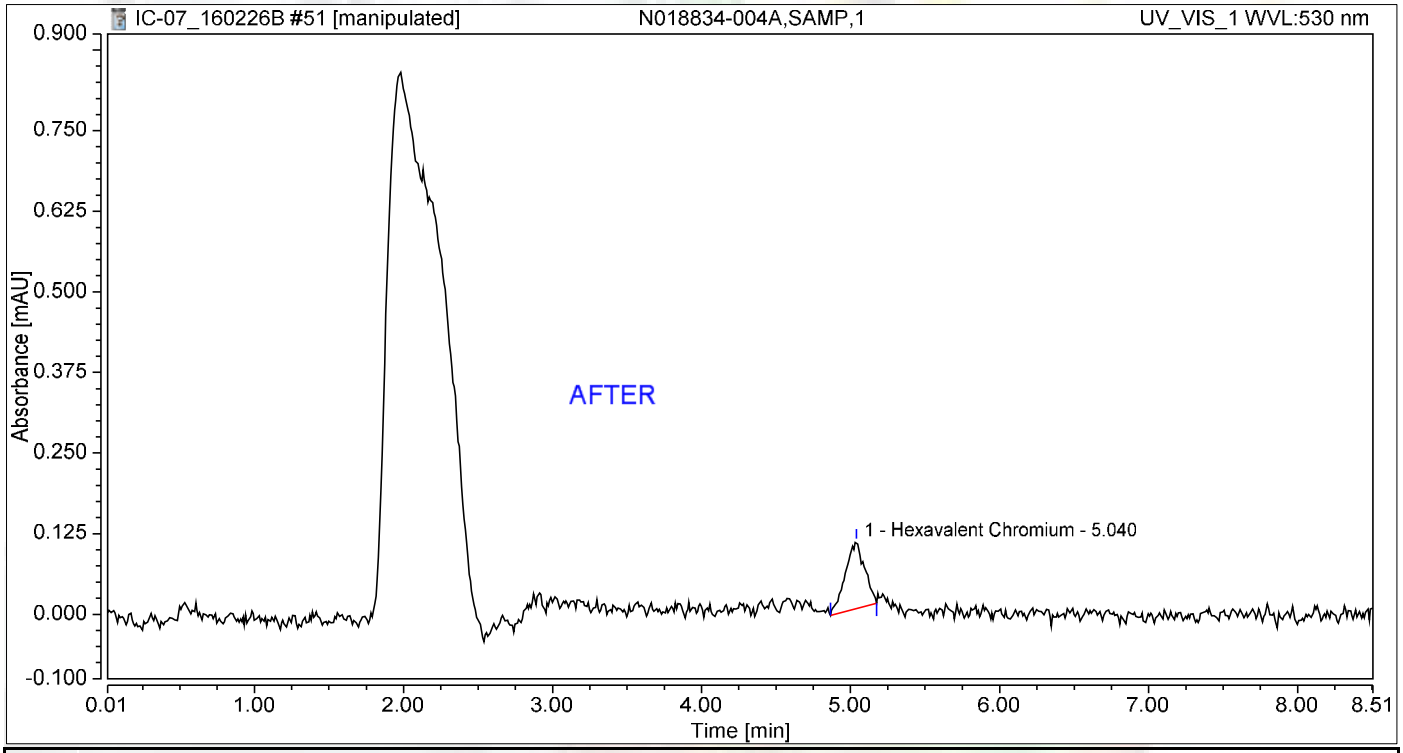
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.593	100.00	100.00	1.1212
Total:			**0.265**	**1.593**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.104	100.00	100.00	0.0659
Total:			**0.016**	**0.104**	**100.00**	**100.00**	

Reb 3/8/2016

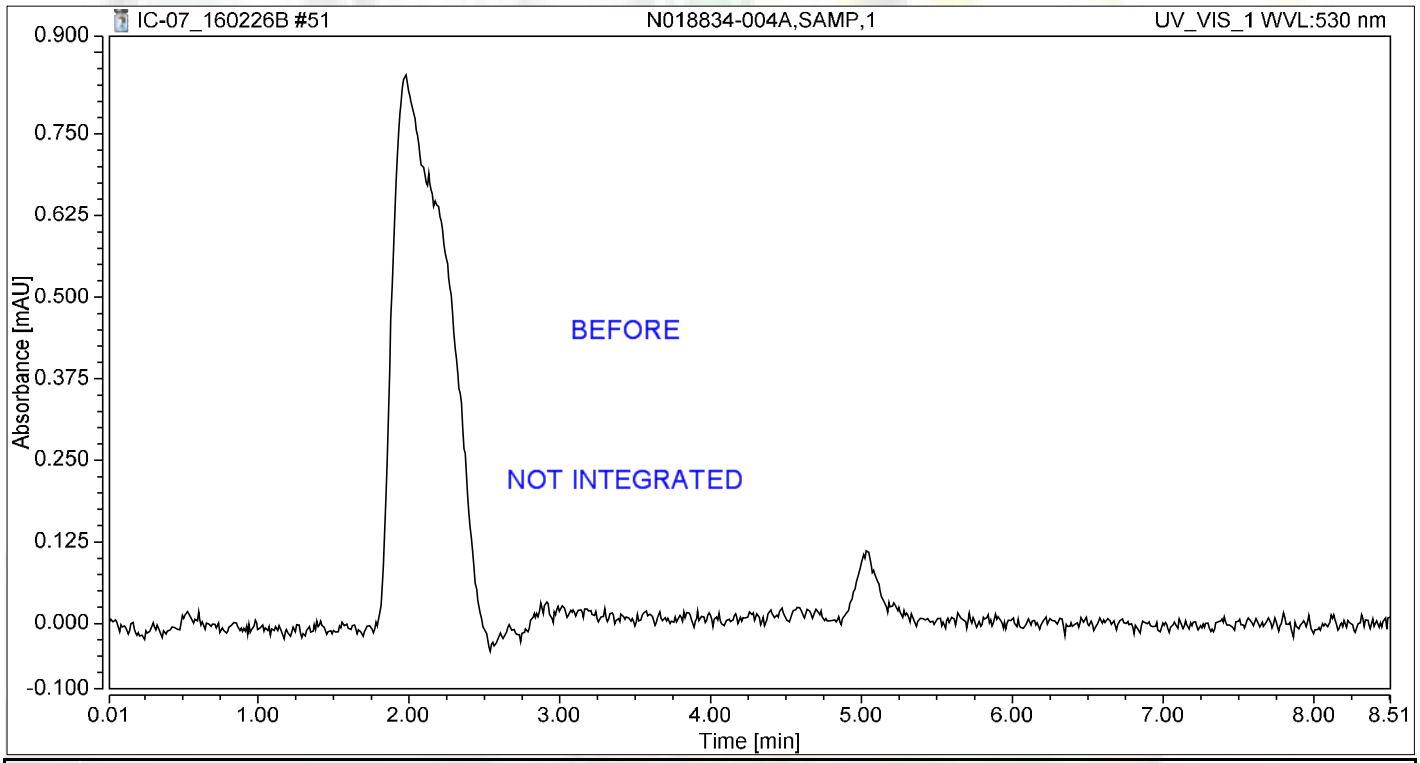
3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

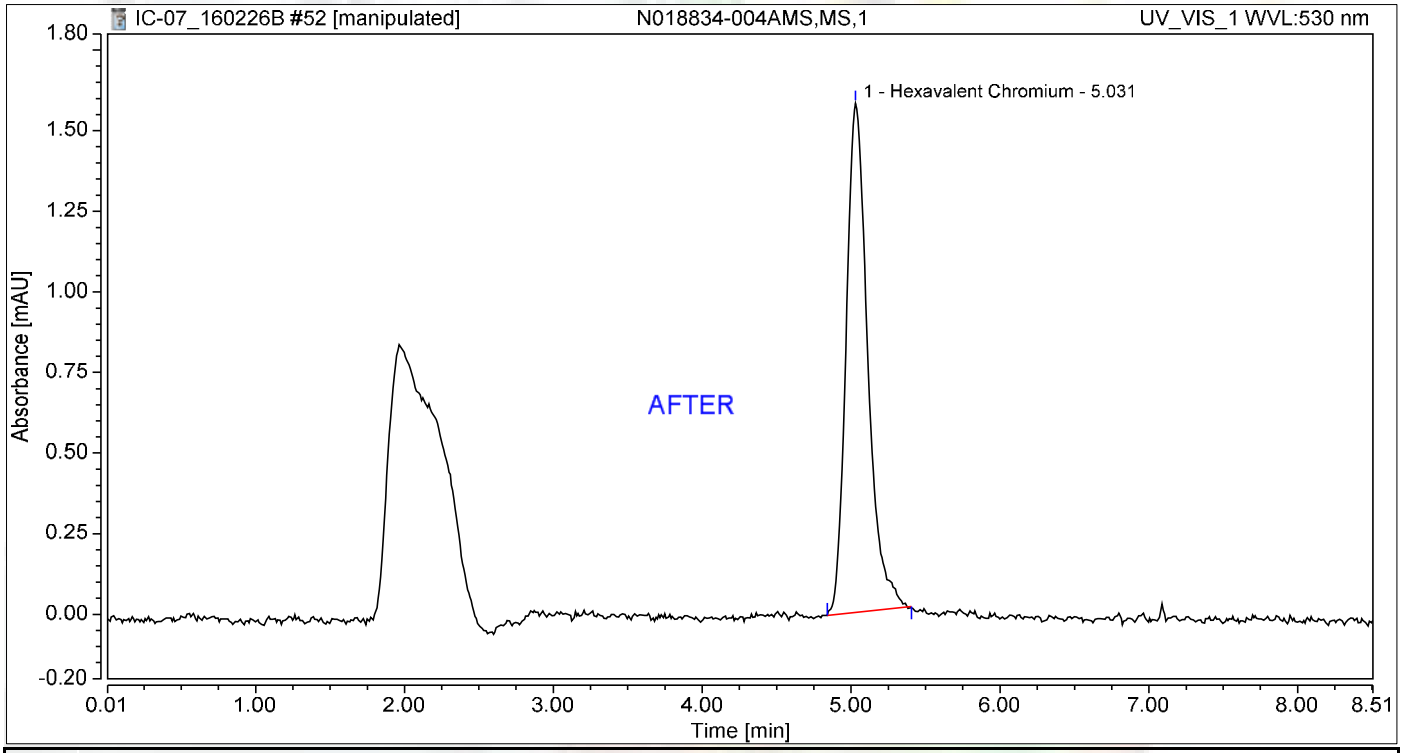
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.579	100.00	100.00	1.1132
Total:			**0.263**	**1.579**	**100.00**	**100.00**	

Reb 3/8/2016

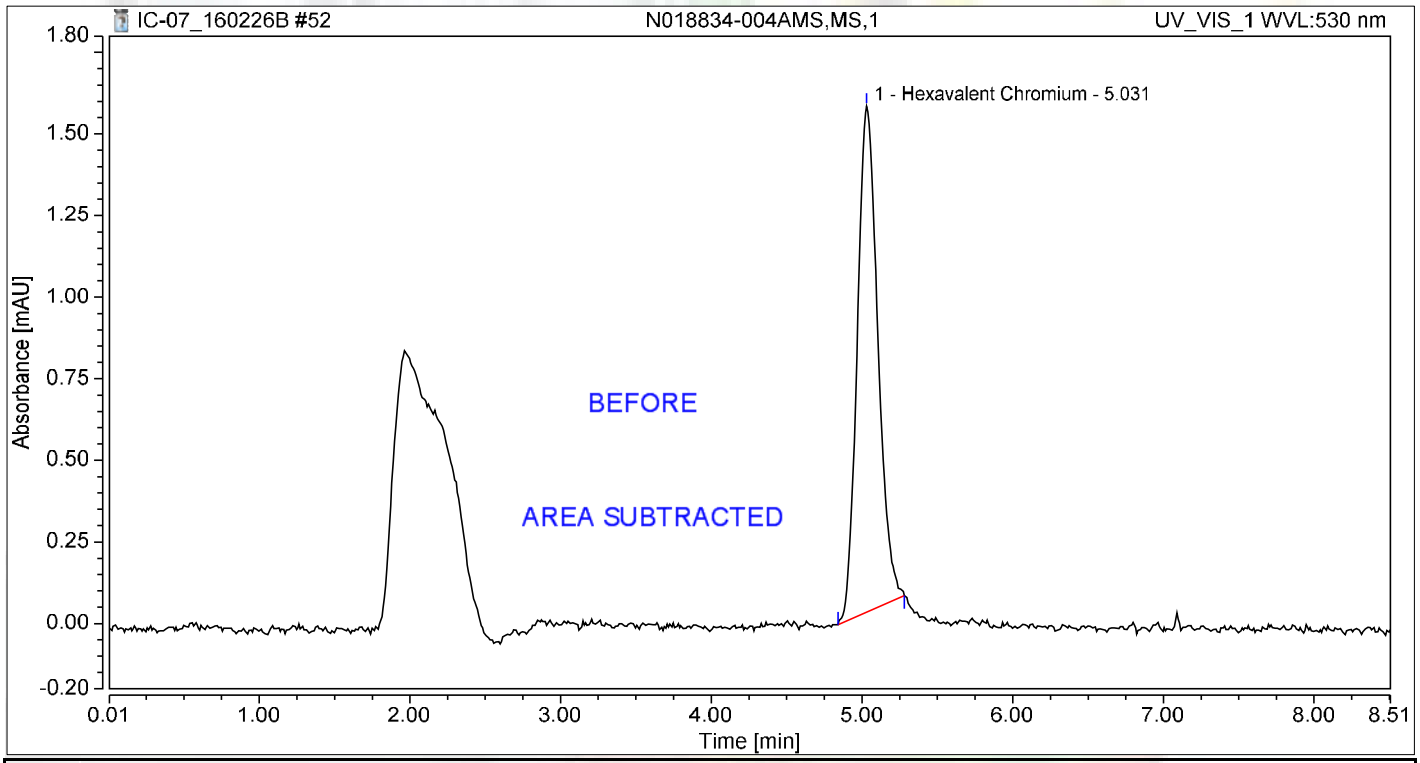
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.246	1.550	100.00	100.00	1.0386
Total:			**0.246**	**1.550**	**100.00**	**100.00**	

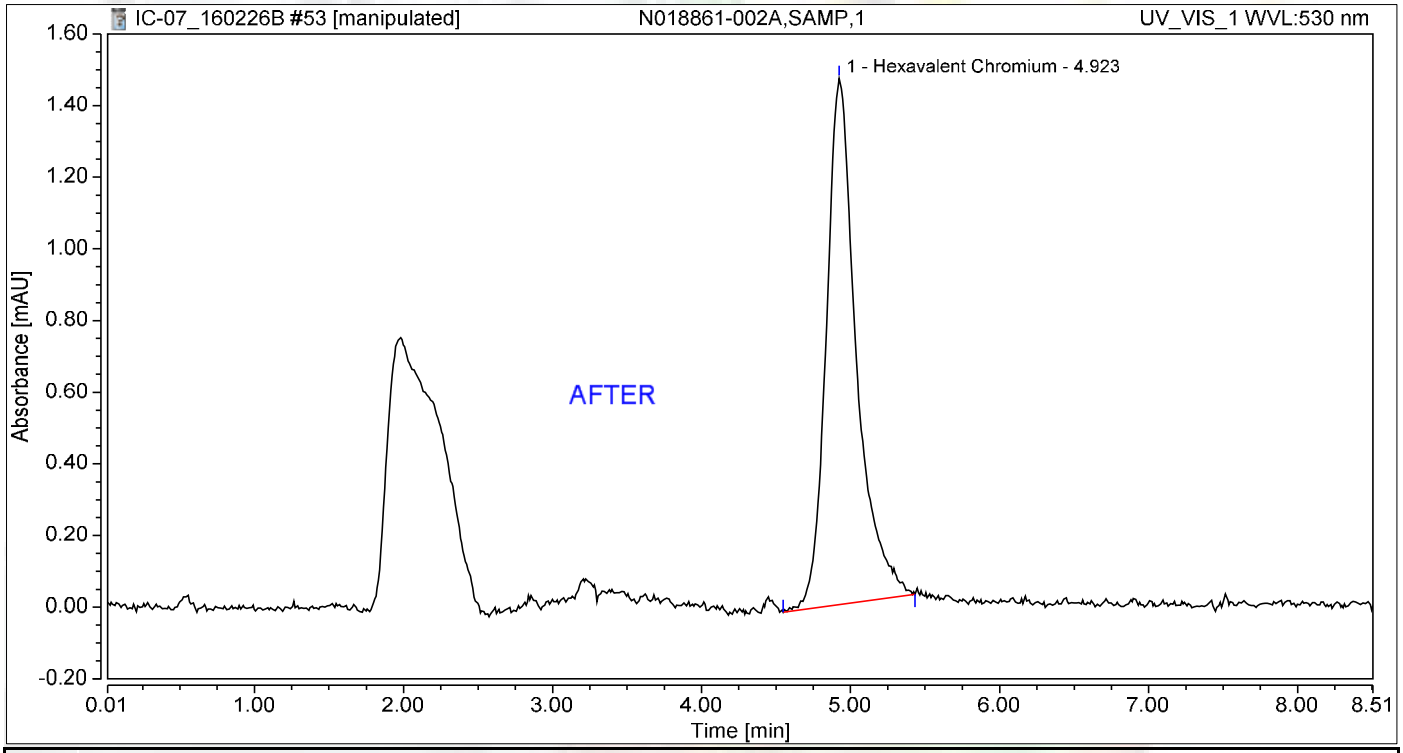
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.344	1.468	100.00	100.00	1.4550
Total:			**0.344**	**1.468**	**100.00**	**100.00**	

Reb 3/8/2016

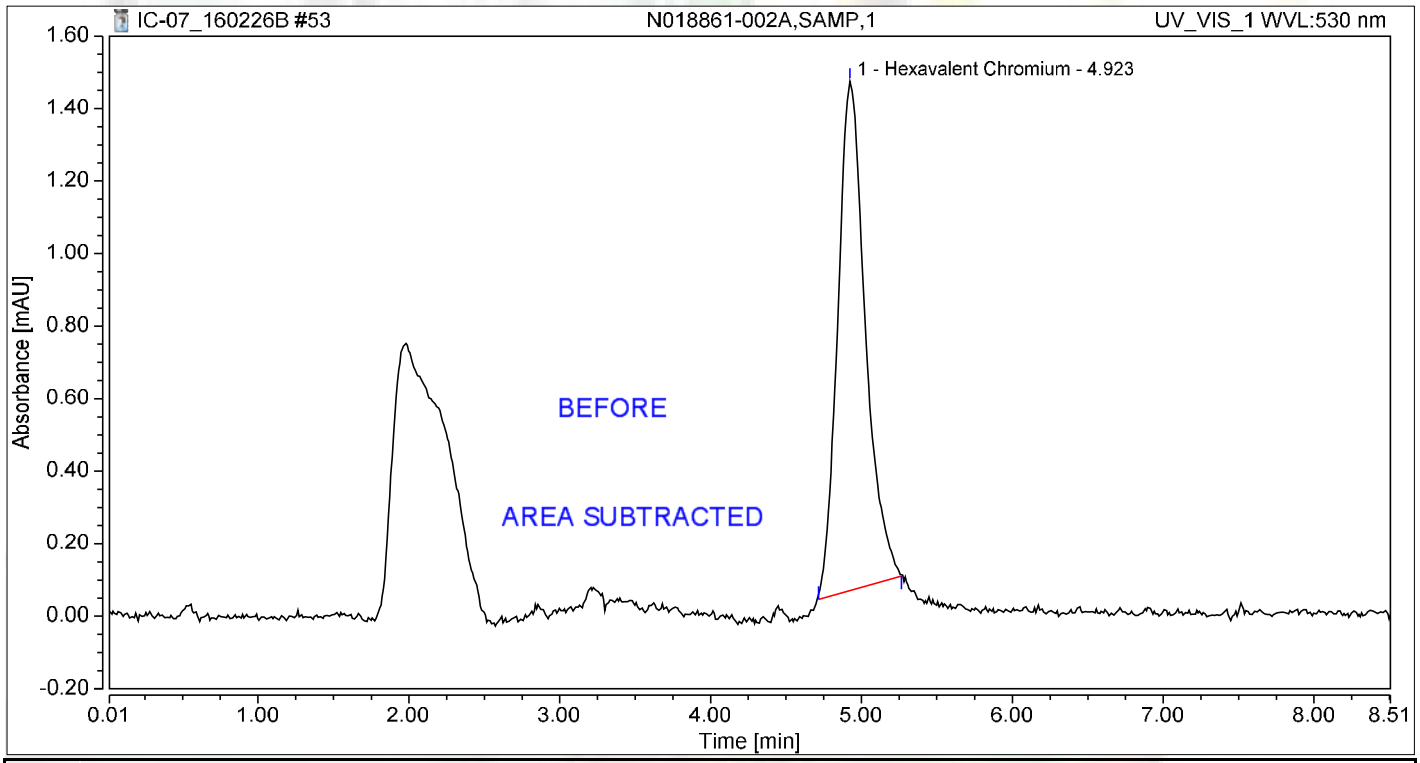
Mary 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.298	1.404	100.00	100.00	1.2592
Total:			**0.298**	**1.404**	**100.00**	**100.00**	

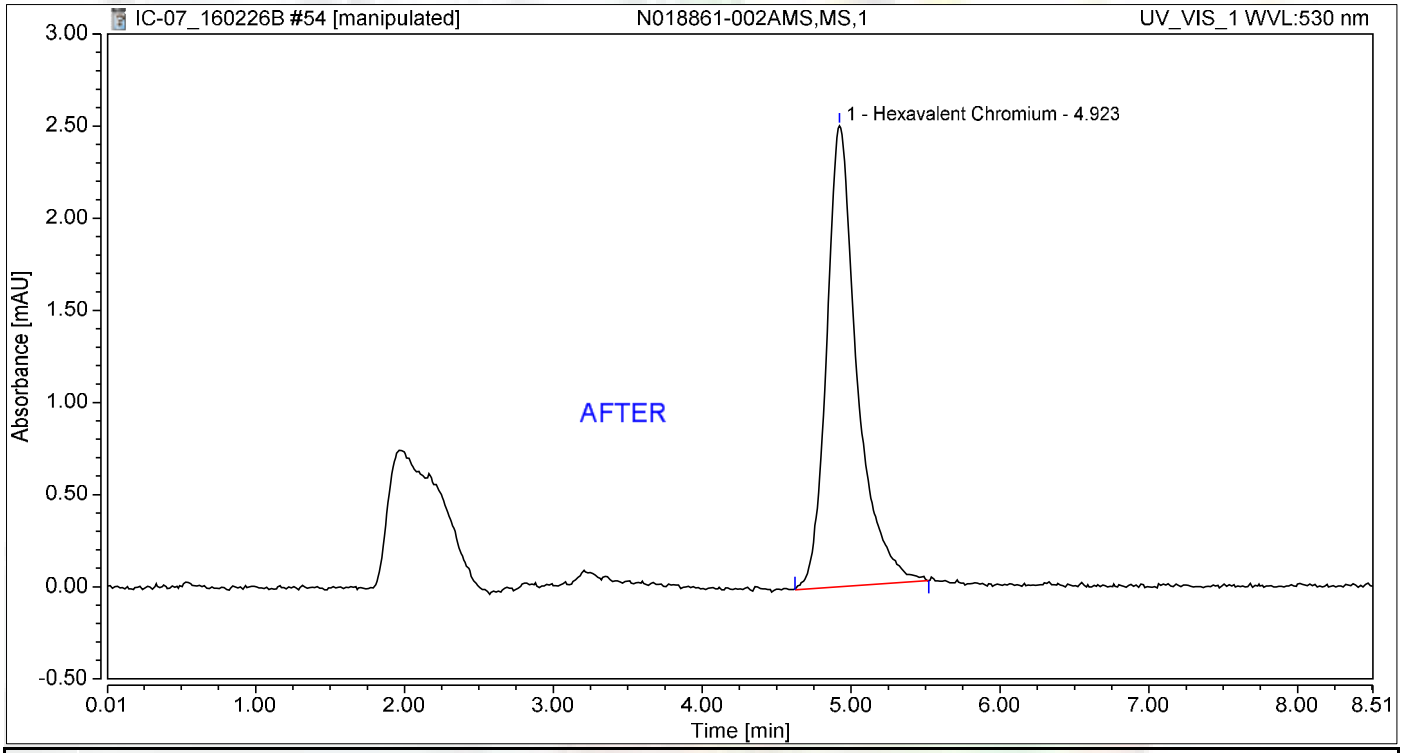
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.593	2.501	100.00	100.00	2.5074
Total:			**0.593**	**2.501**	**100.00**	**100.00**	

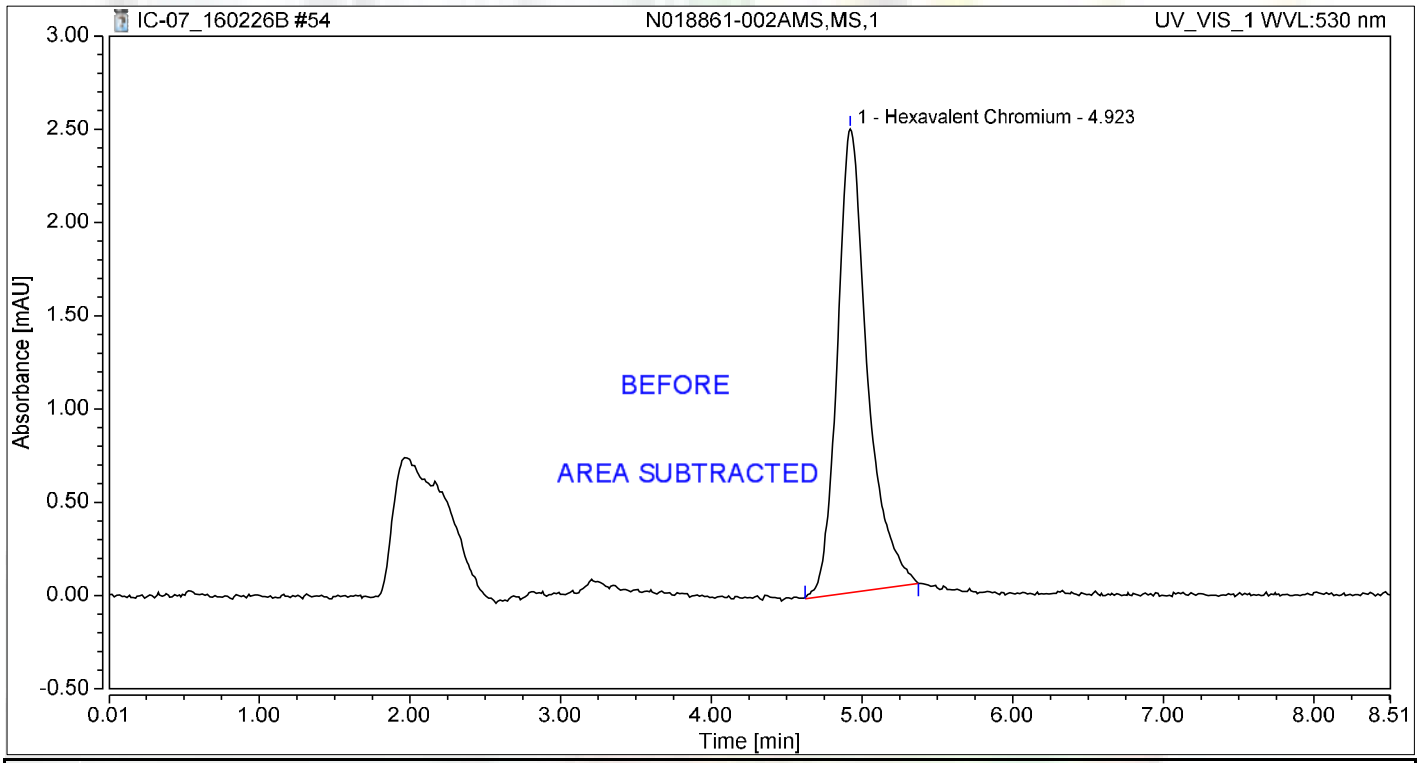
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.575	2.485	100.00	100.00	2.4291
Total:			**0.575**	**2.485**	**100.00**	**100.00**	

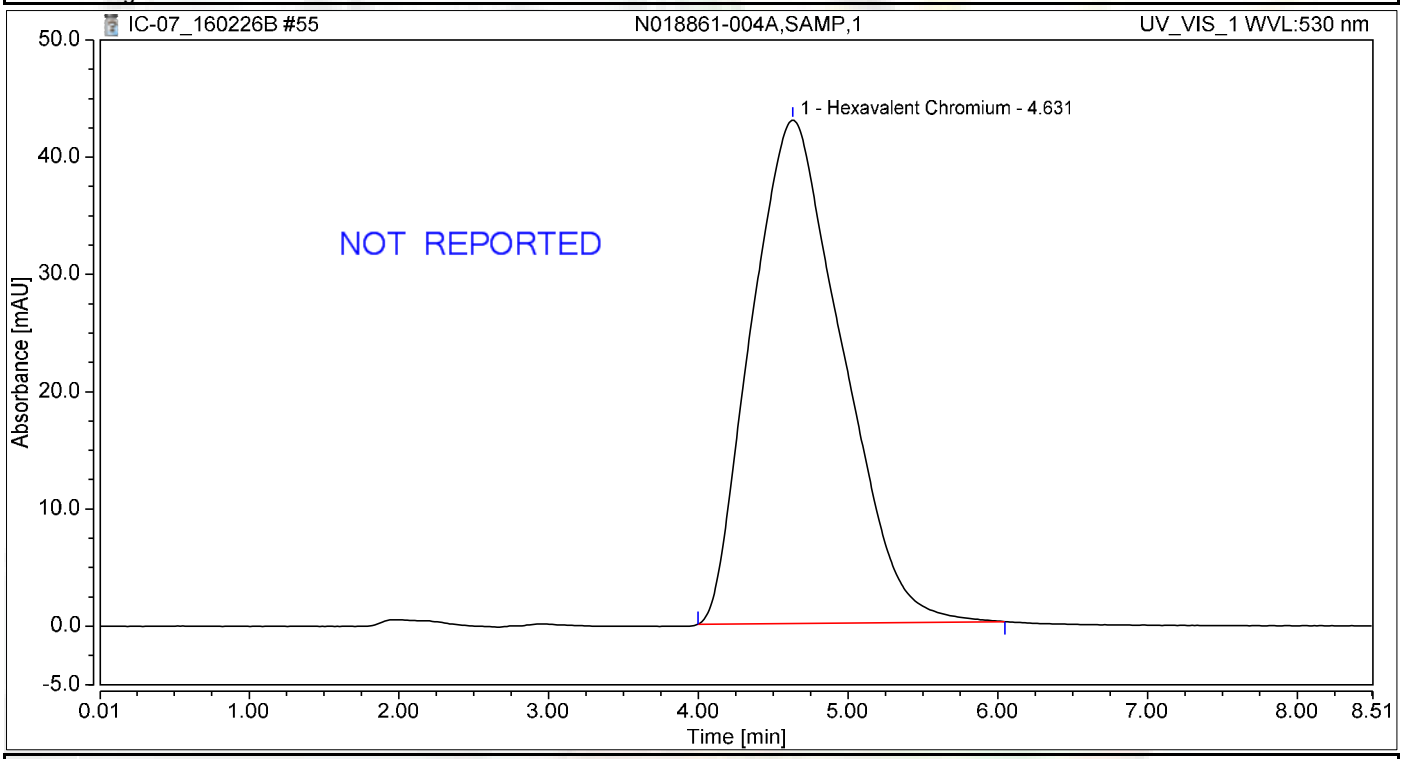
Reb 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**46**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

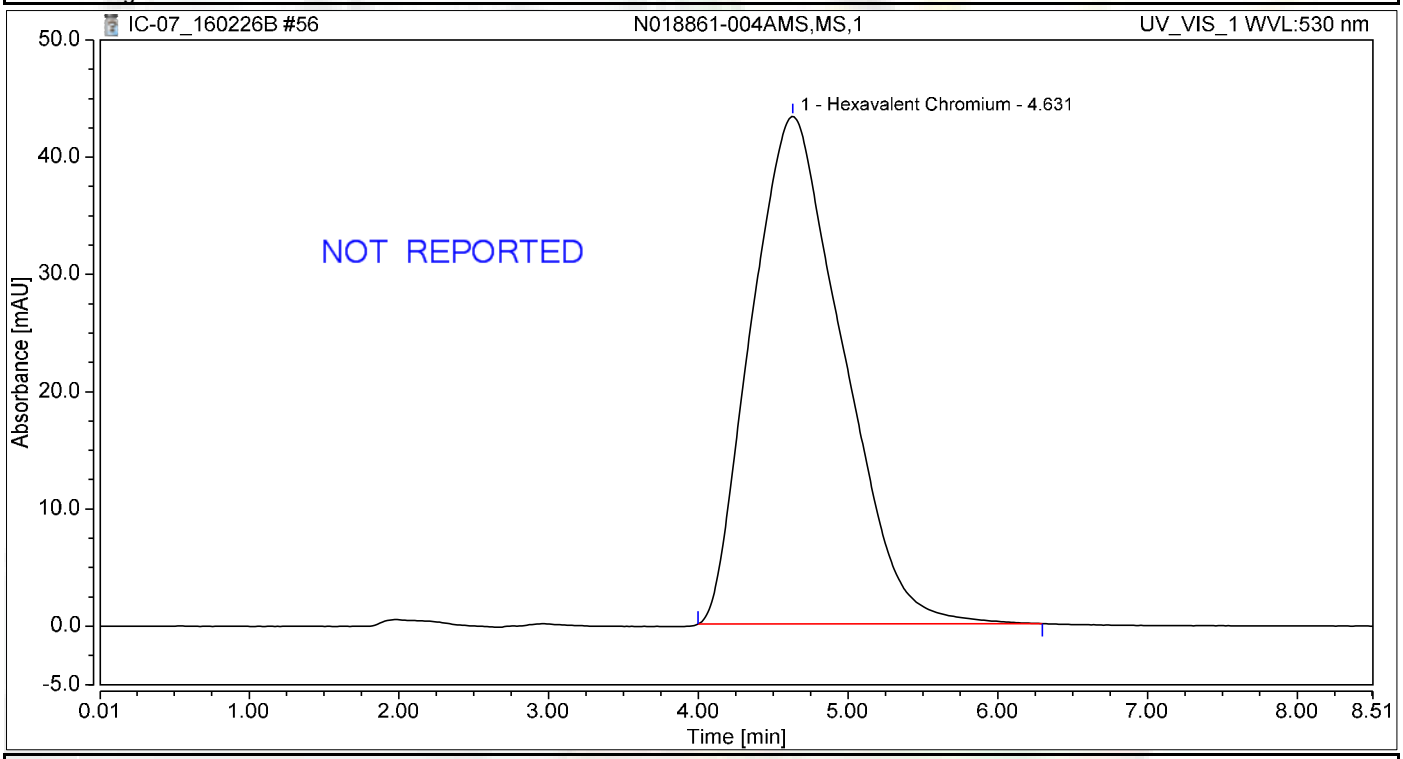
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.631	30.123	42.956	100.00	100.00	127.2667
Total:			**30.123**	**42.956**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**47**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

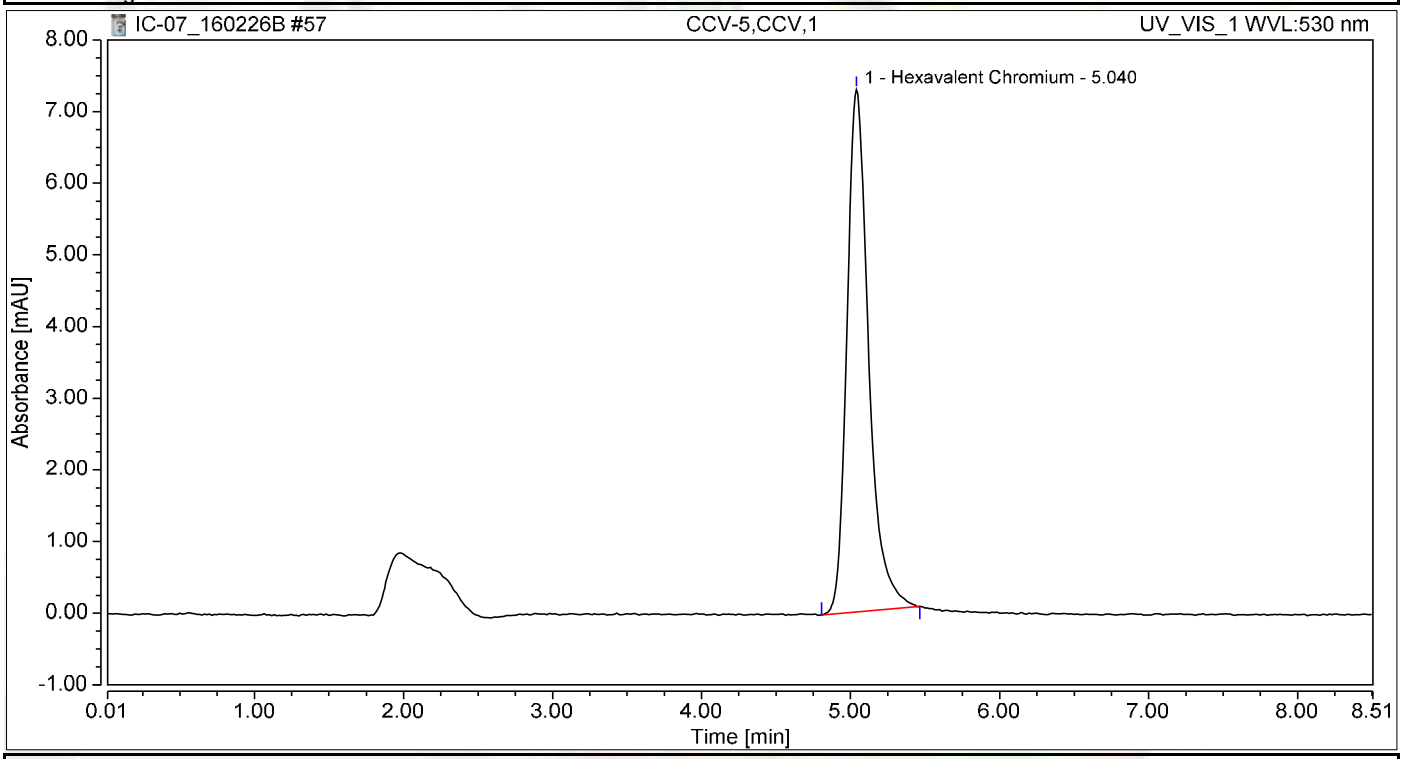
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.631	30.523	43.306	100.00	100.00	128.9587
Total:			**30.523**	**43.306**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**48**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

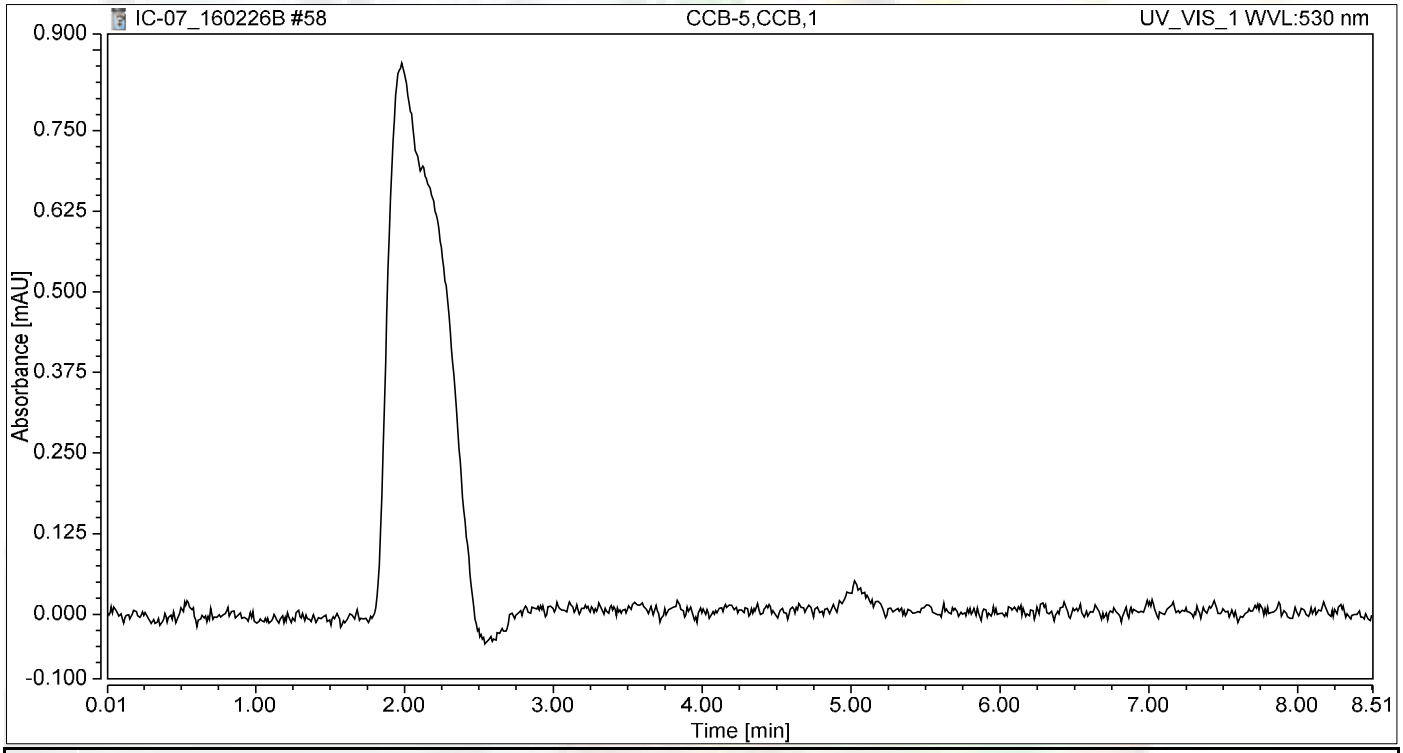
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.225	7.294	100.00	100.00	5.1751
Total:			**1.225**	**7.294**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**49**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106281 **Analyst:** REB

ASSET #: N018834 **Date Analyzed:** 3/4/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/8/2016 Date: –

2nd Level Reviewer Nancy 3/8/2016 Date: –

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018834-001E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.5526*1

= 0.5526 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 0.55

Rob 3/8/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

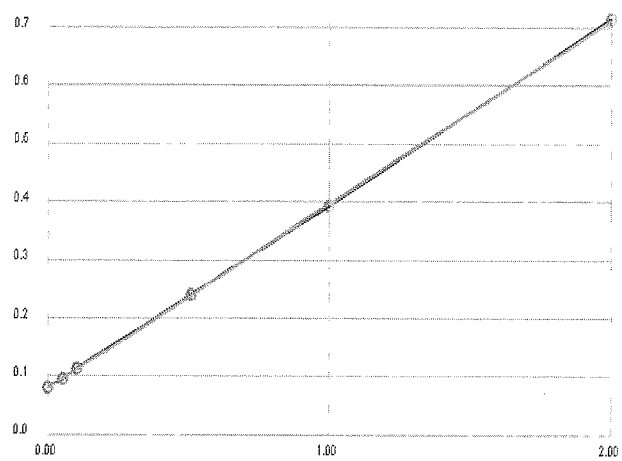
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3165x + 0.0806
Correlation	.999977



Calibrant	Energy	Set	Conc
1	0.0807	0.0000	0.0002
2	0.0963	0.0500	0.0495
3	0.1130	0.1000	0.1023
4	0.2402	0.5000	0.5042
5	0.3939	1.0000	0.9899
6	0.7148	2.0000	2.0039

Notes:

R1 Buffer - R160217C
Coloring Rgt. - R160217D
2% $CuSO_4$ - R160217B

1° ISST - 150206D
2° ISST - 150730E

Reb 3/8/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ICV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.532	0.050	0.5000	0	106	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.498	0.050	0.5000	0	99.6	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.505	0.050	0.5000	0	101	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2254004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.508	0.050	0.5000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ICB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2254005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-04-2016 15:07
Time end: 03-04-2016 17:56

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	17:16:39	-0.0036		0.0795
2	<BLANK>	17:17:39	0.0015		0.0811
3	<CAL1>	17:18:33	0.0002	[0]	0.0807
4	<CAL2>	17:19:29	0.0495	[0.05]	0.0963
5	<CAL3>	17:20:30	0.1023	[0.1]	0.1130
6	<CAL4>	17:21:24	0.5042	[0.5]	0.2402
7	<CAL5>	17:22:26	0.9899	[1]	0.3939
8	<CAL6>	17:23:21	2.0039	[2]	0.7148
9	,BLANK,BLANK,1,	17:24:17	0.0419		0.0939
10	,ICV,ICV,1,	17:25:17	0.5323		0.2491
11	,ICB,ICB,1,	17:26:12	0.0163		0.0858
12	,MB-H2O,MBLK,1,	17:27:08	0.0068		0.0828
13	,LCS-H2O,LCS,1,	17:28:08	0.4909		0.2360
14	,N018833-001E,SAMP,1,	17:29:03	0.5156		0.2438
15	,N018833-001EDUP,DUP,1,	17:30:05	0.5244		0.2466
16	,N018833-001EMS,MS,1,	17:31:00	1.0231		0.4044
17	,N018833-001EMSD,MSD,1,	17:32:01	1.0367		0.4087
18	,N018833-002E,SAMP,1,	17:32:56	0.5077		0.2413
19	,N018833-003E,SAMP,1,	17:33:52	0.4963		0.2377
20	,N018833-004E,SAMP,1,	17:34:53	0.5014		0.2393
21	,BLANK,BLANK,1	17:35:47	0.0151		0.0854
22	,CCV-1,CCV,1,	17:36:43	0.4979		0.2382
23	,CCB-1,CCB,1,	17:37:45	0.0100		0.0838
24	,N018833-005E,SAMP,1,	17:38:39	0.5115		0.2425
25	,N018833-006E,SAMP,1,	17:39:40	0.5137		0.2432
26	,N018833-007E,SAMP,1,	17:40:24	0.4998		0.2388

			EPA 353.2 NO3 as N ppm	Flags	OD
27	,N018833-008E,SAMP,1,	17:41:12	0.4998		0.2388
28	,N018833-009E,SAMP,1,	17:41:55	0.5567		0.2568
29	,N018833-010E,SAMP,1,	17:42:37	0.5099		0.2420
30	,N018834-001E,SAMP,1,	17:43:27	0.5526		0.2555
31	,N018834-004E,SAMP,1,	17:44:10	0.4868		0.2347
32	,N018861-001C,SAMP,5,	17:44:52	0.9280		0.3743
33	,BLANK,BLANK,1	17:45:42	0.0170		0.0860
34	,CCV-2,CCV,1,	17:46:24	0.5048		0.2404
35	,CCB-2,CCB,1,	17:47:07	0.0062		0.0826
36	,N018861-002C,SAMP,1,	17:47:55	0.9248		0.3733
37	,N018861-003C,SAMP,1,	17:48:38	-0.0055		0.0789
38	,N018861-004C,SAMP,1,	17:49:28	0.9077		0.3679
39	,N018861-005C,SAMP,5,	17:50:10	0.9317		0.3755
40	,N018861-006C,SAMP,1,	17:50:53	0.0309		0.0904
41	,N018861-007C,SAMP,1,	17:51:41	0.1032		0.1133
42	,BLANK,BLANK,1	17:52:25	-0.0124		0.0767
43	,CCV-3,CCV,1,	17:53:07	0.5080		0.2414
44	,CCB-3,CCB,1,	17:53:56	-0.0061		0.0787

Reb 3/8/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/4/2016
Time Analyzed: 03:07 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018833-001E		8.44						
2)	N018833-002E		8.95						
3)	N018833-003E		8.62						
4)	N018833-004E		8.37						
5)	N018833-005E		8.28						
6)	N018833-006E		7.02						
7)	N018833-007E		8.97						
8)	N018833-008E		8.38						
9)	N018833-009E		8.45						
10)	N018833-010E		8.82						
11)	N018834-001E		7.21						
12)	N018834-004E		8.71						
13)	N018861-001E		8.99						
14)	N018861-002E		8.92						
15)	N018861-003E		8.18						
16)	N018861-004E		8.31						
17)	N018861-005E		8.47						
18)	N018861-006E		8.13						
19)	N018861-007E		8.58						
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/8/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56471 **Instrument ID:** ICP-02
ASSET #: N018834 **Analyst:** CEI
Method: **Date Analyzed:** 3/3/2016

[X] EPA 6010B / 200.7 Diss [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018834-001B & 004B only.
% Rec of Mg in ICSA3 failed, low bias. However Mg in not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/8/2016 Date:
2nd Level Reviewer 3/9/201 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018834-001B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.00569 * 1 * (25/25) * 1000

Iron , ug/L = 5.69

Reporting results in two significant figures,

Iron , ug/L = 6

Since PQL of Iron , in ug/L = 20

Iron , ug/L = ND

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
MB-56471	MBLK	1	Fe	0.0077	8.0096	15	PASS
LCS-56471	LCS	1	Fe	0.11	0.38	15	PASS
N018833-001B	SAMP	1	Fe	0.012	4.028	15	PASS
N018833-001B	SAMP	5	Fe	0.0031	15.32	15	<PQL
N018833-001B-PS	PS	1	Fe	0.11	0.7	15	PASS
N018833-001B-MS	MS	1	Fe	0.11	0.48	15	PASS
N018833-001B-MSD	MSD	1	Fe	0.11	0.79	15	PASS
N018833-002B	SAMP	1	Fe	0.031	0.8	15	PASS
N018833-003B	SAMP	1	Fe	0.42	0.55	15	PASS
N018833-004B	SAMP	1	Fe	0.035	1.42	15	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
N018833-005B	SAMP	1	Fe	0.0064	1.66	15	PASS
N018833-006B	SAMP	1	Fe	0.014	4.64	15	PASS
N018833-007B	SAMP	1	Fe	0.029	0.85	15	PASS
N018833-008B	SAMP	1	Fe	0.0081	2.29	15	PASS
N018833-009B	SAMP	1	Fe	0.0057	12.76	15	PASS
N018833-010B	SAMP	1	Fe	0.0063	1.71	15	PASS
N018834-001B	SAMP	1	Fe	0.0057	11.8	15	PASS
N018834-001B-MS	MS	1	Fe	0.11	0.37	15	PASS
N018834-004B	SAMP	1	Fe	0.0069	1.42	15	PASS
N018843-001B	SAMP	1	Fe	0.0089	2.82	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
N018843-002B	SAMP	1	Fe	0.0059	2.069	15	PASS
N018843-003B	SAMP	1	Fe	0.0085	6.87	15	PASS
N018843-004B	SAMP	1	Fe	0.015	2.25	15	PASS
N018843-005B	SAMP	1	Fe	0.0061	4.29	15	PASS
N018843-006B	SAMP	1	Fe	0.013	5.042	15	PASS
N018843-007B	SAMP	1	Fe	0.005	2.32	15	PASS
N018843-008B	SAMP	1	Fe	0.0052	10.24	15	PASS
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV4	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:49:11 A**
Prep End Date: **3/2/2016 1:05:00 P**

Initials/ Date: For: 3/8/2016

Prep Batch **56471** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56471	Aqueous		25	☐	0	0	25	1.000		
MB-56471	Aqueous		25	☐	0	0	25	1.000		
N018833-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:49:11 A**
Prep End Date: **3/2/2016 1:05:00 P**

Initials/ Date: For: 3/8/2016

Prep Batch **56471** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	CCV7	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	CCV	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251588

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID	CCV8	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	CCV	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID	CCV9	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	CCV	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID	LLCCV4	SampType:	CCV2	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106233
Client ID:	ZZZZZZ	Batch ID:	R106233	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCB5** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID **CCB6** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID **CCB7** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID **CCB8** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID **CCB9** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte.

3/9/201

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
MB-56471	MBLK	1	1.048	104.83	65-125	PASS
LCS-56471	LCS	1	1.015	101.48	65-125	PASS
N018833-001B	SAMP	1	0.98	97.63	65-125	PASS
N018833-001B	SAMP	5	1.0043	100.43	65-125	PASS
N018833-001B-PS	PS	1	0.98	98.009	65-125	PASS
N018833-001B-MS	MS	1	0.97	97.25	65-125	PASS
N018833-001B-MSD	MSD	1	0.97	97.35	65-125	PASS
N018833-002B	SAMP	1	0.99	99.42	65-125	PASS
N018833-003B	SAMP	1	0.98	98.2	65-125	PASS
N018833-004B	SAMP	1	0.99	98.51	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
N018833-005B	SAMP	1	1.028	102.84	65-125	PASS
N018833-006B	SAMP	1	1.0034	100.34	65-125	PASS
N018833-007B	SAMP	1	0.99	99.34	65-125	PASS
N018833-008B	SAMP	1	0.99	99.26	65-125	PASS
N018833-009B	SAMP	1	0.97	97.39	65-125	PASS
N018833-010B	SAMP	1	0.98	98.022	65-125	PASS
N018834-001B	SAMP	1	0.99	99.21	65-125	PASS
N018834-001B-MS	MS	1	0.99	98.72	65-125	PASS
N018834-004B	SAMP	1	1.0026	100.26	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018843-001B	SAMP	1	0.99	99.16	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
N018843-002B	SAMP	1	0.98	97.72	65-125	PASS
N018843-003B	SAMP	1	0.97	96.85	65-125	PASS
N018843-004B	SAMP	1	0.99	99.23	65-125	PASS
N018843-005B	SAMP	1	0.99	99.23	65-125	PASS
N018843-006B	SAMP	1	0.98	98.14	65-125	PASS
N018843-007B	SAMP	1	0.98	98.23	65-125	PASS
N018843-008B	SAMP	1	1	99.52	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV4	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018834
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56471

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018833-001B-DT 5X	Iron	ug/L	0	NA	0		10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N018833-001B-PS**	SampType:	**PS**	TestCode:	**6010_WDPG**	Units:	**ug/L**	Prep Date:		RunNo:	**106233**
Client ID:	**ZZZZZZ**	Batch ID:	**56471**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**3/3/2016**	SeqNo:	**2251519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.200	20	100.0	0	107	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6010B

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56472 **Instrument ID:** ICP-02
ASSET #: N018834 **Analyst:** CEI
Method: **Date Analyzed:** 3/3/2016

[X] EPA 6010B / 200.7 **Total** [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018834-001C & 004C only.
% Rec of Fe in N018833-001C PS & N018834-001C MS failed. However LCS passed criteria.
% Rec of Mg in ICSA3 failed, low bias. However Mg is not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/7/2016 Date:
2nd Level Reviewer 3/9/201 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018834-001C** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.39633 * 1 * (25/25) * 1000

Iron , ug/L = 396.33

Reporting results in two significant figures,

Iron , ug/L = 400

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
MB-56472	MBLK	1	Fe	0.0052	7.28	15	PASS
LCS-56472	LCS	1	Fe	0.11	1.58	15	PASS
N018833-001C	SAMP	1	Fe	0.14	1.027	15	PASS
N018833-001C	SAMP	5	Fe	0.03	3.14	15	PASS
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
N018833-001C-PS	PS	1	Fe	0.26	0.79	15	PASS
N018833-001C-MS	MS	1	Fe	0.26	0.44	15	PASS
N018833-001C-MSD	MSD	1	Fe	0.26	0.45	15	PASS
N018833-002C	SAMP	1	Fe	0.15	0.21	15	PASS
N018833-003C	SAMP	1	Fe	3.2	0.17	15	PASS
N018833-004C	SAMP	1	Fe	2.19	0.24	15	PASS
N018833-005C	SAMP	1	Fe	0.12	0.91	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018833-006C	SAMP	1	Fe	0.12	0.43	15	PASS
N018833-007C	SAMP	1	Fe	0.13	0.98	15	PASS
N018833-008C	SAMP	1	Fe	0.1	0.14	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
N018833-009C	SAMP	1	Fe	0.15	0.51	15	PASS
N018833-010C	SAMP	1	Fe	0.11	0.32	15	PASS
N018834-001C	SAMP	1	Fe	0.4	0.29	15	PASS
N018834-001C-MS	MS	1	Fe	0.44	0.41	15	PASS
N018834-004C	SAMP	1	Fe	0.094	0.94	15	PASS
N018843-001C	SAMP	1	Fe	0.15	0.34	15	PASS
N018843-002C	SAMP	1	Fe	0.12	0.076	15	PASS
N018843-003C	SAMP	1	Fe	0.16	0.66	15	PASS
N018843-004C	SAMP	1	Fe	0.091	0.93	15	PASS
N018843-005C	SAMP	1	Fe	0.12	0.76	15	PASS
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
N018843-006C	SAMP	1	Fe	0.092	0.46	15	PASS
N018843-007C	SAMP	1	Fe	0.13	0.091	15	PASS
N018843-008C	SAMP	1	Fe	0.1	0.43	15	PASS
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV4	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:53:38 A**
Prep End Date: **3/2/2016 1:00:00 P**

Initials/ Date: For: 3/7/2016

Prep Batch **56472** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56472	Aqueous		25	☐	0	0	25	1.000		
MB-56472	Aqueous		25	☐	0	0	25	1.000		
N018833-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:53:38 A**
Prep End Date: **3/2/2016 1:00:00 P**

Initials/ Date: For: 3/7/2016

Prep Batch **56472** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	CCV7	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	CCV	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251704

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID	CCV8	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	CCV	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251716

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID	CCV9	SampType:	CCV	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	CCV	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251720

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID	LLCCV4	SampType:	CCV2	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:		RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	R106236	TestNo:	EPA 6010B			Analysis Date:	3/4/2016	SeqNo:	2251722

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB5	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/3/2016**	SeqNo: **2251678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB6	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB7	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB8	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB9	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte.

Nancy 3/9/201

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
MB-56472	MBLK	1	1.061	106.12	65-125	PASS
LCS-56472	LCS	1	0.98	98.092	65-125	PASS
N018833-001C	SAMP	1	0.97	96.95	65-125	PASS
N018833-001C	SAMP	5	1	99.95	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
N018833-001C-PS	PS	1	0.97	97.057	65-125	PASS
N018833-001C-MS	MS	1	1	99.68	65-125	PASS
N018833-001C-MSD	MSD	1	0.99	99.07	65-125	PASS
N018833-002C	SAMP	1	0.98	98.16	65-125	PASS
N018833-003C	SAMP	1	0.98	97.84	65-125	PASS
N018833-004C	SAMP	1	0.96	96.3	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018833-005C	SAMP	1	1.0052	100.52	65-125	PASS
N018833-006C	SAMP	1	0.97	96.94	65-125	PASS
N018833-007C	SAMP	1	0.97	96.68	65-125	PASS
N018833-008C	SAMP	1	0.99	99.5	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
N018833-009C	SAMP	1	0.97	97.39	65-125	PASS
N018833-010C	SAMP	1	0.98	97.67	65-125	PASS
N018834-001C	SAMP	1	0.98	98.32	65-125	PASS
N018834-001C-MS	MS	1	0.99	98.98	65-125	PASS
N018834-004C	SAMP	1	1.0031	100.31	65-125	PASS
N018843-001C	SAMP	1	0.99	98.99	65-125	PASS
N018843-002C	SAMP	1	0.98	98.35	65-125	PASS
N018843-003C	SAMP	1	1	99.97	65-125	PASS
N018843-004C	SAMP	1	0.98	98.45	65-125	PASS
N018843-005C	SAMP	1	0.99	98.71	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
N018843-006C	SAMP	1	0.98	98.052	65-125	PASS
N018843-007C	SAMP	1	0.98	98.44	65-125	PASS
N018843-008C	SAMP	1	0.98	97.81	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV2	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018834
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56472

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018833-001C-DT 5X	Iron	ug/L	147.8492	NA	137.7292	7.35%	10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	**N018833-001C-PS**	SampType:	**PS**	TestCode:	**6010_WPGE**	Units:	**ug/L**	Prep Date:		RunNo:	**106236**
Client ID:	**ZZZZZZ**	Batch ID:	**56472**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**3/4/2016**	SeqNo:	**2251682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	259.790	20	100.0	137.7	122	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018834

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

Ba in N018833-001B PS/MS/MSD & N018834-001B MS is over linear range. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date: –

2nd Level Reviewer 3/9/201 Date: –

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018834

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For dilution of Ba in N018833-001B PS/MS/MSD & N018834-001B Ms only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/9/2016 Date: _____

2nd Level Reviewer _____ 3/9/201 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018834-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 0.02105 * 1 * (25/25)

Chromium , ug/L = 0.021050

Reporting results in two significant figures,

Chromium , ug/L = 0

Since PQL of Chromium ,in ug/L = 1.0

Chromium , ug/L = ND

% RSD SUMMARY

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.055	4.43	15	PASS	0.098	8.75	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	2.18	15	PASS	0.5	1.81	15	PASS
Std3-5/50 ppb	ICAL	1	5.24	0.95	15	PASS	5	0.72	15	PASS
Std4-10/100 ppb	ICAL	1	10.58	0.64	15	PASS	10.098	0.3	15	PASS
Std5-20/200 ppb	ICAL	1	20.78	0.6	15	PASS	19.95	0.4	15	PASS
Std6-40/400 ppb	ICAL	1	41.3	0.21	15	PASS	39.77	0.53	15	PASS
Std7-100/1000 ppb	ICAL	1	101	0.92	15	PASS	100.69	1.42	15	PASS
Std8-200/2000 ppb	ICAL	1	199.13	0.59	15	PASS	199.7	0.68	15	PASS
ICV	ICV	1	91.96	0.7	15	PASS	10.34	0.46	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.024	1.33	20	PASS	1.045	0.58	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.17	3.069	15	PASS
ICSAB1	ICSAB	1	20.49	0.46	15	PASS	20.12	0.63	15	PASS
MB-56418	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56418	LCS	1	99.66	0.66	15	PASS	9.76	0.86	15	PASS
N018833-001B	SAMP	1	134.52	0.44	15	PASS	0.0028	169.57	15	<PQL
N018833-001B	SAMP	5	28.51	0.88	15	PASS	<0.000	N/A	15	<PQL
N018833-001B-PS	PS	1	229.062	0.52	15	PASS	9.17	0.77	15	PASS
N018833-001B-MS	MS	1	226.76	0.24	15	PASS	9.31	0.26	15	PASS
N018833-001B-MSD	MSD	1	225.71	0.46	15	PASS	9.29	0.62	15	PASS
N018833-002B	SAMP	1	135.21	1.41	15	PASS	0.031	26.37	15	<PQL
N018833-003B	SAMP	1	141.78	0.4	15	PASS	0.37	4.23	15	PASS
N018833-004B	SAMP	1	140.11	0.87	15	PASS	0.025	50.98	15	<PQL
CCV1	CCV	1	21.0079	0.94	15	PASS	20.24	0.99	15	PASS
CCB1	CCB	1	0.0049	123.099	15	<PQL	<0.000	N/A	15	<PQL
N018833-005B	SAMP	1	139.27	0.87	15	PASS	0.045	3.7	15	PASS
N018833-006B	SAMP	1	132.42	0.43	15	PASS	0.056	7.31	15	PASS
N018833-007B	SAMP	1	137.31	1.018	15	PASS	0.052	1.44	15	PASS
N018833-008B	SAMP	1	136.8	0.95	15	PASS	0.023	20.7	15	<PQL
N018833-009B	SAMP	1	134.89	0.5	15	PASS	0.0069	62.81	15	<PQL
N018833-010B	SAMP	1	132.049	0.74	15	PASS	0.11	11.42	15	PASS
N018834-001B	SAMP	1	133.17	0.58	15	PASS	0.021	45.57	15	<PQL
N018834-001B-MS	MS	1	235.62	0.27	15	PASS	9.19	0.43	15	PASS
N018834-002B	SAMP	1	117.24	1.25	15	PASS	<0.000	N/A	15	<PQL
N018834-003B	SAMP	1	119.34	0.51	15	PASS	0.051	27.54	15	<PQL
CCV2	CCV	1	20.88	0.72	15	PASS	20.38	1.42	15	PASS
CCB2	CCB	1	0.0079	27.49	15	<PQL	<0.000	N/A	15	<PQL
N018834-004B	SAMP	1	138.97	0.37	15	PASS	<0.000	N/A	15	<PQL
N018861-001B	SAMP	1	37.67	0.28	15	PASS	553.94	0.97	15	PASS
N018861-002B	SAMP	1	32.24	0.12	15	PASS	2.084	0.69	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	151.13	0.58	15	PASS	<0.000	N/A	15	<PQL
N018861-004B	SAMP	1	57.64	0.58	15	PASS	110.93	0.66	15	PASS
N018861-005B	SAMP	1	77.13	2.22	15	PASS	48.64	0.63	15	PASS
N018861-006B	SAMP	1	46.55	0.29	15	PASS	0.42	6.14	15	PASS
CCV3	CCV	1	21.53	0.31	15	PASS	20.16	0.062	15	PASS
CCB3	CCB	1	0.046	183.78	15	<PQL	0.0025	310.52	15	<PQL
CCV4	CCV	1	21.43	0.6	15	PASS	20.098	1.071	15	PASS
CCB4	CCB	1	0.0083	108.52	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.039	0.58	20	PASS	1.014	2.92	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.16	5.75	15	PASS
ICSAB2	ICSAB	1	20.88	0.34	15	PASS	19.74	0.54	15	PASS
CCV5	CCV	1	21.55	0.64	15	PASS	20.09	0.9	15	PASS
CCB5	CCB	1	0.0036	118.025	15	<PQL	0.032	17.27	15	<PQL
CCV6	CCV	1	21.64	0.65	15	PASS	27.92	1.98	15	PASS
CCB6	CCB	1	0.0065	33.46	15	<PQL	4.053	14.037	15	PASS
LLCCV2	CCV2	1	1.07	1.63	20	PASS	3.027	7.16	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	1.58	10.41	15	PASS
ICSAB3	ICSAB	1	21.14	0.7	15	PASS	20.66	1.27	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.064	6.65	15	PASS	0.095	19.59	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.46	1.93	15	PASS	0.48	5.026	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.49	15	PASS	5.053	0.78	15	PASS
Std4-10/100 ppb	ICAL	1	10.0032	0.91	15	PASS	10.25	1.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.68	0.44	15	PASS	20.27	0.95	15	PASS
Std6-40/400 ppb	ICAL	1	39.12	0.31	15	PASS	40.24	1.38	15	PASS
Std7-100/1000 ppb	ICAL	1	98.18	0.5	15	PASS	100.75	0.86	15	PASS
Std8-200/2000 ppb	ICAL	1	201.12	0.47	15	PASS	199.53	0.85	15	PASS
ICV	ICV	1	97.95	0.43	15	PASS	9.96	3.61	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.49	4.81	20	PASS	0.11	9.71	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	16.46	1.38	15	PASS	20.2	0.5	15	PASS
MB-56418	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56418	LCS	1	94.58	0.23	15	PASS	9.34	2.019	15	PASS
N018833-001B	SAMP	1	<0.000	N/A	15	<PQL	2.3	2.072	15	PASS
N018833-001B	SAMP	5	<0.000	N/A	15	<PQL	0.47	1.8	15	PASS
N018833-001B-PS	PS	1	88.66	0.095	15	PASS	12.12	1.65	15	PASS
N018833-001B-MS	MS	1	96.6	0.55	15	PASS	11.91	0.46	15	PASS
N018833-001B-MSD	MSD	1	89.87	0.34	15	PASS	12.031	1.47	15	PASS
N018833-002B	SAMP	1	0.24	22.54	15	<PQL	2.29	1.85	15	PASS
N018833-003B	SAMP	1	113.69	0.096	15	PASS	2.55	1.17	15	PASS
N018833-004B	SAMP	1	110.56	0.74	15	PASS	2.36	2.12	15	PASS
CCV1	CCV	1	20.07	0.56	15	PASS	20.27	1.71	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0063	21.16	15	<PQL
N018833-005B	SAMP	1	0.071	19.95	15	<PQL	2.36	2.79	15	PASS
N018833-006B	SAMP	1	6.83	1.9	15	PASS	2.27	3.59	15	PASS
N018833-007B	SAMP	1	0.44	7.65	15	PASS	2.39	1.056	15	PASS
N018833-008B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.16	15	PASS
N018833-009B	SAMP	1	<0.000	N/A	15	<PQL	2.33	2.22	15	PASS
N018833-010B	SAMP	1	<0.000	N/A	15	<PQL	2.21	3.99	15	PASS
N018834-001B	SAMP	1	0.61	1.94	15	PASS	2.27	1.5	15	PASS
N018834-001B-MS	MS	1	90.16	0.72	15	PASS	12.02	1.4	15	PASS
N018834-002B	SAMP	1	15.55	0.59	15	PASS	2.27	1.63	15	PASS
N018834-003B	SAMP	1	12.39	0.98	15	PASS	2.11	2.015	15	PASS
CCV2	CCV	1	20.43	1.43	15	PASS	20.1	0.93	15	PASS
CCB2	CCB	1	0.015	16.52	15	<PQL	<0.000	N/A	15	<PQL
N018834-004B	SAMP	1	<0.000	N/A	15	<PQL	2.45	0.4	15	PASS
N018861-001B	SAMP	1	2.3	0.93	15	PASS	1.26	1.35	15	PASS
N018861-002B	SAMP	1	1.34	2.65	15	PASS	1.53	1.42	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	888.95	0.49	15	PASS	3.69	2.3	15	PASS
N018861-004B	SAMP	1	26.24	0.39	15	PASS	10.58	1.094	15	PASS
N018861-005B	SAMP	1	16.24	0.47	15	PASS	1.54	1.19	15	PASS
N018861-006B	SAMP	1	12.99	1.35	15	PASS	6.75	3	15	PASS
CCV3	CCV	1	20.0093	0.26	15	PASS	20.31	1.19	15	PASS
CCB3	CCB	1	0.00054	829.95	15	<PQL	0.0024	199.86	15	<PQL
CCV4	CCV	1	20.005	0.87	15	PASS	20.37	0.54	15	PASS
CCB4	CCB	1	0.013	45.073	15	<PQL	0.0012	56.32	15	<PQL
LLCCV1	CCV2	1	0.49	5.23	20	PASS	0.098	16.56	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	16.35	1.29	15	PASS	20.37	0.37	15	PASS
CCV5	CCV	1	19.89	0.53	15	PASS	20.62	1.48	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.00014	4234.47	15	<PQL
CCV6	CCV	1	20.085	1.63	15	PASS	20.39	0.54	15	PASS
CCB6	CCB	1	0.0032	114.36	15	<PQL	0.0051	292.0053	15	<PQL
LLCCV2	CCV2	1	0.48	4.33	20	PASS	0.083	24.88	20	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	16.51	1.12	15	PASS	20.35	0.75	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	26.28	15	<PQL	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	8.85	15	PASS	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	4.98	3.95	15	PASS	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	2.89	15	PASS	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	20.73	1.38	15	PASS	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	40.54	0.69	15	PASS	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.44	1.19	15	PASS	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	199.59	0.88	15	PASS	200.0022	1.13	15	PASS
ICV	ICV	1	10.16	3.87	15	PASS	9.54	0.89	15	PASS
ICB	ICB	1	0.025	68.0016	15	<PQL	0.27	4.45	15	PASS
LLICV	CCV1	1	0.49	11.65	20	PASS	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.028	26.29	15	<PQL	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	19.28	1.34	15	PASS	23.2	0.96	15	PASS
MB-56418	MBLK	1	0.016	0.1	15	PASS	0.099	2.54	15	PASS
LCS-56418	LCS	1	8.77	1.65	15	PASS	9.91	0.61	15	PASS
N018833-001B	SAMP	1	1.65	3.38	15	PASS	5.36	0.83	15	PASS
N018833-001B	SAMP	5	0.39	16.94	15	<PQL	1.065	2.67	15	PASS
N018833-001B-PS	PS	1	10.48	2.84	15	PASS	16.013	1.038	15	PASS
N018833-001B-MS	MS	1	10.73	0.77	15	PASS	16.054	0.92	15	PASS
N018833-001B-MSD	MSD	1	10.63	0.88	15	PASS	16.03	1.36	15	PASS
N018833-002B	SAMP	1	1.66	8.5	15	PASS	5.37	1.23	15	PASS
N018833-003B	SAMP	1	1.57	11.87	15	PASS	5.63	0.85	15	PASS
N018833-004B	SAMP	1	1.52	8.16	15	PASS	5.78	2.38	15	PASS
CCV1	CCV	1	20.13	1.29	15	PASS	19.89	1.67	15	PASS
CCB1	CCB	1	0.019	48.038	15	<PQL	0.11	5.59	15	PASS
N018833-005B	SAMP	1	1.57	9.55	15	PASS	5.53	0.98	15	PASS
N018833-006B	SAMP	1	1.53	11.34	15	PASS	5.22	2.036	15	PASS
N018833-007B	SAMP	1	1.59	3.35	15	PASS	5.44	0.64	15	PASS
N018833-008B	SAMP	1	1.66	6.28	15	PASS	5.46	1.34	15	PASS
N018833-009B	SAMP	1	1.7	4.17	15	PASS	5.37	3.3	15	PASS
N018833-010B	SAMP	1	1.59	1.97	15	PASS	5.2	0.52	15	PASS
N018834-001B	SAMP	1	1.62	1.7	15	PASS	5.33	0.99	15	PASS
N018834-001B-MS	MS	1	10.79	3.38	15	PASS	16.31	1.64	15	PASS
N018834-002B	SAMP	1	1.41	9.93	15	PASS	6.37	0.57	15	PASS
N018834-003B	SAMP	1	1.24	8.19	15	PASS	5.84	0.99	15	PASS
CCV2	CCV	1	20.039	1.27	15	PASS	19.97	1.33	15	PASS
CCB2	CCB	1	0.0073	195.95	15	<PQL	0.11	12.11	15	PASS
N018834-004B	SAMP	1	1.78	1.37	15	PASS	5.43	0.85	15	PASS
N018861-001B	SAMP	1	3.81	1.27	15	PASS	14.5	0.55	15	PASS
N018861-002B	SAMP	1	0.92	9.91	15	PASS	20.96	0.7	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	0.097	51.37	15	<PQL	71.8	1.66	15	PASS
N018861-004B	SAMP	1	1.28	14.76	15	PASS	80.91	0.86	15	PASS
N018861-005B	SAMP	1	4.67	6.024	15	PASS	25.47	0.34	15	PASS
N018861-006B	SAMP	1	2.72	9.67	15	PASS	67.5	1.65	15	PASS
CCV3	CCV	1	20.2	3	15	PASS	20.37	0.56	15	PASS
CCB3	CCB	1	0.0051	287.87	15	<PQL	0.17	16.46	15	<PQL
CCV4	CCV	1	20.8	2.25	15	PASS	20.039	1.18	15	PASS
CCB4	CCB	1	0.006	179.56	15	<PQL	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	13.31	20	PASS	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.023	80	15	<PQL	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	19.51	1.44	15	PASS	23.23	0.89	15	PASS
CCV5	CCV	1	20.45	2.34	15	PASS	20.19	0.37	15	PASS
CCB5	CCB	1	0.0051	290.48	15	<PQL	0.12	1.077	15	PASS
CCV6	CCV	1	20.61	0.84	15	PASS	20.16	0.61	15	PASS
CCB6	CCB	1	0.024	63.98	15	<PQL	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.5	3.6	20	PASS	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.024	100.78	15	<PQL	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	19.19	1.78	15	PASS	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.14	2.88	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	2.16	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	0.92	15	PASS
Std4-10/100 ppb	ICAL	1	9.73	0.32	15	PASS
Std5-20/200 ppb	ICAL	1	19.66	0.31	15	PASS
Std6-40/400 ppb	ICAL	1	39.4	0.39	15	PASS
Std7-100/1000 ppb	ICAL	1	98.86	0.29	15	PASS
Std8-200/2000 ppb	ICAL	1	200.74	0.64	15	PASS
ICV	ICV	1	104.058	0.53	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.09	1.77	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.72	0.17	15	PASS
LLICV	CCV1	1	1.074	0.71	20	PASS
CCV1	CCV	1	19.87	0.82	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
N018833-001B	SAMP	25	5.82	1.19	15	PASS
N018833-001B-PS	PS	5	50.65	0.56	15	PASS
N018833-001B-MS	MS	5	50.17	0.23	15	PASS
N018833-001B-MSD	MSD	5	50.0035	0.054	15	PASS
N018834-001B	SAMP	5	27.8	0.27	15	PASS
N018834-001B-MS	MS	5	50.62	0.45	15	PASS
CCV2	CCV	1	19.67	0.61	15	PASS
CCB2	CCB	1	0.0011	366.62	15	<PQL
LLCCV1	CCV2	1	1.092	2	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	18.84	0.67	15	PASS
N018861-001B	SAMP	1	37.64	0.13	15	PASS
N018861-001B	SAMP	5	7.92	0.47	15	PASS
N018861-002B	SAMP	1	32.2	0.36	15	PASS
N018861-002B	SAMP	5	6.5	0.64	15	PASS
N018861-003B	SAMP	1	153.33	0.42	15	PASS
N018861-003B	SAMP	5	31.79	0.12	15	PASS
N018861-003B	SAMP	10	15.98	0.8	15	PASS
N018861-004B	SAMP	1	57.57	0.18	15	PASS
N018861-004B	SAMP	5	12.49	0.26	15	PASS
N018861-005B	SAMP	1	78.24	0.44	15	PASS
CCV3	CCV	1	19.9	0.33	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
N018861-005B	SAMP	5	15.48	1.13	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]			
			Conc. [ppb]	RSD	Criteria	Comment
N018861-006B	SAMP	1	45.84	0.39	15	PASS
N018861-006B	SAMP	5	9.21	0.64	15	PASS
CCV4	CCV	1	19.8	0.74	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.7	0.93	15	PASS
CCB5	CCB	1	0.0042	31.095	15	<PQL
CCV6	CCV	1	19.6	0.62	15	PASS
CCB6	CCB	1	0.0021	237.91	15	<PQL
LLCCV2	CCV2	1	1.098	1.46	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	19.0072	0.5	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB2	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MS	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:01:25**
Prep End Date: **2/26/2016 12:30:00**

Initials/ Date: 3/9/2016

Prep Batch **56418** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**02-25**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56418	Aqueous		25	☐	0	0	25	1.000		
MB-56418	Aqueous		25	☐	0	0	25	1.000		
N018833-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:01:25**
Prep End Date: **2/26/2016 12:30:00**

Initials/ Date: 3/9/2016

Prep Batch **56418** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**02-25**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-006B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 26 Feb 2016 01:09:35 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	86884.50	0.00	
24 Mg	368440.00	0.00	
25 Mg	49147.30	0.00	
26 Mg	58400.50	0.00	
59 Co	712632.00	0.00	
115 In	1577600.00	0.00	
206 Pb	461718.00	0.00	
207 Pb	404323.00	0.00	
208 Pb	985724.00	0.00	

RSD (%)

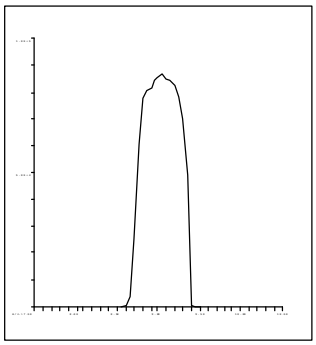
Element	Actual	Required	Flag
9 Be	0.78	5.00	
24 Mg	1.13	5.00	
25 Mg	1.29	5.00	
26 Mg	0.76	5.00	
59 Co	0.84	5.00	
115 In	0.38	5.00	
206 Pb	1.01	5.00	
207 Pb	0.85	5.00	
208 Pb	1.94	5.00	

Ion Ratio

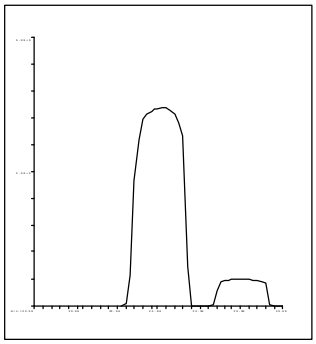
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

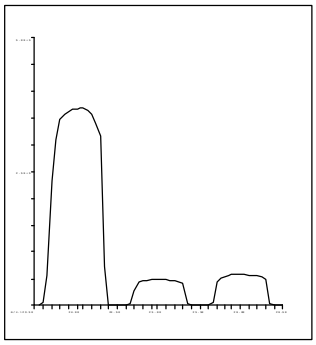
Element	Actual	Required	Flag



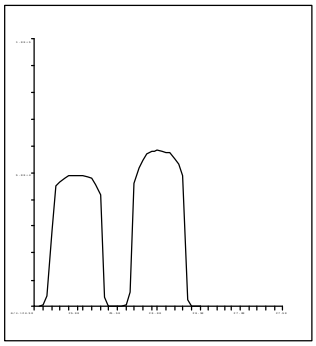
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



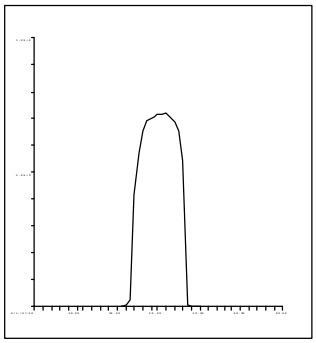
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



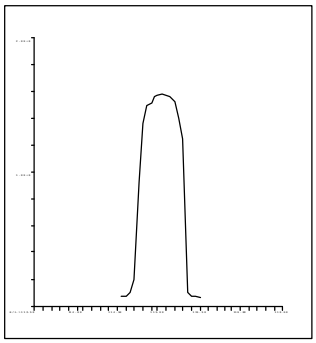
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



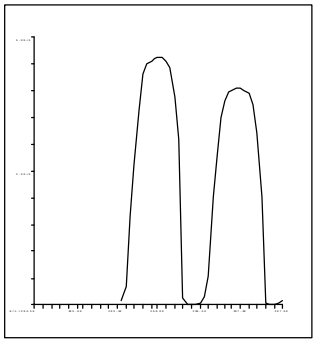
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



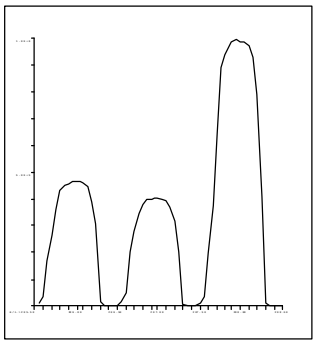
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

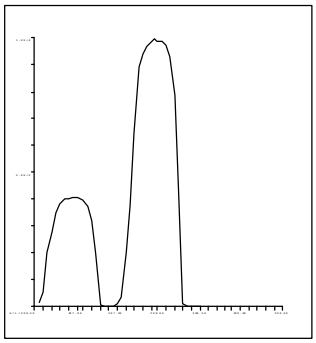


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

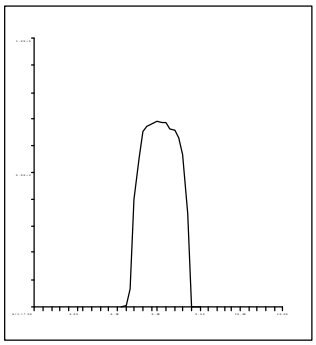
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

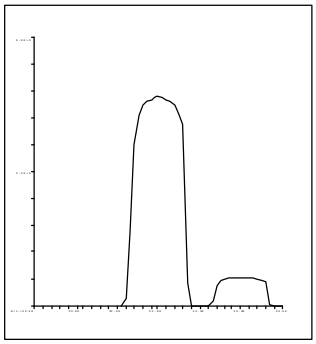
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

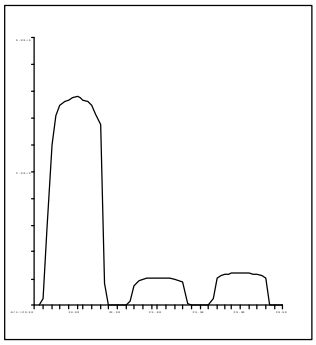
Element	Actual	Required	Flag



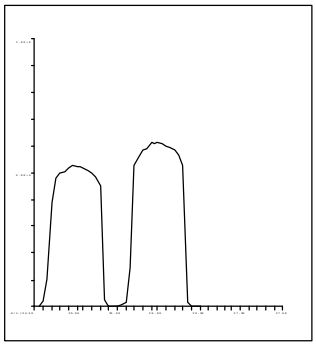
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



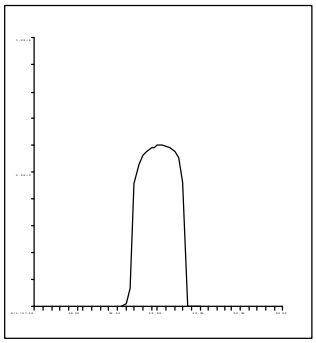
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



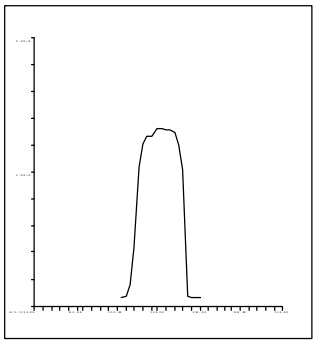
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



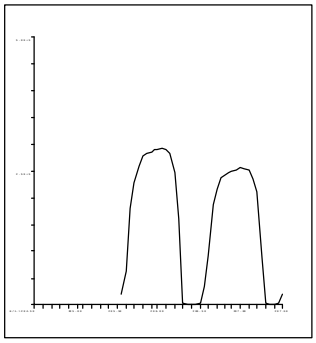
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



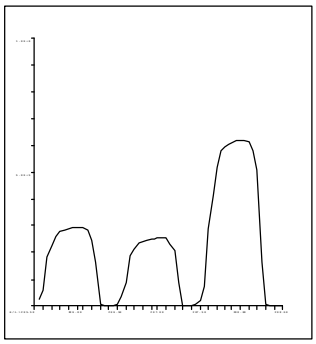
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

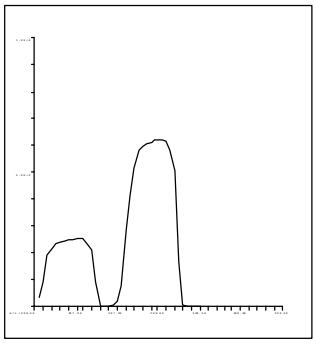


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160226A1

Instrument ID: ICPMS-02

Analyte	Data File	A0226002.D	A0226003.D	A0226004.D	A0226005.D	A0226006.D	A0226007.D	A0226008.D	A0226009.D	A0226010.D	
	Acq. Date-Time	02/26/2016 07:35 PM	02/26/2016 07:41 PM	02/26/2016 07:47 PM	02/26/2016 07:52 PM	02/26/2016 07:58 PM	02/26/2016 08:03 PM	02/26/2016 08:09 PM	02/26/2016 08:14 PM	02/26/2016 08:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	203921.1		219372.2	216758.8	213499.5	209337.4	209526.9	202738.2	200626.5	
55 Mn [2]	CPS	419.2		4510.6	44194.4	86721.2	166868.5	331604.7	804556.2	1630499.1	0.9999
52 Cr [2]	CPS	430		8290.4	78095.1	155015.8	299802.9	597867.8	1463807.5	2872645.4	1.0000
72 Ge (ISTD) [1]	CPS	164771.4		176991.3	176108.1	171058.3	168702.9	170189.2	166024.5	164349.5	
78 Se [1]	CPS	5.6		363.4	3783.9	7555.4	15064.2	29720.4	71825.8	141288.1	1.0000
72 Ge (ISTD) [2]	CPS	135207	147912.9	146598.5	145259.7	142616.2	139991.3	141092.9	136435.5	135652.3	
75 As [2]	CPS	42.7	212.9	886.3	8740.6	17366.7	33656.5	67293.5	162863.1	320668.9	1.0000
103 Rh (ISTD) [2]	CPS	3649054.4		3919515.8	3891447.1	3870199.5	3833322.2	3850266.1	3726860.3	3690356.2	
95 Mo [2]	CPS	535.6		5023.2	47934.9	93869.6	185151.6	372272.6	909396.3	1797219.2	1.0000
159 Tb (ISTD) [3]	CPS	12406544		13552421.6	13598866	13450887.6	13309725.2	13478300.6	13223698.7	13284122.3	
137 Ba [3]	CPS	1401.6		12608.2	122186.7	242377.5	469729.3	943719.1	2262164.3	4479034.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
159 Tb (ISTD) [3]	CPS	10274792.6	10060154.8	9947741.5	9909177.6	9833876.5	9881767.6	9830372.8	9680702.6	
137 Ba [3]	CPS	290.8	9176.2	85385.8	169393.2	339221.5	683027.9	1704303.2	3407686.3	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.958	0.10	10.00	0	99.6	90	110				
Barium	91.960	1.0	100.0	0	92.0	90	110				
Manganese	97.945	0.50	100.0	0	97.9	90	110				
Molybdenum	9.539	0.50	10.00	0	95.4	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.109	0.10	0.1000	0	109	80	120				
Barium	1.024	1.0	1.000	0	102	80	120				
Manganese	0.490	0.50	0.5000	0	98.0	80	120				
Molybdenum	0.590	0.50	0.5000	0	118	80	120				
Selenium	0.489	0.50	0.5000	0	97.8	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.269	0.10	20.00	0	101	90	110				
Barium	21.008	1.0	20.00	0	105	90	110				
Manganese	20.070	0.50	20.00	0	100	90	110				
Molybdenum	19.888	0.50	20.00	0	99.4	90	110				
Selenium	20.131	0.50	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.100	0.10	20.00	0	101	90	110				
Barium	20.882	1.0	20.00	0	104	90	110				
Manganese	20.430	0.50	20.00	0	102	90	110				
Molybdenum	19.971	0.50	20.00	0	99.9	90	110				
Selenium	20.039	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.307	0.10	20.00	0	102	90	110				
Barium	21.533	1.0	20.00	0	108	90	110				
Manganese	20.009	0.50	20.00	0	100	90	110				
Molybdenum	20.366	0.50	20.00	0	102	90	110				
Selenium	20.198	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	90	110				
Barium	21.433	1.0	20.00	0	107	90	110				
Manganese	20.005	0.50	20.00	0	100	90	110				
Molybdenum	20.039	0.50	20.00	0	100	90	110				
Selenium	20.800	0.50	20.00	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10	0.1000	0	97.5	70	130				
Barium	1.039	1.0	1.000	0	104	70	130				
Manganese	0.492	0.50	0.5000	0	98.4	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.7	70	130				
Selenium	0.495	0.50	0.5000	0	99.0	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.621	0.10	20.00	0	103	90	110				
Barium	21.550	1.0	20.00	0	108	90	110				
Manganese	19.891	0.50	20.00	0	99.5	90	110				
Molybdenum	20.187	0.50	20.00	0	101	90	110				
Selenium	20.453	0.50	20.00	0	102	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Barium	21.639	1.0	20.00	0	108	90	110				
Manganese	20.085	0.50	20.00	0	100	90	110				
Molybdenum	20.162	0.50	20.00	0	101	90	110				
Selenium	20.607	0.50	20.00	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ZZZZZZ	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.083	0.10	0.1000	0	82.9	70	130				
Barium	1.070	1.0	1.000	0	107	70	130				
Manganese	0.481	0.50	0.5000	0	96.2	70	130				
Molybdenum	0.524	0.50	0.5000	0	105	70	130				
Selenium	0.504	0.50	0.5000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICV	SampType:	ICV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICV	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254551

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	104.058	1.0	100.0	0	104	90	110				

Sample ID	LLICV	SampType:	CCV1	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254556

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.074	1.0	1.000	0	107	80	120				

Sample ID	CCV1	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCV	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254567

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.874	1.0	20.00	0	99.4	90	110				

Sample ID	CCV2	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCV	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.668	1.0	20.00	0	98.3	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.092	1.0	1.000	0	109	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV3	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.902	1.0	20.00	0	99.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV4	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.798	1.0	20.00	0	99.0	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV5	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.696	1.0	20.00	0	98.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV6	**CCV**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.599	1.0	20.00	0	98.0	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLCCV2	**CCV2**	**6020_DIS**	**µg/L**		**106294**
Client ID: **ZZZZZZ**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.098	1.0	1.000	0	110	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.336	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.045	1.0	1.000	0	105	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.382	1.0	20.00	0	102	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.164	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	CCV	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.098	1.0	20.00	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.014	1.0	1.000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.267	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.108	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.167	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.124	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.142	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **ICB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/7/2016**	SeqNo: **2254552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB1	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/7/2016**	SeqNo: **2254568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB2	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/7/2016**	SeqNo: **2254580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB3	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB4	**CCB**	**6020_DIS**	**µg/L**		**106294**
Client ID: **CCB**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB5	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.057	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	80	120				
Barium	20.485	1.0	20.00	0	102	80	120				
Manganese	16.459	0.50	20.00	0	82.3	80	120				
Molybdenum	23.196	0.50	20.00	0	116	80	120				
Selenium	19.281	0.50	20.00	0	96.4	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	80	120				
Barium	20.879	1.0	20.00	0	104	80	120				
Manganese	16.347	0.50	20.00	0	81.7	80	120				
Molybdenum	23.232	0.50	20.00	0	116	80	120				
Selenium	19.506	0.50	20.00	0	97.5	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.348	0.10	20.00	0	102	80	120				
Barium	21.142	1.0	20.00	0	106	80	120				
Manganese	16.506	0.50	20.00	0	82.5	80	120				
Molybdenum	23.406	0.50	20.00	0	117	80	120				
Selenium	19.192	0.50	20.00	0	96.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSA1	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSA	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254554

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254555

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	20.721	1.0	20.00	0	104	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSA	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	18.841	1.0	20.00	0	94.2	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSA	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	19.007	1.0	20.00	0	95.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.172	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.118	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.163	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.744	1.0	20.00	0	98.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	12406544	12406544	100	PASS	70-130	203921.1	203921.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	13541261.7	12406544	109.15	PASS	70-130	220681.7	203921.1	108.22	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	13552421.6	12406544	109.24	PASS	70-130	219372.2	203921.1	107.58	PASS	70-130
Std3-5/50 ppb	ICAL	1	13598866	12406544	109.61	PASS	70-130	216758.8	203921.1	106.3	PASS	70-130
Std4-10/100 ppb	ICAL	1	13450887.6	12406544	108.42	PASS	70-130	213499.5	203921.1	104.7	PASS	70-130
Std5-20/200 ppb	ICAL	1	13309725.2	12406544	107.28	PASS	70-130	209337.4	203921.1	102.66	PASS	70-130
Std6-40/400 ppb	ICAL	1	13478300.6	12406544	108.64	PASS	70-130	209526.9	203921.1	102.75	PASS	70-130
Std7-100/1000 ppb	ICAL	1	13223698.7	12406544	106.59	PASS	70-130	202738.2	203921.1	99.42	PASS	70-130
Std8-200/2000 ppb	ICAL	1	13284122.3	12406544	107.07	PASS	70-130	200626.5	203921.1	98.38	PASS	70-130
ICV	ICV	1	11249142.3	12406544	90.67	PASS	70-130	147643.7	203921.1	72.4	PASS	70-130
ICB	ICB	1	12061233.6	12406544	97.22	PASS	70-130	185314	203921.1	90.88	PASS	70-130
LLICV	CCV1	1	12742367.4	12406544	102.71	PASS	70-130	191313.1	203921.1	93.82	PASS	70-130
ICSA1	ICSA	1	12516305.4	12406544	100.88	PASS	70-130	213396.6	203921.1	104.65	PASS	70-130
ICSAB1	ICSAB	1	12408632.5	12406544	100.02	PASS	70-130	221245.2	203921.1	108.5	PASS	70-130
MB-56418	MBLK	1	12119176.1	12406544	97.68	PASS	70-130	197227.2	203921.1	96.72	PASS	70-130
LCS-56418	LCS	1	12282296.9	12406544	99	PASS	70-130	191773.3	203921.1	94.043	PASS	70-130
N018833-001B	SAMP	1	11390374.8	12406544	91.81	PASS	70-130	179476	203921.1	88.012	PASS	70-130
N018833-001B	SAMP	5	11718750.5	12406544	94.46	PASS	70-130	179122.8	203921.1	87.84	PASS	70-130
N018833-001B-PS	PS	1	11813151.4	12406544	95.22	PASS	70-130	185048.1	203921.1	90.74	PASS	70-130
N018833-001B-MS	MS	1	11774261.9	12406544	94.9	PASS	70-130	187361.1	203921.1	91.88	PASS	70-130
N018833-001B-MSD	MSD	1	11817887	12406544	95.26	PASS	70-130	186373.1	203921.1	91.39	PASS	70-130
N018833-002B	SAMP	1	11230623.9	12406544	90.52	PASS	70-130	175717.8	203921.1	86.17	PASS	70-130
N018833-003B	SAMP	1	11443955.8	12406544	92.24	PASS	70-130	182050	203921.1	89.27	PASS	70-130
N018833-004B	SAMP	1	11144472.1	12406544	89.83	PASS	70-130	176505.8	203921.1	86.56	PASS	70-130
CCV1	CCV	1	12663523.1	12406544	102.07	PASS	70-130	195379.1	203921.1	95.81	PASS	70-130
CCB1	CCB	1	11697980	12406544	94.29	PASS	70-130	174751.1	203921.1	85.7	PASS	70-130
N018833-005B	SAMP	1	11298122.6	12406544	91.066	PASS	70-130	174045.1	203921.1	85.35	PASS	70-130
N018833-006B	SAMP	1	11291773.2	12406544	91.015	PASS	70-130	178177.5	203921.1	87.38	PASS	70-130
N018833-007B	SAMP	1	11100113.7	12406544	89.47	PASS	70-130	173685	203921.1	85.17	PASS	70-130
N018833-008B	SAMP	1	11090078.7	12406544	89.39	PASS	70-130	171625.6	203921.1	84.16	PASS	70-130
N018833-009B	SAMP	1	11426788.3	12406544	92.1	PASS	70-130	176487.2	203921.1	86.55	PASS	70-130
N018833-010B	SAMP	1	11199010.4	12406544	90.27	PASS	70-130	173223.5	203921.1	84.95	PASS	70-130
N018834-001B	SAMP	1	10928022.1	12406544	88.083	PASS	70-130	166541.9	203921.1	81.67	PASS	70-130
N018834-001B-MS	MS	1	11257774.7	12406544	90.74	PASS	70-130	173828.8	203921.1	85.24	PASS	70-130
N018834-002B	SAMP	1	11111072.3	12406544	89.56	PASS	70-130	169921.8	203921.1	83.33	PASS	70-130
N018834-003B	SAMP	1	11037312.3	12406544	88.96	PASS	70-130	168987.2	203921.1	82.87	PASS	70-130
CCV2	CCV	1	12289033.2	12406544	99.053	PASS	70-130	179607.1	203921.1	88.077	PASS	70-130
CCB2	CCB	1	11252748.3	12406544	90.7	PASS	70-130	160161.7	203921.1	78.54	PASS	70-130
N018834-004B	SAMP	1	10858567.9	12406544	87.52	PASS	70-130	161063.3	203921.1	78.98	PASS	70-130
N018861-001B	SAMP	1	9394287.1	12406544	75.72	PASS	70-130	160184.7	203921.1	78.55	PASS	70-130
N018861-002B	SAMP	1	9108159.2	12406544	73.41	PASS	70-130	160340.1	203921.1	78.63	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	7623611.6	12406544	61.45	NR!	70-130	147189.3	203921.1	72.18	PASS	70-130
N018861-004B	SAMP	1	7712596.6	12406544	62.17	NR!	70-130	152389.6	203921.1	74.73	PASS	70-130
N018861-005B	SAMP	1	8241870.4	12406544	66.43	NR!	70-130	156122.6	203921.1	76.56	PASS	70-130
N018861-006B	SAMP	1	6663079	12406544	53.71	NR!	70-130	135921.5	203921.1	66.65	NR!	70-130
CCV3	CCV	1	13496201.2	12406544	108.78	PASS	70-130	218523.1	203921.1	107.16	PASS	70-130
CCB3	CCB	1	12186571.5	12406544	98.23	PASS	70-130	194355	203921.1	95.31	PASS	70-130
CCV4	CCV	1	12644594.3	12406544	101.92	PASS	70-130	202073.9	203921.1	99.094	PASS	70-130
CCB4	CCB	1	11591555.9	12406544	93.43	PASS	70-130	180430.1	203921.1	88.48	PASS	70-130
LLCCV1	CCV2	1	12162976.6	12406544	98.037	PASS	70-130	189392	203921.1	92.88	PASS	70-130
ICSA2	ICSA	1	12058001.9	12406544	97.19	PASS	70-130	207757.1	203921.1	101.88	PASS	70-130
ICSAB2	ICSAB	1	11982098.4	12406544	96.58	PASS	70-130	212702.2	203921.1	104.31	PASS	70-130
CCV5	CCV	1	12956269	12406544	104.43	PASS	70-130	213508.1	203921.1	104.7	PASS	70-130
CCB5	CCB	1	11661632.2	12406544	94	PASS	70-130	190287	203921.1	93.31	PASS	70-130
CCV6	CCV	1	12248258.2	12406544	98.72	PASS	70-130	190726	203921.1	93.53	PASS	70-130
CCB6	CCB	1	11214394	12406544	90.39	PASS	70-130	175643	203921.1	86.13	PASS	70-130
LLCCV2	CCV2	1	11845429.5	12406544	95.48	PASS	70-130	186336.9	203921.1	91.38	PASS	70-130
ICSA3	ICSA	1	11441629.6	12406544	92.22	PASS	70-130	193457.1	203921.1	94.87	PASS	70-130
ICSAB3	ICSAB	1	11422788	12406544	92.071	PASS	70-130	197474.6	203921.1	96.84	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	135207	135207	100	PASS	70-130	164771.4	164771.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	147912.9	135207	109.4	PASS	70-130	178524.1	164771.4	108.35	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146598.5	135207	108.43	PASS	70-130	176991.3	164771.4	107.42	PASS	70-130
Std3-5/50 ppb	ICAL	1	145259.7	135207	107.44	PASS	70-130	176108.1	164771.4	106.88	PASS	70-130
Std4-10/100 ppb	ICAL	1	142616.2	135207	105.48	PASS	70-130	171058.3	164771.4	103.82	PASS	70-130
Std5-20/200 ppb	ICAL	1	139991.3	135207	103.54	PASS	70-130	168702.9	164771.4	102.39	PASS	70-130
Std6-40/400 ppb	ICAL	1	141092.9	135207	104.35	PASS	70-130	170189.2	164771.4	103.29	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136435.5	135207	100.91	PASS	70-130	166024.5	164771.4	100.76	PASS	70-130
Std8-200/2000 ppb	ICAL	1	135652.3	135207	100.33	PASS	70-130	164349.5	164771.4	99.74	PASS	70-130
ICV	ICV	1	98316.8	135207	72.72	PASS	70-130	116781.5	164771.4	70.87	PASS	70-130
ICB	ICB	1	126582.2	135207	93.62	PASS	70-130	149925.6	164771.4	90.99	PASS	70-130
LLICV	CCV1	1	133211.4	135207	98.52	PASS	70-130	159338.6	164771.4	96.7	PASS	70-130
ICSA1	ICSA	1	135652.7	135207	100.33	PASS	70-130	156599	164771.4	95.04	PASS	70-130
ICSAB1	ICSAB	1	137509.6	135207	101.7	PASS	70-130	162406	164771.4	98.56	PASS	70-130
MB-56418	MBLK	1	134376.2	135207	99.39	PASS	70-130	163788.1	164771.4	99.4	PASS	70-130
LCS-56418	LCS	1	128830.2	135207	95.28	PASS	70-130	159994.4	164771.4	97.1	PASS	70-130
N018833-001B	SAMP	1	117522.4	135207	86.92	PASS	70-130	142334.8	164771.4	86.38	PASS	70-130
N018833-001B	SAMP	5	122369.2	135207	90.51	PASS	70-130	148331.9	164771.4	90.023	PASS	70-130
N018833-001B-PS	PS	1	119251.7	135207	88.2	PASS	70-130	144643.9	164771.4	87.78	PASS	70-130
N018833-001B-MS	MS	1	122718.2	135207	90.76	PASS	70-130	146793.6	164771.4	89.089	PASS	70-130
N018833-001B-MSD	MSD	1	121886	135207	90.15	PASS	70-130	148235.2	164771.4	89.96	PASS	70-130
N018833-002B	SAMP	1	114749.2	135207	84.87	PASS	70-130	140384.1	164771.4	85.2	PASS	70-130
N018833-003B	SAMP	1	117894.1	135207	87.2	PASS	70-130	141149.1	164771.4	85.66	PASS	70-130
N018833-004B	SAMP	1	115541	135207	85.45	PASS	70-130	141158.1	164771.4	85.67	PASS	70-130
CCV1	CCV	1	134446.3	135207	99.44	PASS	70-130	166758.6	164771.4	101.21	PASS	70-130
CCB1	CCB	1	120968.8	135207	89.47	PASS	70-130	144543.2	164771.4	87.72	PASS	70-130
N018833-005B	SAMP	1	115206.9	135207	85.21	PASS	70-130	139307.9	164771.4	84.55	PASS	70-130
N018833-006B	SAMP	1	117501.1	135207	86.9	PASS	70-130	144423.7	164771.4	87.65	PASS	70-130
N018833-007B	SAMP	1	114780	135207	84.89	PASS	70-130	140678.6	164771.4	85.38	PASS	70-130
N018833-008B	SAMP	1	114249.9	135207	84.5	PASS	70-130	138484.2	164771.4	84.046	PASS	70-130
N018833-009B	SAMP	1	116684.5	135207	86.3	PASS	70-130	141912.3	164771.4	86.13	PASS	70-130
N018833-010B	SAMP	1	115659.1	135207	85.54	PASS	70-130	139598	164771.4	84.72	PASS	70-130
N018834-001B	SAMP	1	111358.2	135207	82.36	PASS	70-130	136835.5	164771.4	83.046	PASS	70-130
N018834-001B-MS	MS	1	115298	135207	85.28	PASS	70-130	139359.4	164771.4	84.58	PASS	70-130
N018834-002B	SAMP	1	112053.6	135207	82.88	PASS	70-130	138608.3	164771.4	84.12	PASS	70-130
N018834-003B	SAMP	1	112992.7	135207	83.57	PASS	70-130	138027.6	164771.4	83.77	PASS	70-130
CCV2	CCV	1	126298.5	135207	93.41	PASS	70-130	156637.1	164771.4	95.063	PASS	70-130
CCB2	CCB	1	113420.9	135207	83.89	PASS	70-130	136446.8	164771.4	82.81	PASS	70-130
N018834-004B	SAMP	1	107640.9	135207	79.61	PASS	70-130	127590.5	164771.4	77.43	PASS	70-130
N018861-001B	SAMP	1	98515.1	135207	72.86	PASS	70-130	114696.4	164771.4	69.61	NR!	70-130
N018861-002B	SAMP	1	96796.2	135207	71.59	PASS	70-130	111953.1	164771.4	67.94	NR!	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	83820.5	135207	61.99	NR!	70-130	95590.9	164771.4	58.014	NR!	70-130
N018861-004B	SAMP	1	83622	135207	61.85	NR!	70-130	96271.6	164771.4	58.43	NR!	70-130
N018861-005B	SAMP	1	88008.9	135207	65.092	NR!	70-130	99885.7	164771.4	60.62	NR!	70-130
N018861-006B	SAMP	1	74083.2	135207	54.79	NR!	70-130	83654.1	164771.4	50.77	NR!	70-130
CCV3	CCV	1	147319.6	135207	108.96	PASS	70-130	180298.9	164771.4	109.42	PASS	70-130
CCB3	CCB	1	131180.5	135207	97.022	PASS	70-130	158917.8	164771.4	96.45	PASS	70-130
CCV4	CCV	1	137979.7	135207	102.05	PASS	70-130	173239.7	164771.4	105.14	PASS	70-130
CCB4	CCB	1	123115.4	135207	91.057	PASS	70-130	148965.3	164771.4	90.41	PASS	70-130
LLCCV1	CCV2	1	129440.7	135207	95.74	PASS	70-130	155869.7	164771.4	94.6	PASS	70-130
ICSA2	ICSA	1	130512.1	135207	96.53	PASS	70-130	150867.6	164771.4	91.56	PASS	70-130
ICSAB2	ICSAB	1	132273.4	135207	97.83	PASS	70-130	158271.8	164771.4	96.055	PASS	70-130
CCV5	CCV	1	143851.3	135207	106.39	PASS	70-130	179680.3	164771.4	109.05	PASS	70-130
CCB5	CCB	1	128120.7	135207	94.76	PASS	70-130	159505.7	164771.4	96.8	PASS	70-130
CCV6	CCV	1	130106.5	135207	96.23	PASS	70-130	161230.3	164771.4	97.85	PASS	70-130
CCB6	CCB	1	119420.7	135207	88.32	PASS	70-130	146286.4	164771.4	88.78	PASS	70-130
LLCCV2	CCV2	1	127750.8	135207	94.49	PASS	70-130	154368	164771.4	93.69	PASS	70-130
ICSA3	ICSA	1	123555.9	135207	91.38	PASS	70-130	146304.2	164771.4	88.79	PASS	70-130
ICSAB3	ICSAB	1	124020.1	135207	91.73	PASS	70-130	148570.5	164771.4	90.17	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	3649054.4	3649054.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	3936389.5	3649054.4	107.87	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	3919515.8	3649054.4	107.41	PASS	70-130
Std3-5/50 ppb	ICAL	1	3891447.1	3649054.4	106.64	PASS	70-130
Std4-10/100 ppb	ICAL	1	3870199.5	3649054.4	106.06	PASS	70-130
Std5-20/200 ppb	ICAL	1	3833322.2	3649054.4	105.05	PASS	70-130
Std6-40/400 ppb	ICAL	1	3850266.1	3649054.4	105.51	PASS	70-130
Std7-100/1000 ppb	ICAL	1	3726860.3	3649054.4	102.13	PASS	70-130
Std8-200/2000 ppb	ICAL	1	3690356.2	3649054.4	101.13	PASS	70-130
ICV	ICV	1	3036599.5	3649054.4	83.22	PASS	70-130
ICB	ICB	1	3466105.7	3649054.4	94.99	PASS	70-130
LLICV	CCV1	1	3608489	3649054.4	98.89	PASS	70-130
ICSA1	ICSA	1	3377494.3	3649054.4	92.56	PASS	70-130
ICSAB1	ICSAB	1	3395422	3649054.4	93.049	PASS	70-130
MB-56418	MBLK	1	3572840.6	3649054.4	97.91	PASS	70-130
LCS-56418	LCS	1	3530333	3649054.4	96.75	PASS	70-130
N018833-001B	SAMP	1	2995769.3	3649054.4	82.097	PASS	70-130
N018833-001B	SAMP	5	3223592.9	3649054.4	88.34	PASS	70-130
N018833-001B-PS	PS	1	3084349.6	3649054.4	84.52	PASS	70-130
N018833-001B-MS	MS	1	3125040.1	3649054.4	85.64	PASS	70-130
N018833-001B-MSD	MSD	1	3105185.2	3649054.4	85.096	PASS	70-130
N018833-002B	SAMP	1	2965100.2	3649054.4	81.26	PASS	70-130
N018833-003B	SAMP	1	2987292.3	3649054.4	81.86	PASS	70-130
N018833-004B	SAMP	1	2956967.2	3649054.4	81.034	PASS	70-130
CCV1	CCV	1	3637663.8	3649054.4	99.69	PASS	70-130
CCB1	CCB	1	3292290.8	3649054.4	90.22	PASS	70-130
N018833-005B	SAMP	1	2946250.6	3649054.4	80.74	PASS	70-130
N018833-006B	SAMP	1	3016141.9	3649054.4	82.66	PASS	70-130
N018833-007B	SAMP	1	2934750.4	3649054.4	80.42	PASS	70-130
N018833-008B	SAMP	1	2912824.9	3649054.4	79.82	PASS	70-130
N018833-009B	SAMP	1	2971967.3	3649054.4	81.44	PASS	70-130
N018833-010B	SAMP	1	2939254.3	3649054.4	80.55	PASS	70-130
N018834-001B	SAMP	1	2830123.6	3649054.4	77.56	PASS	70-130
N018834-001B-MS	MS	1	2943232.9	3649054.4	80.66	PASS	70-130
N018834-002B	SAMP	1	2889236	3649054.4	79.18	PASS	70-130
N018834-003B	SAMP	1	2870308.5	3649054.4	78.66	PASS	70-130
CCV2	CCV	1	3429982.5	3649054.4	94	PASS	70-130
CCB2	CCB	1	3110562	3649054.4	85.24	PASS	70-130
N018834-004B	SAMP	1	2798394.3	3649054.4	76.69	PASS	70-130
N018861-001B	SAMP	1	2372642.9	3649054.4	65.021	NR!	70-130
N018861-002B	SAMP	1	2311667	3649054.4	63.35	NR!	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	1952100.6	3649054.4	53.5	NR!	70-130
N018861-004B	SAMP	1	1934760.8	3649054.4	53.021	NR!	70-130
N018861-005B	SAMP	1	2088705.1	3649054.4	57.24	NR!	70-130
N018861-006B	SAMP	1	1699196.7	3649054.4	46.57	NR!	70-130
CCV3	CCV	1	3895709.1	3649054.4	106.76	PASS	70-130
CCB3	CCB	1	3505563	3649054.4	96.068	PASS	70-130
CCV4	CCV	1	3640849	3649054.4	99.78	PASS	70-130
CCB4	CCB	1	3275233.4	3649054.4	89.76	PASS	70-130
LLCCV1	CCV2	1	3446043.8	3649054.4	94.44	PASS	70-130
ICSA2	ICSA	1	3213929.4	3649054.4	88.076	PASS	70-130
ICSAB2	ICSAB	1	3224762.2	3649054.4	88.37	PASS	70-130
CCV5	CCV	1	3748949.6	3649054.4	102.74	PASS	70-130
CCB5	CCB	1	3364377.4	3649054.4	92.2	PASS	70-130
CCV6	CCV	1	3441226.2	3649054.4	94.3	PASS	70-130
CCB6	CCB	1	3180107.3	3649054.4	87.15	PASS	70-130
LLCCV2	CCV2	1	3364032	3649054.4	92.19	PASS	70-130
ICSA3	ICSA	1	3007549.2	3649054.4	82.42	PASS	70-130
ICSAB3	ICSAB	1	3002123.9	3649054.4	82.27	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	10274792.6	10274792.6	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	10013811.8	10274792.6	97.46	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	10060154.8	10274792.6	97.91	PASS	70-130
Std3-5/50 ppb	ICAL	1	9947741.5	10274792.6	96.82	PASS	70-130
Std4-10/100 ppb	ICAL	1	9909177.6	10274792.6	96.44	PASS	70-130
Std5-20/200 ppb	ICAL	1	9833876.5	10274792.6	95.71	PASS	70-130
Std6-40/400 ppb	ICAL	1	9881767.6	10274792.6	96.17	PASS	70-130
Std7-100/1000 ppb	ICAL	1	9830372.8	10274792.6	95.67	PASS	70-130
Std8-200/2000 ppb	ICAL	1	9680702.6	10274792.6	94.22	PASS	70-130
ICV	ICV	1	10685283.7	10274792.6	104	PASS	70-130
ICB	ICB	1	10017451.5	10274792.6	97.5	PASS	70-130
LLICV	CCV1	1	10255095.8	10274792.6	99.81	PASS	70-130
ICSA1	ICSA	1	9560743.2	10274792.6	93.05	PASS	70-130
ICSAB1	ICSAB	1	8558570.6	10274792.6	83.3	PASS	70-130
LLICV	CCV1	1	10361934.5	10274792.6	100.85	PASS	70-130
CCV1	CCV	1	9809066	10274792.6	95.47	PASS	70-130
CCB1	CCB	1	9801052.9	10274792.6	95.39	PASS	70-130
N018833-001B	SAMP	25	9797954.2	10274792.6	95.36	PASS	70-130
N018833-001B-PS	PS	5	9757272.2	10274792.6	94.96	PASS	70-130
N018833-001B-MS	MS	5	9784496.2	10274792.6	95.23	PASS	70-130
N018833-001B-MSD	MSD	5	9860356.9	10274792.6	95.97	PASS	70-130
N018834-001B	SAMP	5	9733044.6	10274792.6	94.73	PASS	70-130
N018834-001B-MS	MS	5	9679385.1	10274792.6	94.21	PASS	70-130
CCV2	CCV	1	9581000.7	10274792.6	93.25	PASS	70-130
CCB2	CCB	1	9738744	10274792.6	94.78	PASS	70-130
LLCCV1	CCV2	1	9901281.2	10274792.6	96.36	PASS	70-130
ICSA2	ICSA	1	9501460.7	10274792.6	92.47	PASS	70-130
ICSAB2	ICSAB	1	11152296.4	10274792.6	108.54	PASS	70-130
N018861-001B	SAMP	1	7567248.4	10274792.6	73.65	PASS	70-130
N018861-001B	SAMP	5	8439432.7	10274792.6	82.14	PASS	70-130
N018861-002B	SAMP	1	7116247.7	10274792.6	69.26	NR!	70-130
N018861-002B	SAMP	5	8507889.7	10274792.6	82.8	PASS	70-130
N018861-003B	SAMP	1	5867477.1	10274792.6	57.11	NR!	70-130
N018861-003B	SAMP	5	8148735.4	10274792.6	79.31	PASS	70-130
N018861-003B	SAMP	10	8552263.3	10274792.6	83.24	PASS	70-130
N018861-004B	SAMP	1	5848106.9	10274792.6	56.92	NR!	70-130
N018861-004B	SAMP	5	8065124.4	10274792.6	78.49	PASS	70-130
N018861-005B	SAMP	1	6225682	10274792.6	60.59	NR!	70-130
CCV3	CCV	1	9220588	10274792.6	89.74	PASS	70-130
CCB3	CCB	1	9128620.1	10274792.6	88.84	PASS	70-130
N018861-005B	SAMP	5	8070628.7	10274792.6	78.55	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]				
			CPS	REF	%REC	Comment	Criteria
N018861-006B	SAMP	1	5202803.7	10274792.6	50.64	NR!	70-130
N018861-006B	SAMP	5	7854519.2	10274792.6	76.44	PASS	70-130
CCV4	CCV	1	9498284.5	10274792.6	92.44	PASS	70-130
CCB4	CCB	1	9389099.9	10274792.6	91.38	PASS	70-130
CCV5	CCV	1	8726002.5	10274792.6	84.93	PASS	70-130
CCB5	CCB	1	8980966.5	10274792.6	87.41	PASS	70-130
CCV6	CCV	1	8787476.5	10274792.6	85.52	PASS	70-130
CCB6	CCB	1	8822683.1	10274792.6	85.87	PASS	70-130
LLCCV2	CCV2	1	8899868.9	10274792.6	86.62	PASS	70-130
ICSA3	ICSA	1	8341254.7	10274792.6	81.18	PASS	70-130
ICSAB3	ICSAB	1	11419229.3	10274792.6	111.14	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018834
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56418

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to several analytes. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018833-001B DT 5X	Arsenic	ug/L	2.361276	NA	2.295541	2.86%	10
N018833-001B DT 5X	Chromium	ug/L	0	NA	0		10
N018833-001B DT 5X	Manganese	ug/L	0	NA	0		10
N018833-001B DT 5X	Molybdenum	ug/L	5.327166	NA	5.356014	0.54%	10
N018833-001B DT 5X	Selenium	ug/L	1.961576	NA	1.654206	18.58%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018834
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56418

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018833-001B DT 25X	Barium	ug/L	145.4311	PASS	142.5696	2.01%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.121	0.10	10.00	2.296	98.3	80	120				
Manganese	88.656	0.50	100.0	0	88.7	80	120				
Molybdenum	16.013	0.50	10.00	5.356	107	80	120				
Selenium	10.476	0.50	10.00	1.654	88.2	80	120				

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	253.234	5.0	100.0	142.6	111	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018834
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.168	1.0	10.00	0	91.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock – RMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018843

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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March 11, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018843

RE: PG&E Topock - RMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 24, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) is outside recovery criteria for Iron on QC sample N018834-001C-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum on QC sample N018861-007B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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ASSET Laboratories

Date: *11-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018843
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018843-001A	C-CON-D-Q116	Groundwater	2/24/2016 9:10:00 AM	2/24/2016	3/11/2016
N018843-001B	C-CON-D-Q116	Groundwater	2/24/2016 9:10:00 AM	2/24/2016	3/11/2016
N018843-001C	C-CON-D-Q116	Groundwater	2/24/2016 9:10:00 AM	2/24/2016	3/11/2016
N018843-001D	C-CON-D-Q116	Groundwater	2/24/2016 9:10:00 AM	2/24/2016	3/11/2016
N018843-001E	C-CON-D-Q116	Groundwater	2/24/2016 9:10:00 AM	2/24/2016	3/11/2016
N018843-002A	C-CON-S-Q116	Groundwater	2/24/2016 9:25:00 AM	2/24/2016	3/11/2016
N018843-002B	C-CON-S-Q116	Groundwater	2/24/2016 9:25:00 AM	2/24/2016	3/11/2016
N018843-002C	C-CON-S-Q116	Groundwater	2/24/2016 9:25:00 AM	2/24/2016	3/11/2016
N018843-002D	C-CON-S-Q116	Groundwater	2/24/2016 9:25:00 AM	2/24/2016	3/11/2016
N018843-002E	C-CON-S-Q116	Groundwater	2/24/2016 9:25:00 AM	2/24/2016	3/11/2016
N018843-003A	C-NR1-D-Q116	Groundwater	2/24/2016 10:00:00 AM	2/24/2016	3/11/2016
N018843-003B	C-NR1-D-Q116	Groundwater	2/24/2016 10:00:00 AM	2/24/2016	3/11/2016
N018843-003C	C-NR1-D-Q116	Groundwater	2/24/2016 10:00:00 AM	2/24/2016	3/11/2016
N018843-003D	C-NR1-D-Q116	Groundwater	2/24/2016 10:00:00 AM	2/24/2016	3/11/2016
N018843-003E	C-NR1-D-Q116	Groundwater	2/24/2016 10:00:00 AM	2/24/2016	3/11/2016
N018843-004A	C-NR1-S-Q116	Groundwater	2/24/2016 10:10:00 AM	2/24/2016	3/11/2016
N018843-004B	C-NR1-S-Q116	Groundwater	2/24/2016 10:10:00 AM	2/24/2016	3/11/2016
N018843-004C	C-NR1-S-Q116	Groundwater	2/24/2016 10:10:00 AM	2/24/2016	3/11/2016
N018843-004D	C-NR1-S-Q116	Groundwater	2/24/2016 10:10:00 AM	2/24/2016	3/11/2016
N018843-004E	C-NR1-S-Q116	Groundwater	2/24/2016 10:10:00 AM	2/24/2016	3/11/2016
N018843-005A	C-NR3-D-Q116	Groundwater	2/24/2016 10:40:00 AM	2/24/2016	3/11/2016
N018843-005B	C-NR3-D-Q116	Groundwater	2/24/2016 10:40:00 AM	2/24/2016	3/11/2016
N018843-005C	C-NR3-D-Q116	Groundwater	2/24/2016 10:40:00 AM	2/24/2016	3/11/2016
N018843-005D	C-NR3-D-Q116	Groundwater	2/24/2016 10:40:00 AM	2/24/2016	3/11/2016
N018843-005E	C-NR3-D-Q116	Groundwater	2/24/2016 10:40:00 AM	2/24/2016	3/11/2016
N018843-006A	C-NR3-S-Q116	Groundwater	2/24/2016 10:55:00 AM	2/24/2016	3/11/2016
N018843-006B	C-NR3-S-Q116	Groundwater	2/24/2016 10:55:00 AM	2/24/2016	3/11/2016
N018843-006C	C-NR3-S-Q116	Groundwater	2/24/2016 10:55:00 AM	2/24/2016	3/11/2016
N018843-006D	C-NR3-S-Q116	Groundwater	2/24/2016 10:55:00 AM	2/24/2016	3/11/2016

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018843
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018843-006E	C-NR3-S-Q116	Groundwater	2/24/2016 10:55:00 AM	2/24/2016	3/11/2016
N018843-007A	C-NR4-D-Q116	Groundwater	2/24/2016 11:20:00 AM	2/24/2016	3/11/2016
N018843-007B	C-NR4-D-Q116	Groundwater	2/24/2016 11:20:00 AM	2/24/2016	3/11/2016
N018843-007C	C-NR4-D-Q116	Groundwater	2/24/2016 11:20:00 AM	2/24/2016	3/11/2016
N018843-007D	C-NR4-D-Q116	Groundwater	2/24/2016 11:20:00 AM	2/24/2016	3/11/2016
N018843-007E	C-NR4-D-Q116	Groundwater	2/24/2016 11:20:00 AM	2/24/2016	3/11/2016
N018843-008A	C-NR4-S-Q116	Groundwater	2/24/2016 11:45:00 AM	2/24/2016	3/11/2016
N018843-008B	C-NR4-S-Q116	Groundwater	2/24/2016 11:45:00 AM	2/24/2016	3/11/2016
N018843-008C	C-NR4-S-Q116	Groundwater	2/24/2016 11:45:00 AM	2/24/2016	3/11/2016
N018843-008D	C-NR4-S-Q116	Groundwater	2/24/2016 11:45:00 AM	2/24/2016	3/11/2016
N018843-008E	C-NR4-S-Q116	Groundwater	2/24/2016 11:45:00 AM	2/24/2016	3/11/2016
N018843-009A	R-19-D-Q116	Groundwater	2/24/2016 8:25:00 AM	2/24/2016	3/11/2016
N018843-009B	R-19-D-Q116	Groundwater	2/24/2016 8:25:00 AM	2/24/2016	3/11/2016
N018843-009C	R-19-D-Q116	Groundwater	2/24/2016 8:25:00 AM	2/24/2016	3/11/2016
N018843-009D	R-19-D-Q116	Groundwater	2/24/2016 8:25:00 AM	2/24/2016	3/11/2016
N018843-009E	R-19-D-Q116	Groundwater	2/24/2016 8:25:00 AM	2/24/2016	3/11/2016
N018843-010A	R-28-D-Q116	Groundwater	2/24/2016 7:55:00 AM	2/24/2016	3/11/2016
N018843-010B	R-28-D-Q116	Groundwater	2/24/2016 7:55:00 AM	2/24/2016	3/11/2016
N018843-010C	R-28-D-Q116	Groundwater	2/24/2016 7:55:00 AM	2/24/2016	3/11/2016
N018843-010D	R-28-D-Q116	Groundwater	2/24/2016 7:55:00 AM	2/24/2016	3/11/2016
N018843-010E	R-28-D-Q116	Groundwater	2/24/2016 7:55:00 AM	2/24/2016	3/11/2016

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ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	950	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	940	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	950	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	950	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	960	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	950	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	970	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	980	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 8:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	990	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	970	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018843-010DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106088**
Client ID: **ZZZZZZ** Batch ID: **R106088** TestNo: **EPA 120.1** Analysis Date: **2/25/2016** SeqNo: **2244260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	964.000	0.10						966.0	0.207	10	

Sample ID **N018844-001DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106088**
Client ID: **ZZZZZZ** Batch ID: **R106088** TestNo: **EPA 120.1** Analysis Date: **2/25/2016** SeqNo: **2244262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	974.000	0.10						973.0	0.103	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.1	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	21	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	21	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 8:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	21	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	20	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018843-001DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106090**
Client ID: **ZZZZZZ** Batch ID: **R106090** TestNo: **SM4500-H+B** Analysis Date: **2/25/2016** SeqNo: **2244283**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.180	0.10						8.140	0.490	10	H
Temp. at time of pH Analysis	20.600	0.10						20.80	0.966	10	H

Sample ID **N018844-001DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106090**
Client ID: **ZZZZZZ** Batch ID: **R106090** TestNo: **SM4500-H+B** Analysis Date: **2/25/2016** SeqNo: **2244294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.180	0.10						8.170	0.122	10	H
Temp. at time of pH Analysis	20.500	0.10						20.90	1.93	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	12	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 8:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160225G**	QC Batch: **56402**				PrepDate	**2/25/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/25/2016 12:13 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID	MB-56402	SampType:	MBLK	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/25/2016	RunNo:	106095
Client ID:	PBW	Batch ID:	56402	TestNo:	SM2540D			Analysis Date:	2/25/2016	SeqNo:	2244342

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID	LCS-56402	SampType:	LCS	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/25/2016	RunNo:	106095
Client ID:	LCSW	Batch ID:	56402	TestNo:	SM2540D			Analysis Date:	2/25/2016	SeqNo:	2244343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	938.000	10	1000	0	93.8	80	120				

Sample ID	N018843-001DDUP	SampType:	DUP	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/25/2016	RunNo:	106095
Client ID:	ZZZZZZ	Batch ID:	56402	TestNo:	SM2540D			Analysis Date:	2/25/2016	SeqNo:	2244345

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	12.000	10						12.00	0	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 01:10 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/27/2016 12:36 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 01:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/27/2016 12:41 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 02:07 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/27/2016 12:47 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 02:26 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/27/2016 12:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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NEVADA
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ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 02:44 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160226A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/27/2016 12:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 03:03 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/27/2016 01:03 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 03:22 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 02:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 04:00 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 03:00 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 8:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 04:19 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 03:05 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 04:38 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 03:11 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **LCS-R106239** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **LCSW** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.961	0.20	5.000	0	99.2	90	110				

Sample ID **MB-R106239** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **PBW** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **N018861-004ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	121.956	4.0						123.1	0.906	20	

Sample ID **N018861-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	223.418	4.0	100.0	123.1	100	90	110				

Sample ID **N018861-004AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	225.768	4.0	100.0	123.1	103	90	110	223.4	1.05	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018843-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.121	0.20	1.000	0.08790	103	90	110				

Sample ID **N018843-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.142	0.20	1.000	0.09600	105	90	110				

Sample ID **N018843-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.144	0.20	1.000	0.08670	106	90	110				

Sample ID **N018843-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.121	0.20	1.000	0.04940	107	90	110				

Sample ID **N018843-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.07340	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018843-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.125	0.20	1.000	0.08870	104	90	110				

Sample ID **N018843-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.104	0.20	1.000	0.09380	101	90	110				

Sample ID **N018843-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.149	0.20	1.000	0.06660	108	90	110				

Sample ID **N018843-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.171	0.20	1.000	0.1076	106	90	110				

Sample ID **N018843-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.119	0.20	1.000	0.06820	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018844-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.06750	99.5	90	110				

Sample ID **N018844-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.107	0.20	1.000	0.03120	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.628	1.0	10.00	0	96.3	85	115				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.902	1.0	10.00	5.576	83.3	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.707	1.0	10.00	5.576	81.3	75	125	13.90	1.41	20	

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.089	1.0	10.00	0	101	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.56	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.51	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.52	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.52	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.48	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.52	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.52	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.50	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 8:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	1.1	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.52	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106333** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **PBW** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106333** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **LCSW** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.500	0.050	0.5000	0	100	85	115				

Sample ID **N018843-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ZZZZZZ** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.539	0.050						0.5604	3.87	20	

Sample ID **N018843-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ZZZZZZ** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.076	0.050	0.5000	0.5604	103	75	125				

Sample ID **N018843-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ZZZZZZ** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.075	0.050	0.5000	0.5604	103	75	125	1.076	0.0929	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:42 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	150	17	20		ug/L	1	3/4/2016 01:43 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 09:57 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	120	17	20		ug/L	1	3/4/2016 01:48 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 10:02 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	160	17	20		ug/L	1	3/4/2016 01:53 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 10:06 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	91	17	20		ug/L	1	3/4/2016 01:58 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 10:11 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	120	17	20		ug/L	1	3/4/2016 02:02 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 10:16 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	92	17	20		ug/L	1	3/4/2016 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 10:21 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	130	17	20		ug/L	1	3/4/2016 02:22 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303C**	QC Batch: **56471**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/3/2016 10:26 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_160303D**	QC Batch: **56472**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	100	17	20		ug/L	1	3/4/2016 02:27 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N018843
Project: PG&E Topock - RMP, RC000753.0801
Lab ID: N018843-009

Client Sample ID: R-19-D-Q116
Collection Date: 2/24/2016 8:25:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 6010B				
RunID: **ICP2_160308A**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/8/2016 03:08 PM
TOTAL METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160303D**	QC Batch: **56481**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	84	17	20		ug/L	1	3/4/2016 02:42 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 6010B				
RunID: **ICP2_160310B**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/10/2016 12:22 PM
TOTAL METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160303D**	QC Batch: **56481**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	130	17	20		ug/L	1	3/4/2016 03:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56471** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **PBW** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56471** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **LCSW** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.800	20	100.0	0	106	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.627	20	100.0	0	110	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.306	20	100.0	0	109	75	125	109.6	0.293	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **56471** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.805	20	100.0	0	112	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56545** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **PBW** Batch ID: **56545** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS1-56545** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **LCSW** Batch ID: **56545** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255377**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.368	20	100.0	0	111	85	115				

Sample ID **N018843-010B-MS1** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.982	20	100.0	0	114	75	125				

Sample ID **N018843-010B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	119.698	20	100.0	0	120	75	125	114.0	4.89	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **MB-56472** SampType: **MBLK** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **PBW** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID **LCS-56472** SampType: **LCS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **LCSW** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/3/2016** SeqNo: **2251674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	112.924	20	100.0	0	113	85	115				

Sample ID **N018833-001C-MS** SampType: **MS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	257.559	20	100.0	137.7	120	75	125				

Sample ID **N018833-001C-MSD** SampType: **MSD** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	257.738	20	100.0	137.7	120	75	125	257.6	0.0693	20	

Sample ID **N018834-001C-MS** SampType: **MS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: **3/2/2016** RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56472** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251697**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	441.975	20	100.0	396.3	45.6	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-56481	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	PBW	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251709

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56481	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	LCSW	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251710

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.188	20	100.0	0	105	85	115				

Sample ID	N018843-009C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251714

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	191.340	20	100.0	83.69	108	75	125				

Sample ID	N018843-009C-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251715

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	192.018	20	100.0	83.69	108	75	125	191.3	0.354	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 12:36 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 12:36 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 12:36 AM
Molybdenum	5.8	0.029	0.50		µg/L	1	2/27/2016 12:36 AM
Selenium	1.7	0.070	0.50		µg/L	1	2/27/2016 12:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 9:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/27/2016 12:41 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 12:41 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 12:41 AM
Molybdenum	5.6	0.029	0.50		µg/L	1	2/27/2016 12:41 AM
Selenium	1.8	0.070	0.50		µg/L	1	2/27/2016 12:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:00:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 12:47 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 12:47 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 12:47 AM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/27/2016 12:47 AM
Selenium	1.6	0.070	0.50		µg/L	1	2/27/2016 12:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:10:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 12:52 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 12:52 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 12:52 AM
Molybdenum	5.3	0.029	0.50		µg/L	1	2/27/2016 12:52 AM
Selenium	1.7	0.070	0.50		µg/L	1	2/27/2016 12:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.5	0.016	0.10		µg/L	1	2/27/2016 12:58 AM
Barium	150	0.072	1.0		µg/L	1	2/27/2016 12:58 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 12:58 AM
Molybdenum	5.8	0.029	0.50		µg/L	1	2/27/2016 12:58 AM
Selenium	1.9	0.070	0.50		µg/L	1	2/27/2016 12:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 10:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 01:03 AM
Barium	130	0.072	1.0		µg/L	1	2/27/2016 01:03 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 01:03 AM
Molybdenum	5.1	0.029	0.50		µg/L	1	2/27/2016 01:03 AM
Selenium	1.7	0.070	0.50		µg/L	1	2/27/2016 01:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:20:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 01:37 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 01:37 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 01:37 AM
Molybdenum	5.3	0.029	0.50		µg/L	1	2/27/2016 01:37 AM
Selenium	1.7	0.070	0.50		µg/L	1	2/27/2016 01:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 11:45:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	2/27/2016 01:42 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 01:42 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 01:42 AM
Molybdenum	5.5	0.029	0.50		µg/L	1	2/27/2016 01:42 AM
Selenium	1.7	0.070	0.50		µg/L	1	2/27/2016 01:42 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 8:25:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 01:48 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 01:48 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 01:48 AM
Molybdenum	5.5	0.029	0.50		µg/L	1	2/27/2016 01:48 AM
Selenium	1.6	0.070	0.50		µg/L	1	2/27/2016 01:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-D-Q116
Lab Order:	N018843	**Collection Date:**	2/24/2016 7:55:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018843-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.2	0.016	0.10		µg/L	1	2/27/2016 01:53 AM
Barium	140	0.36	5.0		µg/L	5	3/8/2016 03:17 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 01:53 AM
Molybdenum	5.3	0.029	0.50		µg/L	1	2/27/2016 01:53 AM
Selenium	1.6	0.070	0.50		µg/L	1	2/27/2016 01:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.231	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.181	0.10	10.00	0	91.8	85	115				
Barium	100.851	1.0	100.0	0	101	85	115				
Manganese	94.670	0.50	100.0	0	94.7	85	115				
Molybdenum	9.932	0.50	10.00	0	99.3	85	115				
Selenium	8.651	0.50	10.00	0	86.5	85	115				

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2247053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.001	0.10	10.00	2.210	97.9	75	125				
Manganese	90.378	0.50	100.0	0	90.4	75	125				
Molybdenum	16.093	0.50	10.00	5.252	108	75	125				
Selenium	10.696	0.50	10.00	1.585	91.1	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.046	0.50	10.00	16.31	97.4	75	125				
Barium	148.366	5.0	100.0	40.87	107	75	125				
Manganese	120.283	2.5	100.0	24.49	95.8	75	125				
Selenium	9.448	2.5	10.00	0	94.5	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.237	0.50	10.00	16.31	99.3	75	125	26.05	0.729	20	
Barium	148.439	5.0	100.0	40.87	108	75	125	148.4	0.0491	20	
Manganese	120.509	2.5	100.0	24.49	96.0	75	125	120.3	0.187	20	
Selenium	9.553	2.5	10.00	0	95.5	75	125	9.448	1.10	20	

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.051	5.0	100.0	141.3	109	75	125				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.797	12	10.00	81.14	76.5	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	87.519	12	10.00	81.14	63.8	75	125	88.80	1.45	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Gary Clift		Phone: 949-727-1400, ext 200	Fax:
Title: SR. Technician	Phone: 916-786-3302 / Fax:		
Signature: 2-24-16	Sampled By:		
Project Name: PG&E Topock - RMP	Signature: / Date:		
Project Number: RC000753.0801			

I hereby authorize ASSET Labs to perform the tests indicated below

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Matrix		
Ground	x	Sediment
Potable		Soil
NPDES		Other Solid
Surface		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number	2	
		Regulatory		6. Method of Cooling: ICE		
Global ID:		Specify State:		Sample Temp: 3.1, 4.0, 5.2, 2.[illegible]		

Courier: ASET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Field QC Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Cr	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Ca, Mg, K, Na, B	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 As, Mn, Fe, Se, Mo, Ba	Total metals (SW6010B); HNO3 Fe	Anions (E300.0); Br, Cl, SO4	Specific Conductance (E120.1)	pH (SM4500HB)	TDS (SM2540C)	Alkalinity (Total, reported as CaCO3) (SM2320B)	TSS (SM2540)	Nitrate/Nitrite (SM4500N03) Nitrate, H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						3x250 mL poly		3x500mL poly	3x500mL poly	3x500mL poly	500 mL poly	2x1 liter poly	2x1 liter poly	2x1 liter poly	2x1 liter poly	2x1 liter poly	2x1 liter poly	125 mL poly					
1	N0188443-1	C-CON-D-Q116	2/24/2016	910		X		X		X	X		X	X			X	X	E	10	P	BN	
2	-2	C-CON-S-Q116	2/24/2016	925		X		X		X	X		X	X			X	X	E	10	P	BN	
3	-3	C-NR1-D-Q116	2/24/2016	1000		X		X		X	X		X	X			X	X	E	10	P	BN	
4	-4	C-NR1-S-Q116	2/24/2016	1010		X		X		X	X		X	X			X	X	E	10	P	BN	
5	-5	C-NR3-D-Q116	2/24/2016	1040		X		X		X	X		X	X			X	X	E	10	P	BN	
6	-6	C-NR3-S-Q116	2/24/2016	1055		X		X		X	X		X	X			X	X	E	10	P	BN	
7	-7	C-NR4-D-Q116	2/24/2016	1120		X		X		X	X		X	X			X	X	E	10	P	BN	
8	-8	C-NR4-S-Q116	2/24/2016	1145		X		X		X	X		X	X			X	X	E	10	P	BN	
9	-9	R-19-D-Q116	2/24/2016	825		X		X		X	X		X	X			X	X	E	10	P	BN	
10	-10	R-28-D-Q116	2/24/2016	755		X		X		X	X		X	X			X	X	E	10	P	BN	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	2-24-16 1515		2/24/16 @1515
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	2/24/16 @1500		2/24/16 @1800
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days. surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 2/24/2016 Workorder: N018843

Rep sample Temp (Deg C): 3.1/4.0/5.2/2.8 IR Gun ID: 2

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☐	No ☑	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☑	NA ☐

Comments: Sampler's initial taken from the sample label. Samples for pH was pastholding time upon receipt.

For: 2/26/2016

Checklist Completed By MBC

Reviewed By: 03/07/16

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-001A	C-CON-D-Q116	2/24/2016 9:10:00 AM	3/9/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-001B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-001C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-001D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-001E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-002A	C-CON-S-Q116	2/24/2016 9:25:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-002B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-002C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-002D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-002D	C-CON-S-Q116	2/24/2016 9:25:00 AM	3/9/2016	Groundwater	SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-002E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-003A	C-NR1-D-Q116	2/24/2016 10:00:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-003B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-003C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-003D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-003E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-004A	C-NR1-S-Q116	2/24/2016 10:10:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-004B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-004B	C-NR1-S-Q116	2/24/2016 10:10:00 AM	3/9/2016	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-004C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-004D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-004E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-005A	C-NR3-D-Q116	2/24/2016 10:40:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-005B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-005C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-005D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-005E	C-NR3-D-Q116	2/24/2016 10:40:00 AM	3/9/2016	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-006A	C-NR3-S-Q116	2/24/2016 10:55:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-006B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-006C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-006D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-006E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-007A	C-NR4-D-Q116	2/24/2016 11:20:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-007B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-007C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-007C	C-NR4-D-Q116	2/24/2016 11:20:00 AM	3/9/2016	Groundwater	EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-007D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-007E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-008A	C-NR4-S-Q116	2/24/2016 11:45:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-008B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-008C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-008D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-008E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-009A	R-19-D-Q116	2/24/2016 8:25:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-009B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-009B	R-19-D-Q116	2/24/2016 8:25:00 AM	3/9/2016	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-009C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-009D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018843-009E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-010A	R-28-D-Q116	2/24/2016 7:55:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018843-010B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018843-010C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018843-010D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018843

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018843-010D	R-28-D-Q116	2/24/2016 7:55:00 AM	3/9/2016	Groundwater		Total Suspended Solids Prep	☐	☐	☐	WW
N018843-010E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018843-011A	FOLDER		3/9/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/9/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018843**

NAME	TEST METHOD
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540D

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106088 **Analyst:** LSR

ASSET #: N018843 **Date Analyzed:** 2/25/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. MS~~/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer Nancy 3/10/2016 Date: –

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 2/25/16 1545

Analyst: LSR

Standard	Std ID	Reading	Comments
9.78 mS/cm	CIW-150619A	9.79 mS/cm @ 24.8°C	% Rec: (90-110%)
1412	151012A	1419 @ 24.7°C	
99992	160111B	10190 @ 24.6°C	
99797	151012B	101300 @ 24.6°C	

	Sample ID	Matrix	Reading	Comments
1	N0188443-001D	Water	952 mS/cm @ 22.1°C	
2	2D		945 @ 22.0°C	
3	3D		949 @ 21.8°C	
4	4D		953 @ 22.1°C	
5	5D		958 @ 21.6°C	
6	6D		952 @ 22.2°C	
7	7D		967 @ 22.2°C	
8	8D		979 @ 22.6°C	
9	9D		986 @ 22.8°C	
10	10D		966 @ 22.1°C	
Dup	10D DUP		964 @ 21.9°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Julia Ramit 3/2/2016

Date:

Analyst: CONTD

Standard	Std ID	Reading	Comments
1413 mS/cm	CIW-150527A	1453 mS/cm @ 24.9°C	% Rec: (90-110%)
10000	150909A	10370 @ 24.9°C	
99893	151130A	97500 @ 24.7°C	

	Sample ID	Matrix	Reading	Comments
1	N0188444-001D	Water	973 mS/cm @ 22.3°C	
2	1D DUP		974 @ 21.9°C	
3				
4				
5				
6				
7				
8	1413 mS/cm	CIW-150527A	1456 mS/cm @ 24.6°C	
9	10000	150909A	10380 @ 24.2°C	
10	99893	151130A	98600 @ 24.3°C	
Dup				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Logbook # 5

SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106090 **Instrument ID:** pH meter

ASSET #: N018843 **Analyst:** LSR

Date Analyzed: 2/25/2016

Method: EPA 150.1

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer: Julia Ramit Date: 3/2/2016

2nd Level Reviewer: Nancy 3/10/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.26
www.assetlaboratories.com

pH Logbook

Date: 2/25/14 @ 1640

Analyst: LSR

Standard	Std ID	pH	Comments
Buffer 7	CINW-150858A	6.98 @ 24.9°C	SLOPE: 98.4%
Buffer 4	↓ B	4.01 @ 24.6°C	
Buffer 10	CINW-150708A	10.03 @ 24.6°C	

Sample ID	Matrix	pH	Comments
N0188443-001D	Water	8.14 @ 20.8°C	
1D DUP		8.18 @ 20.6°C	
2D		8.15 @ 20.2°C	
3D		8.18 @ 20.1°C	
4D		8.19 @ 19.7°C	
5D		8.19 @ 20.1°C	
6D		8.20 @ 20.4°C	
7D		8.19 @ 20.5°C	
8D		8.20 @ 20.9°C	
9D		8.21 @ 21.0°C	
10D		8.22 @ 20.4°C	Accept: 10% water, 20% soil
Buffer 7, 4, 10	CINW-150604A	7.00 @ 24.6°C	Accept: +/-0.1 pH units from expected value

(Circle one)

Date: _____

Analyst: _____

Standard	Std ID	pH	Comments
Buffer 7			
Buffer 4	CONT'D		
Buffer 10			

Sample ID	Matrix	pH	Comments
N0188444-001D	Water	8.17 @ 20.4°C	
1D DUP		8.18 @ 20.5°C	
N0188454-001D		7.85 @ 23.2°C	
2B	Sludge	6.86 @ 24.4°C	
2B DUP		6.93 @ 24.4°C	
			Julia Ramit 3/2/2016
			Accept: 10% water, 20% soil
Buffer 7, 4, 10	CINW-150604A	7.05 @ 25.0°C	Accept: +/-0.1 pH units from expected value

(Circle one)

Logbook #8

SM 2540D

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56402 **Analyst:** LSR

ASSET #: N018843 **Date Analyzed:** 2/25/2016

Method: EPA 160.2

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. ~~MS/MS~~D, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer Nancy 3/10/2016 Date: ——

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018843-001D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4242-1.4230)*1000000}{100}$$
$$= 12 \text{ mg/L}$$

Since reporting limit is 10 mg/L, therefore:

TSS = 12

Julia Ramit 3/2/2016

SAMPLE PREPARATION LOG

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.2691
www.assetlaboratories.com

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/25/2016 12:13:47**
Prep End Date: **2/25/2016 5:45:00 P**

Initials/ Date: Lilia Ramit 3/2/2016

Prep Batch **56402** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56402	Water		100	☐	0	0	100	1.000		
MB-56402	Water		100	☐	0	0	100	1.000		
N018843-001D	Groundwater		100	☐	0	0	100	1.000		
N018843-001D-DU	Groundwater		100	☐	0	0	100	1.000		
N018843-002D	Groundwater		100	☐	0	0	100	1.000		
N018843-003D	Groundwater		100	☐	0	0	100	1.000		
N018843-004D	Groundwater		100	☐	0	0	100	1.000		
N018843-005D	Groundwater		100	☐	0	0	100	1.000		
N018843-006D	Groundwater		100	☐	0	0	100	1.000		
N018843-007D	Groundwater		100	☐	0	0	100	1.000		
N018843-008D	Groundwater		100	☐	0	0	100	1.000		
N018843-009D	Groundwater		100	☐	0	0	100	1.000		
N018843-010D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160215A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/25/2016 12:13:47**
Prep End Date:

Initials/ Date: Lilia Ramit 3/2/2016

Prep Batch **56402** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units
mL / mL

	Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
	LCS-56402	Water	INSTIGOLITA	100	☐	0	0	100	1.000		
	MB-56402	Water		100	☐	0	0	100	1.000		
1	N018843-001D	Groundwater		100	☐	0	0	100	1.000		
10	N018843-001D-DU	Groundwater		100	☐	0	0	100	1.000		
2	N018843-002D	Groundwater		100	☐	0	0	100	1.000		
3	N018843-003D	Groundwater		100	☐	0	0	100	1.000		
4	N018843-004D	Groundwater		100	☐	0	0	100	1.000		
5	N018843-005D	Groundwater		100	☐	0	0	100	1.000		
6	N018843-006D	Groundwater		100	☐	0	0	100	1.000		
7	N018843-007D	Groundwater		100	☐	0	0	100	1.000		
8	N018843-008D	Groundwater		100	☐	0	0	100	1.000		
9	N018843-009D	Groundwater		100	☐	0	0	100	1.000		
10	N018843-010D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #
T504/10

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

TEST (TSS) TDS/TS

SOLIDS RAW DATA

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/25/16 1213 20	MB 56402	100	1.4468 1.4467	1.4463 1.4465	
21	LCS 56402	100	1.4220 1.4219	1.5154 1.5157	
1	N018843-001D	100	1.4230 1.4230	1.4243 1.4242	
2	2D	100	1.4239 1.4231	1.4240 1.4239	
3	3D	100	1.4142 1.4142	1.4144 1.4146	
4	4D	100	1.4407 1.4409	1.4413 1.4414	
5	5D	100	1.4178 1.4178	1.4184 1.4185	
6	6D	100	1.4164 1.4164	1.4169 1.4169	
7	7D	100	1.4497 1.4498	1.4503 1.4505	
8	8D	100	1.4419 1.4420	1.4425 1.4426	

Julia Ramit 3/2/2016

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
3/2/16 9	N018843-0091D	100	1.4156 1.4157	1.4157 1.4159	
10	100	100	1.4305 1.4307	1.4308 1.4310	
10 D1	1D DUP	100	1.4377 1.4376	1.4388 1.4389	

Julia Ramit 3/2/2016 ASSET Laboratories Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 2/25/16						
MB-56402	100	1.4467	1.4465	-2.0000	1.00	-2
LCS-56402	100	1.4219	1.5157	938.0000	1.00	938
N018843-001D	100	1.423	1.4242	12.0000	1.00	12
N018843-001DDUP	100	1.4376	1.4388	12.0000	1.00	12
N018843-002D	100	1.4231	1.4239	8.0000	1.00	8
N018843-003D	100	1.4142	1.4146	4.0000	1.00	4
N018843-004D	100	1.4409	1.4414	5.0000	1.00	5
N018843-005D	100	1.4178	1.4185	7.0000	1.00	7
N018843-006D	100	1.4164	1.4169	5.0000	1.00	5
N018843-007D	100	1.4498	1.4505	7.0000	1.00	7
N018843-008D	100	1.442	1.4426	6.0000	1.00	6
N018843-009D	100	1.4157	1.4159	2.0000	1.00	2
N018843-010D	100	1.4307	1.431	3.0000	1.00	3

Silia Ramit 3/2/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106239
ASSET #: N018843

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/29/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/9/2016 Date: _____

2nd Level Reviewer Nancy 3/10/2016 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018843-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.0879* 1

= 0.0879

Since reporting limit is 0.2 µg/L,

Cr^{+6}, µg/L = ND

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/29/16 11:08 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	02/29/16 11:19 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/29/16 11:29 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:38 AM	Not Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:47 AM	Reported
15	LCS-R106239	LCS	1	Hexavalent Chromium	02/29/16 11:57 AM	Reported
16	MB-R106239	MBLK	1	Hexavalent Chromium	02/29/16 12:06 PM	Reported
17	N018861-004A	SAMP	20	Hexavalent Chromium	02/29/16 12:31 PM	Reported
18	N018861-004ADUP	DUP	20	Hexavalent Chromium	02/29/16 12:41 PM	Reported
19	N018861-004AMS	MS	20	Hexavalent Chromium	02/29/16 12:51 PM	Reported
20	N018861-004AMSD	MSD	20	Hexavalent Chromium	02/29/16 1:00 PM	Reported
21	N018843-001A	SAMP	1	Hexavalent Chromium	02/29/16 1:10 PM	Reported
22	N018843-001AMS	MS	1	Hexavalent Chromium	02/29/16 1:19 PM	Reported
23	N018843-002A	SAMP	1	Hexavalent Chromium	02/29/16 1:29 PM	Reported
24	N018843-002AMS	MS	1	Hexavalent Chromium	02/29/16 1:38 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/29/16 1:48 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/29/16 1:57 PM	Reported
27	N018843-003A	SAMP	1	Hexavalent Chromium	02/29/16 2:07 PM	Reported
28	N018843-003AMS	MS	1	Hexavalent Chromium	02/29/16 2:16 PM	Reported
29	N018843-004A	SAMP	1	Hexavalent Chromium	02/29/16 2:26 PM	Reported
30	N018843-004AMS	MS	1	Hexavalent Chromium	02/29/16 2:35 PM	Reported
31	N018843-005A	SAMP	1	Hexavalent Chromium	02/29/16 2:44 PM	Reported
32	N018843-005AMS	MS	1	Hexavalent Chromium	02/29/16 2:54 PM	Reported
33	N018843-006A	SAMP	1	Hexavalent Chromium	02/29/16 3:03 PM	Reported
34	N018843-006AMS	MS	1	Hexavalent Chromium	02/29/16 3:13 PM	Reported
35	N018843-007A	SAMP	1	Hexavalent Chromium	02/29/16 3:22 PM	Reported
36	N018843-007AMS	MS	1	Hexavalent Chromium	02/29/16 3:32 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/29/16 3:41 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/29/16 3:51 PM	Reported
39	N018843-008A	SAMP	1	Hexavalent Chromium	02/29/16 4:00 PM	Reported
40	N018843-008AMS	MS	1	Hexavalent Chromium	02/29/16 4:10 PM	Reported
41	N018843-009A	SAMP	1	Hexavalent Chromium	02/29/16 4:19 PM	Reported
42	N018843-009AMS	MS	1	Hexavalent Chromium	02/29/16 4:29 PM	Reported

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018843-010A	SAMP	1	Hexavalent Chromium	02/29/16 4:38 PM	Reported
44	N018843-010AMS	MS	1	Hexavalent Chromium	02/29/16 4:48 PM	Reported
45	N018844-001A	SAMP	1	Hexavalent Chromium	02/29/16 4:57 PM	Reported
46	N018844-001AMS	MS	1	Hexavalent Chromium	02/29/16 5:06 PM	Reported
47	N018844-005A	SAMP	1	Hexavalent Chromium	02/29/16 5:16 PM	Reported
48	N018844-005AMS	MS	1	Hexavalent Chromium	02/29/16 5:25 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/29/16 5:35 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/29/16 5:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160229A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:47:52**
No. of Injections:	**53**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/29/2016 11:08	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		02/29/2016 11:19	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		02/29/2016 11:29	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		02/29/2016 11:38	Finished	CCB R160209C
14	CCB-1,CCB,1	5	1000	Unknown		02/29/2016 11:47	Finished	CCB R160209C
15	LCS-H2O,LCS,1	6	1000	Unknown		02/29/2016 11:57	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	7	1000	Unknown		02/29/2016 12:06	Finished	MB
17	N018861-004A,SAMP	8	1000	Unknown		02/29/2016 12:31	Finished	SAMP, 0.5 to 10mL
18	N018861-004ADUP,D	9	1000	Unknown		02/29/2016 12:41	Finished	DOP, 0.5 to 10mL
19	N018861-004AMS,MS	10	1000	Unknown		02/29/2016 12:51	Finished	MS(5ppb), IWST-160202B, 10r
20	N018861-004AMSD,M	11	1000	Unknown		02/29/2016 13:00	Finished	MSD(5ppb), IWST-160202B, 1
21	N018843-001A,SAMP	12	1000	Unknown		02/29/2016 13:10	Finished	SAMP, 10mL
22	N018843-001AMS,MS	13	1000	Unknown		02/29/2016 13:19	Finished	MS(1ppb), IWST-160202B, 10r
23	N018843-002A,SAMP	14	1000	Unknown		02/29/2016 13:29	Finished	SAMP, 10mL
24	N018843-002AMS,MS	15	1000	Unknown		02/29/2016 13:38	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/29/2016 13:48	Finished	CCV @ 10ppb, IWST 160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/29/2016 13:57	Finished	CCB
27	N018843-003A,SAMP	18	1000	Unknown		02/29/2016 14:07	Finished	SAMP, 10mL
28	N018843-003AMS,MS	19	1000	Unknown		02/29/2016 14:16	Finished	MS(1ppb), IWST-160202B, 10r
29	N018843-004A,SAMP	20	1000	Unknown		02/29/2016 14:26	Finished	SAMP, 10mL
30	N018843-004AMS,MS	21	1000	Unknown		02/29/2016 14:35	Finished	MS(1ppb), IWST-160202B, 10r
31	N018843-005A,SAMP	22	1000	Unknown		02/29/2016 14:44	Finished	SAMP, 10mL
32	N018843-005AMS,MS	23	1000	Unknown		02/29/2016 14:54	Finished	MS(1ppb), IWST-160202B, 10r
33	N018843-006A,SAMP	24	1000	Unknown		02/29/2016 15:03	Finished	SAMP, 10mL
34	N018843-006AMS,MS	25	1000	Unknown		02/29/2016 15:13	Finished	MS(1ppb), IWST-160202B, 10r
35	N018843-007A,SAMP	26	1000	Unknown		02/29/2016 15:22	Finished	SAMP, 10mL
36	N018843-007AMS,MS	27	1000	Unknown		02/29/2016 15:32	Finished	MS(1ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/29/2016 15:41	Finished	CCV @ 5ppb, IWST 160202A
38	CCB-3,CCB,1	29	1000	Unknown		02/29/2016 15:51	Finished	CCB
39	N018843-008A,SAMP	30	1000	Unknown		02/29/2016 16:00	Finished	SAMP, 10mL
40	N018843-008AMS,MS	31	1000	Unknown		02/29/2016 16:10	Finished	MS(1ppb), IWST-160202B, 10r
41	N018843-009A,SAMP	32	1000	Unknown		02/29/2016 16:19	Finished	SAMP, 10mL
42	N018843-009AMS,MS	33	1000	Unknown		02/29/2016 16:29	Finished	MS(1ppb), IWST-160202B, 10r
43	N018843-010A,SAMP	34	1000	Unknown		02/29/2016 16:38	Finished	SAMP, 10mL
44	N018843-010AMS,MS	35	1000	Unknown		02/29/2016 16:48	Finished	MS(1ppb), IWST-160202B, 10r
45	N018844-001A,SAMP	36	1000	Unknown		02/29/2016 16:57	Finished	SAMP, 10mL
46	N018844-001AMS,MS	37	1000	Unknown		02/29/2016 17:06	Finished	MS(1ppb), IWST-160202B, 10r
47	N018844-005A,SAMP	38	1000	Unknown		02/29/2016 17:16	Finished	SAMP, 10mL
48	N018844-005AMS,MS	39	1000	Unknown		02/29/2016 17:25	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/29/2016 17:35	Finished	CCV @ 10ppb, IWST 160202A
50	CCB-4,CCB,1	41	1000	Unknown		02/29/2016 17:44	Finished	CCB
51	SHUTDOWN	42	1000	Unknown		02/29/2016 17:54	Finished	BLANK
52	Eluent: R160224A	43	1000	Unknown		n.a.	Finished	Eluent
53	PCR: R160226A	44	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: MEB

Reagent ID:
Sulfuric Acid: CIM-16130D
Diphenylcarbazide: CIM-15130F
NH4OH + NH4SO4 eluent: R160202D
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018801-005A	9.43	–	–	–	–	R160219D
2)	6A	9.51	–	–	–	–	
3)	7A	9.55	–	–	–	–	
4)	8A	9.62	–	–	–	–	
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							MEB 2/24/16

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40 AM
Prepared By: MEB

SLOPE: 97.2%
pH 4 - 4.01
7 - 7.00
10 - 10.04
CS - 6.44

Reagent ID:
Sulfuric Acid: CIM-15130D
Diphenylcarbazide: CIM-15130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018843-001A1	9.37	–	–	–	–	R160219D
2)	A2	9.35	–	–	–	–	
3)	A3	9.38	–	–	–	–	
4)	2A1	9.42	–	–	–	–	
5)	A2	9.44	–	–	–	–	
6)	A3	9.41	–	–	–	–	
7)	3A1	9.40	–	–	–	–	
8)	A2	9.41	–	–	–	–	
9)	A3	9.39	–	–	–	–	
10)	4A1	9.41	–	–	–	–	
11)	A2	9.41	–	–	–	–	
12)	A3	9.40	–	–	–	–	
13)	5A1	9.42	–	–	–	–	
14)	A2	9.39	–	–	–	–	
15)	A3	9.41	–	–	–	–	

Logbook No. 10

Reb 3/9/2016

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40AM
Prepared By: NEB

Reagent ID:
Sulfuric Acid: CIN-151130D
Diphenylcarbazide: CIN-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018843-006A1	9.41	—	—	—	—	R160219D
2)	A2	9.41	—	—	—	—	
3)	A3	9.40	—	—	—	—	
4)	7A1	9.43	—	—	—	—	
5)	A2	9.41	—	—	—	—	
6)	A3	9.40	—	—	—	—	
7)	8A1	9.43	—	—	—	—	
8)	A2	9.39	—	—	—	—	
9)	A3	9.43	—	—	—	—	
10)	9A1	9.43	—	—	—	—	
11)	A2	9.42	—	—	—	—	
12)	A3	9.41	—	—	—	—	
13)	10A1	9.42	—	—	—	—	
14)	A2	9.40	—	—	—	—	
15)	A3	9.40	—	—	—	—	

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40AM
Prepared By: NEB

Reagent ID:
Sulfuric Acid: CIN-151130D
Diphenylcarbazide: CIN-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018844-001A1	9.44	—	—	—	—	R160219D
2)	5A	9.56	—	—	—	—	
3)	N018845-002A	9.45	—	—	—	—	
4)	6A	9.43	—	—	—	—	
5)	7A	9.38	—	—	—	—	
6)	8A	9.44	—	—	—	—	
7)	9A	9.46	—	—	—	—	
8)	10A	9.50	—	—	—	—	
9)	N018844-001A2	9.43	—	—	—	—	
10)	A3	9.41	—	—	—	—	
11)	N018845-001A	9.52	—	—	—	—	
12)							
13)							
14)							
15)							

Logbook No. 10

Reb 3/9/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0546	0.2480	1.1957	2.3389	3.5494	4.7448	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ICV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	100	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.237	0.20	0.2000	0	118	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.946	0.20	10.00	0	99.5	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.990	0.20	5.000	0	99.8	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.270	0.20	10.00	0	103	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ICB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.014	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/29/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.031	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
LCS-R106239	5.040	PASS
MB-R106239	N.A.	N.A.
N018861-004A	5.023	PASS
N018861-004ADUP	5.031	PASS
N018861-004AMS	5.031	PASS
N018861-004AMSD	5.031	PASS
N018843-001A	5.040	PASS
N018843-001AMS	5.031	PASS
N018843-002A	5.040	PASS
N018843-002AMS	5.031	PASS
N018843-003A	5.048	PASS
N018843-003AMS	5.031	PASS
N018843-004A	5.031	PASS
N018843-004AMS	5.031	PASS
N018843-005A	5.023	PASS
N018843-005AMS	5.031	PASS
N018843-006A	5.031	PASS
N018843-006AMS	5.031	PASS
N018843-007A	5.031	PASS
N018843-007AMS	5.031	PASS
N018843-008A	5.031	PASS
N018843-008AMS	5.023	PASS
N018843-009A	5.023	PASS
N018843-009AMS	5.031	PASS
N018843-010A	5.031	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/29/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.031	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
N018843-010AMS	5.023	PASS
N018844-001A	5.023	PASS
N018844-001AMS	5.023	PASS
N018844-005A	5.023	PASS
N018844-005AMS	5.040	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Reb 2/8/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

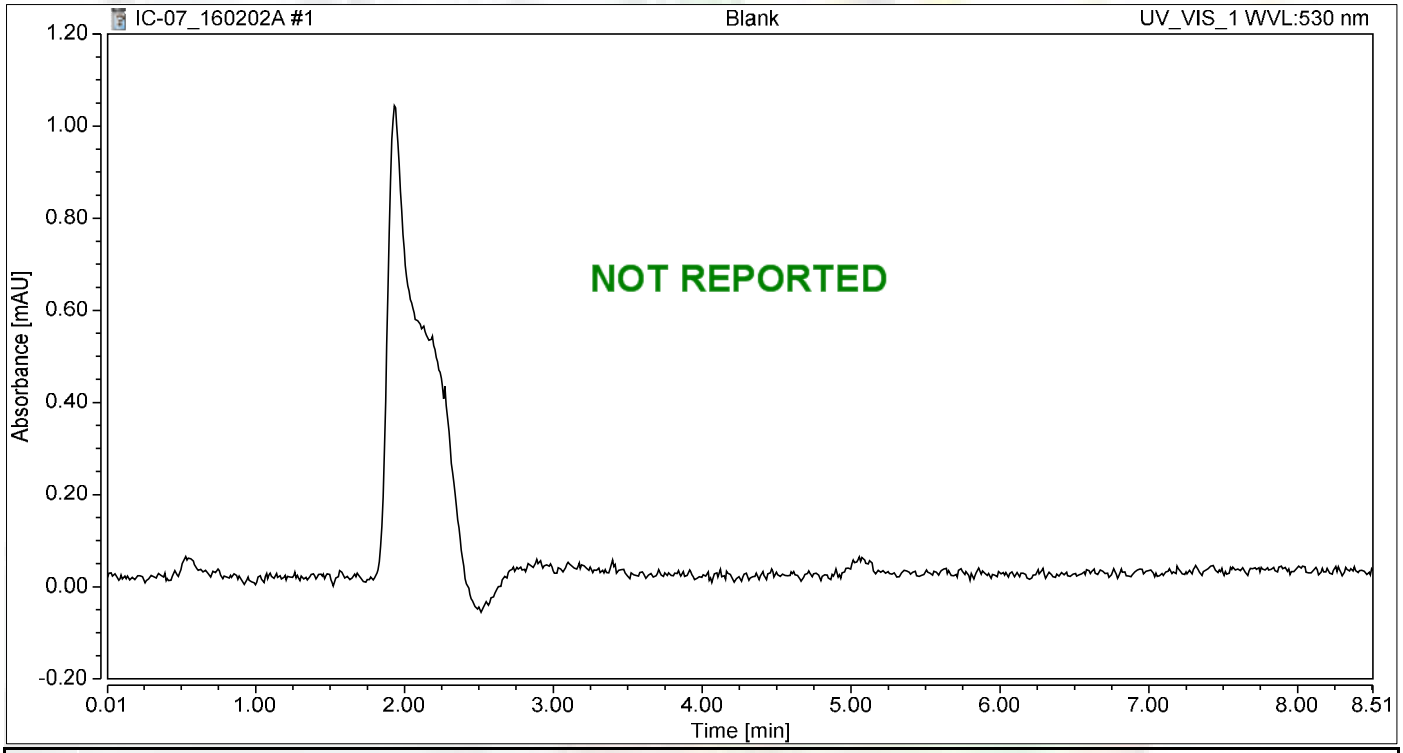
Nancy 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

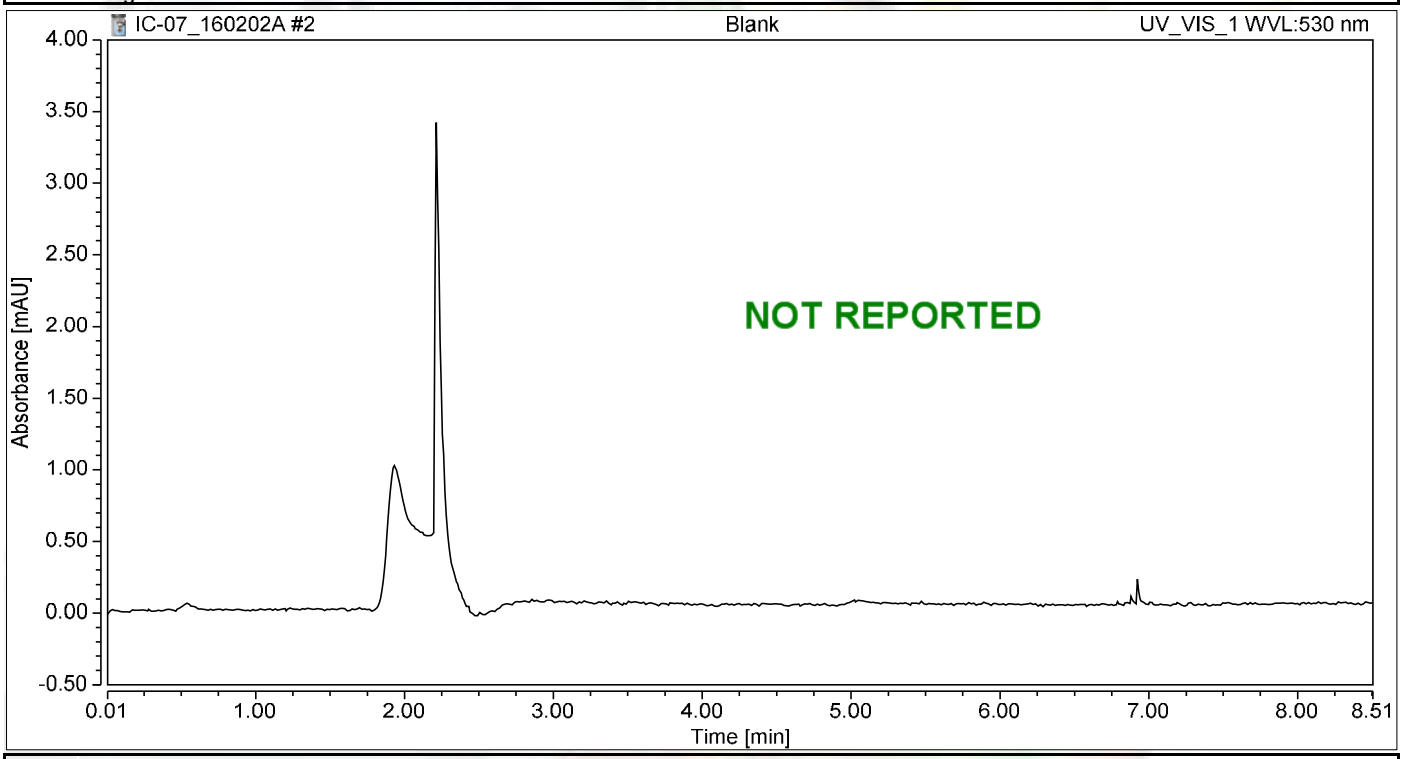
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

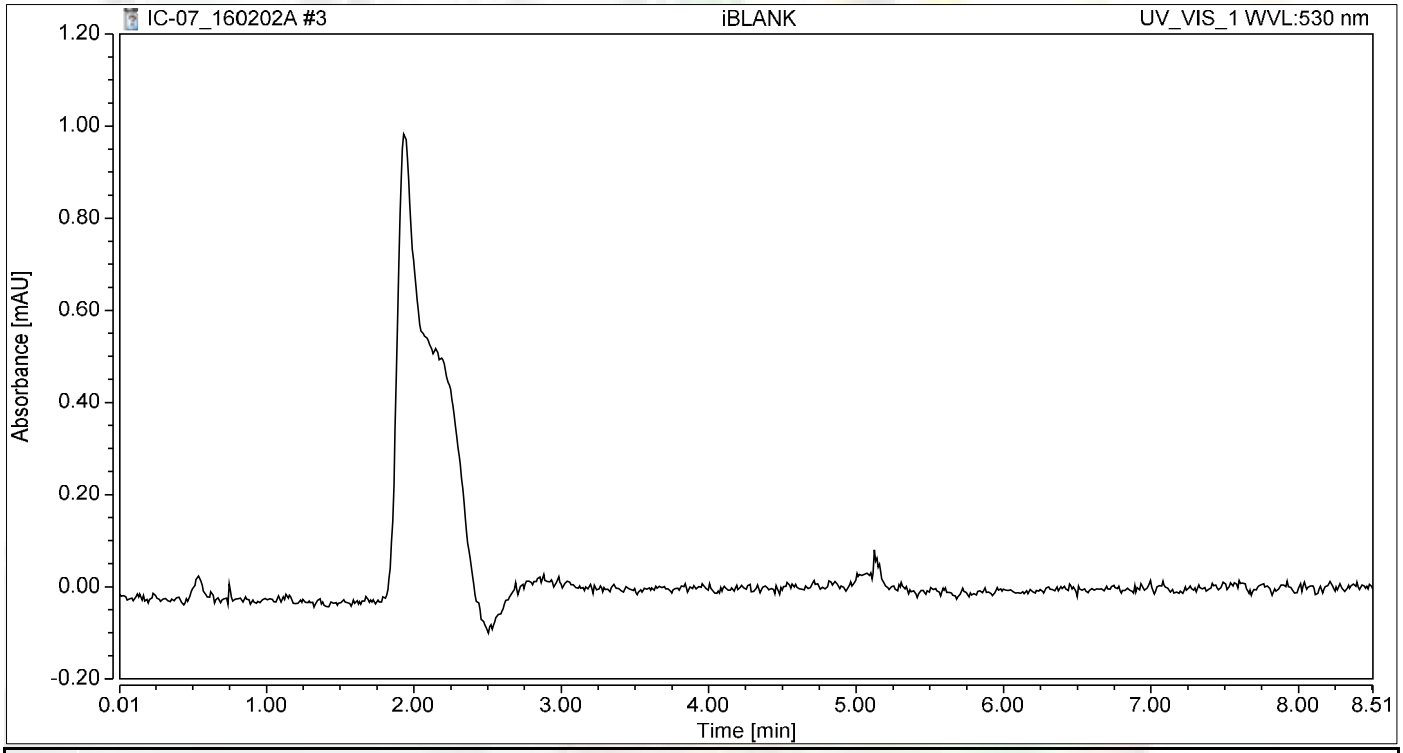
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

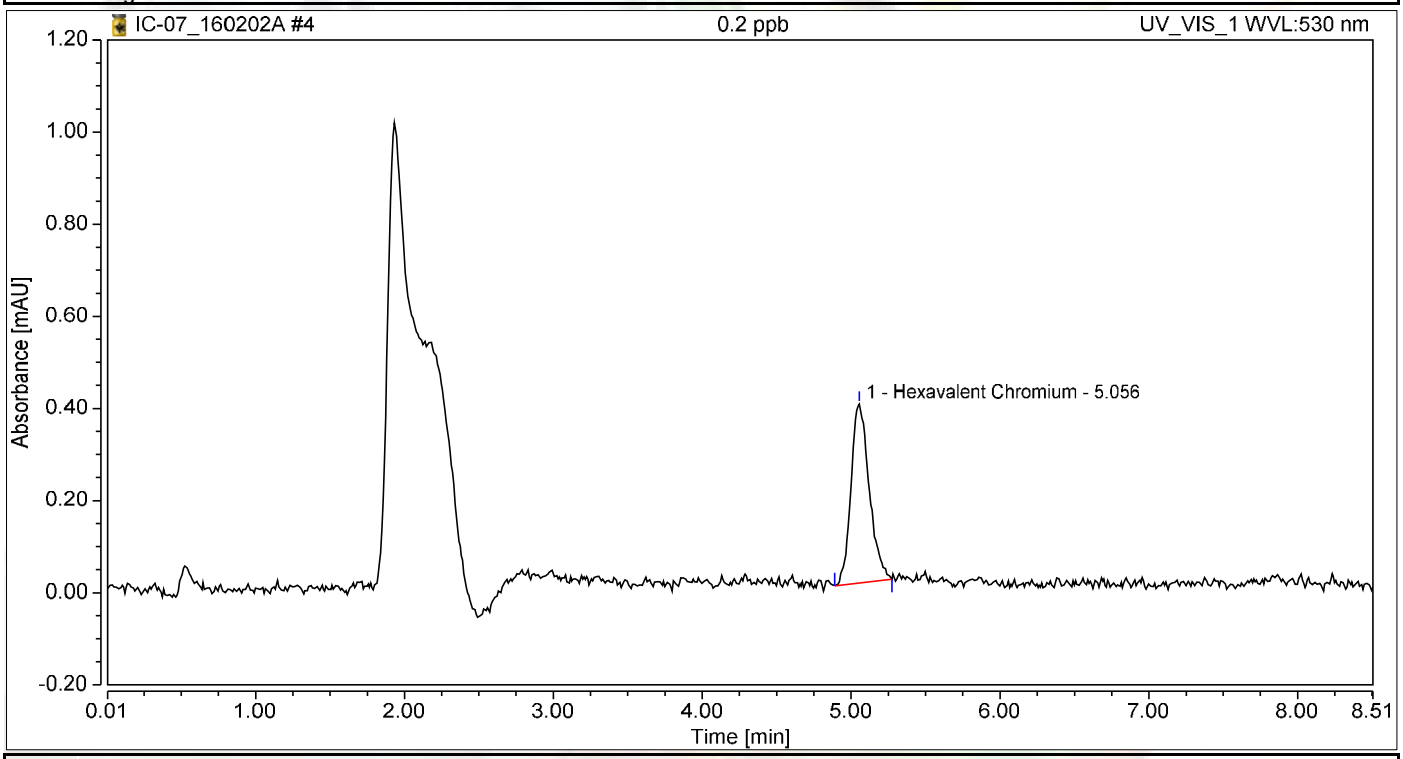
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

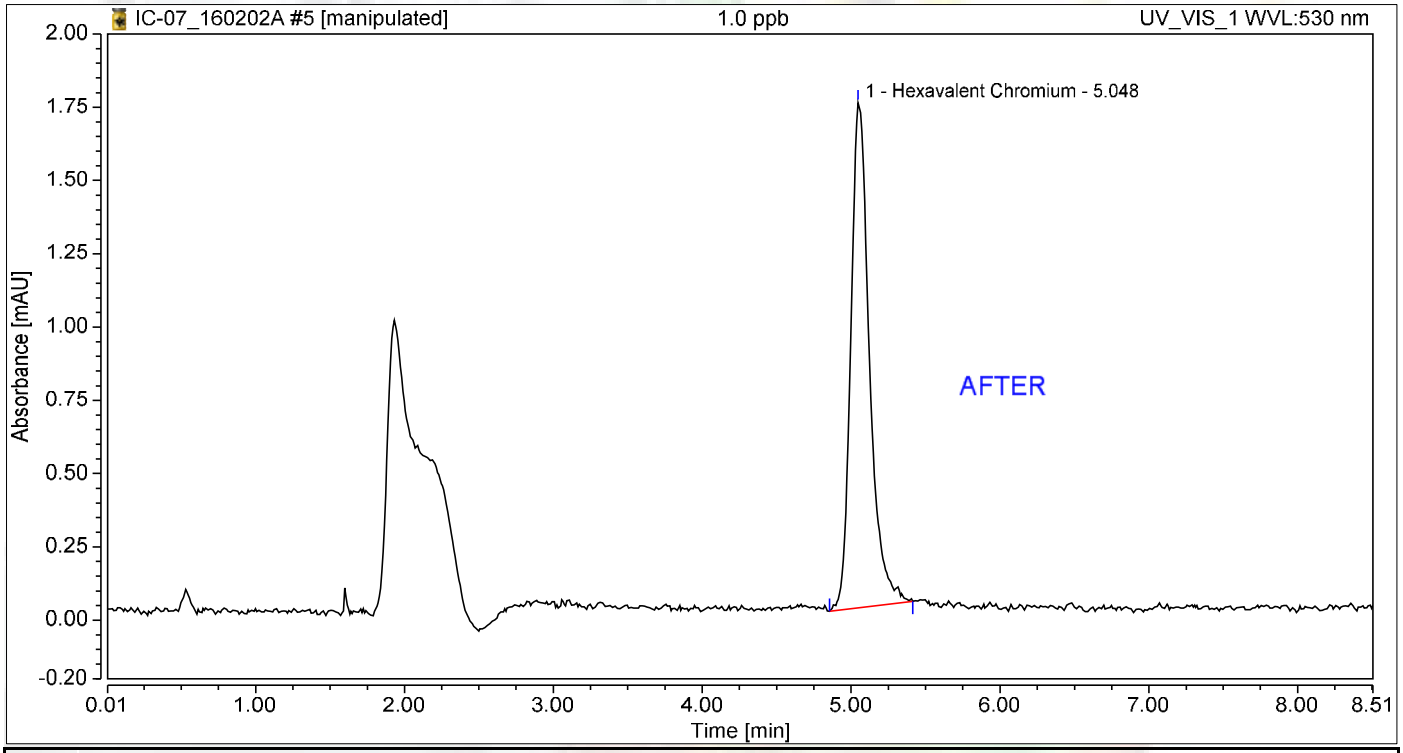
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.055	0.389	100.00	100.00	0.2305
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.723	100.00	100.00	1.0477
Total:			**0.248**	**1.723**	**100.00**	**100.00**	

Nancy 2/8/2016

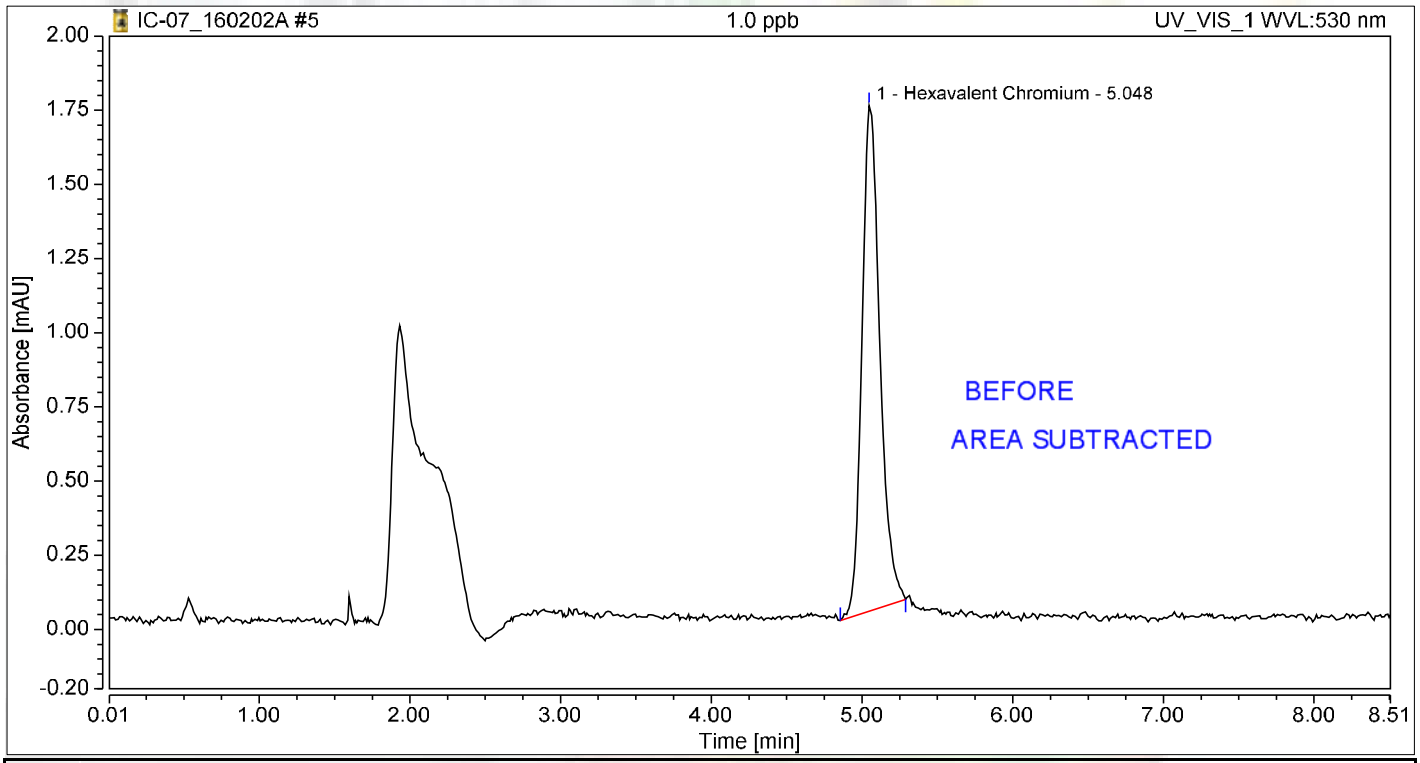
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.235	1.704	100.00	100.00	0.9945
Total:			**0.235**	**1.704**	**100.00**	**100.00**	

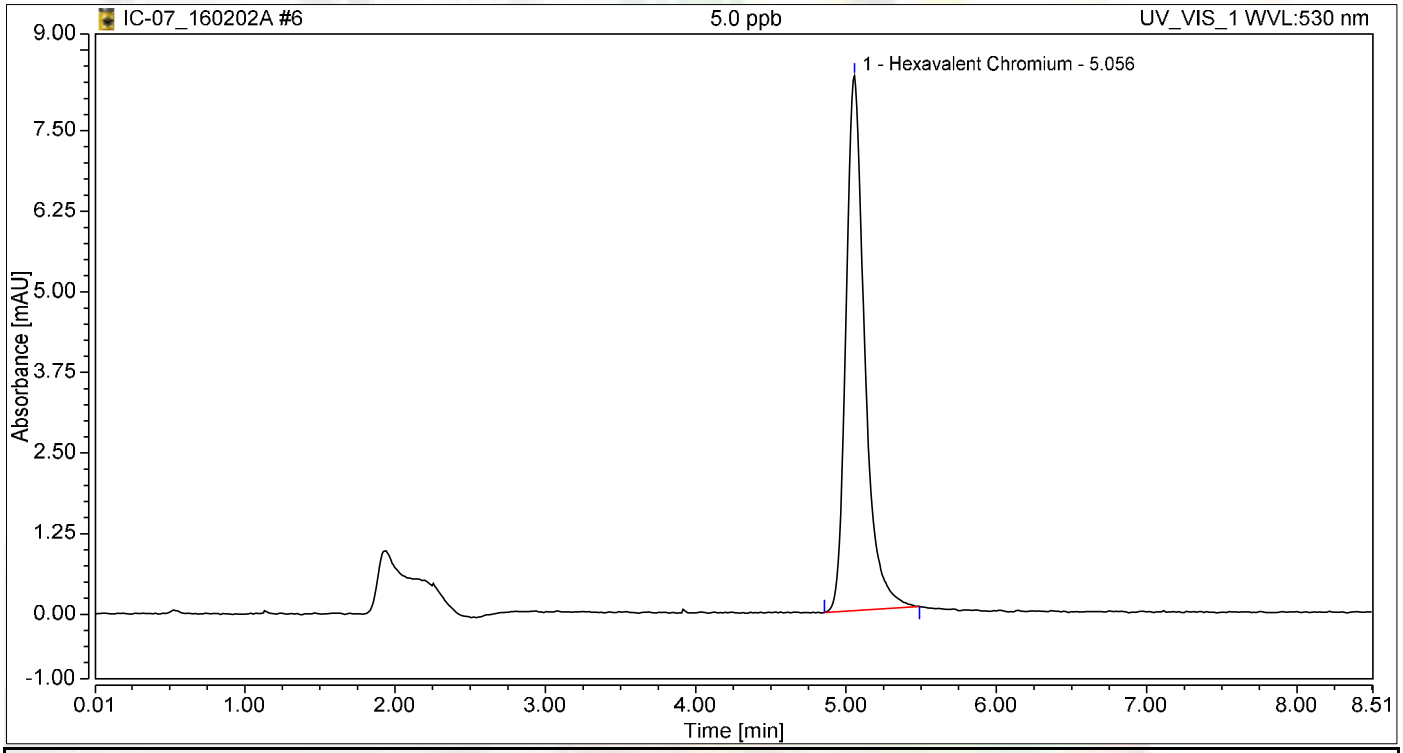
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

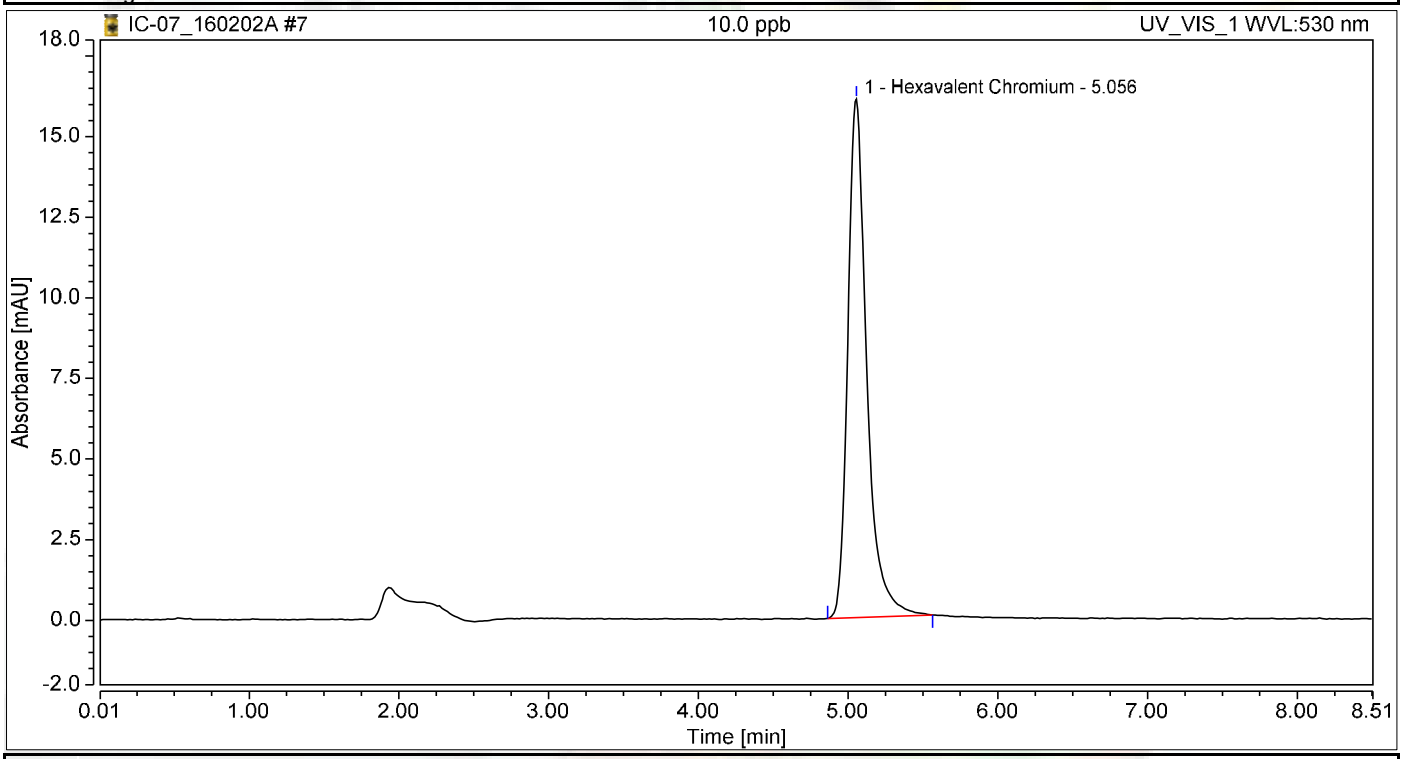
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.196	8.293	100.00	100.00	5.0518
Total:			**1.196**	**8.293**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

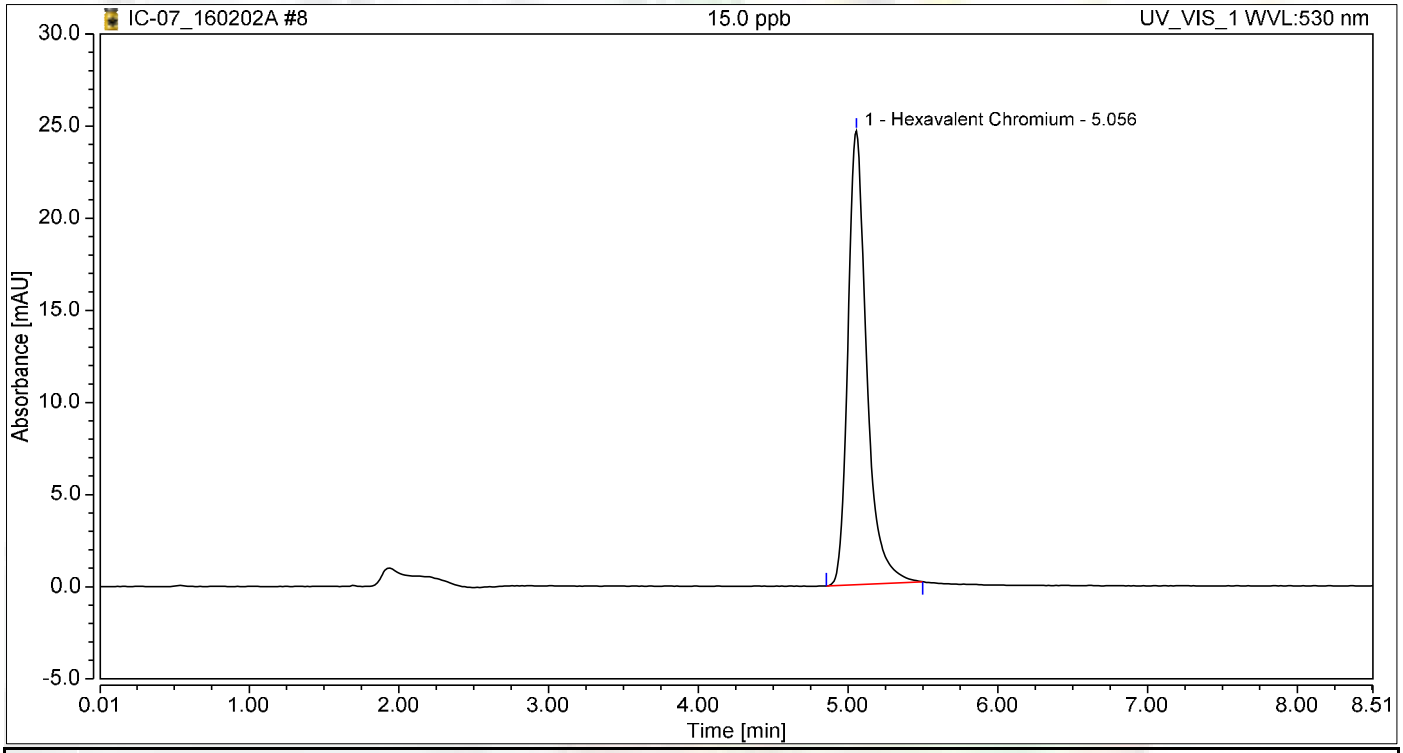
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.339	16.085	100.00	100.00	9.8818
Total:			**2.339**	**16.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

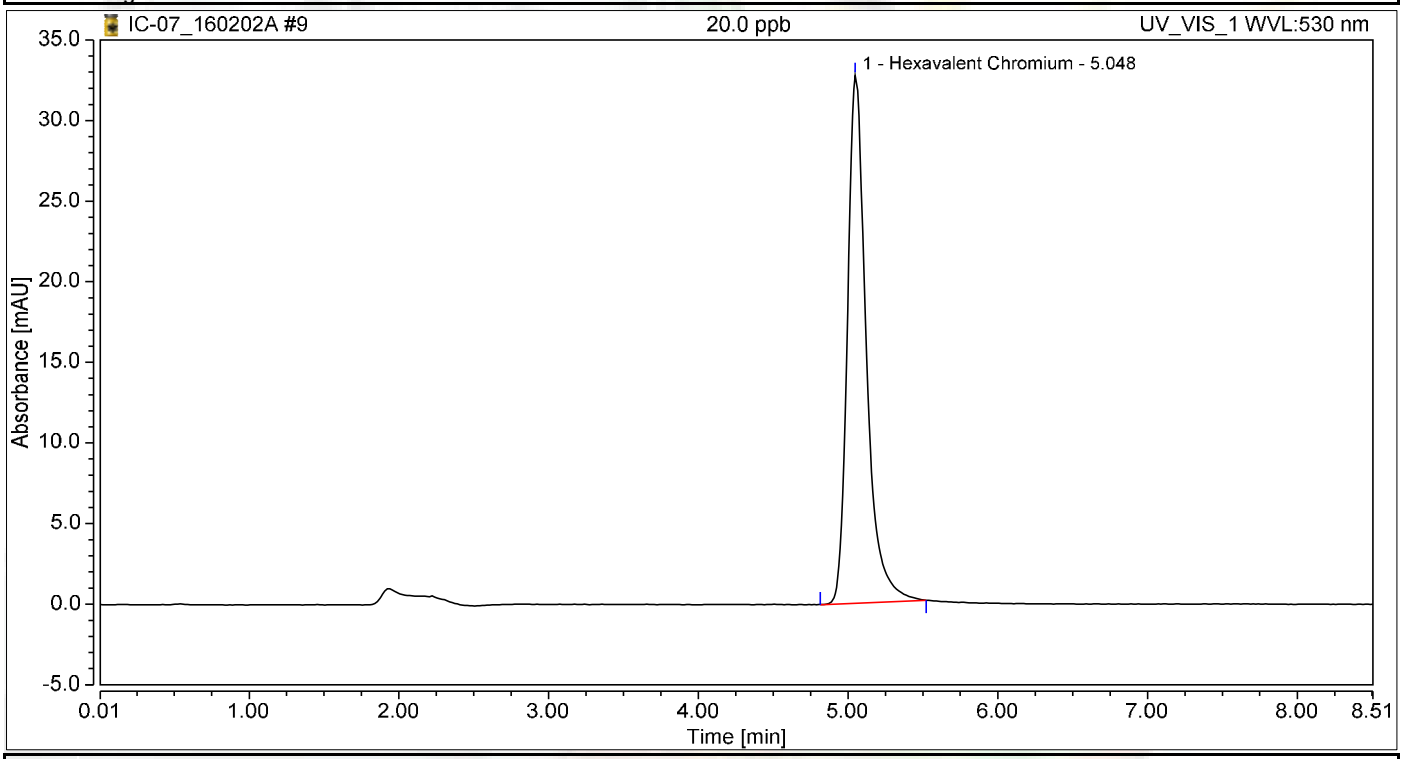
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.549	24.617	100.00	100.00	14.9960
Total:			**3.549**	**24.617**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



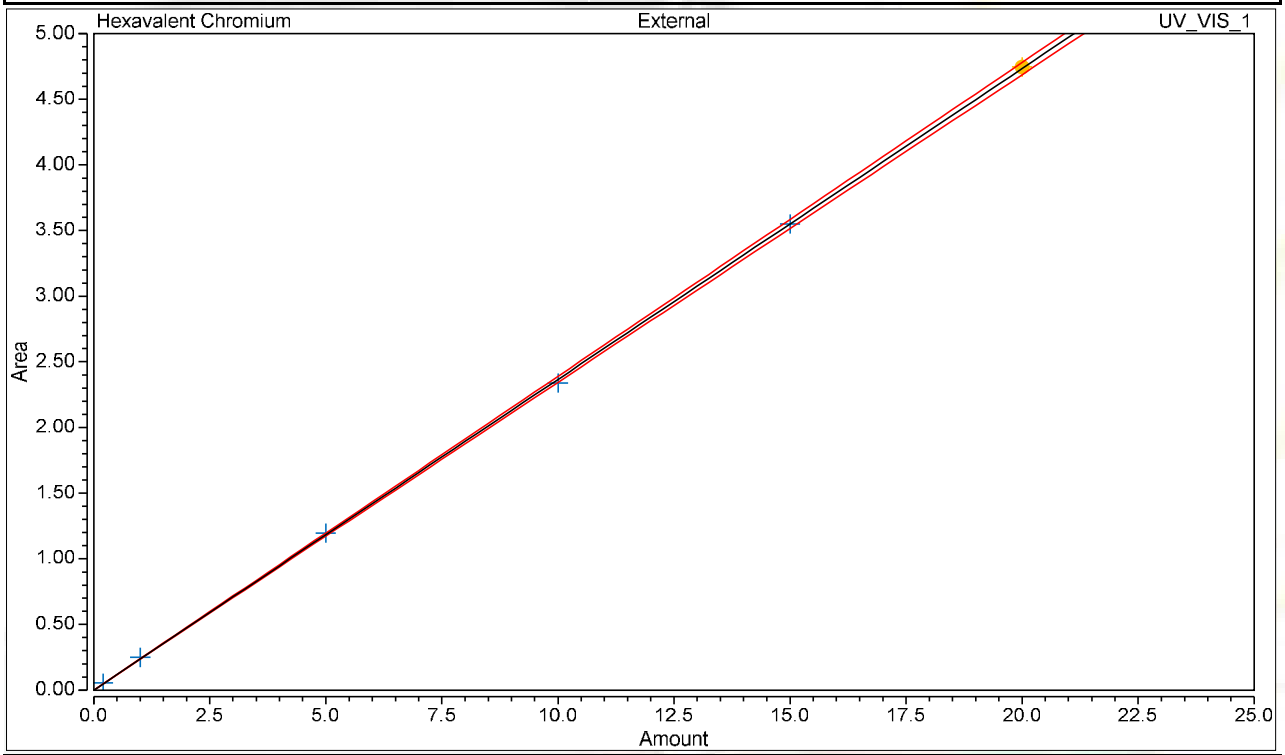
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	4.745	32.729	100.00	100.00	20.0465
Total:			**4.745**	**32.729**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2367
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99993

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

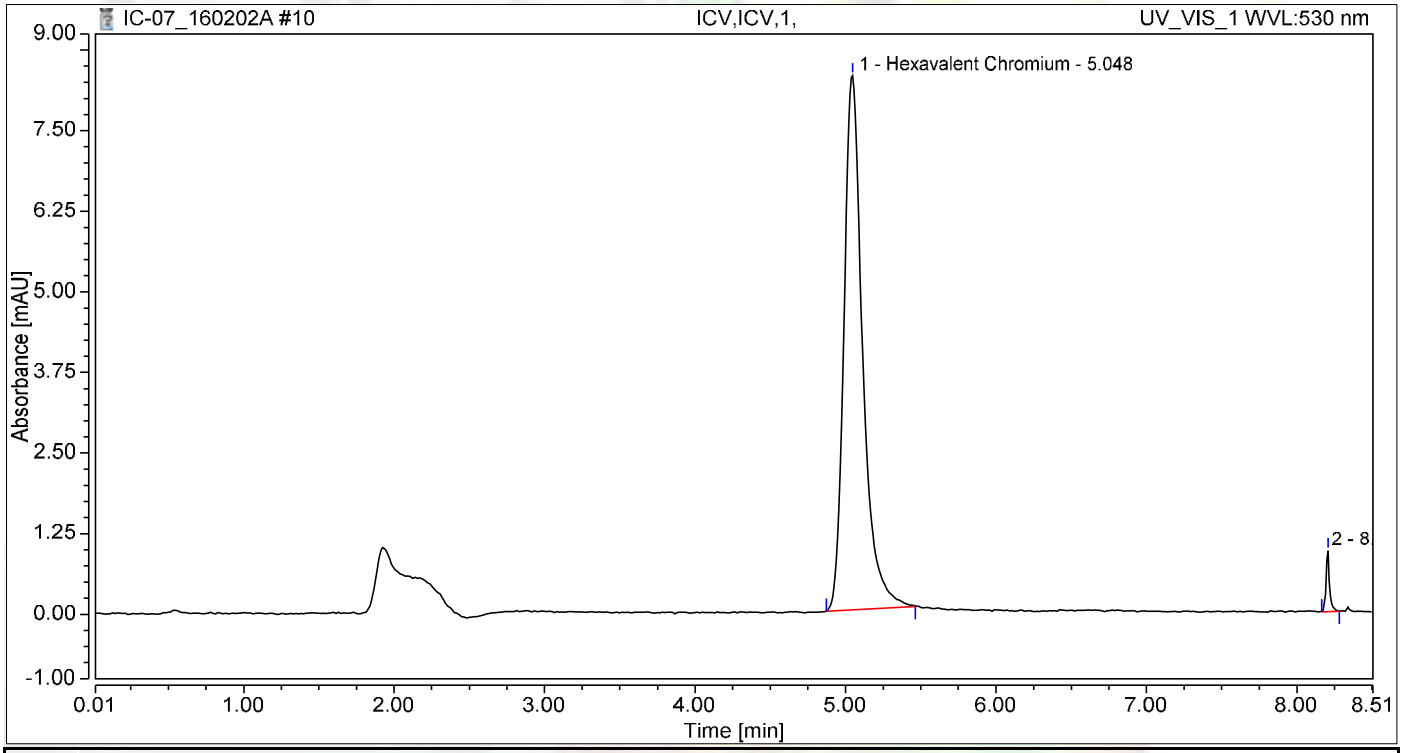
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0546	0.055	0.389
5	1.0 ppb	02	1.0000	0.2480	0.248	1.723
6	5.0 ppb	03	5.0000	1.1957	1.196	8.293
7	10.0 ppb	04	10.0000	2.3389	2.339	16.085
8	15.0 ppb	05	15.0000	3.5494	3.549	24.617
9	20.0 ppb	06	20.0000	4.7448	4.745	32.729

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

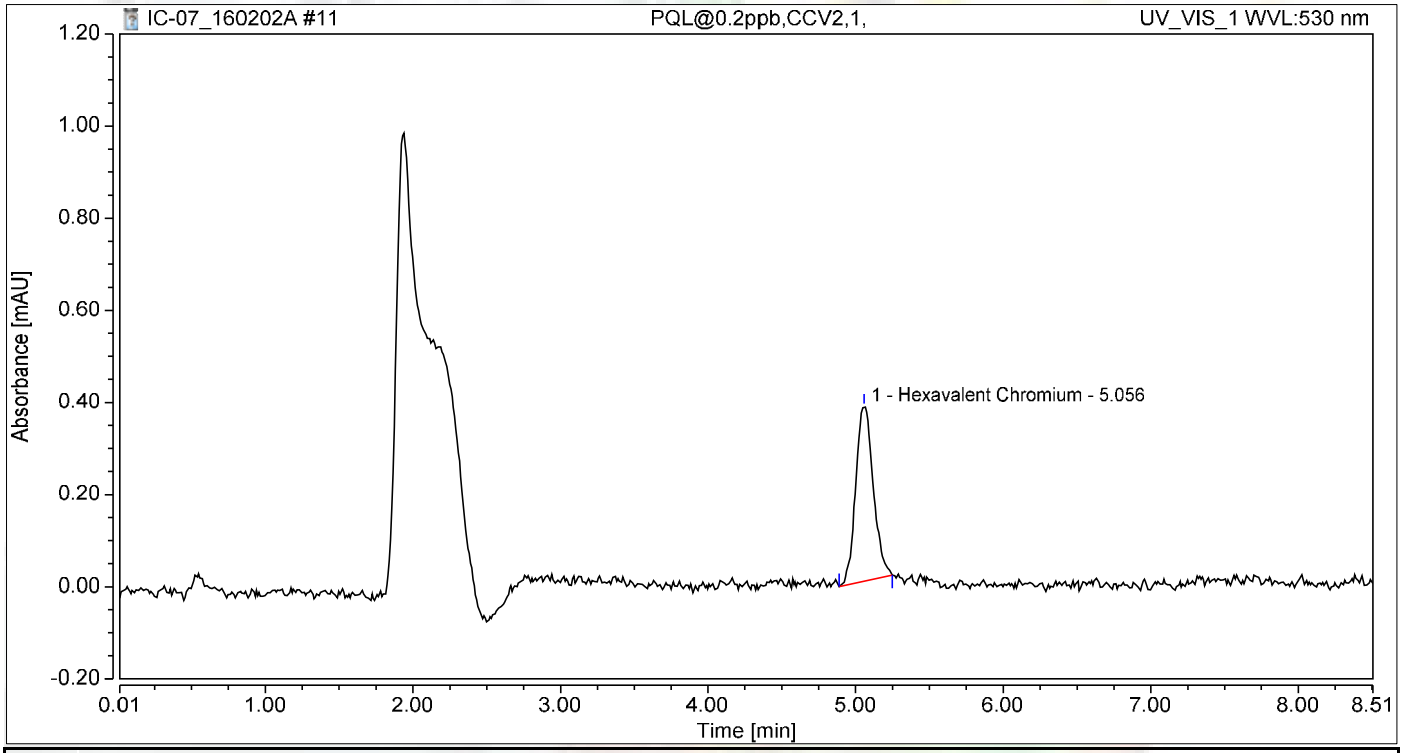
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.187	8.280	97.89	89.76	5.0149
2		8.206	0.026	0.944	2.11	10.24	n.a.
Total:			**1.213**	**9.225**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

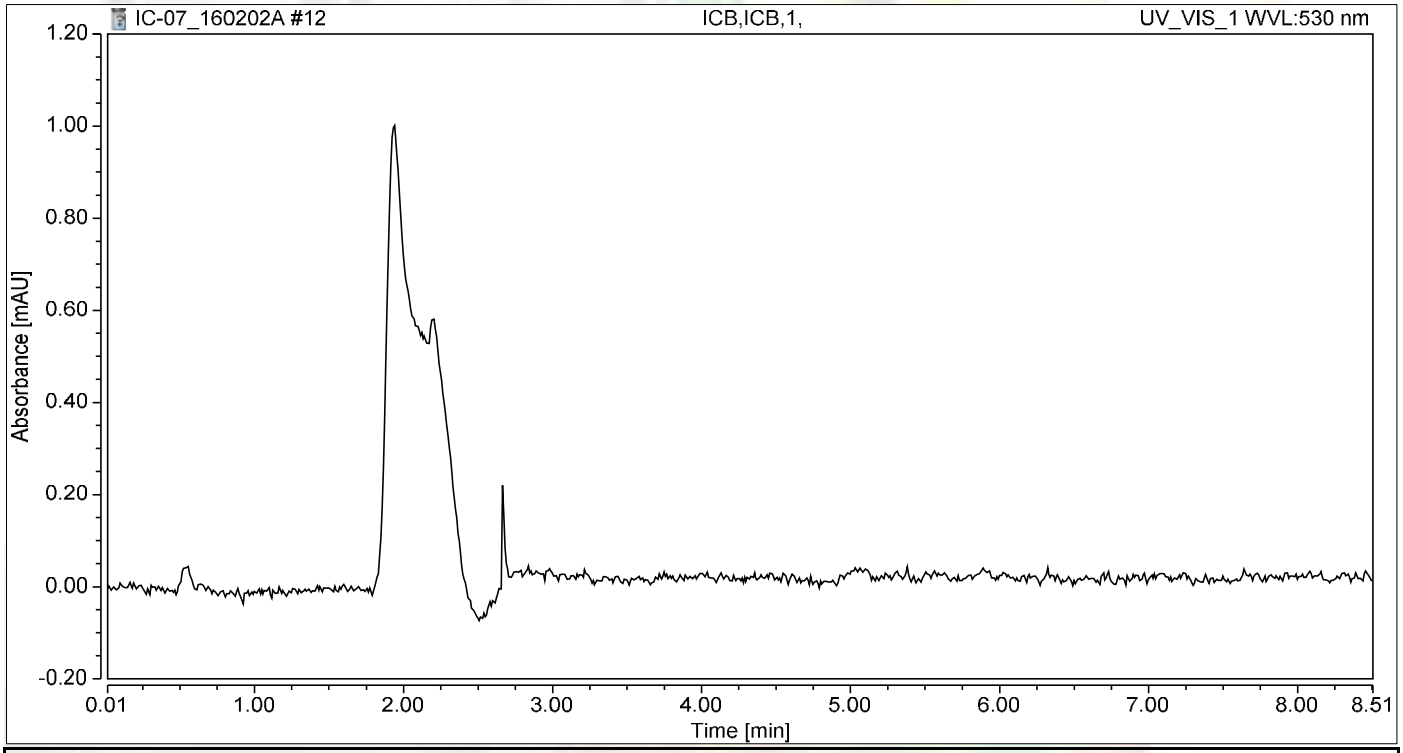
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.052	0.379	100.00	100.00	0.2196
Total:			**0.052**	**0.379**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

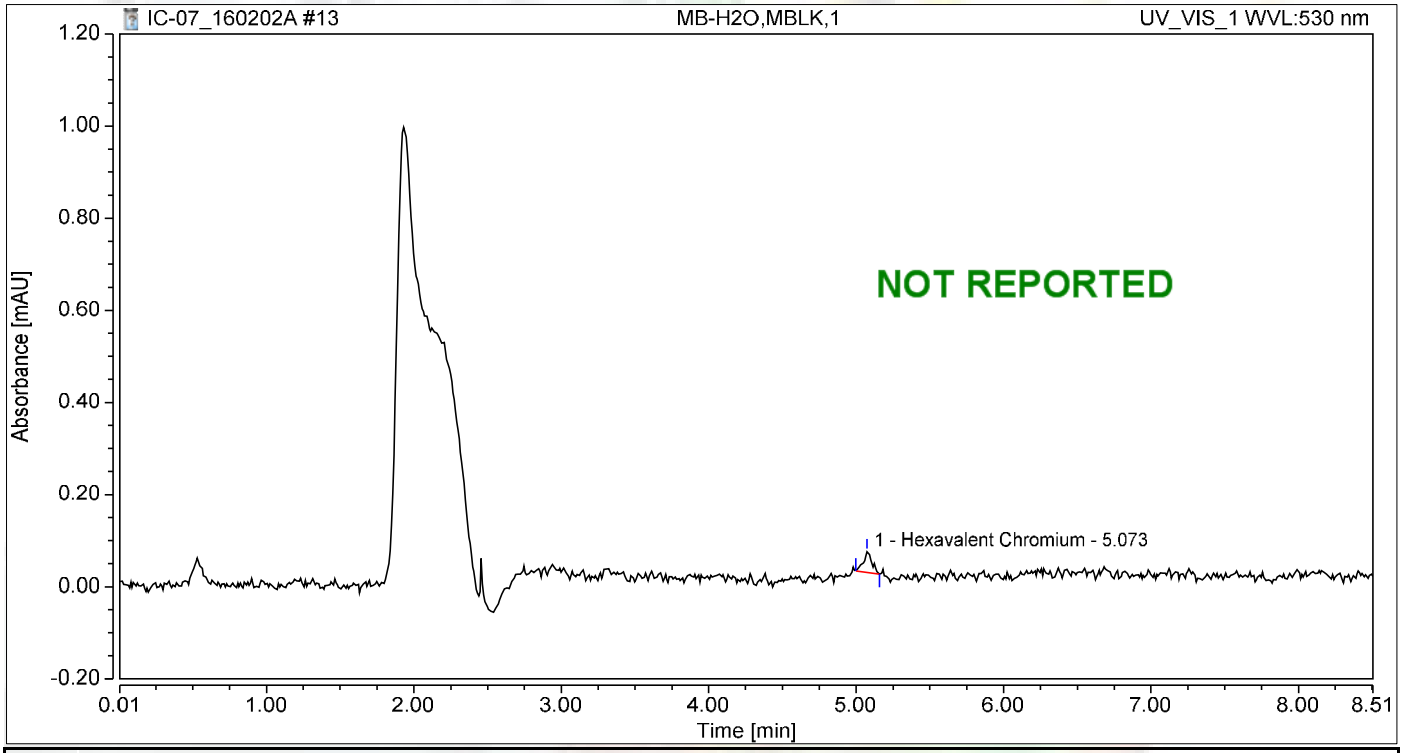
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

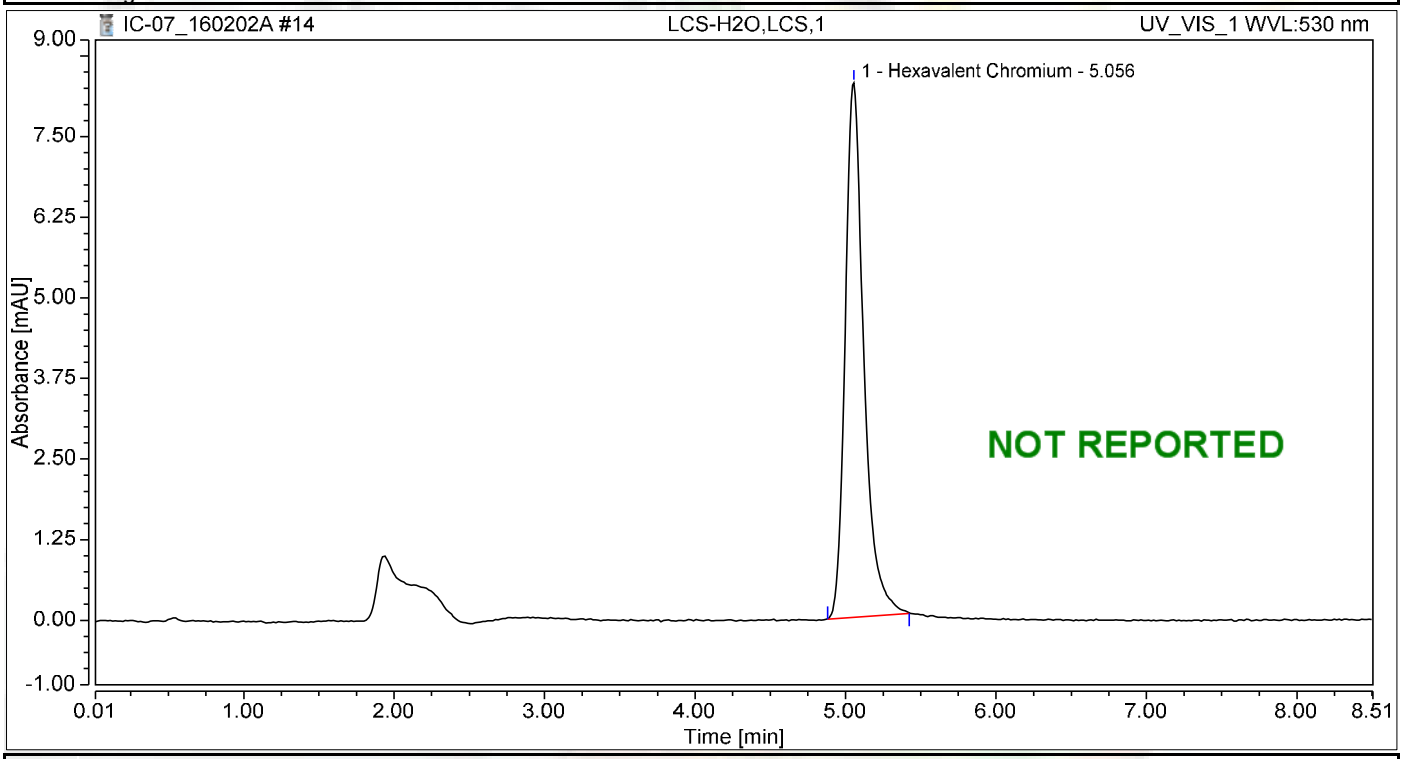
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.003	0.045	100.00	100.00	0.0130
Total:			**0.003**	**0.045**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.183	8.285	100.00	100.00	4.9980
Total:			**1.183**	**8.285**	**100.00**	**100.00**	

RAW DATA

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/29/16 11:08 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	02/29/16 11:19 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/29/16 11:29 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:38 AM	Not Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:47 AM	Reported
15	LCS-R106239	LCS	1	Hexavalent Chromium	02/29/16 11:57 AM	Reported
16	MB-R106239	MBLK	1	Hexavalent Chromium	02/29/16 12:06 PM	Reported
17	N018861-004A	SAMP	20	Hexavalent Chromium	02/29/16 12:31 PM	Reported
18	N018861-004ADUP	DUP	20	Hexavalent Chromium	02/29/16 12:41 PM	Reported
19	N018861-004AMS	MS	20	Hexavalent Chromium	02/29/16 12:51 PM	Reported
20	N018861-004AMSD	MSD	20	Hexavalent Chromium	02/29/16 1:00 PM	Reported
21	N018843-001A	SAMP	1	Hexavalent Chromium	02/29/16 1:10 PM	Reported
22	N018843-001AMS	MS	1	Hexavalent Chromium	02/29/16 1:19 PM	Reported
23	N018843-002A	SAMP	1	Hexavalent Chromium	02/29/16 1:29 PM	Reported
24	N018843-002AMS	MS	1	Hexavalent Chromium	02/29/16 1:38 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/29/16 1:48 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/29/16 1:57 PM	Reported
27	N018843-003A	SAMP	1	Hexavalent Chromium	02/29/16 2:07 PM	Reported
28	N018843-003AMS	MS	1	Hexavalent Chromium	02/29/16 2:16 PM	Reported
29	N018843-004A	SAMP	1	Hexavalent Chromium	02/29/16 2:26 PM	Reported
30	N018843-004AMS	MS	1	Hexavalent Chromium	02/29/16 2:35 PM	Reported
31	N018843-005A	SAMP	1	Hexavalent Chromium	02/29/16 2:44 PM	Reported
32	N018843-005AMS	MS	1	Hexavalent Chromium	02/29/16 2:54 PM	Reported
33	N018843-006A	SAMP	1	Hexavalent Chromium	02/29/16 3:03 PM	Reported
34	N018843-006AMS	MS	1	Hexavalent Chromium	02/29/16 3:13 PM	Reported
35	N018843-007A	SAMP	1	Hexavalent Chromium	02/29/16 3:22 PM	Reported
36	N018843-007AMS	MS	1	Hexavalent Chromium	02/29/16 3:32 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/29/16 3:41 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/29/16 3:51 PM	Reported
39	N018843-008A	SAMP	1	Hexavalent Chromium	02/29/16 4:00 PM	Reported
40	N018843-008AMS	MS	1	Hexavalent Chromium	02/29/16 4:10 PM	Reported
41	N018843-009A	SAMP	1	Hexavalent Chromium	02/29/16 4:19 PM	Reported
42	N018843-009AMS	MS	1	Hexavalent Chromium	02/29/16 4:29 PM	Reported

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018843-010A	SAMP	1	Hexavalent Chromium	02/29/16 4:38 PM	Reported
44	N018843-010AMS	MS	1	Hexavalent Chromium	02/29/16 4:48 PM	Reported
45	N018844-001A	SAMP	1	Hexavalent Chromium	02/29/16 4:57 PM	Reported
46	N018844-001AMS	MS	1	Hexavalent Chromium	02/29/16 5:06 PM	Reported
47	N018844-005A	SAMP	1	Hexavalent Chromium	02/29/16 5:16 PM	Reported
48	N018844-005AMS	MS	1	Hexavalent Chromium	02/29/16 5:25 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/29/16 5:35 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/29/16 5:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160229A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:47:52**
No. of Injections:	**53**	*Updated By:*	**ics 5000**

Injection Details

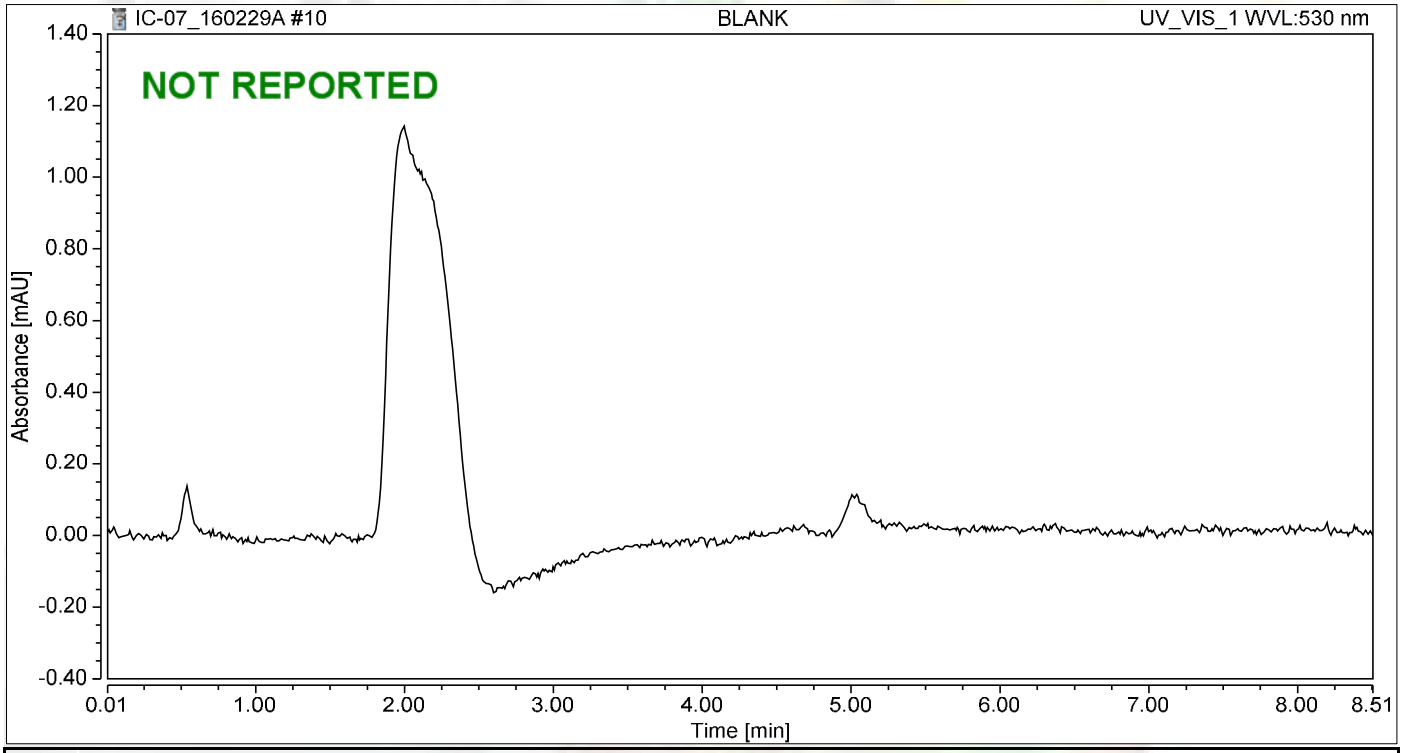
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/29/2016 11:08	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		02/29/2016 11:19	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		02/29/2016 11:29	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		02/29/2016 11:38	Finished	CCB R160209C
14	CCB-1,CCB,1	5	1000	Unknown		02/29/2016 11:47	Finished	CCB R160209C
15	LCS-H2O,LCS,1	6	1000	Unknown		02/29/2016 11:57	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	7	1000	Unknown		02/29/2016 12:06	Finished	MB
17	N018861-004A,SAMP	8	1000	Unknown		02/29/2016 12:31	Finished	SAMP, 0.5 to 10mL
18	N018861-004ADUP,D	9	1000	Unknown		02/29/2016 12:41	Finished	DOP, 0.5 to 10mL
19	N018861-004AMS,MS	10	1000	Unknown		02/29/2016 12:51	Finished	MS(5ppb), IWST-160202B, 10r
20	N018861-004AMSD,M	11	1000	Unknown		02/29/2016 13:00	Finished	MSD(5ppb), IWST-160202B, 1
21	N018843-001A,SAMP	12	1000	Unknown		02/29/2016 13:10	Finished	SAMP, 10mL
22	N018843-001AMS,MS	13	1000	Unknown		02/29/2016 13:19	Finished	MS(1ppb), IWST-160202B, 10r
23	N018843-002A,SAMP	14	1000	Unknown		02/29/2016 13:29	Finished	SAMP, 10mL
24	N018843-002AMS,MS	15	1000	Unknown		02/29/2016 13:38	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/29/2016 13:48	Finished	CCV @ 10ppb, IWST 160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/29/2016 13:57	Finished	CCB
27	N018843-003A,SAMP	18	1000	Unknown		02/29/2016 14:07	Finished	SAMP, 10mL
28	N018843-003AMS,MS	19	1000	Unknown		02/29/2016 14:16	Finished	MS(1ppb), IWST-160202B, 10r
29	N018843-004A,SAMP	20	1000	Unknown		02/29/2016 14:26	Finished	SAMP, 10mL
30	N018843-004AMS,MS	21	1000	Unknown		02/29/2016 14:35	Finished	MS(1ppb), IWST-160202B, 10r
31	N018843-005A,SAMP	22	1000	Unknown		02/29/2016 14:44	Finished	SAMP, 10mL
32	N018843-005AMS,MS	23	1000	Unknown		02/29/2016 14:54	Finished	MS(1ppb), IWST-160202B, 10r
33	N018843-006A,SAMP	24	1000	Unknown		02/29/2016 15:03	Finished	SAMP, 10mL
34	N018843-006AMS,MS	25	1000	Unknown		02/29/2016 15:13	Finished	MS(1ppb), IWST-160202B, 10r
35	N018843-007A,SAMP	26	1000	Unknown		02/29/2016 15:22	Finished	SAMP, 10mL
36	N018843-007AMS,MS	27	1000	Unknown		02/29/2016 15:32	Finished	MS(1ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/29/2016 15:41	Finished	CCV @ 5ppb, IWST 160202A
38	CCB-3,CCB,1	29	1000	Unknown		02/29/2016 15:51	Finished	CCB
39	N018843-008A,SAMP	30	1000	Unknown		02/29/2016 16:00	Finished	SAMP, 10mL
40	N018843-008AMS,MS	31	1000	Unknown		02/29/2016 16:10	Finished	MS(1ppb), IWST-160202B, 10r
41	N018843-009A,SAMP	32	1000	Unknown		02/29/2016 16:19	Finished	SAMP, 10mL
42	N018843-009AMS,MS	33	1000	Unknown		02/29/2016 16:29	Finished	MS(1ppb), IWST-160202B, 10r
43	N018843-010A,SAMP	34	1000	Unknown		02/29/2016 16:38	Finished	SAMP, 10mL
44	N018843-010AMS,MS	35	1000	Unknown		02/29/2016 16:48	Finished	MS(1ppb), IWST-160202B, 10r
45	N018844-001A,SAMP	36	1000	Unknown		02/29/2016 16:57	Finished	SAMP, 10mL
46	N018844-001AMS,MS	37	1000	Unknown		02/29/2016 17:06	Finished	MS(1ppb), IWST-160202B, 10r
47	N018844-005A,SAMP	38	1000	Unknown		02/29/2016 17:16	Finished	SAMP, 10mL
48	N018844-005AMS,MS	39	1000	Unknown		02/29/2016 17:25	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/29/2016 17:35	Finished	CCV @ 10ppb, IWST 160202A
50	CCB-4,CCB,1	41	1000	Unknown		02/29/2016 17:44	Finished	CCB
51	SHUTDOWN	42	1000	Unknown		02/29/2016 17:54	Finished	BLANK
52	Eluent: R160224A	43	1000	Unknown		n.a.	Finished	Eluent
53	PCR: R160226A	44	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

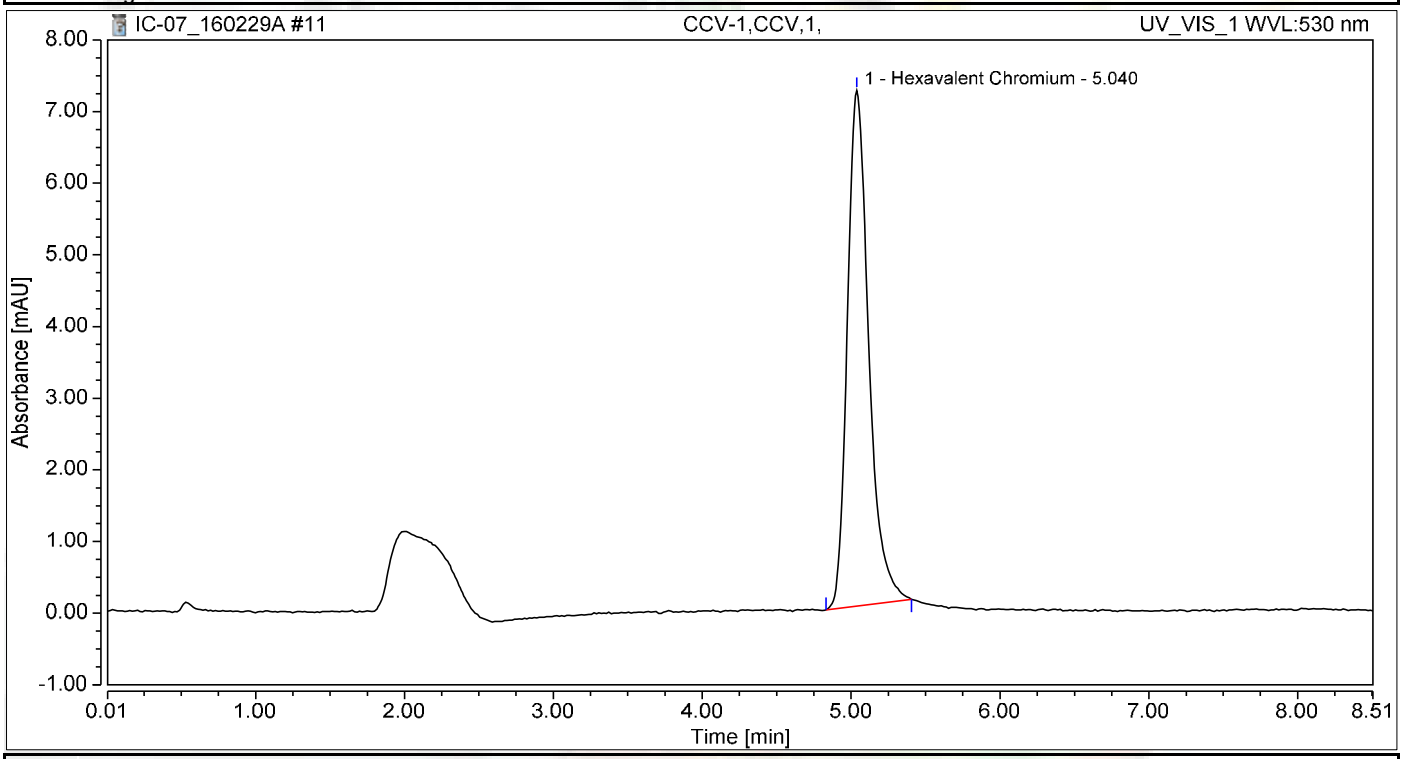
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

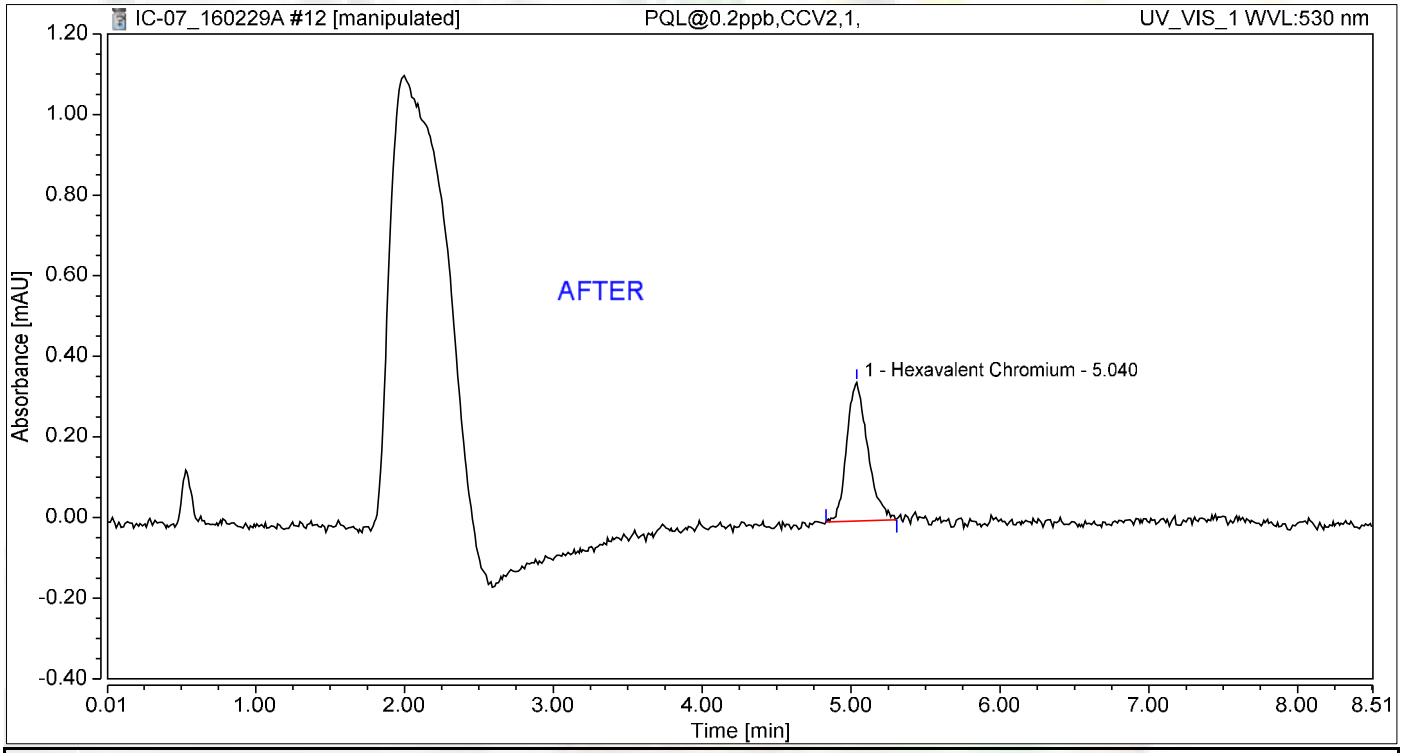
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.189	7.197	100.00	100.00	5.0246
Total:			**1.189**	**7.197**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.056	0.344	100.00	100.00	0.2368
Total:			**0.056**	**0.344**	**100.00**	**100.00**	

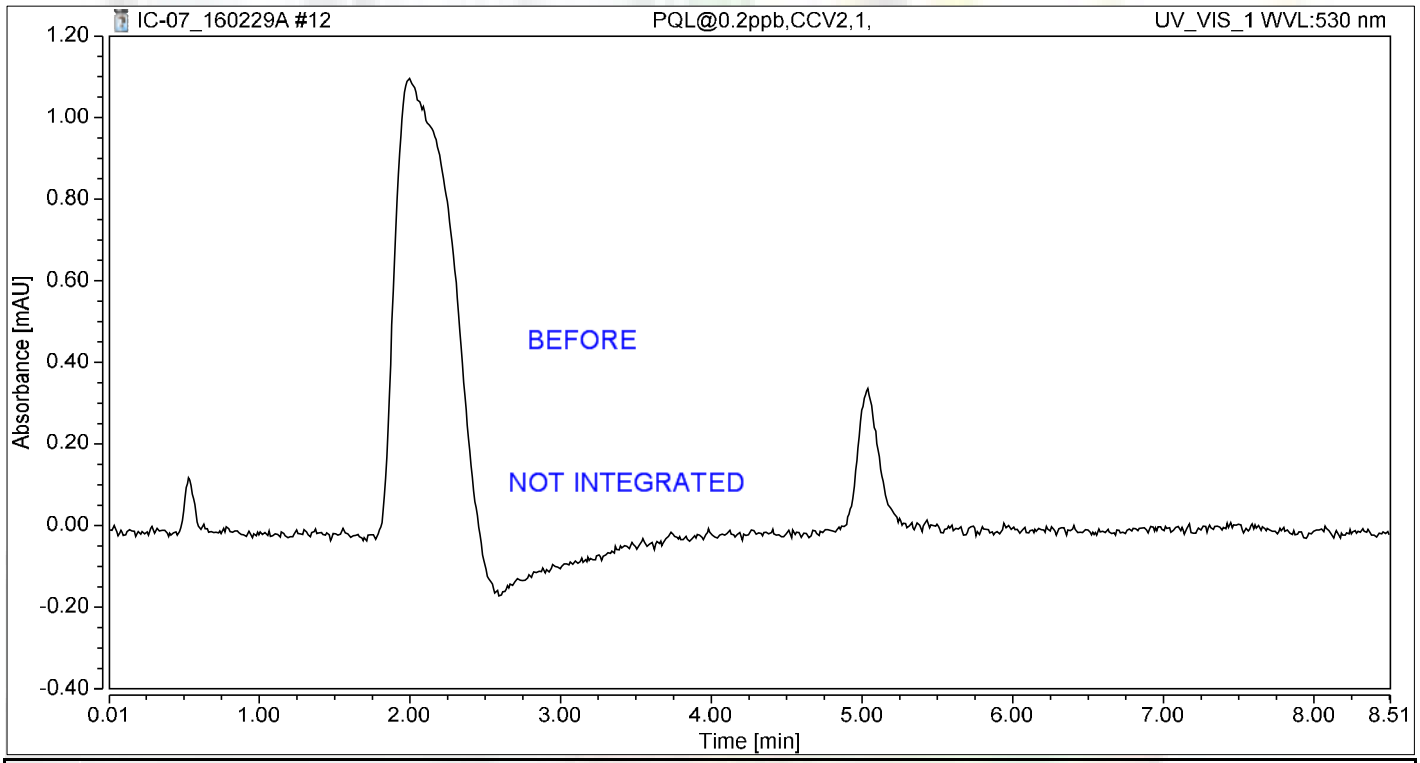
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

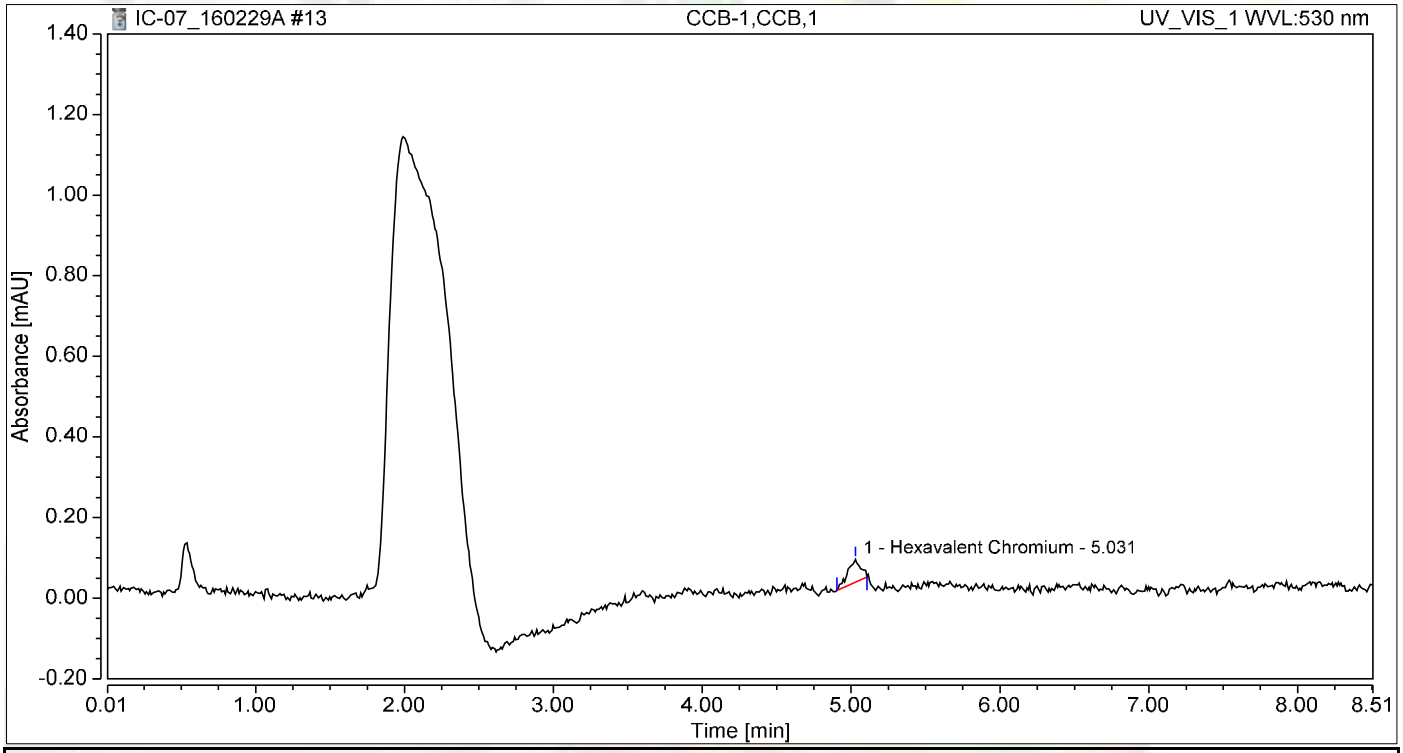
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.006	0.056	100.00	100.00	0.0240
Total:			**0.006**	**0.056**	**100.00**	**100.00**	

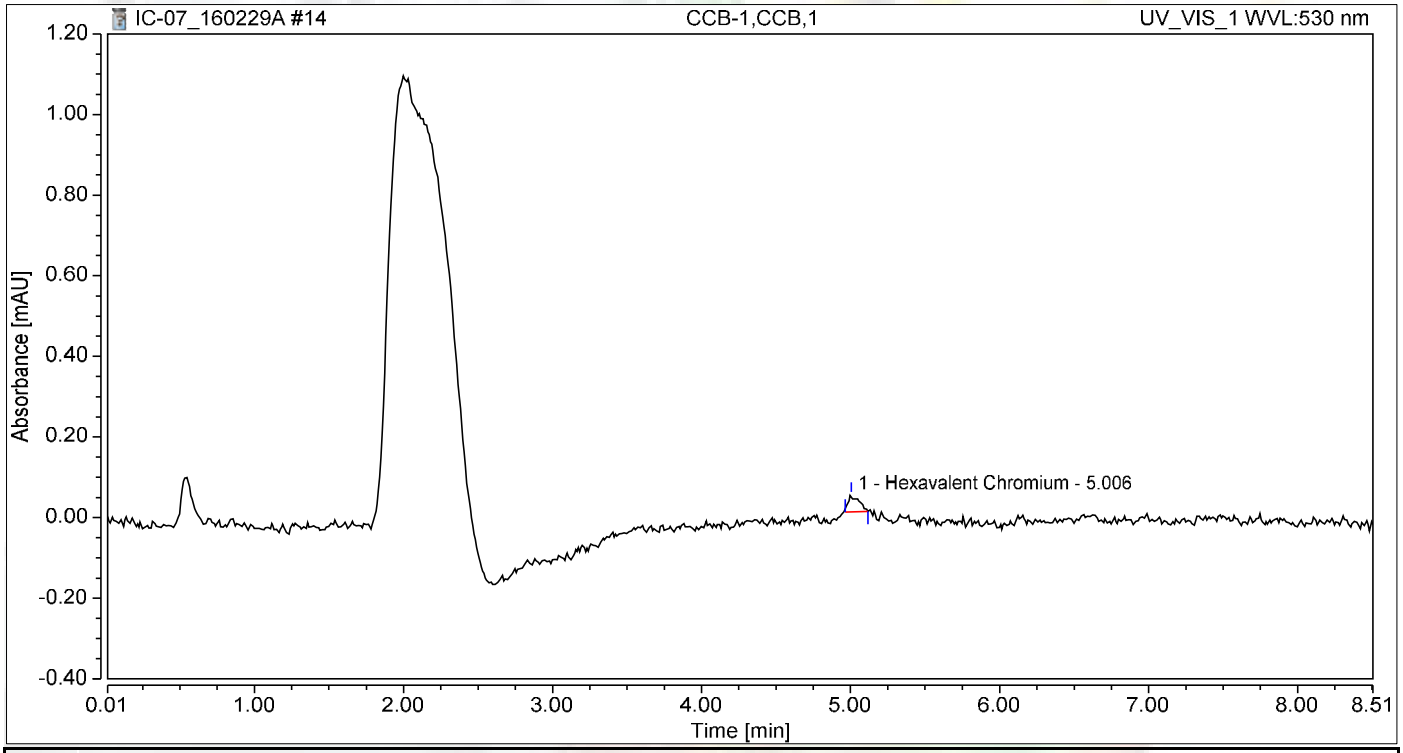
not reported

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

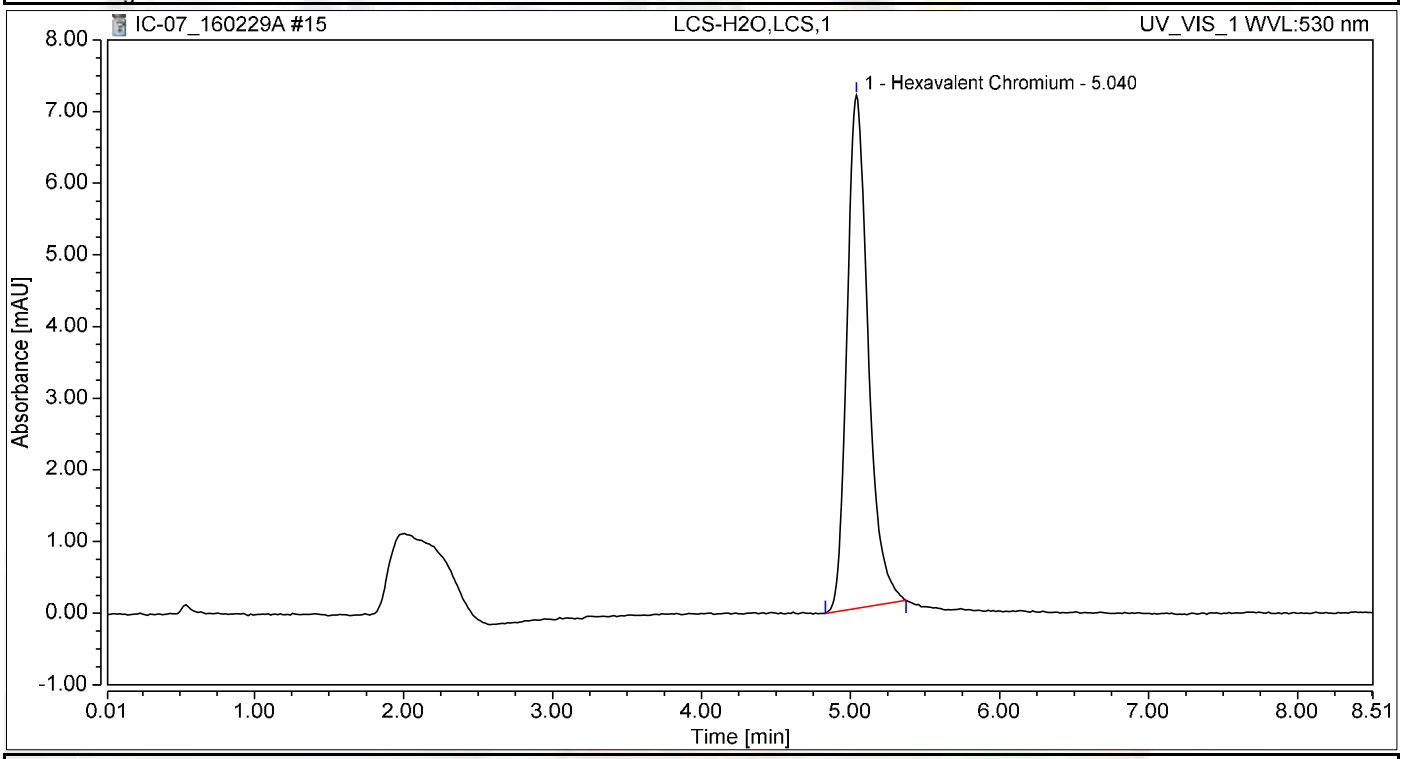
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.003	0.042	100.00	100.00	0.0142
Total:			**0.003**	**0.042**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

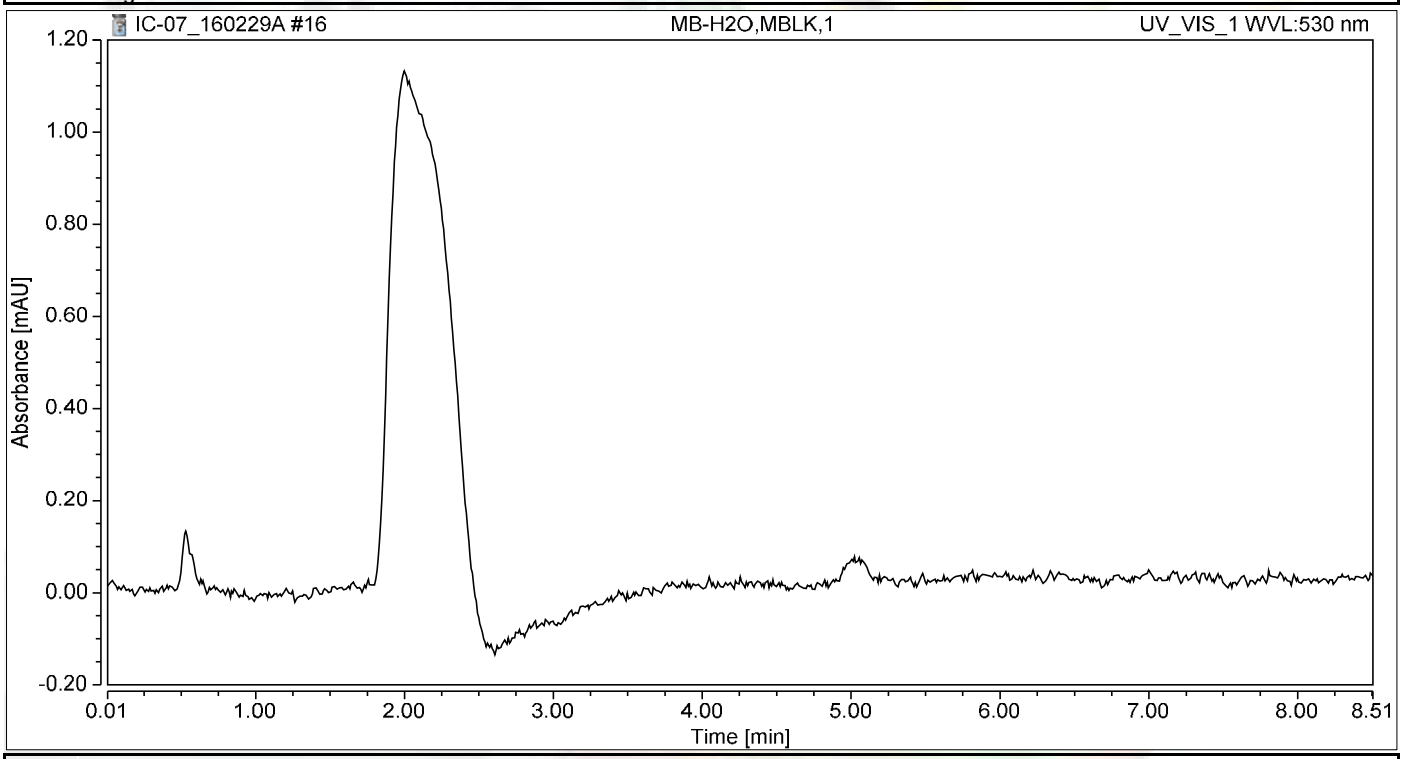
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.174	7.164	100.00	100.00	4.9610
Total:			**1.174**	**7.164**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

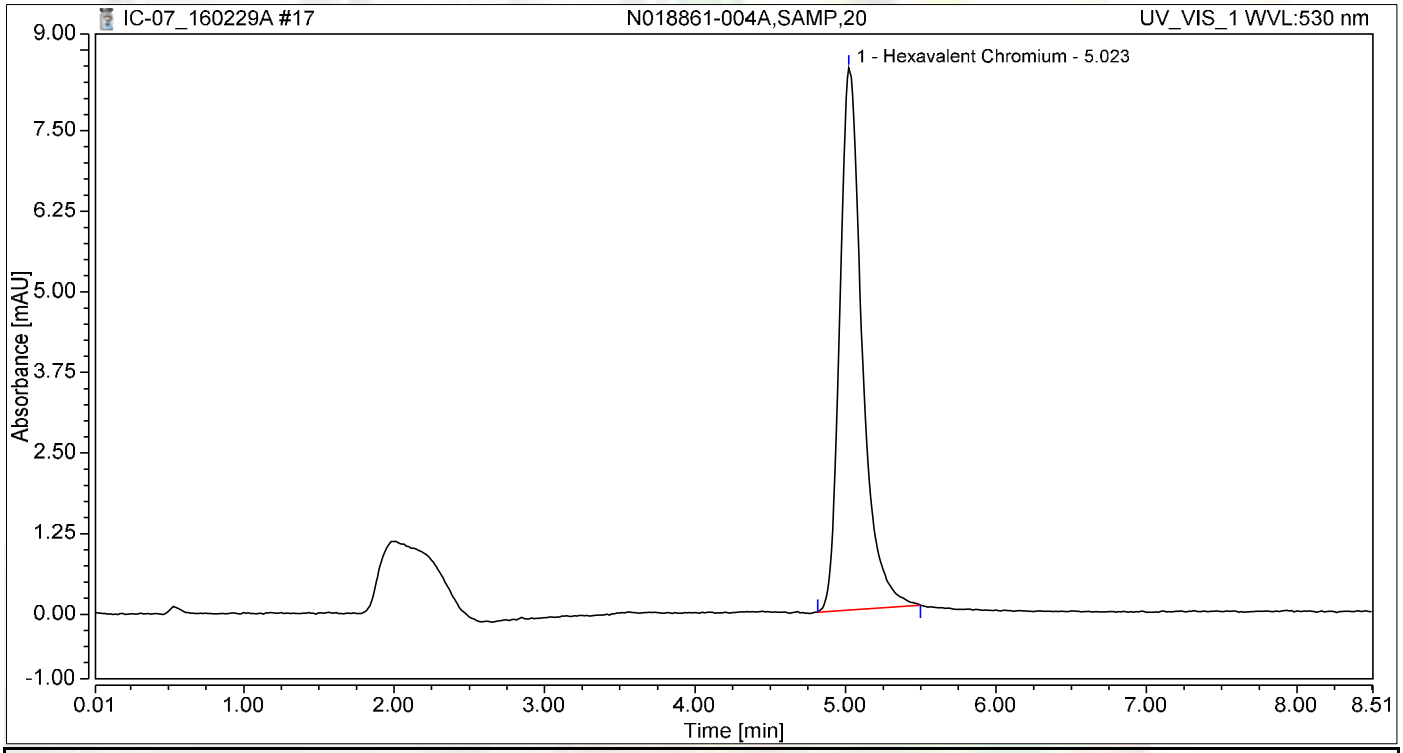
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004A,SAMP,20**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

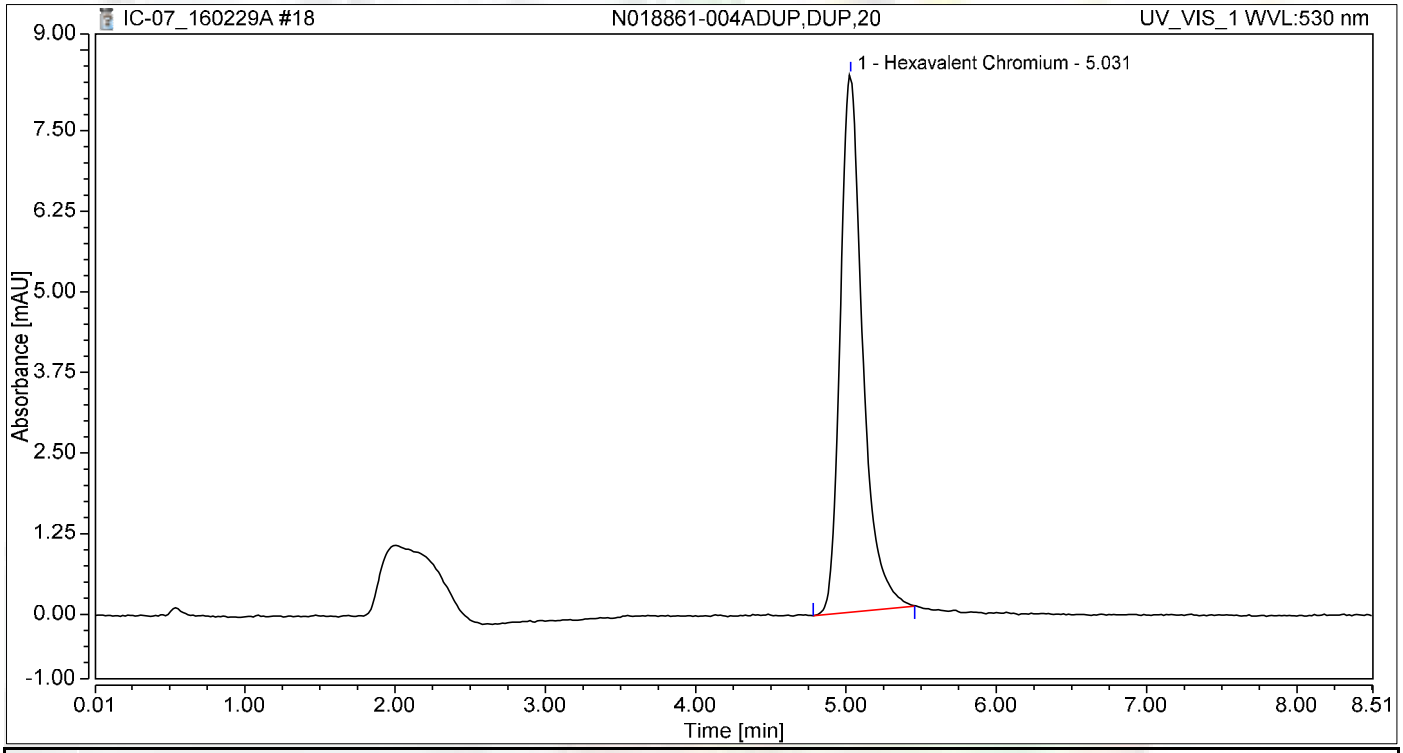
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	1.456	8.404	100.00	100.00	6.1533
Total:			**1.456**	**8.404**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004ADUP,DUP,20**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

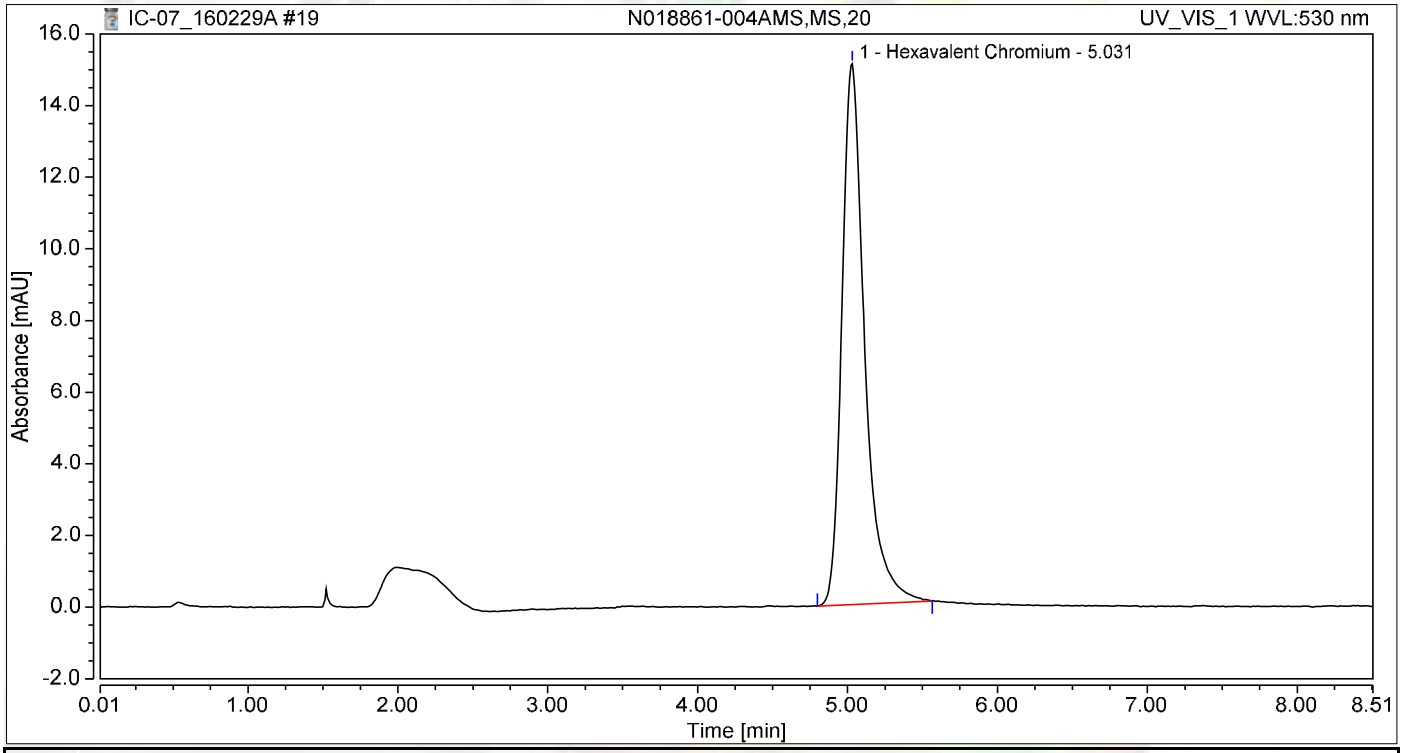
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.443	8.332	100.00	100.00	6.0978
Total:			**1.443**	**8.332**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMS,MS,20**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

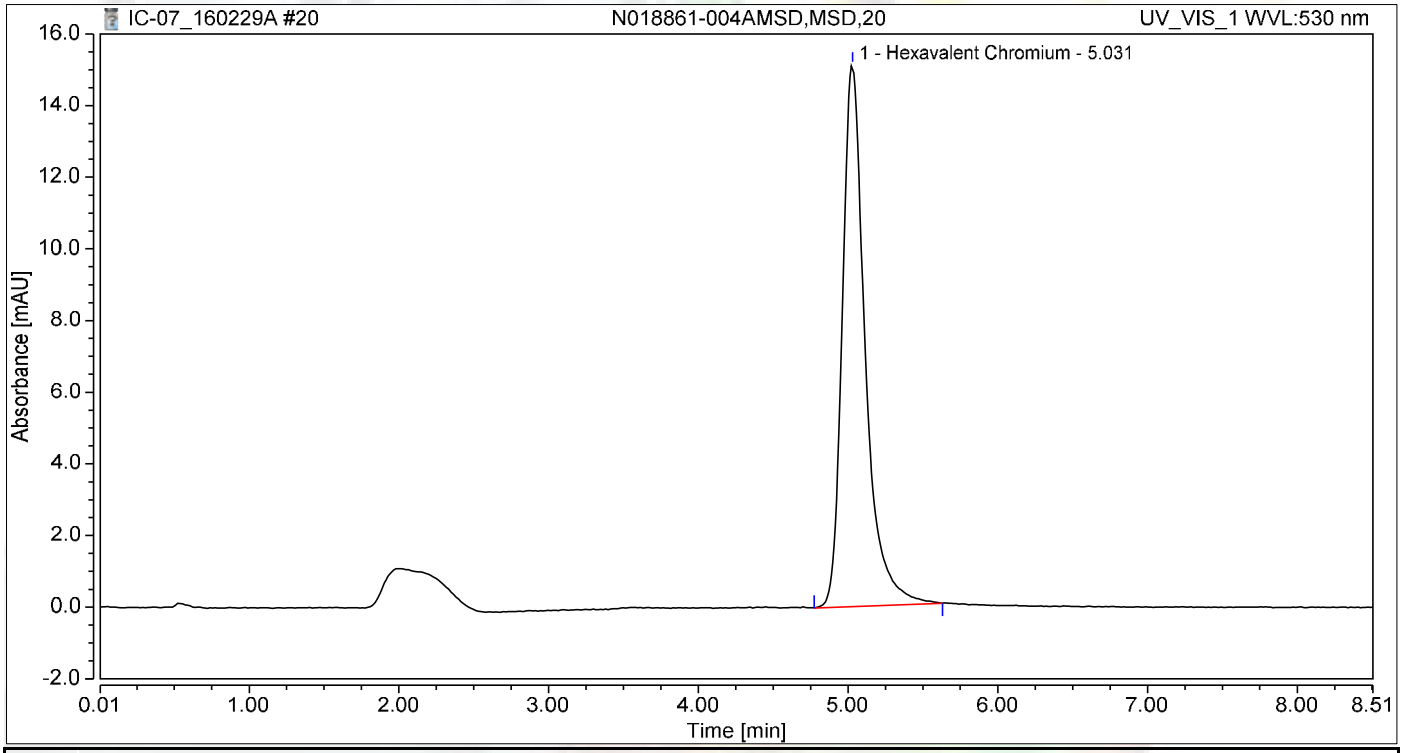
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.644	15.087	100.00	100.00	11.1709
Total:			**2.644**	**15.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMSD,MSD,20**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

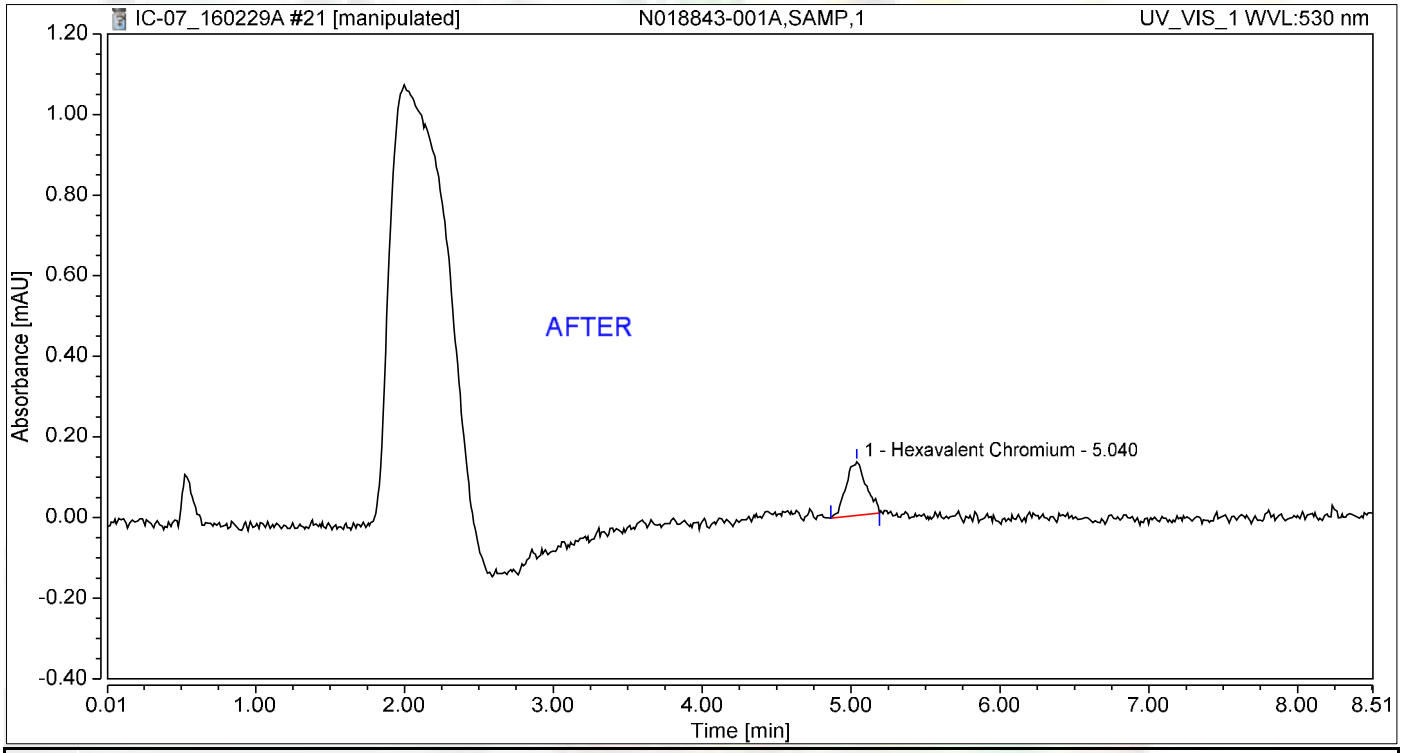
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.672	15.117	100.00	100.00	11.2884
Total:			**2.672**	**15.117**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.021	0.133	100.00	100.00	0.0879
Total:			**0.021**	**0.133**	**100.00**	**100.00**	

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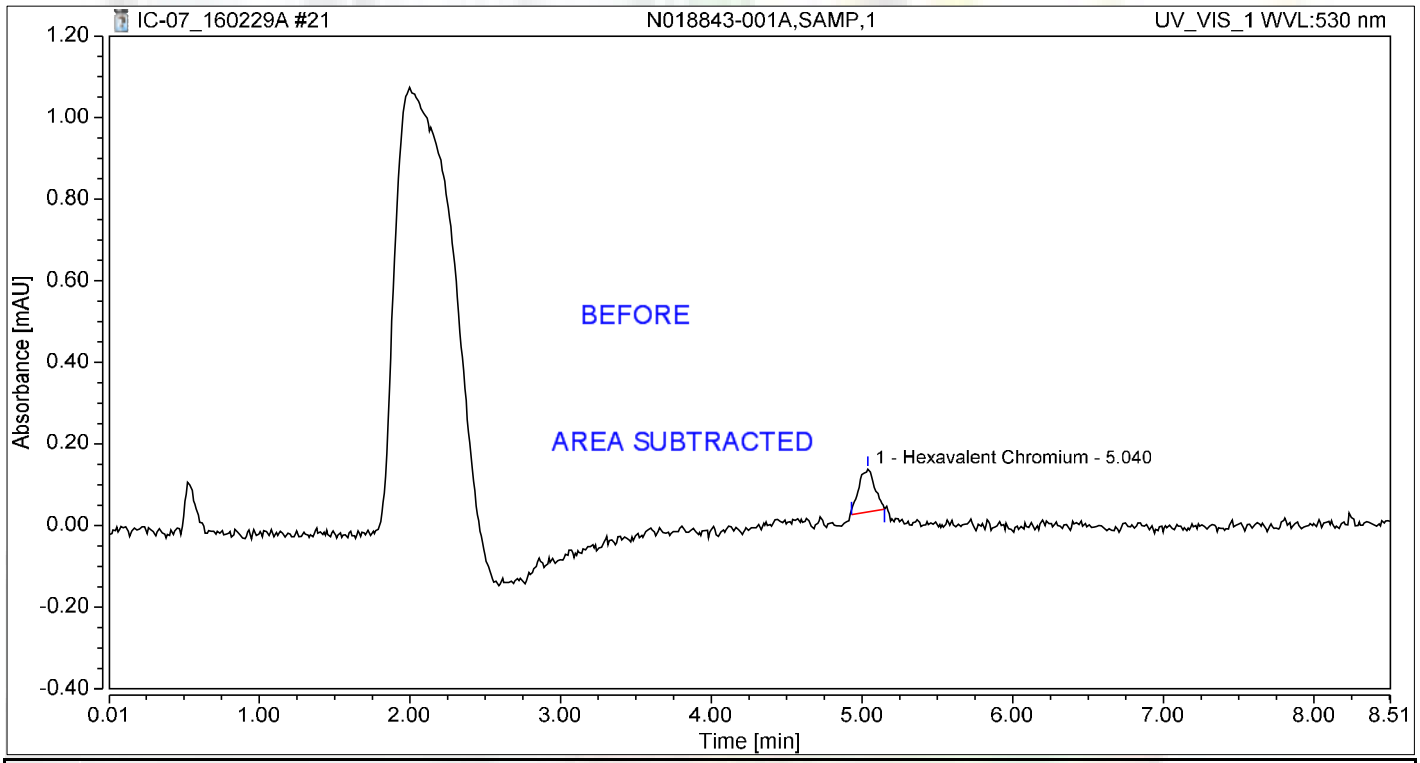
Chromatogram and Results

Injection Details

Injection Name:	**N018843-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

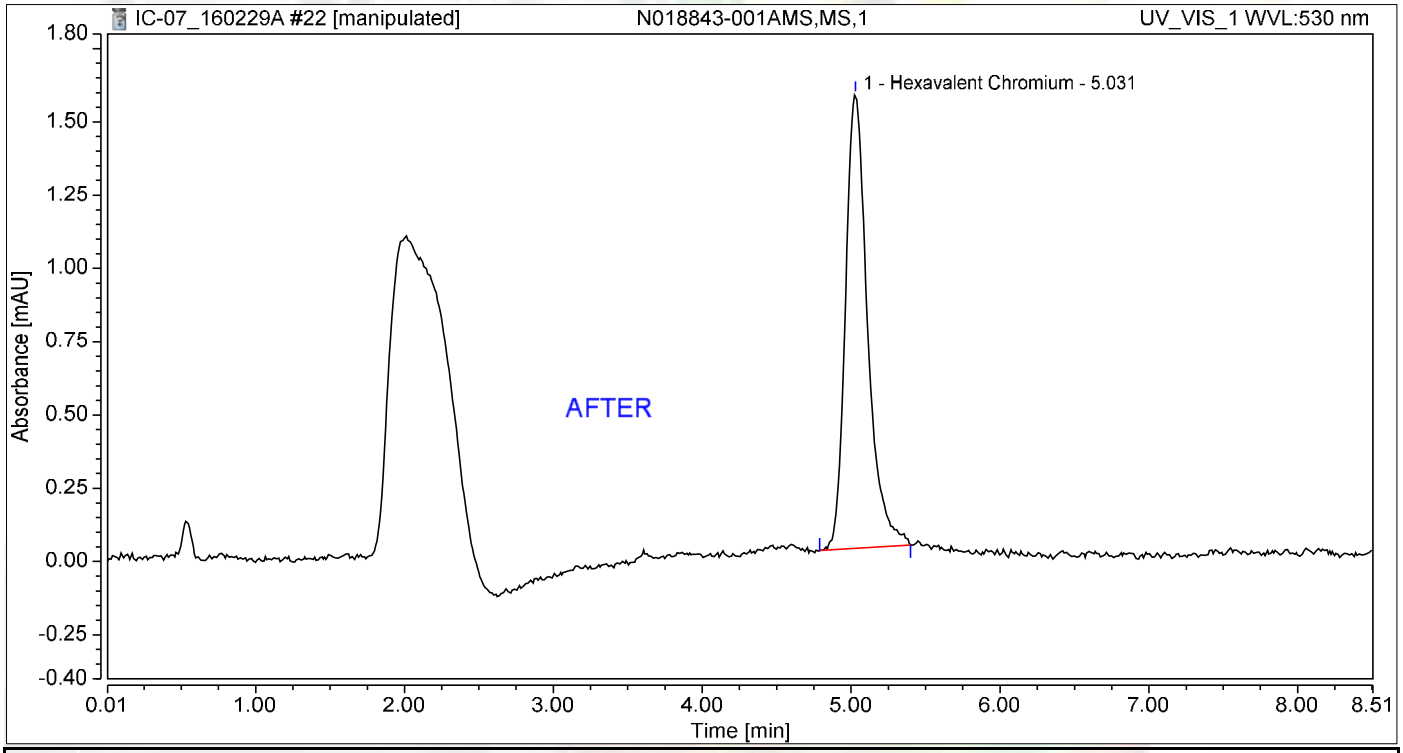
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.013	0.104	100.00	100.00	0.0543
Total:			**0.013**	**0.104**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.549	100.00	100.00	1.1206
Total:			**0.265**	**1.549**	**100.00**	**100.00**	

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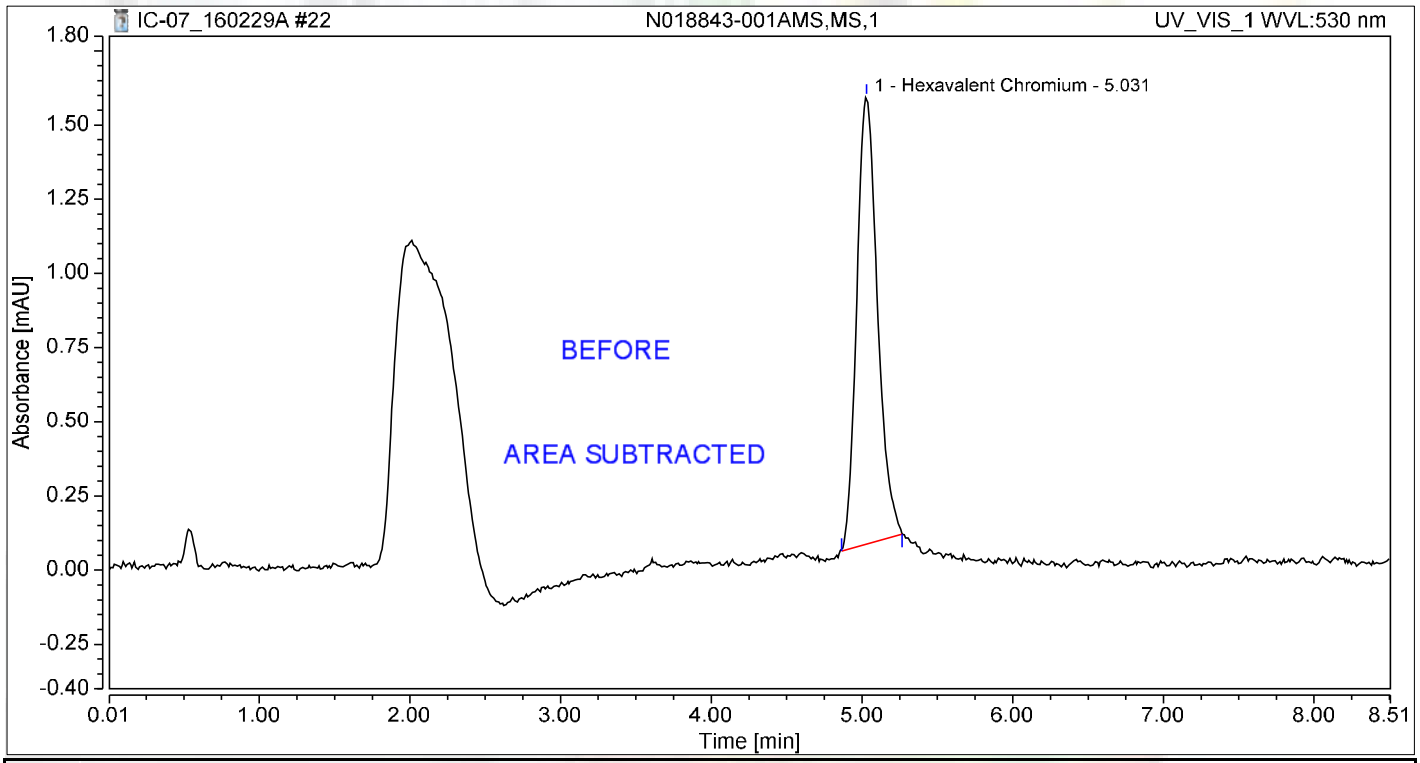
Chromatogram and Results

Injection Details

Injection Name:	**N018843-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

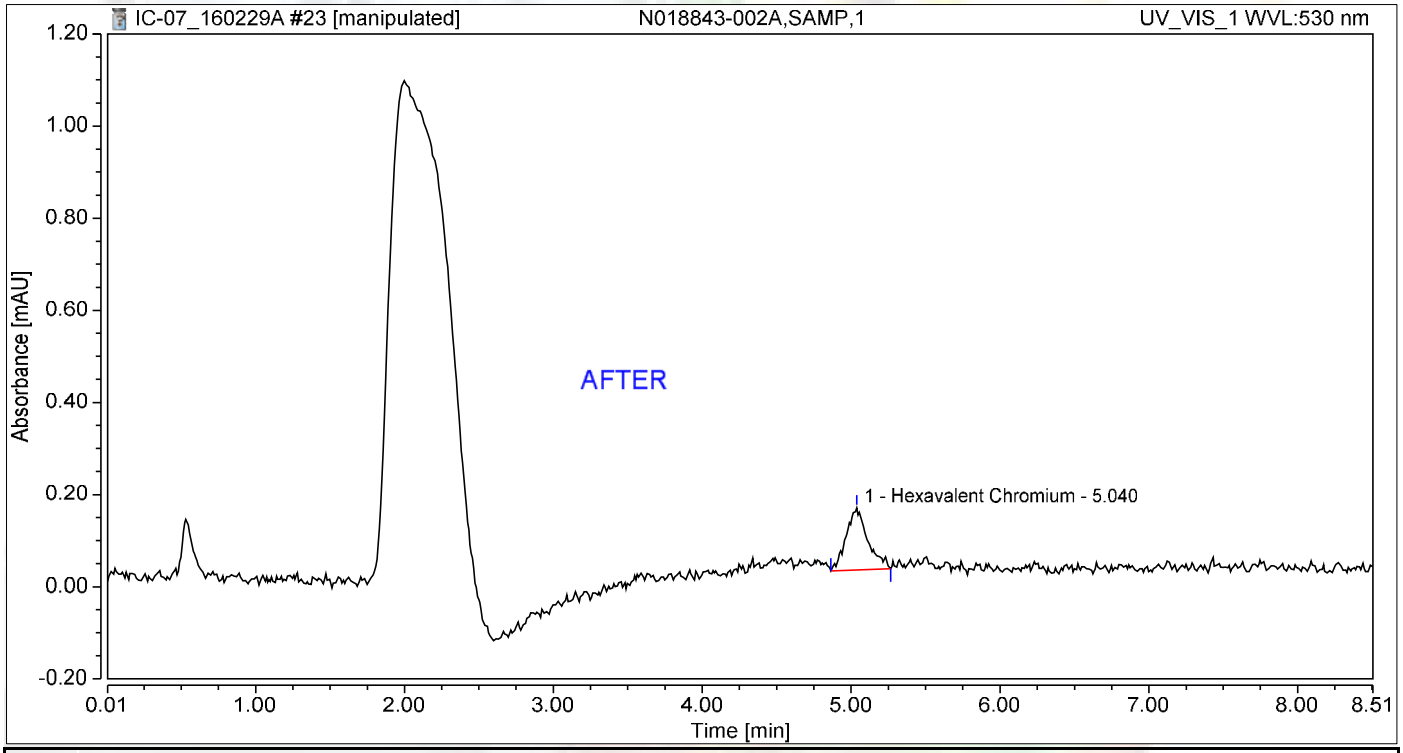
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.507	100.00	100.00	1.0160
Total:			**0.240**	**1.507**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.023	0.136	100.00	100.00	0.0960
Total:			**0.023**	**0.136**	**100.00**	**100.00**	

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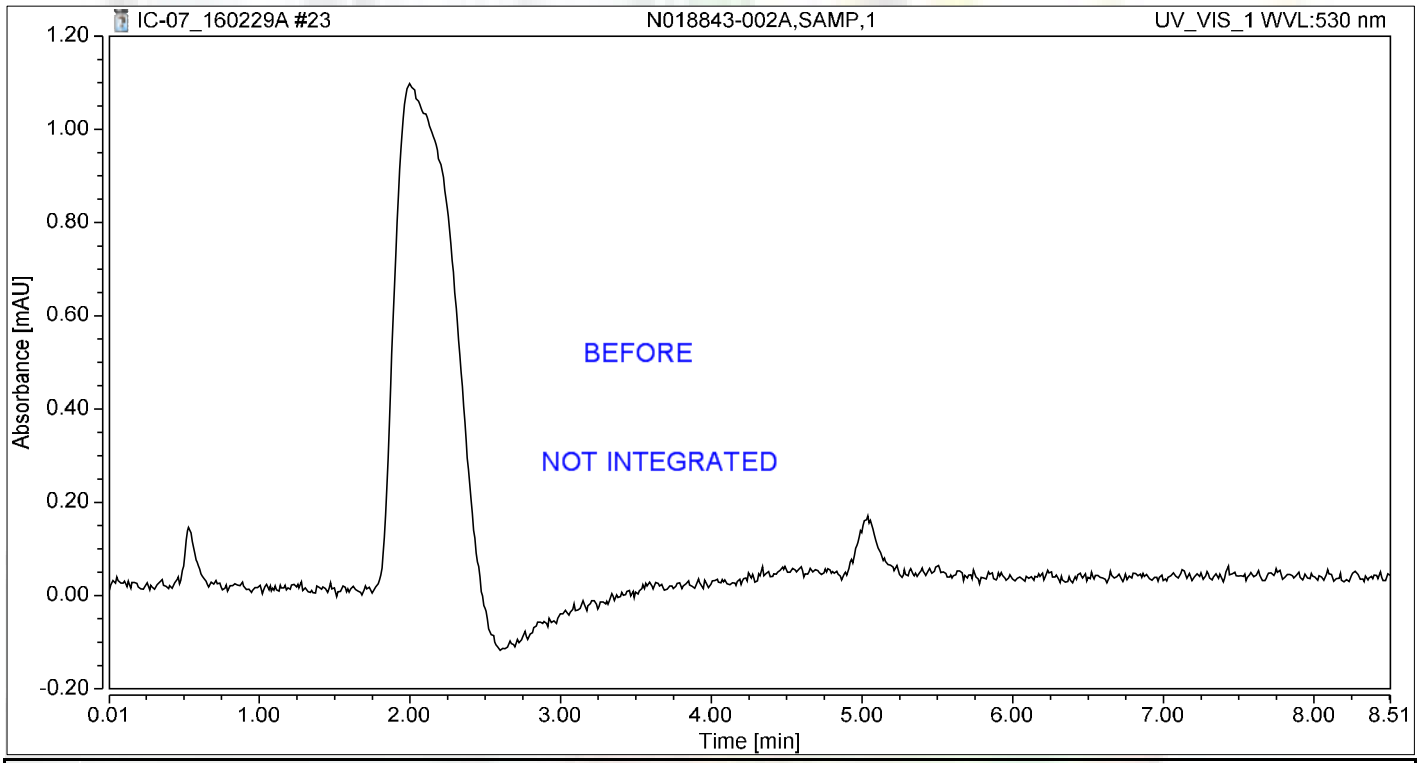
Chromatogram and Results

Injection Details

Injection Name:	**N018843-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

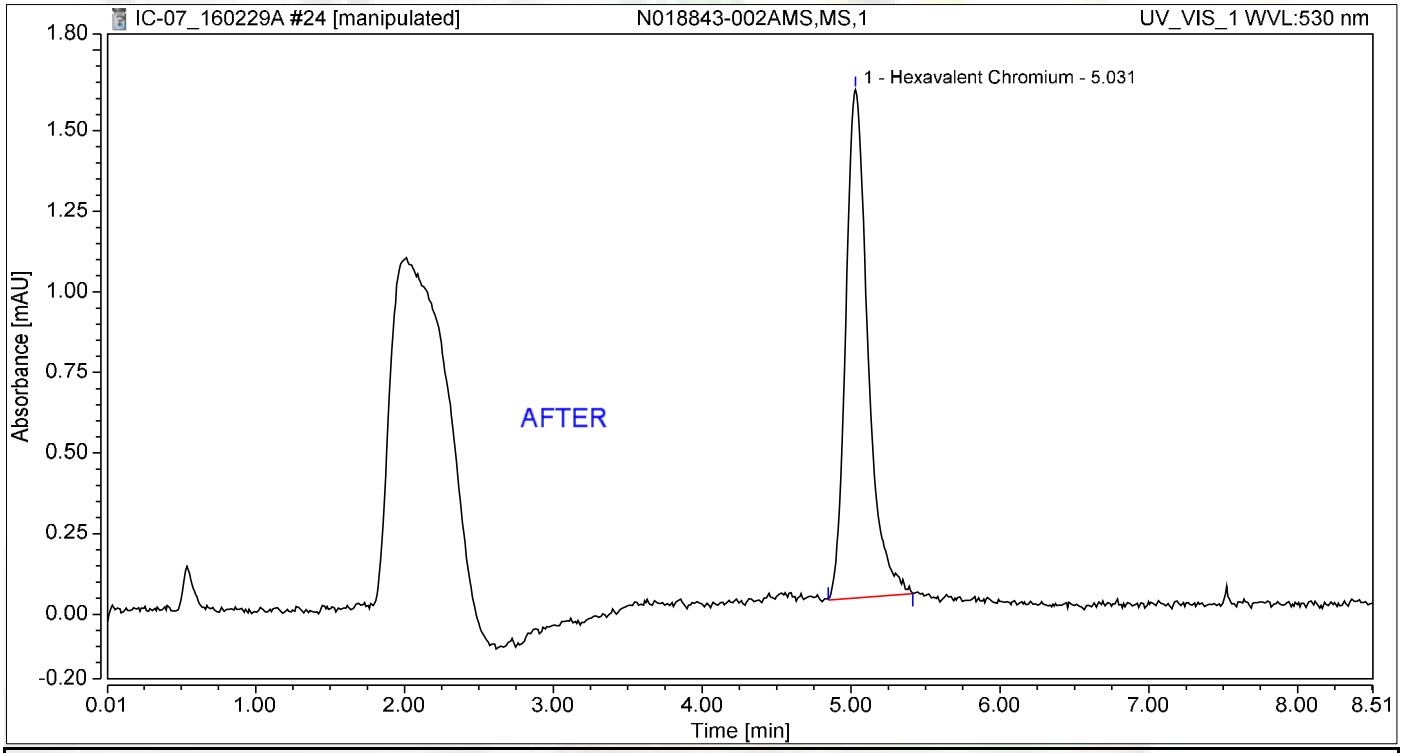
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.270	1.577	100.00	100.00	1.1416
Total:			**0.270**	**1.577**	**100.00**	**100.00**	

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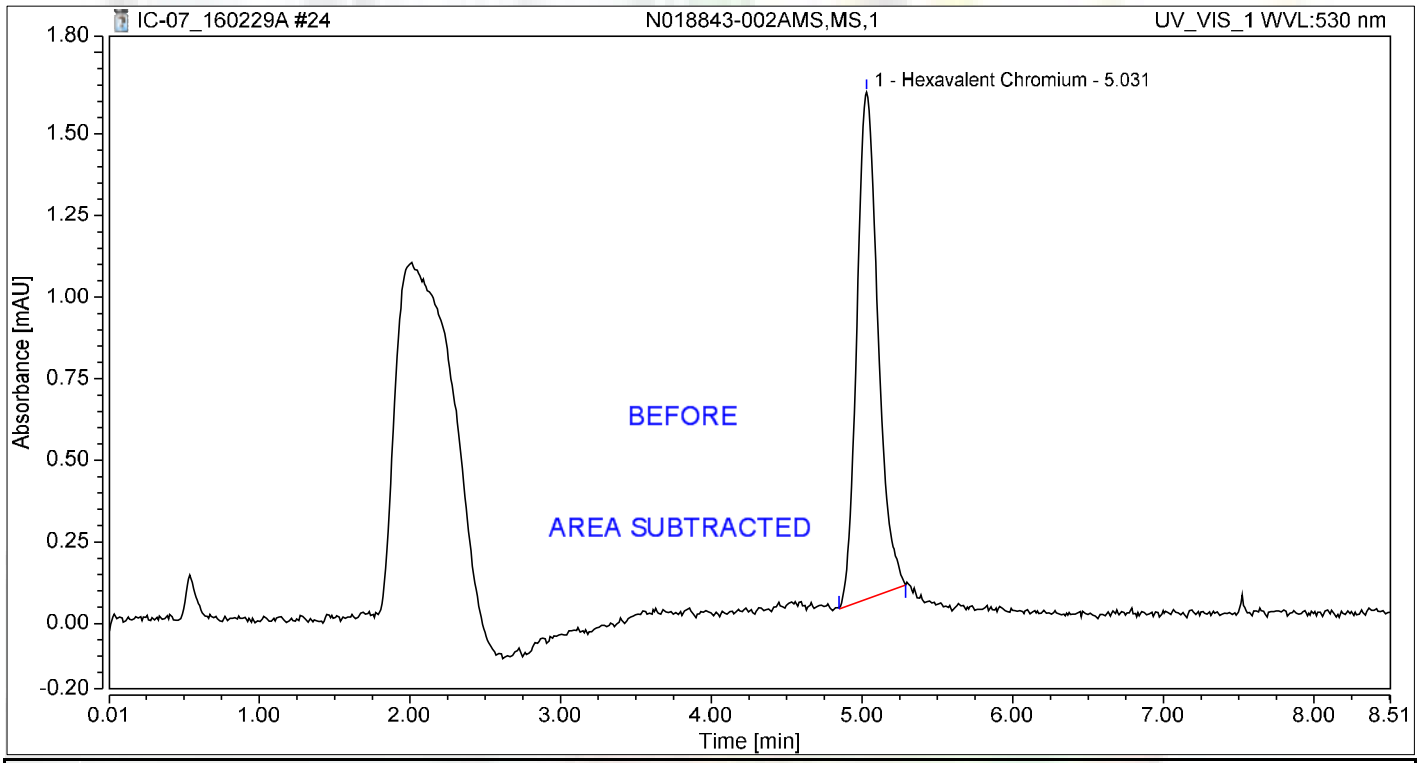
Chromatogram and Results

Injection Details

Injection Name:	**N018843-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

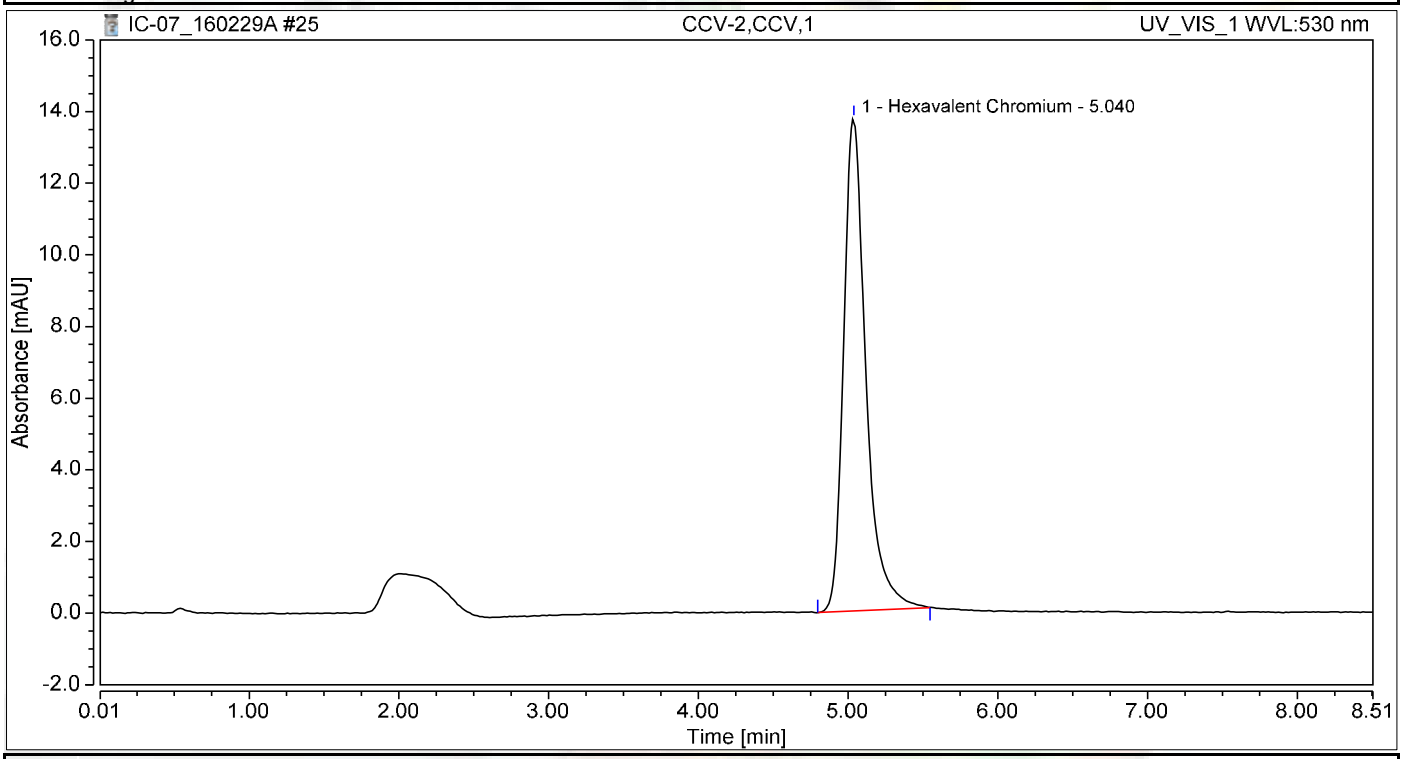
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.253	1.553	100.00	100.00	1.0687
Total:			**0.253**	**1.553**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

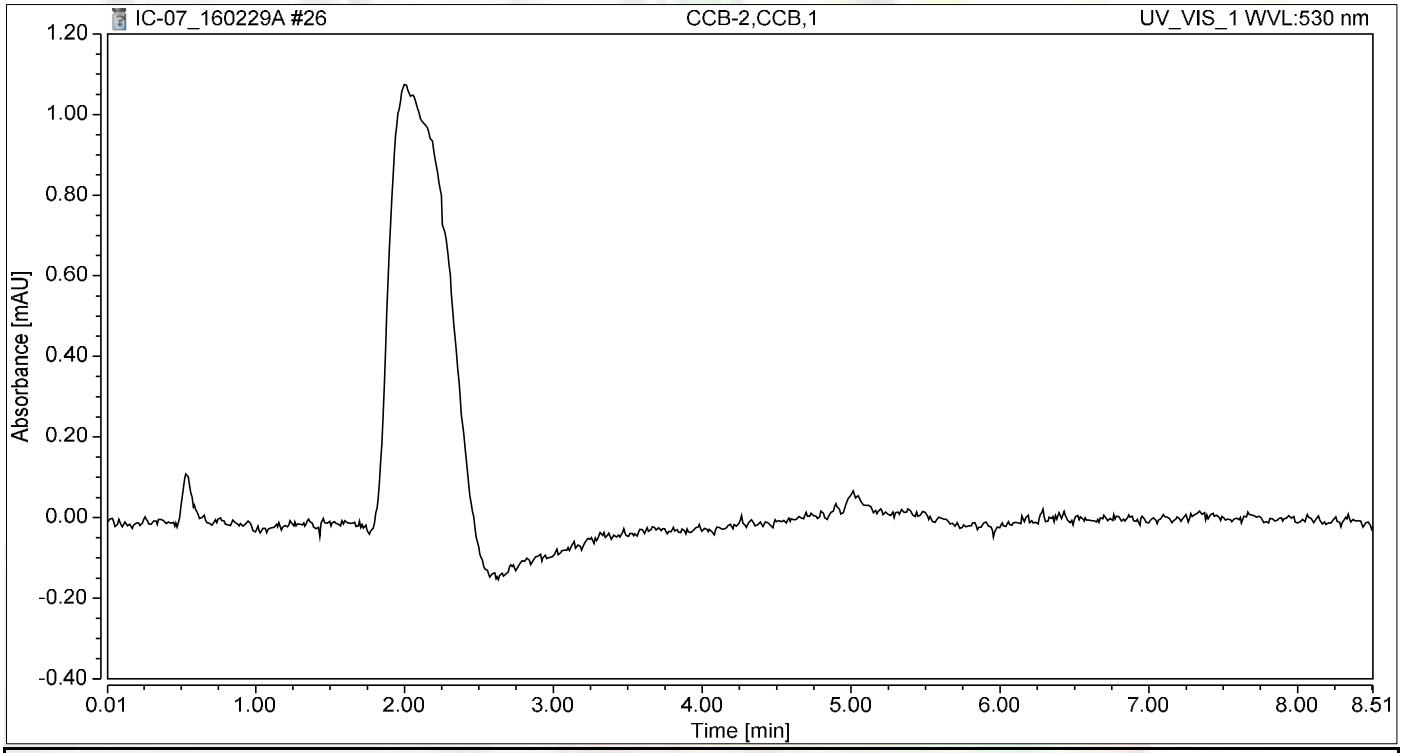
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.354	13.748	100.00	100.00	9.9462
Total:			**2.354**	**13.748**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

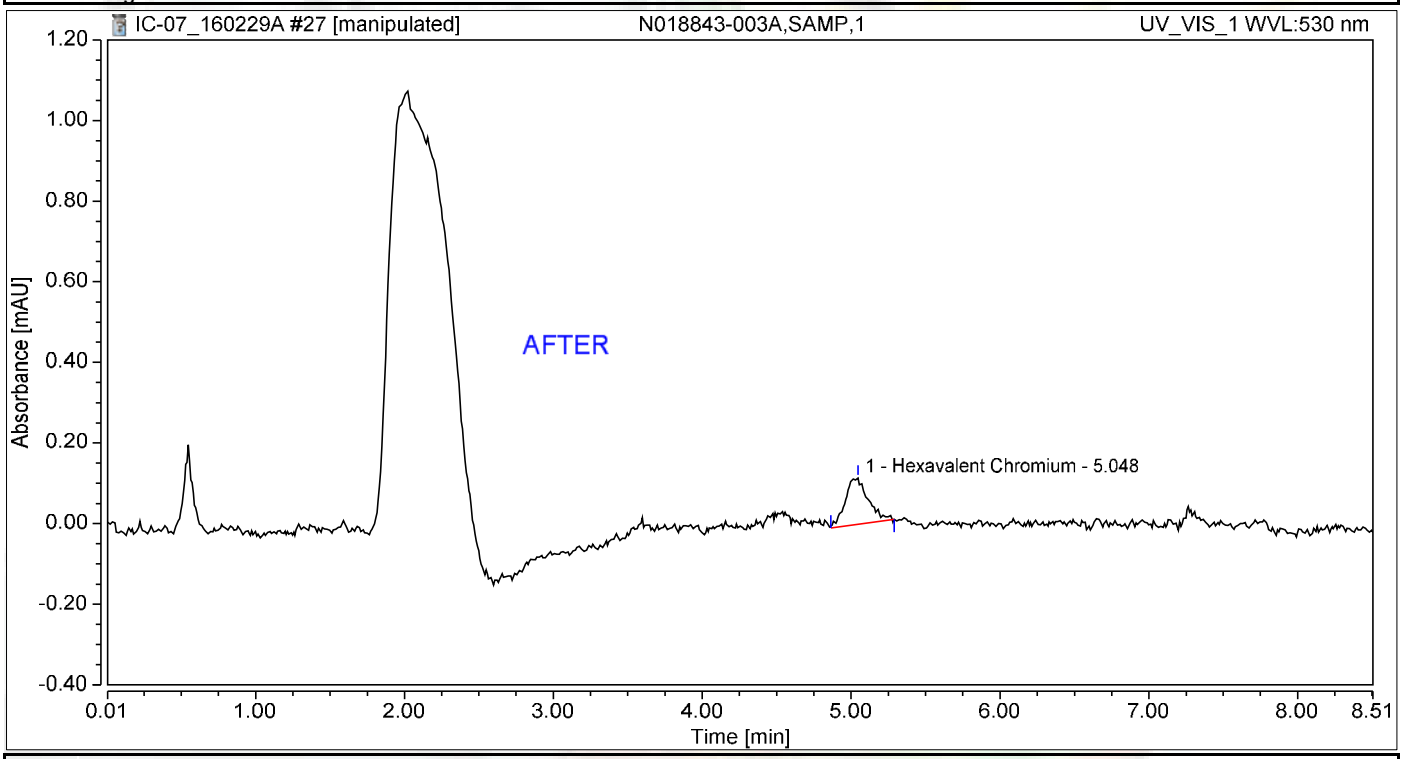
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.021	0.114	100.00	100.00	0.0867
Total:			**0.021**	**0.114**	**100.00**	**100.00**	

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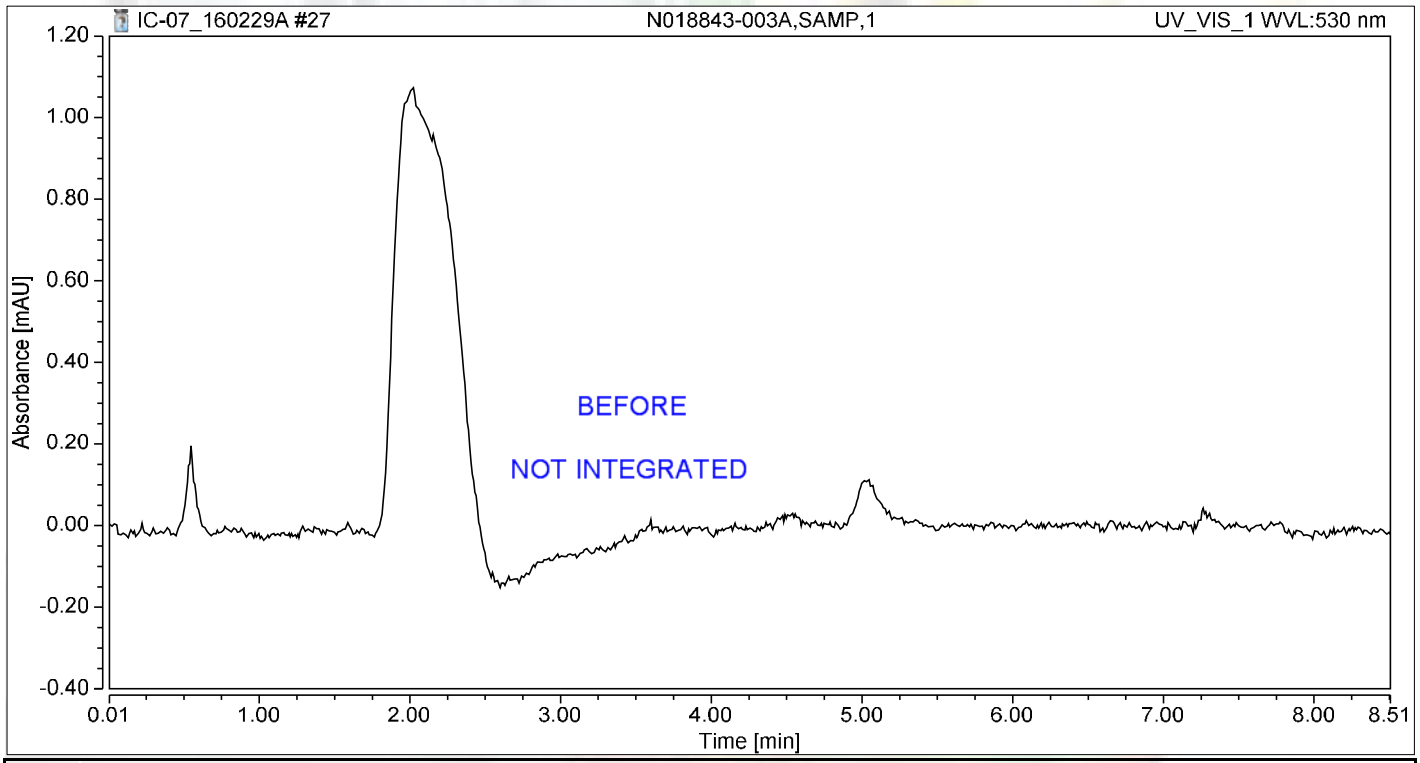
Chromatogram and Results

Injection Details

Injection Name:	**N018843-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

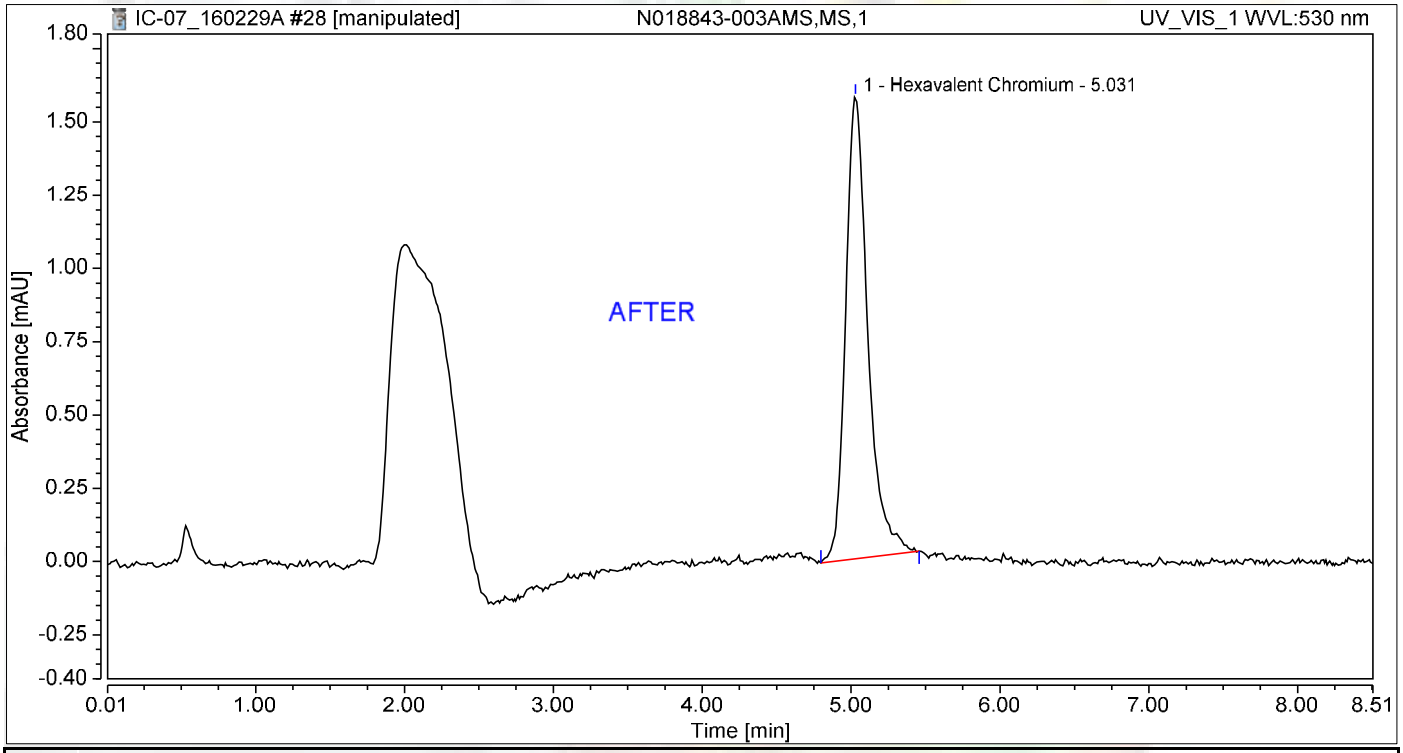
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.271	1.576	100.00	100.00	1.1437
Total:			**0.271**	**1.576**	**100.00**	**100.00**	

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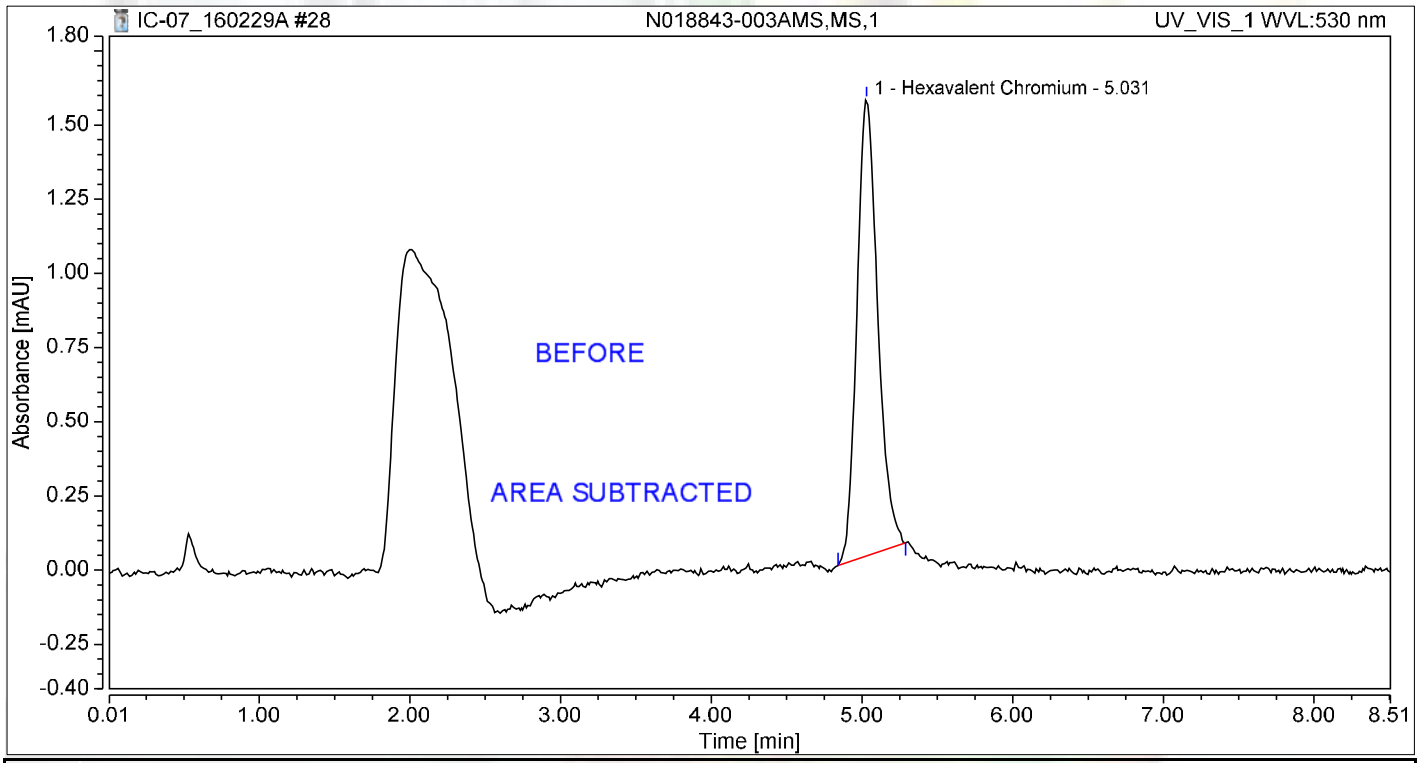
Chromatogram and Results

Injection Details

Injection Name:	**N018843-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

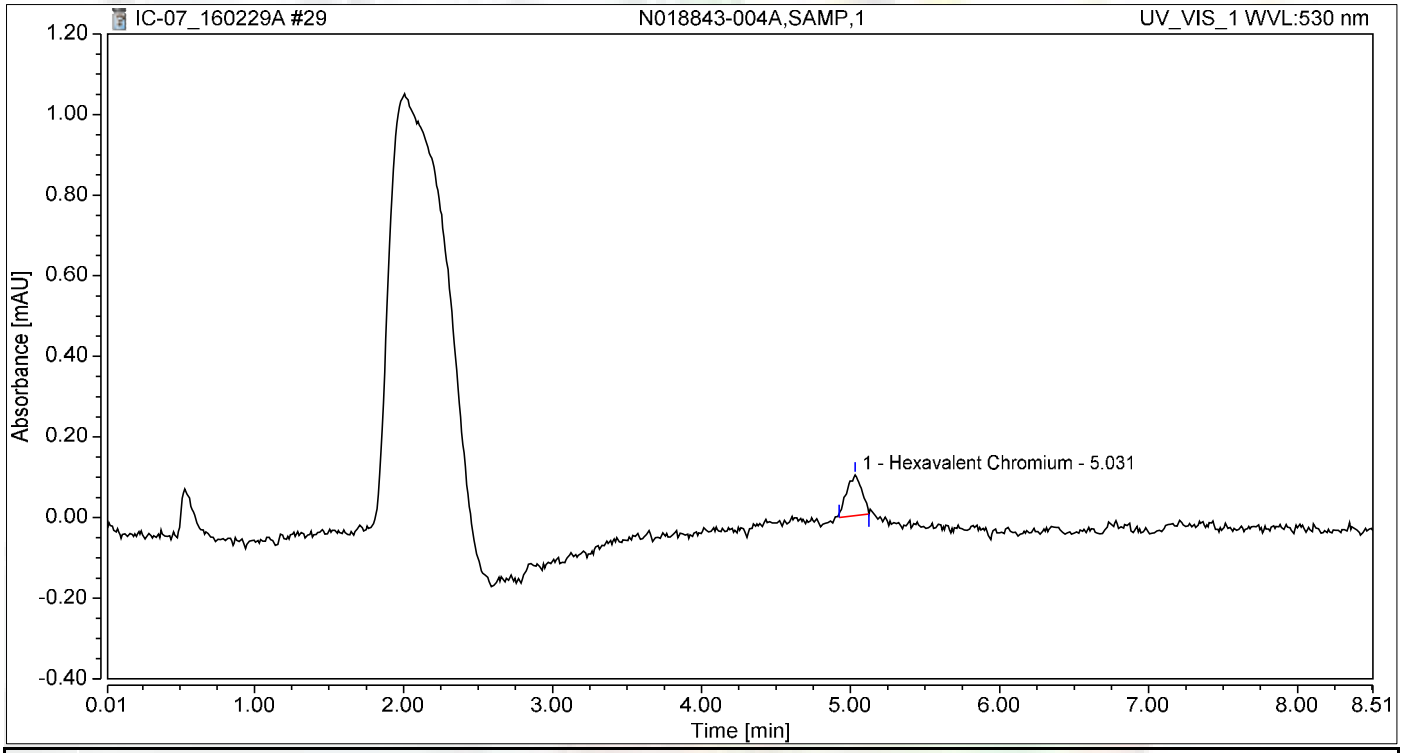
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.247	1.537	100.00	100.00	1.0417
Total:			**0.247**	**1.537**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

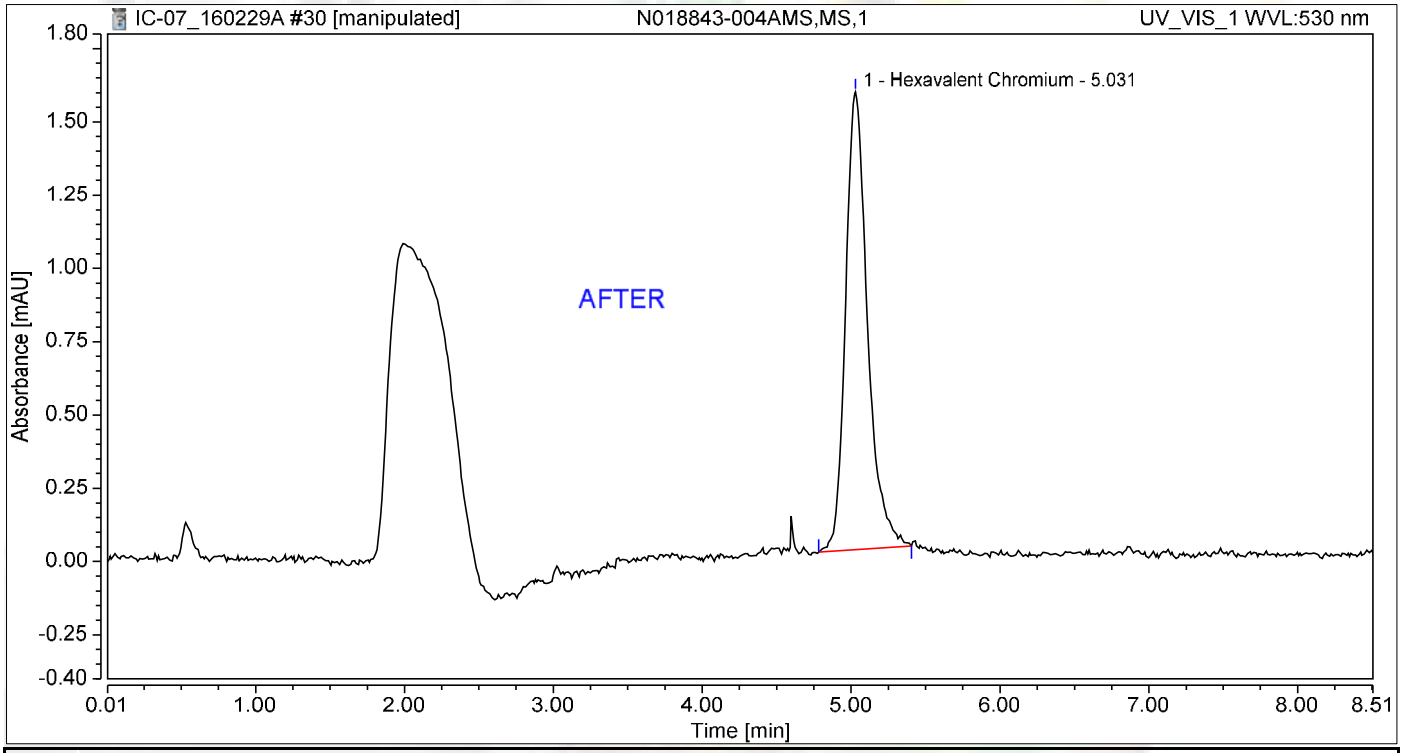
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.012	0.101	100.00	100.00	0.0494
Total:			**0.012**	**0.101**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.563	100.00	100.00	1.1212
Total:			**0.265**	**1.563**	**100.00**	**100.00**	

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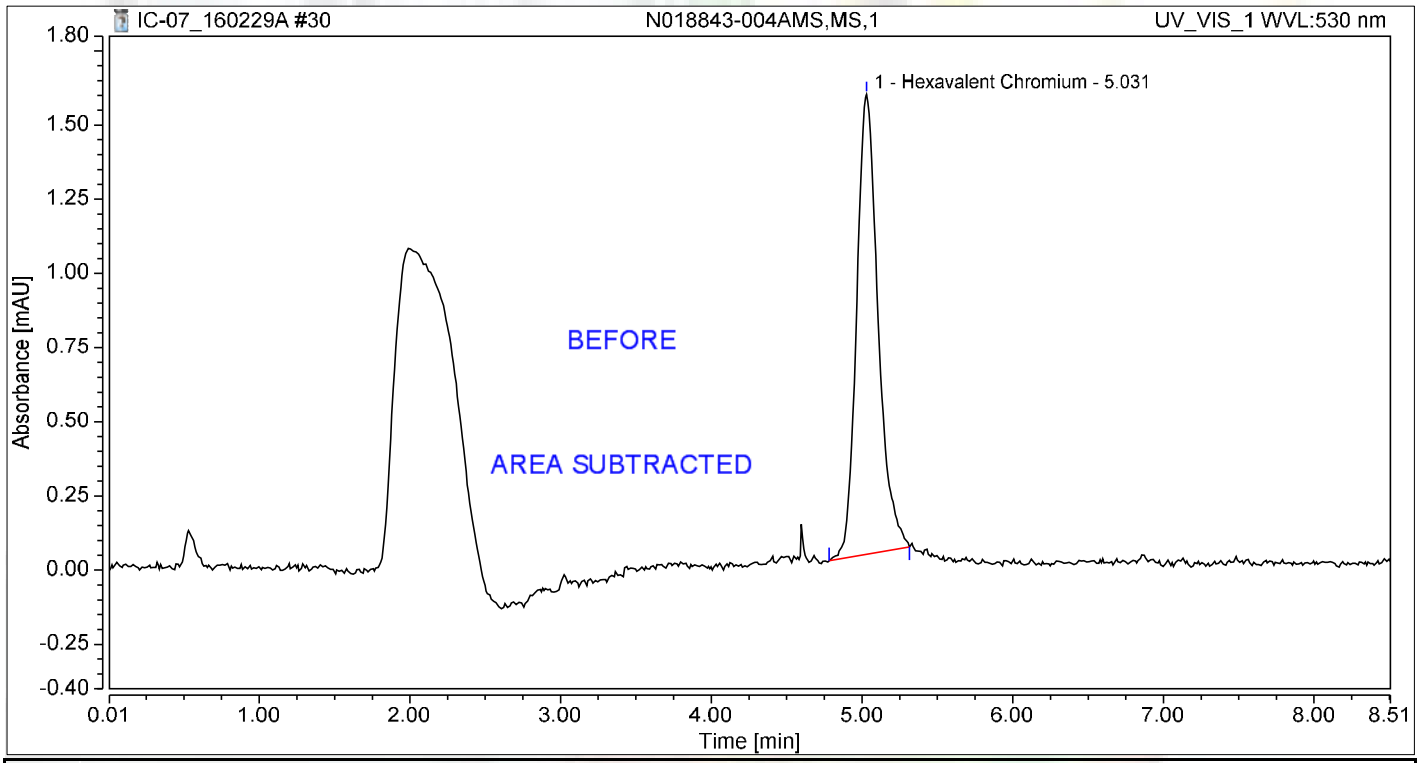
Chromatogram and Results

Injection Details

Injection Name:	**N018843-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

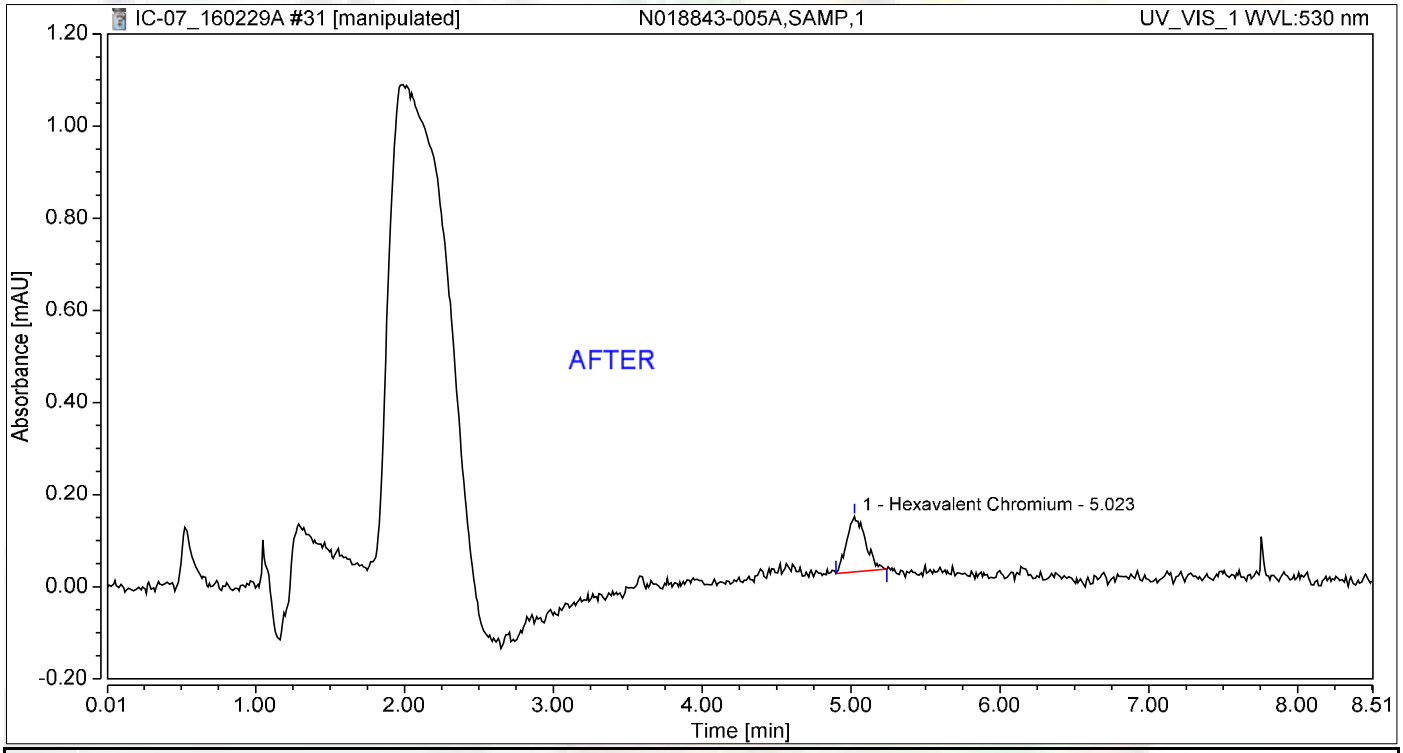
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.256	1.549	100.00	100.00	1.0811
Total:			**0.256**	**1.549**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.017	0.121	100.00	100.00	0.0734
Total:			**0.017**	**0.121**	**100.00**	**100.00**	

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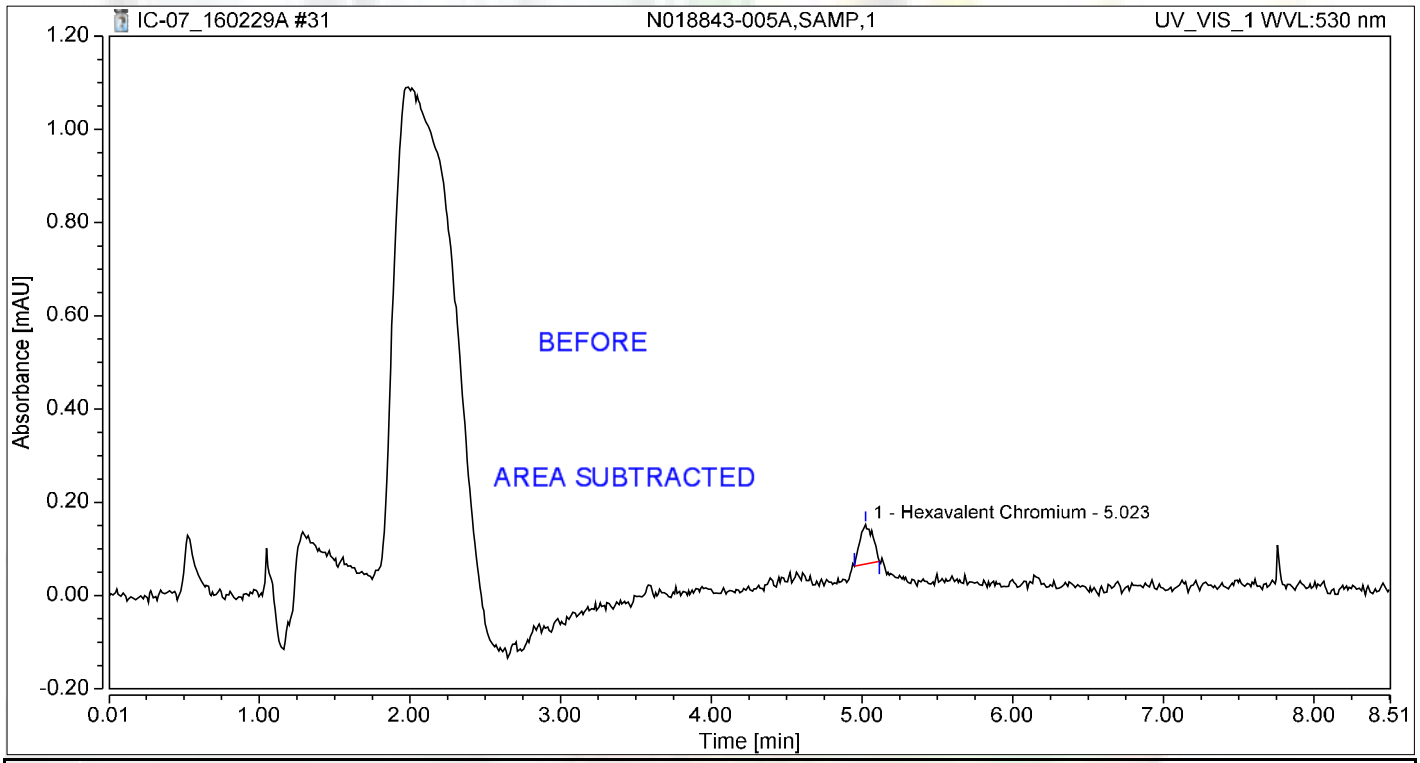
Chromatogram and Results

Injection Details

Injection Name:	**N018843-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

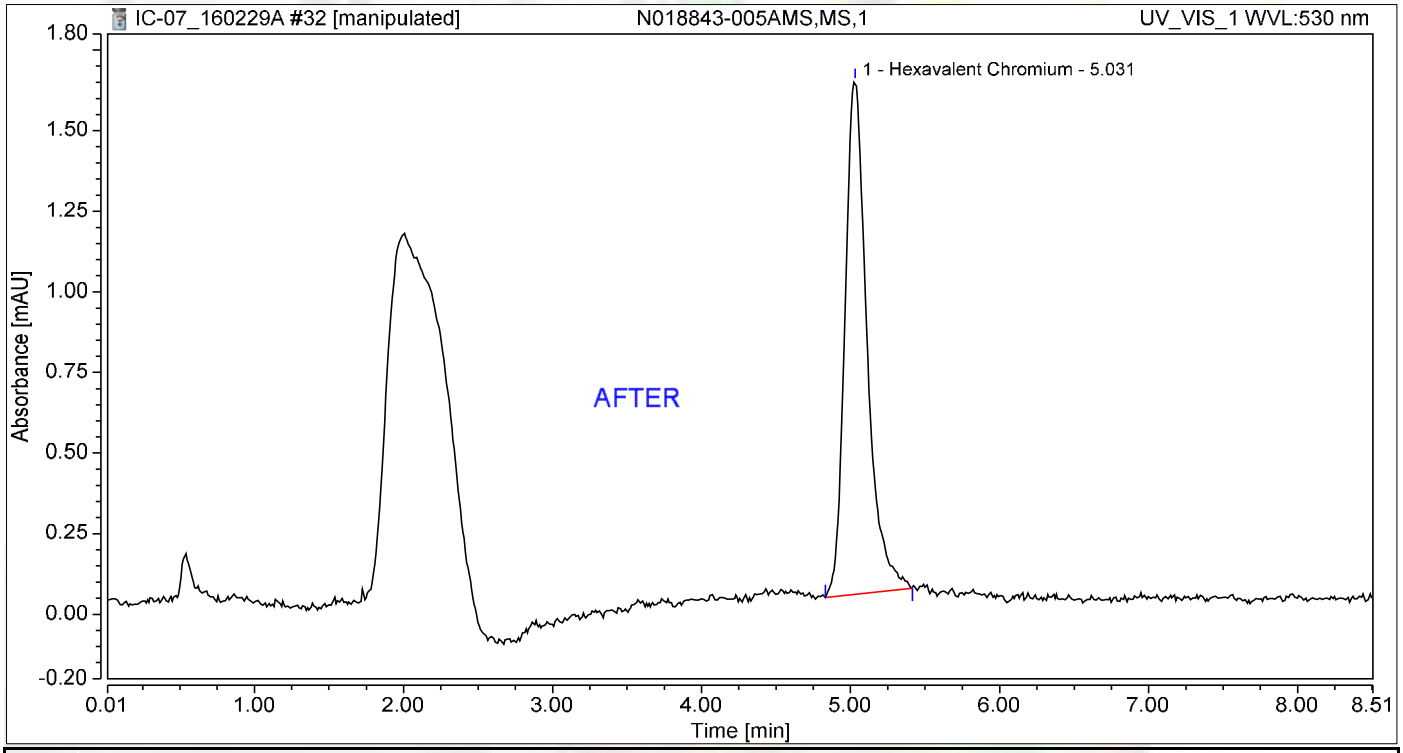
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.008	0.085	100.00	100.00	0.0356
Total:			**0.008**	**0.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.272	1.590	100.00	100.00	1.1503
Total:			**0.272**	**1.590**	**100.00**	**100.00**	

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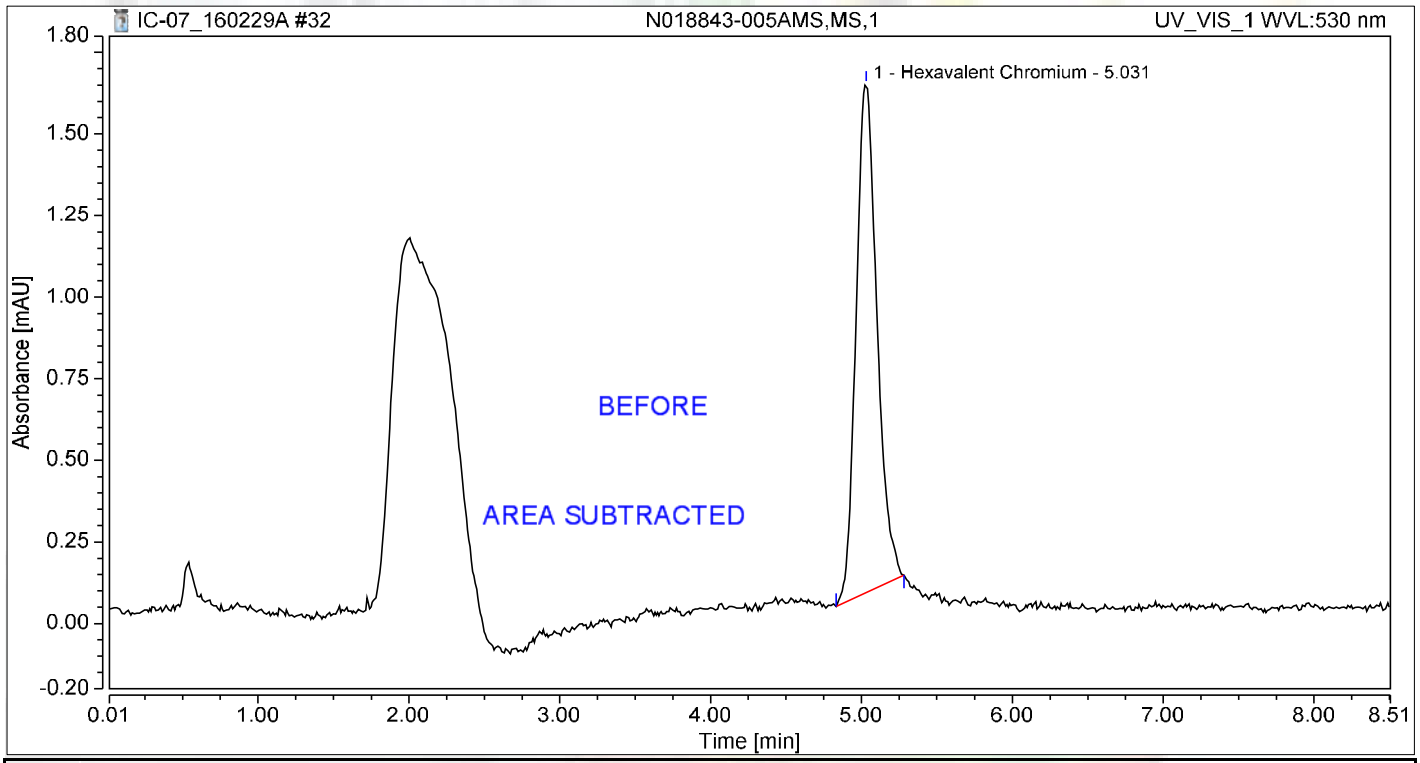
Chromatogram and Results

Injection Details

Injection Name:	**N018843-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

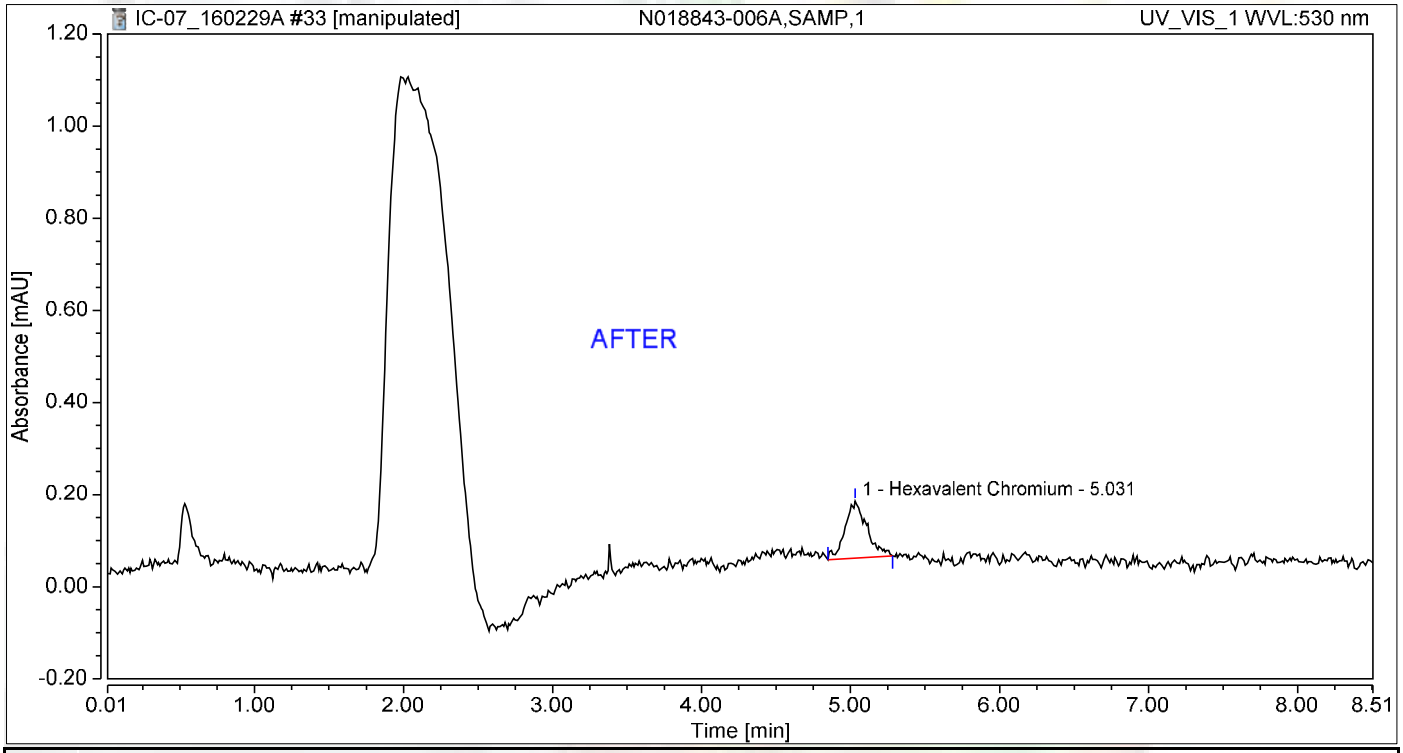
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.251	1.557	100.00	100.00	1.0608
Total:			**0.251**	**1.557**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.021	0.124	100.00	100.00	0.0887
Total:			**0.021**	**0.124**	**100.00**	**100.00**	

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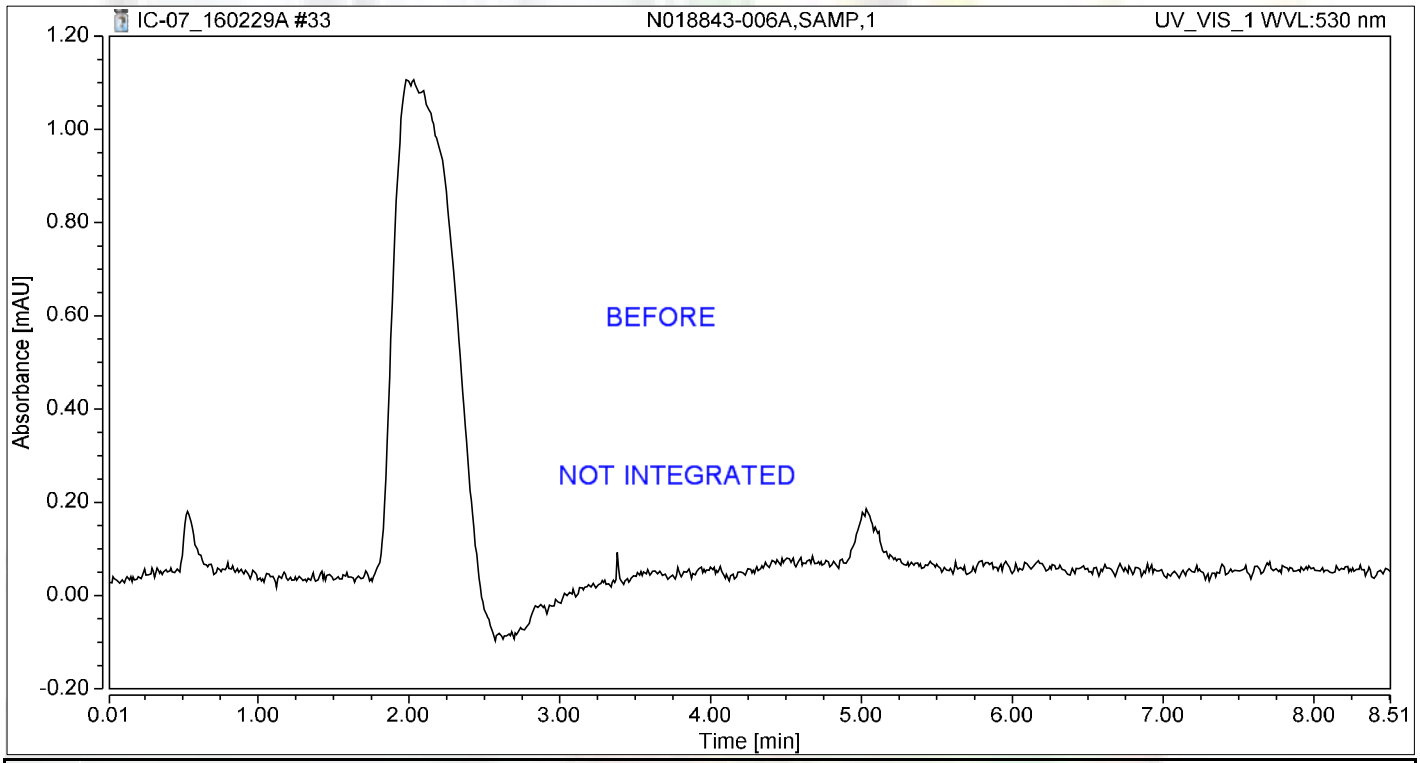
Chromatogram and Results

Injection Details

Injection Name:	**N018843-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

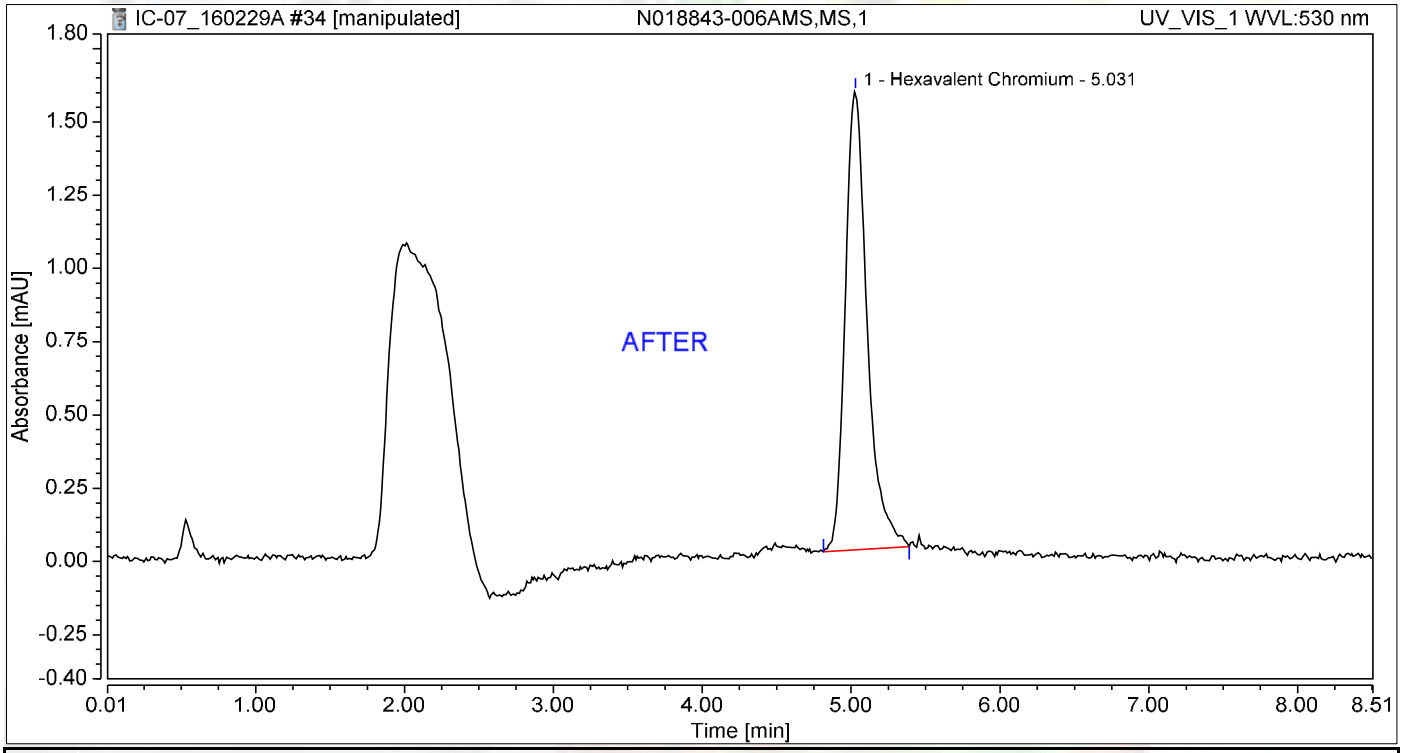
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.266	1.565	100.00	100.00	1.1251
Total:			**0.266**	**1.565**	**100.00**	**100.00**	

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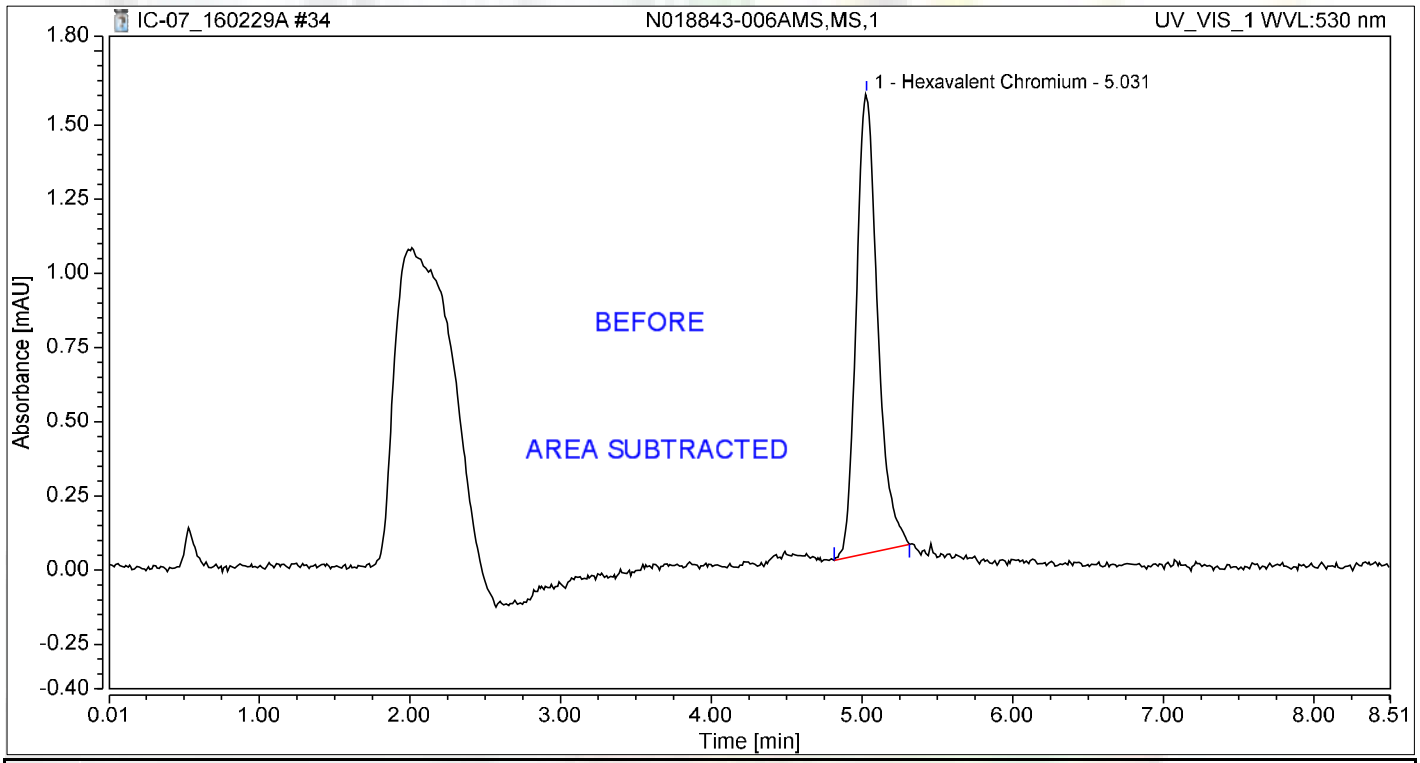
Chromatogram and Results

Injection Details

Injection Name:	**N018843-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

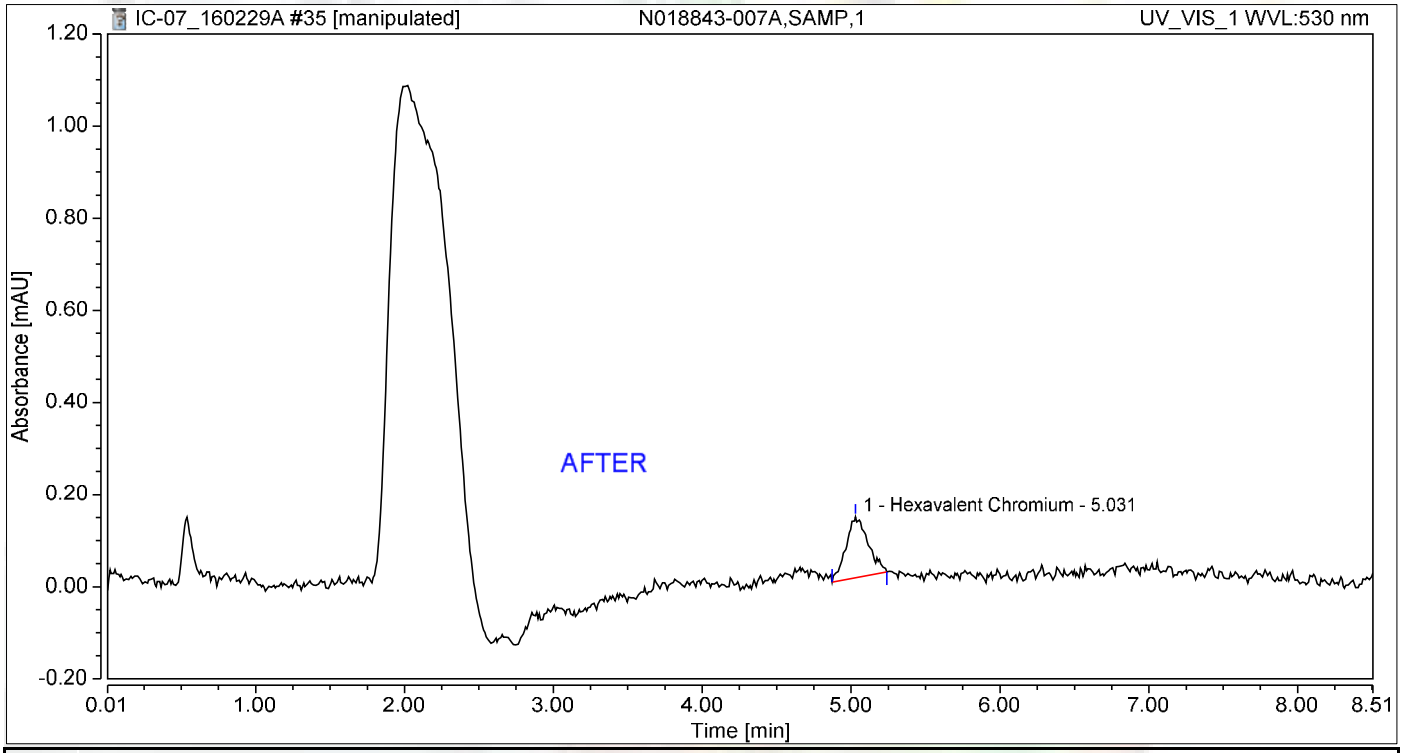
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.254	1.548	100.00	100.00	1.0750
Total:			**0.254**	**1.548**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.022	0.132	100.00	100.00	0.0938
Total:			**0.022**	**0.132**	**100.00**	**100.00**	

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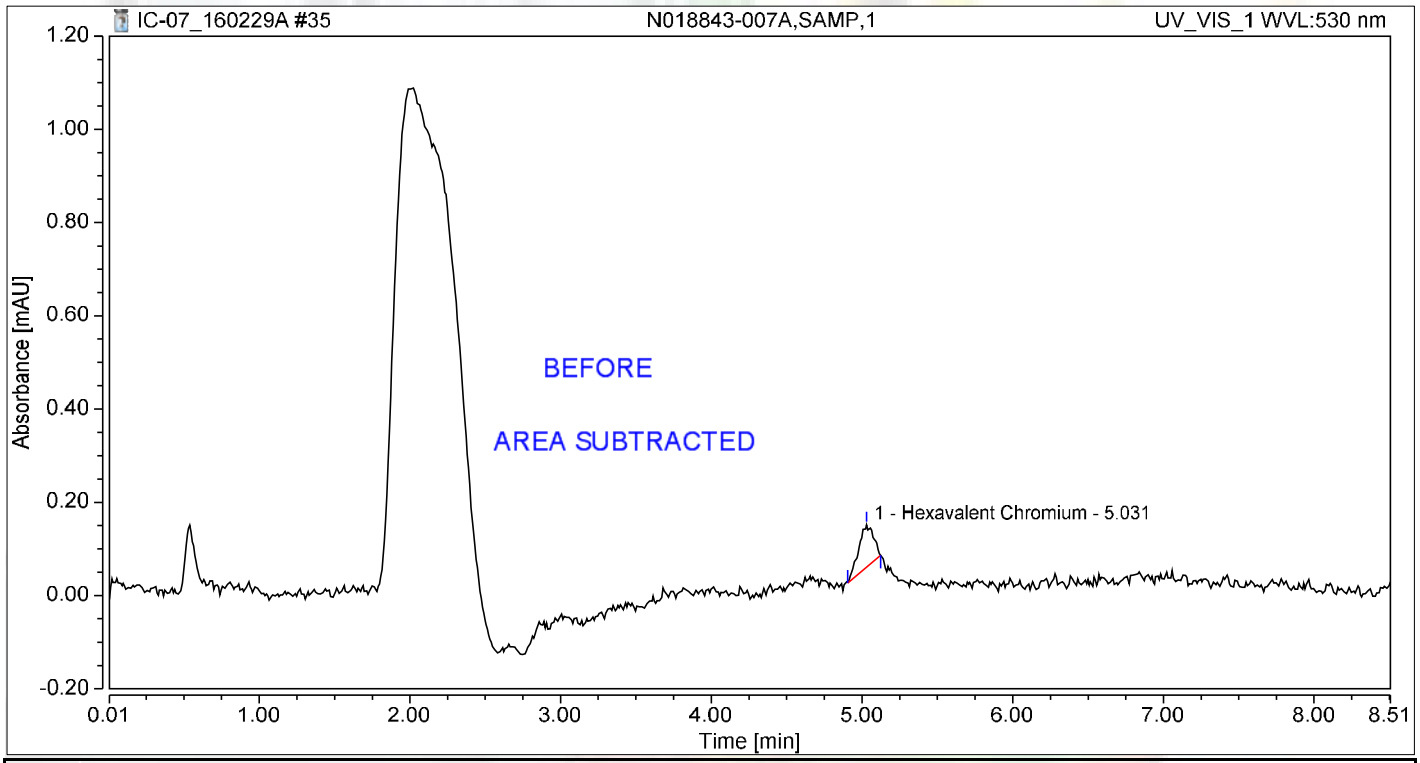
Chromatogram and Results

Injection Details

Injection Name:	**N018843-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

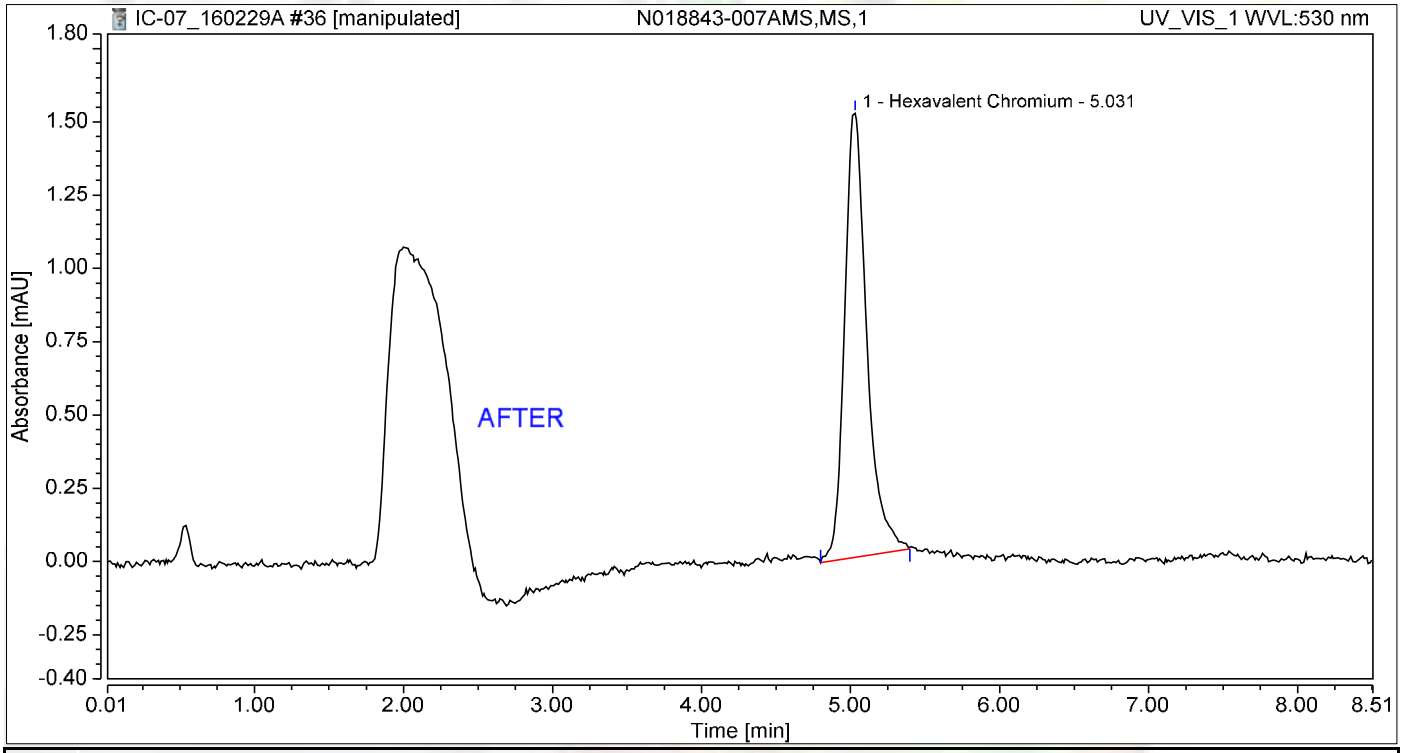
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.010	0.091	100.00	100.00	0.0434
Total:			**0.010**	**0.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-007AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.261	1.515	100.00	100.00	1.1038
Total:			**0.261**	**1.515**	**100.00**	**100.00**	

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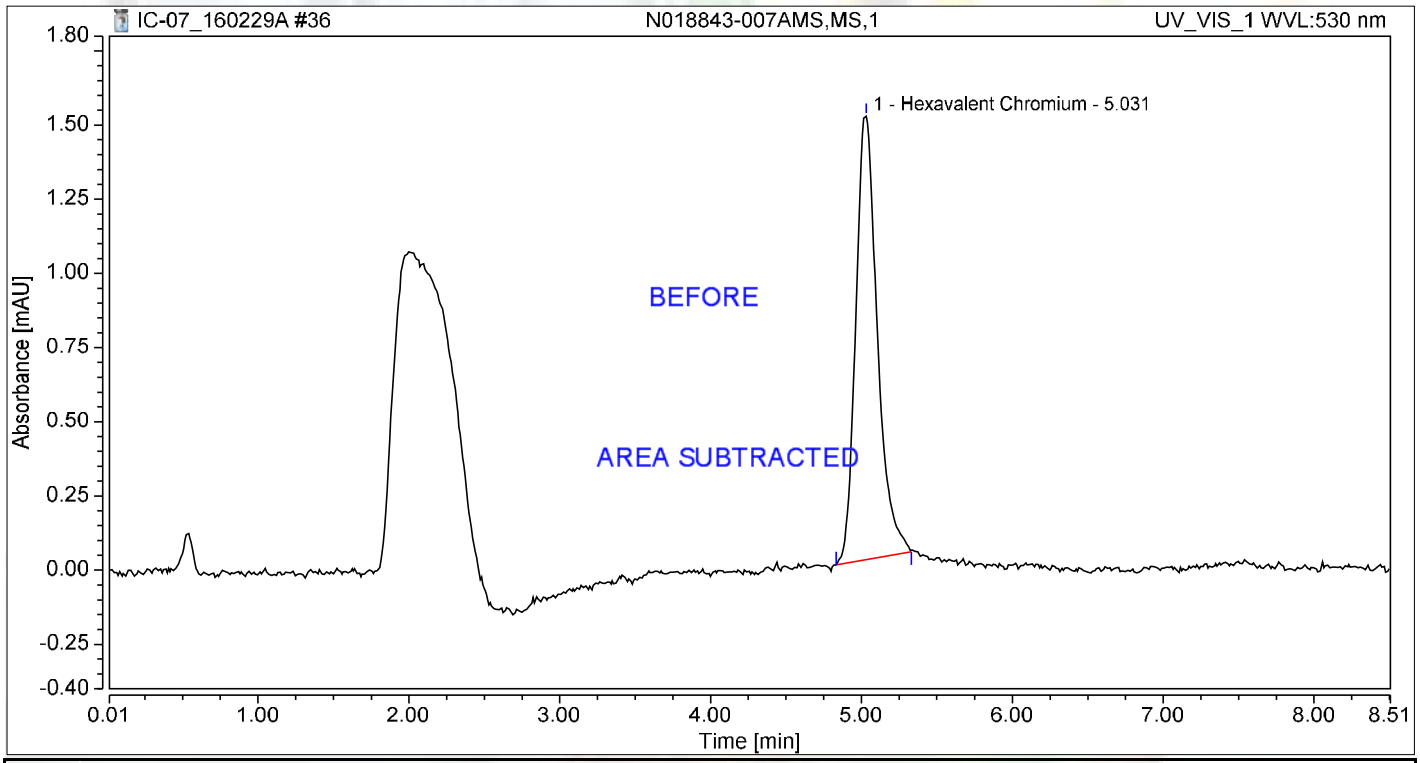
Chromatogram and Results

Injection Details

Injection Name:	**N018843-007AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

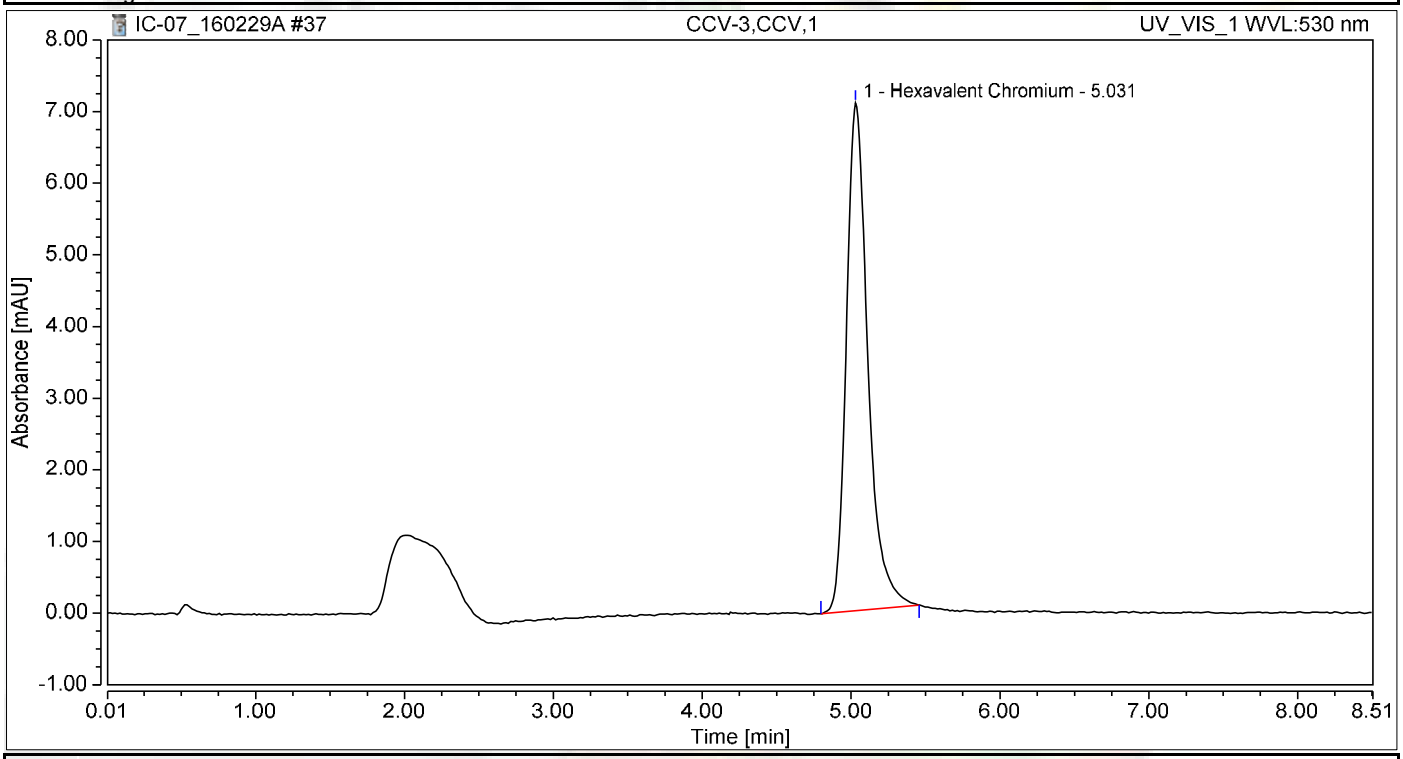
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.249	1.495	100.00	100.00	1.0514
Total:			**0.249**	**1.495**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

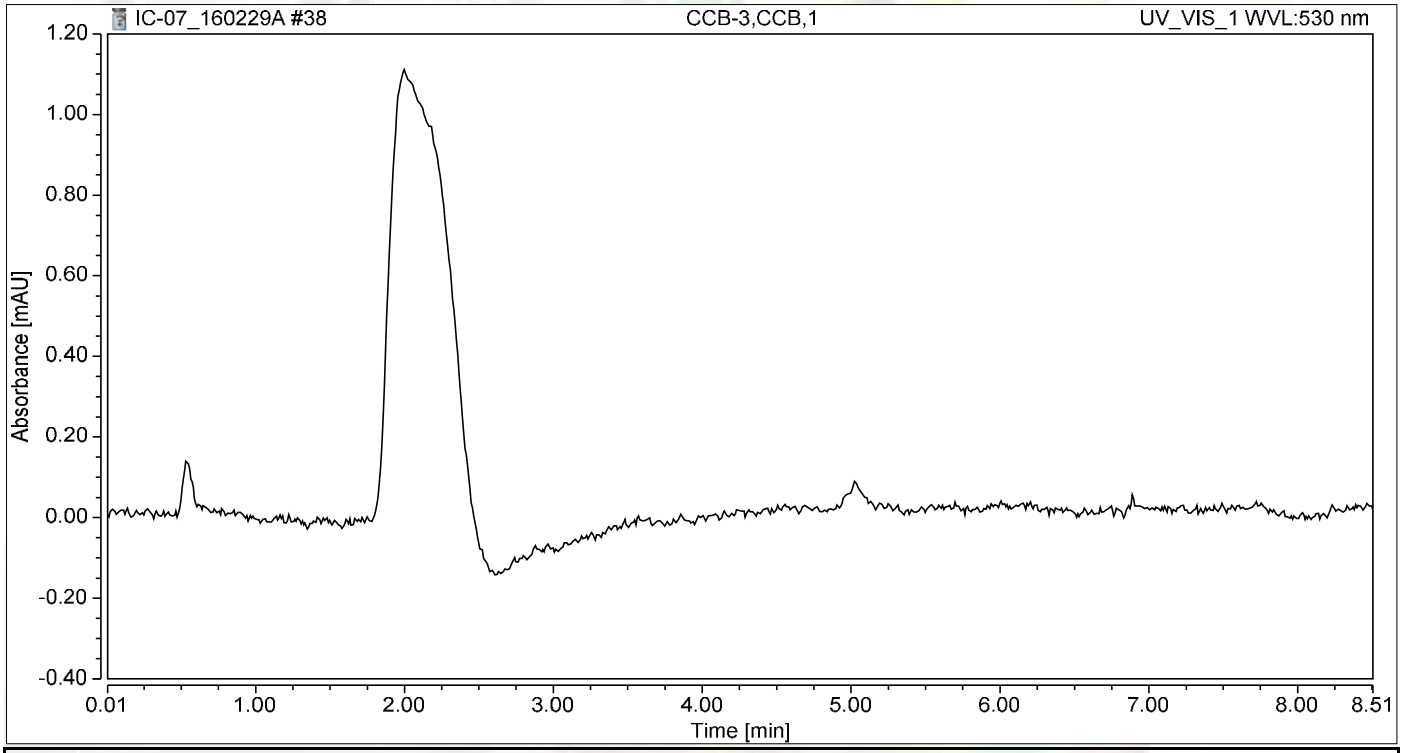
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.181	7.086	100.00	100.00	4.9896
Total:			**1.181**	**7.086**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

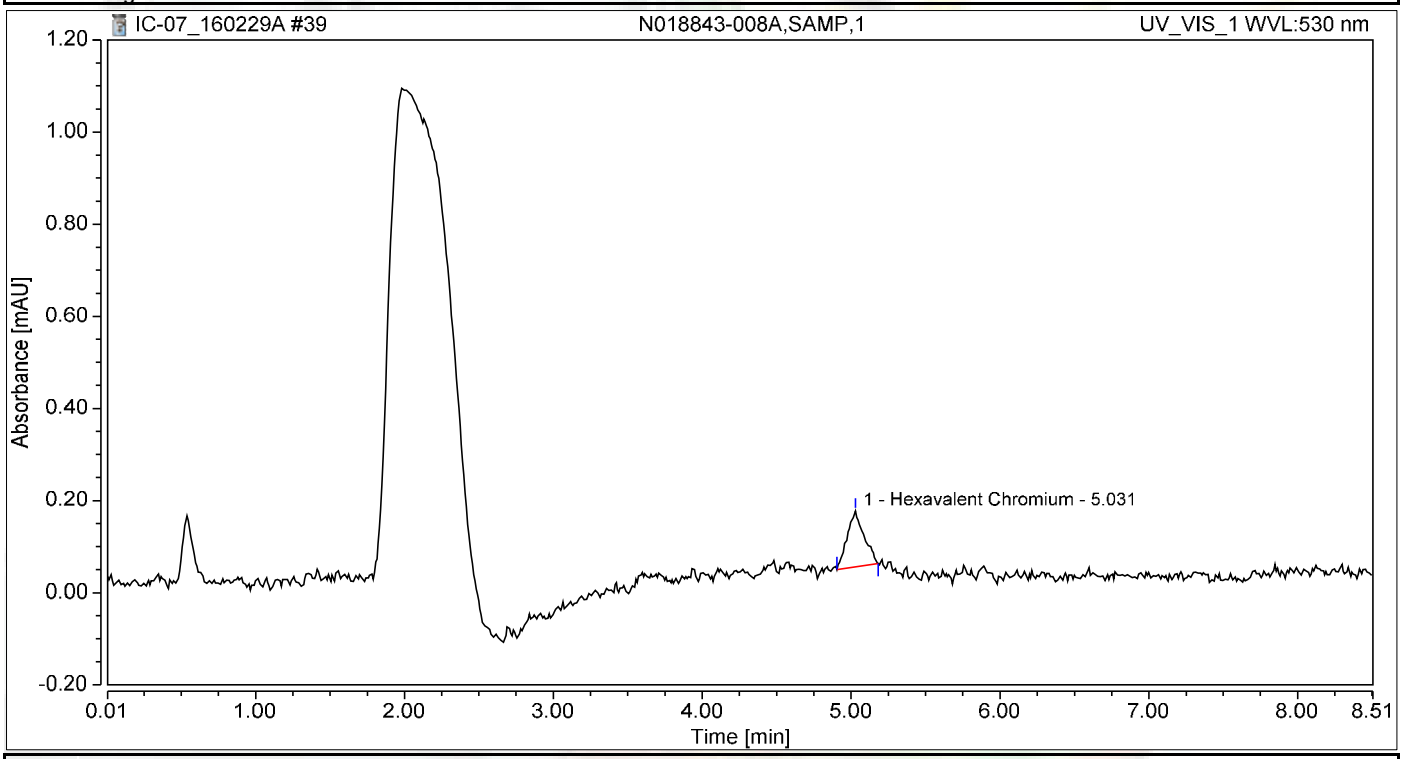
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

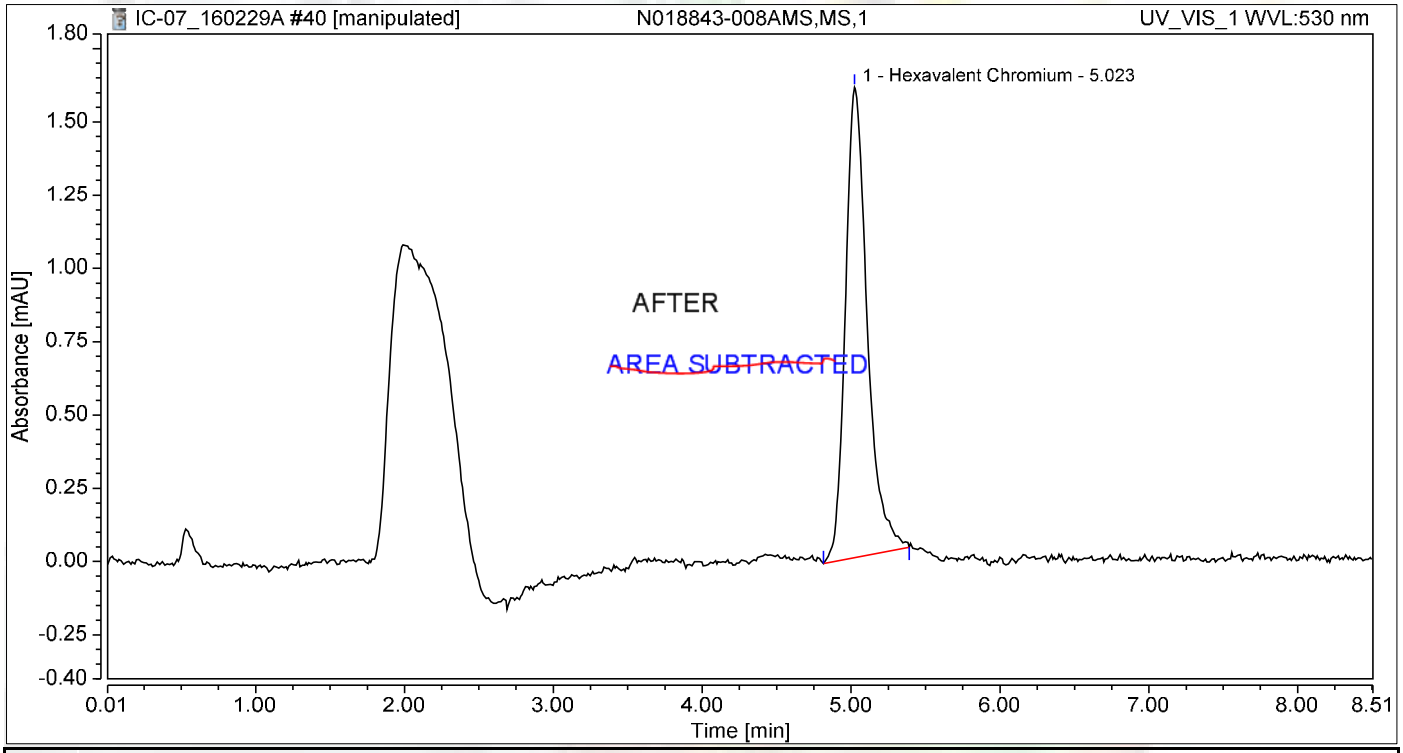
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.121	100.00	100.00	0.0666
Total:			**0.016**	**0.121**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.272	1.605	100.00	100.00	1.1494
Total:			**0.272**	**1.605**	**100.00**	**100.00**	

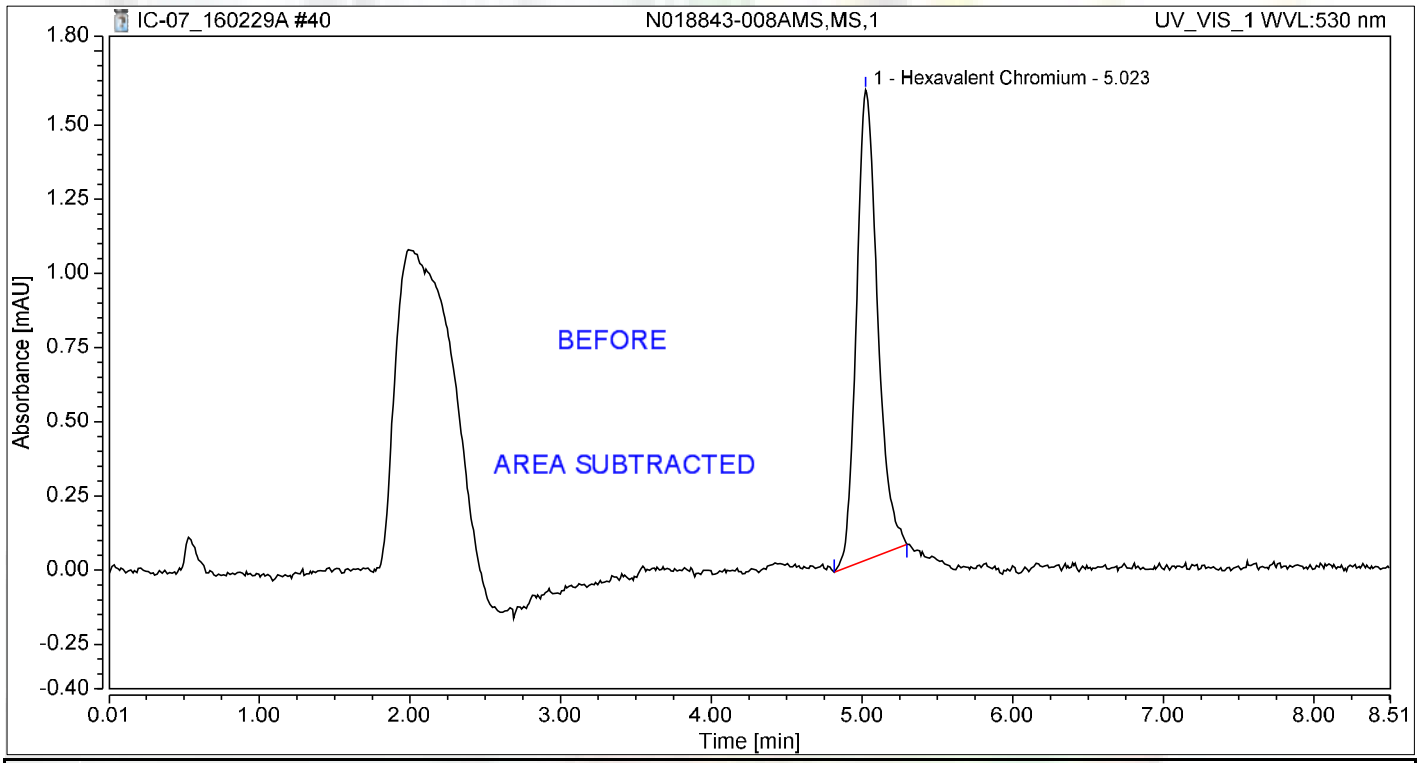
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

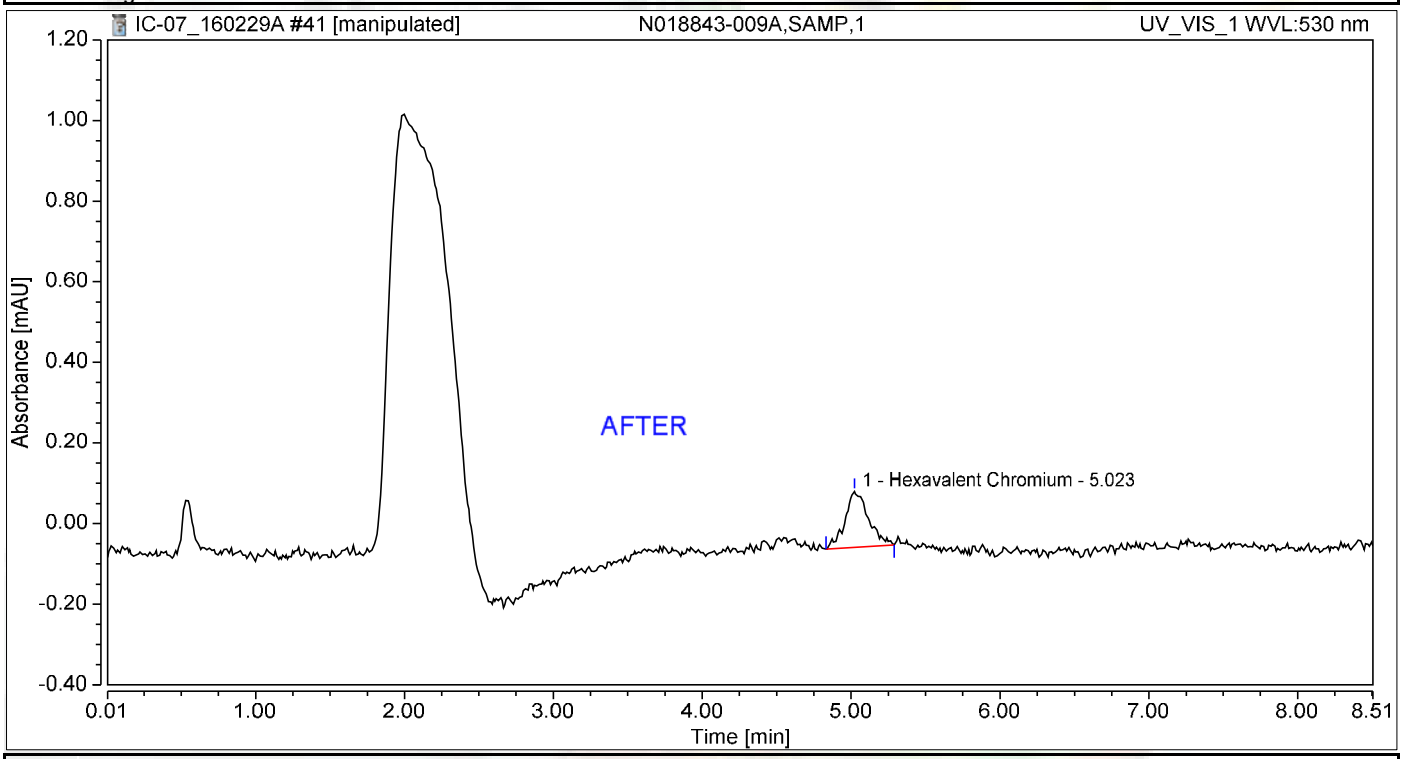
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.258	1.584	100.00	100.00	1.0901
Total:			**0.258**	**1.584**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.025	0.139	100.00	100.00	0.1076
Total:			**0.025**	**0.139**	**100.00**	**100.00**	

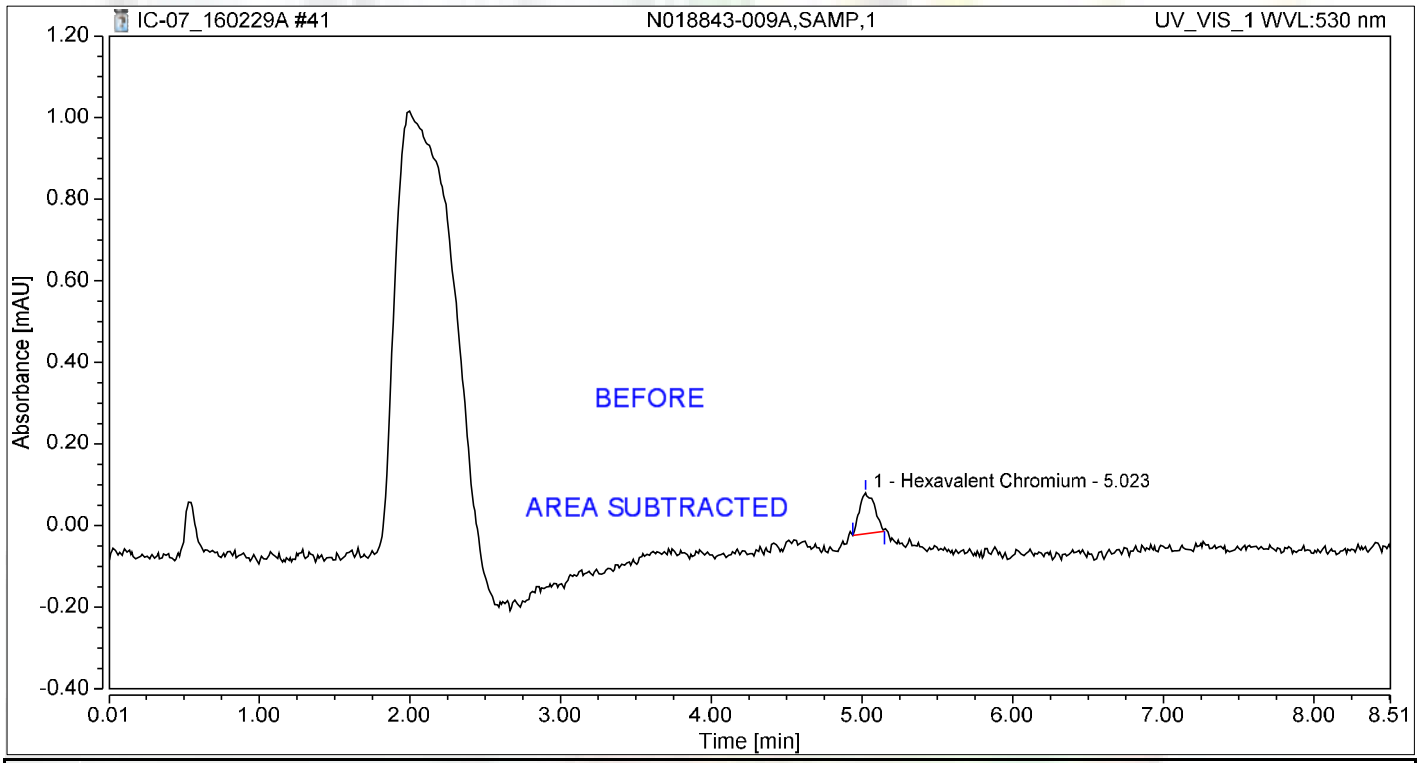
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

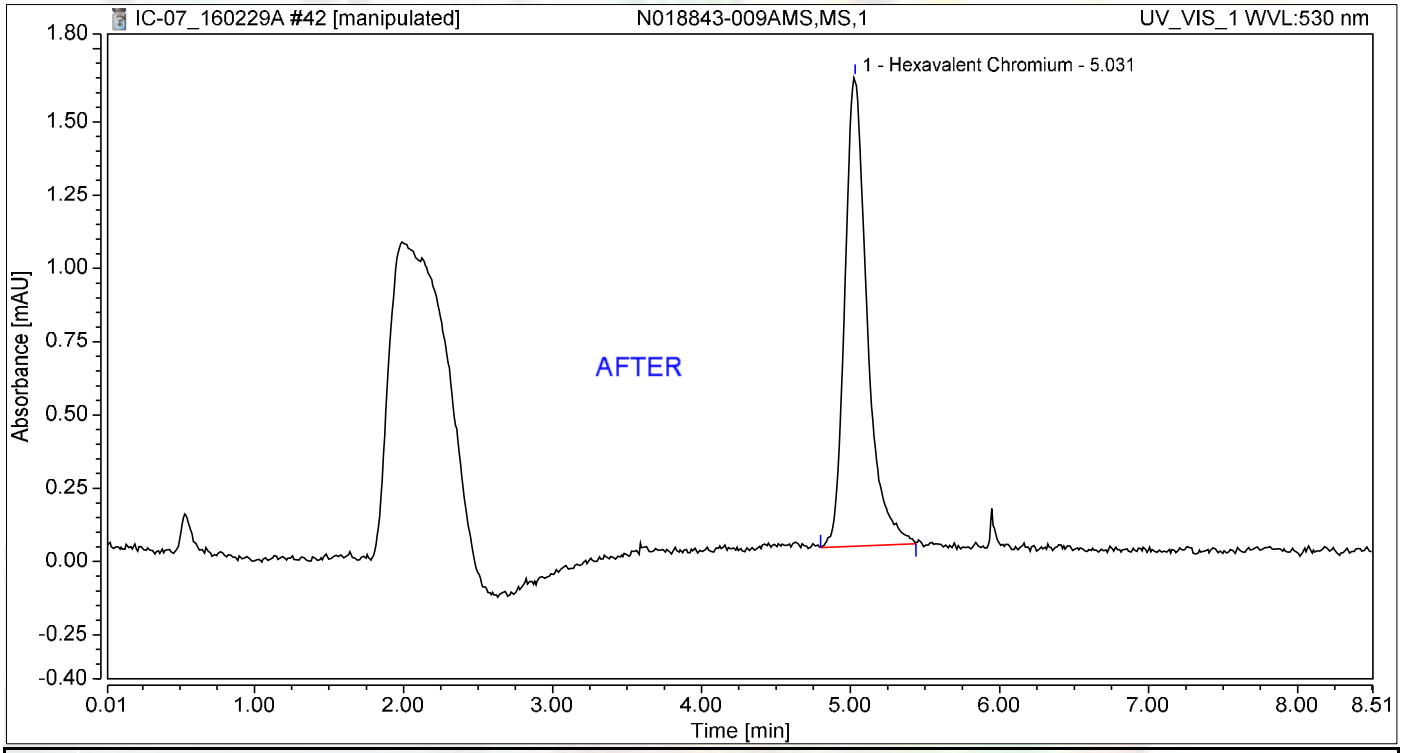
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.012	0.100	100.00	100.00	0.0497
Total:			**0.012**	**0.100**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.277	1.600	100.00	100.00	1.1710
Total:			**0.277**	**1.600**	**100.00**	**100.00**	

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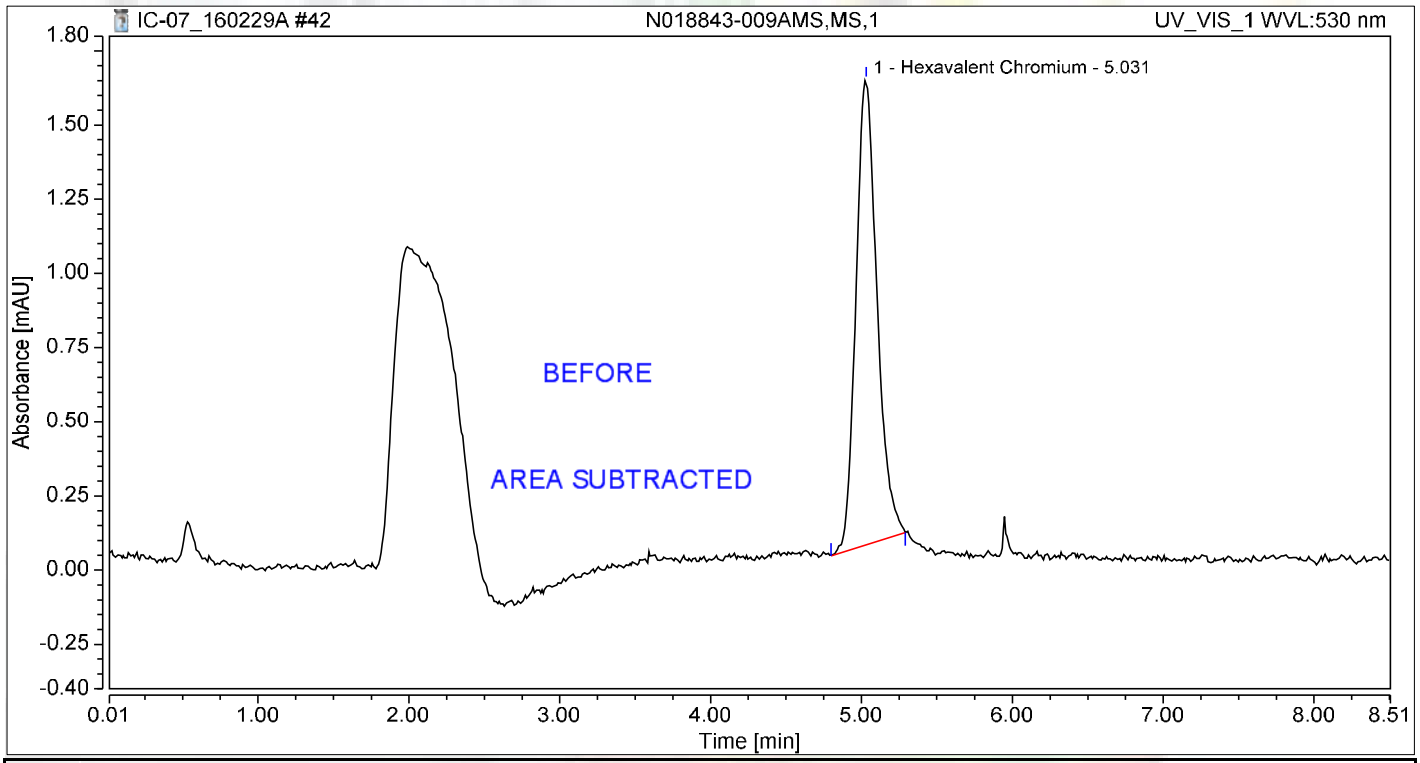
Chromatogram and Results

Injection Details

Injection Name:	**N018843-009AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

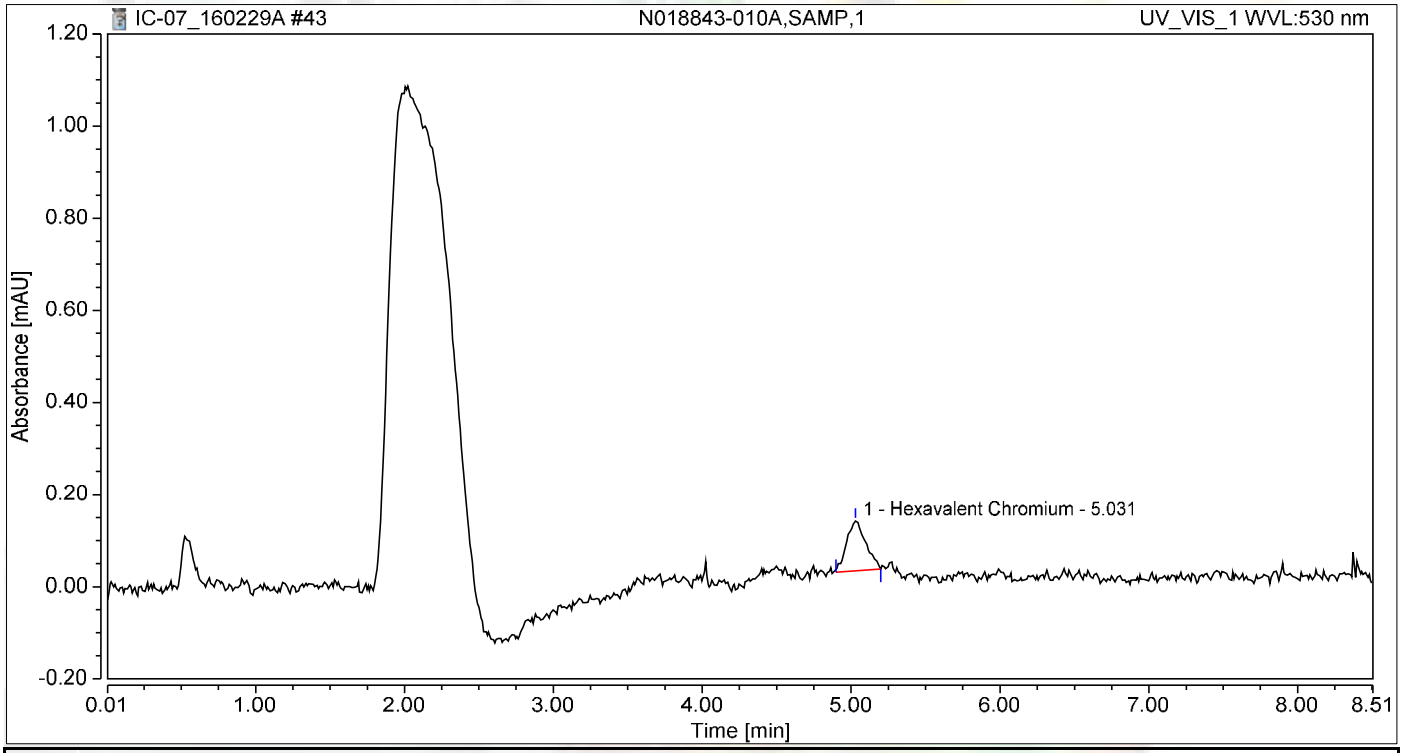
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.255	1.567	100.00	100.00	1.0769
Total:			**0.255**	**1.567**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

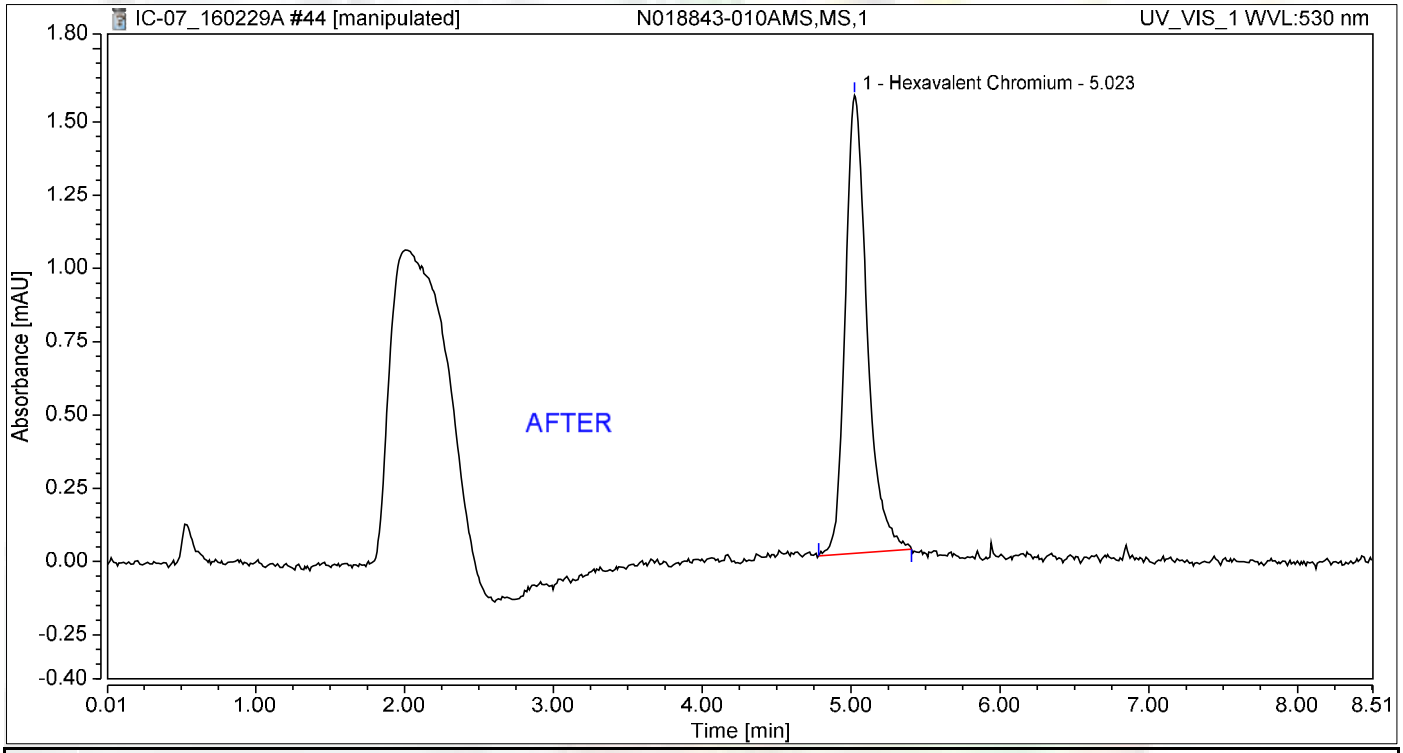
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.109	100.00	100.00	0.0682
Total:			**0.016**	**0.109**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.265	1.563	100.00	100.00	1.1194
Total:			**0.265**	**1.563**	**100.00**	**100.00**	

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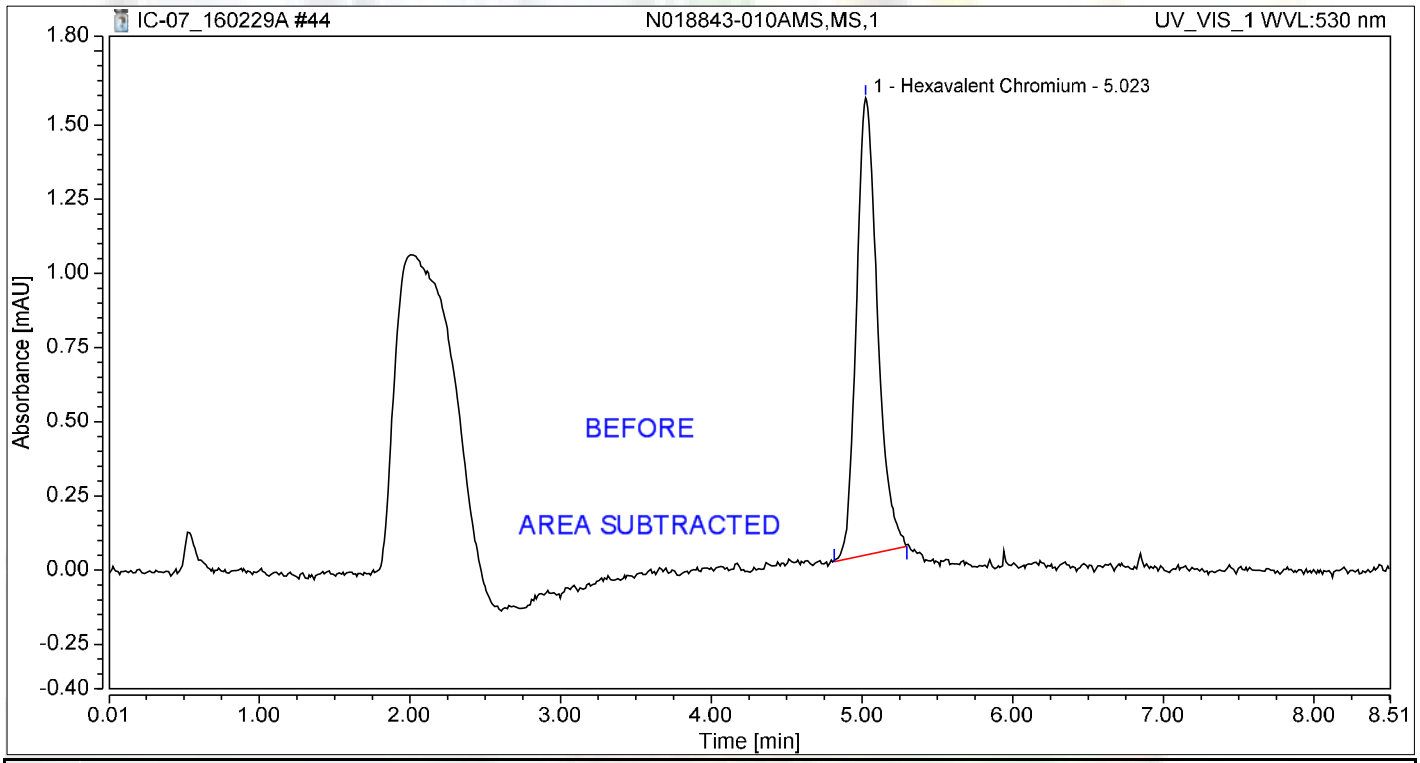
Chromatogram and Results

Injection Details

Injection Name:	**N018843-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

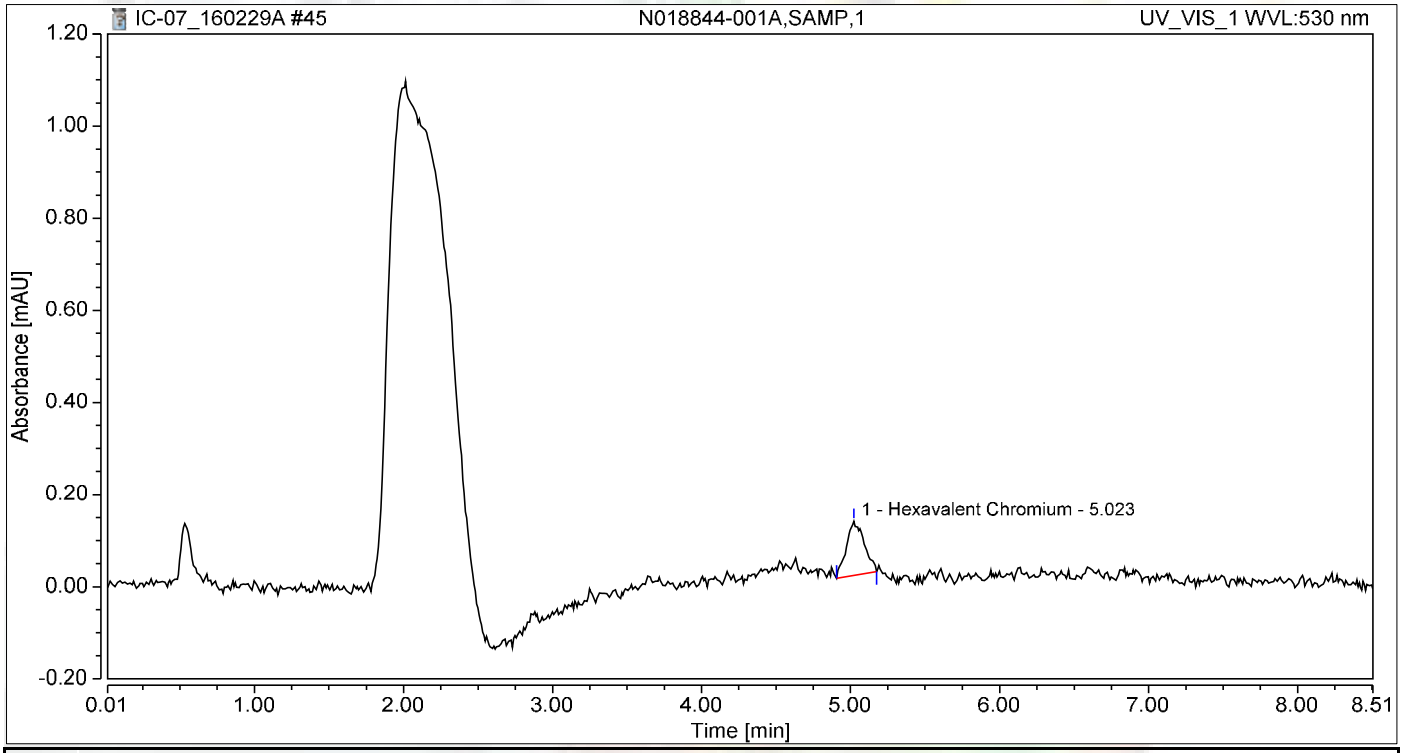
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.250	1.540	100.00	100.00	1.0552
Total:			**0.250**	**1.540**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

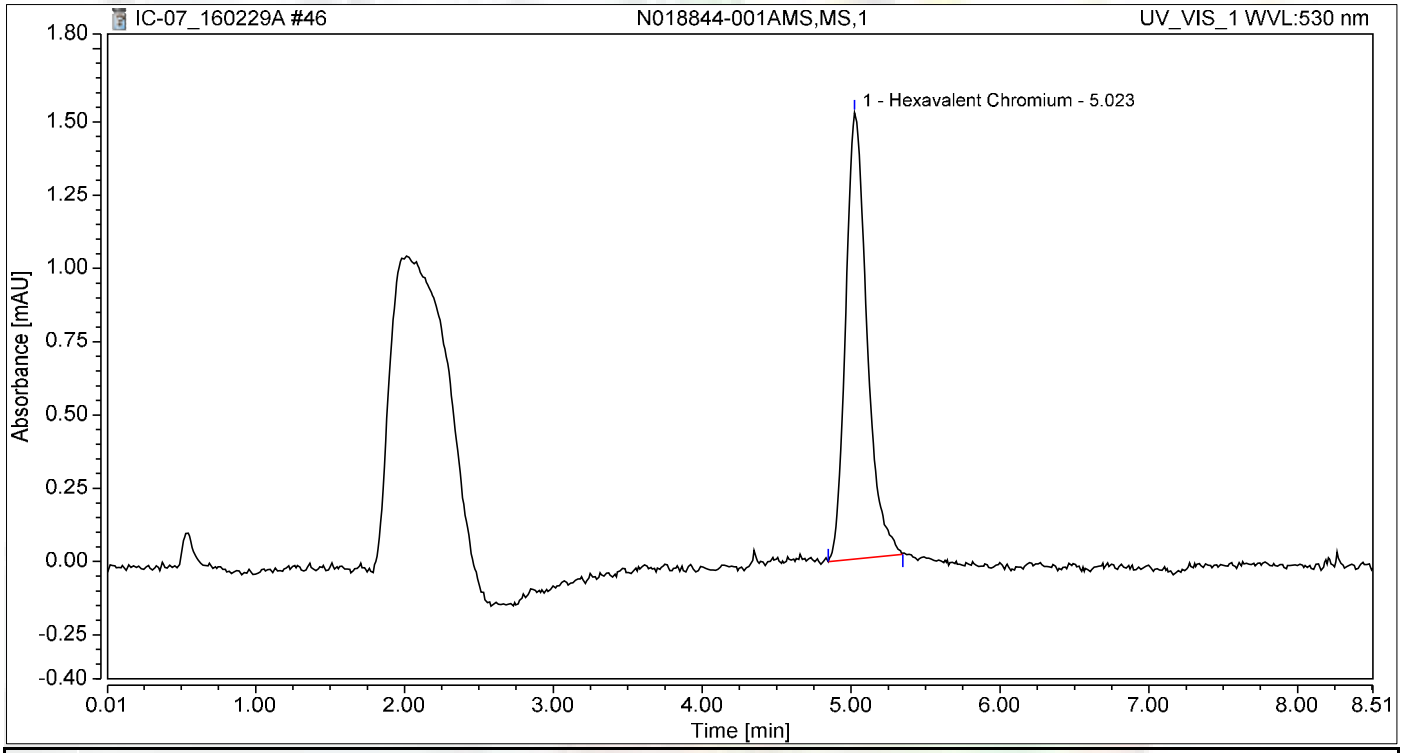
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.016	0.117	100.00	100.00	0.0675
Total:			**0.016**	**0.117**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

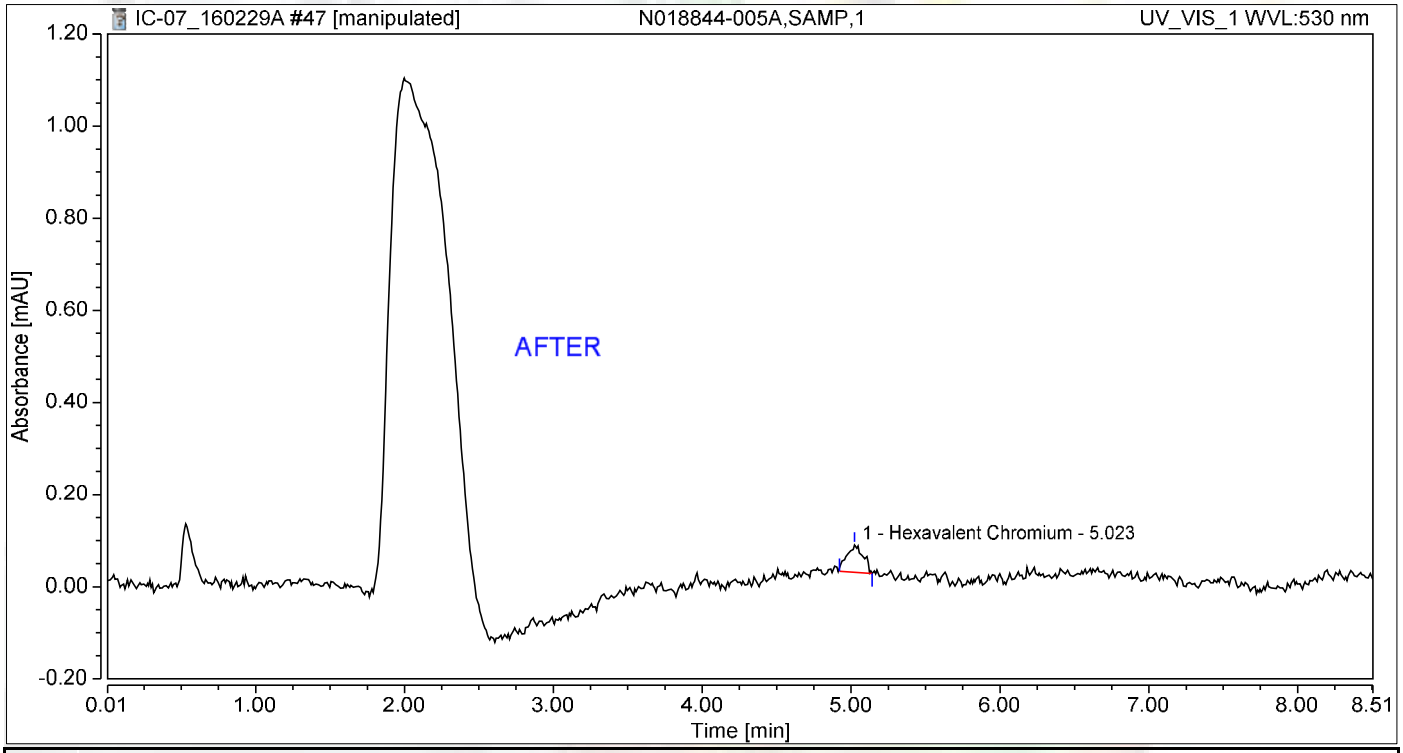
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.251	1.524	100.00	100.00	1.0623
Total:			**0.251**	**1.524**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.007	0.059	100.00	100.00	0.0312
Total:			**0.007**	**0.059**	**100.00**	**100.00**	

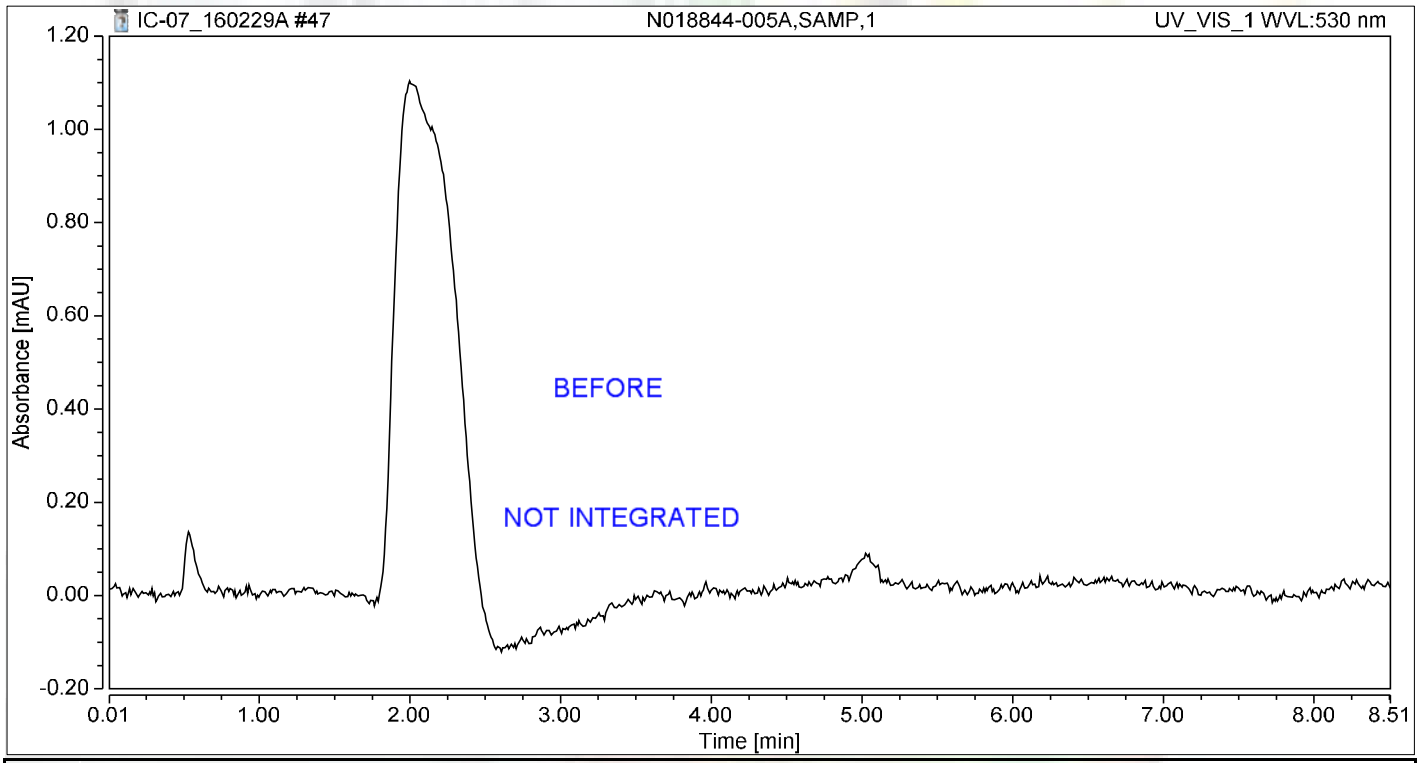
3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

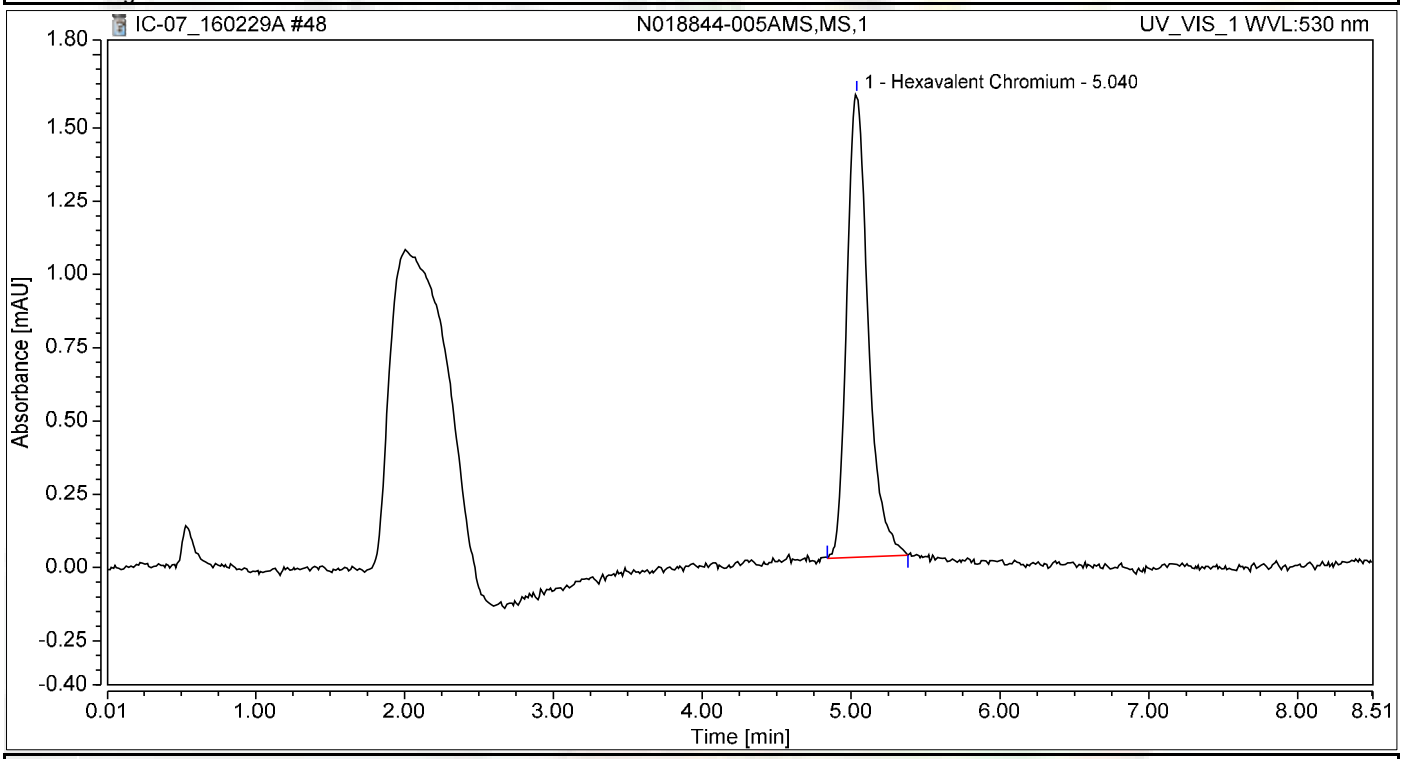
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

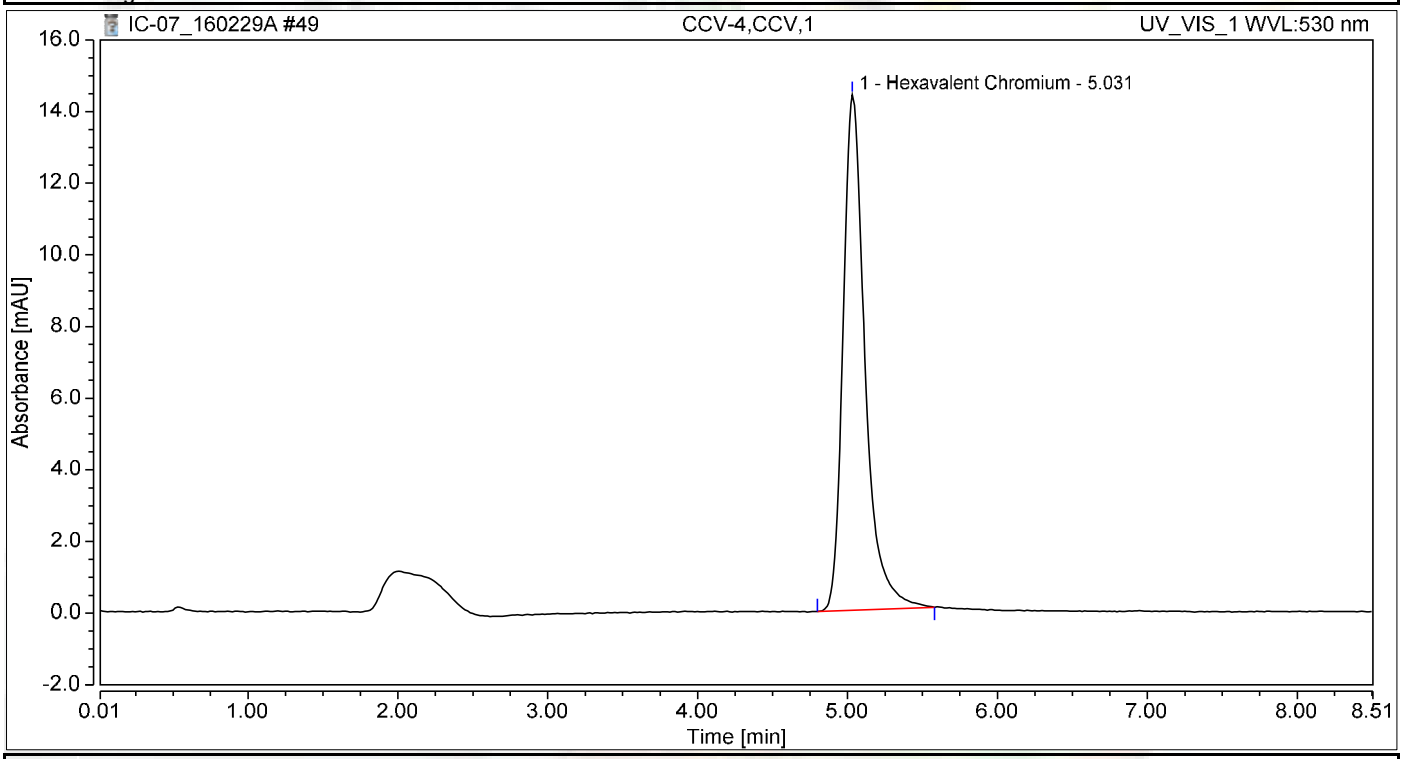
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.262	1.581	100.00	100.00	1.1073
Total:			**0.262**	**1.581**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

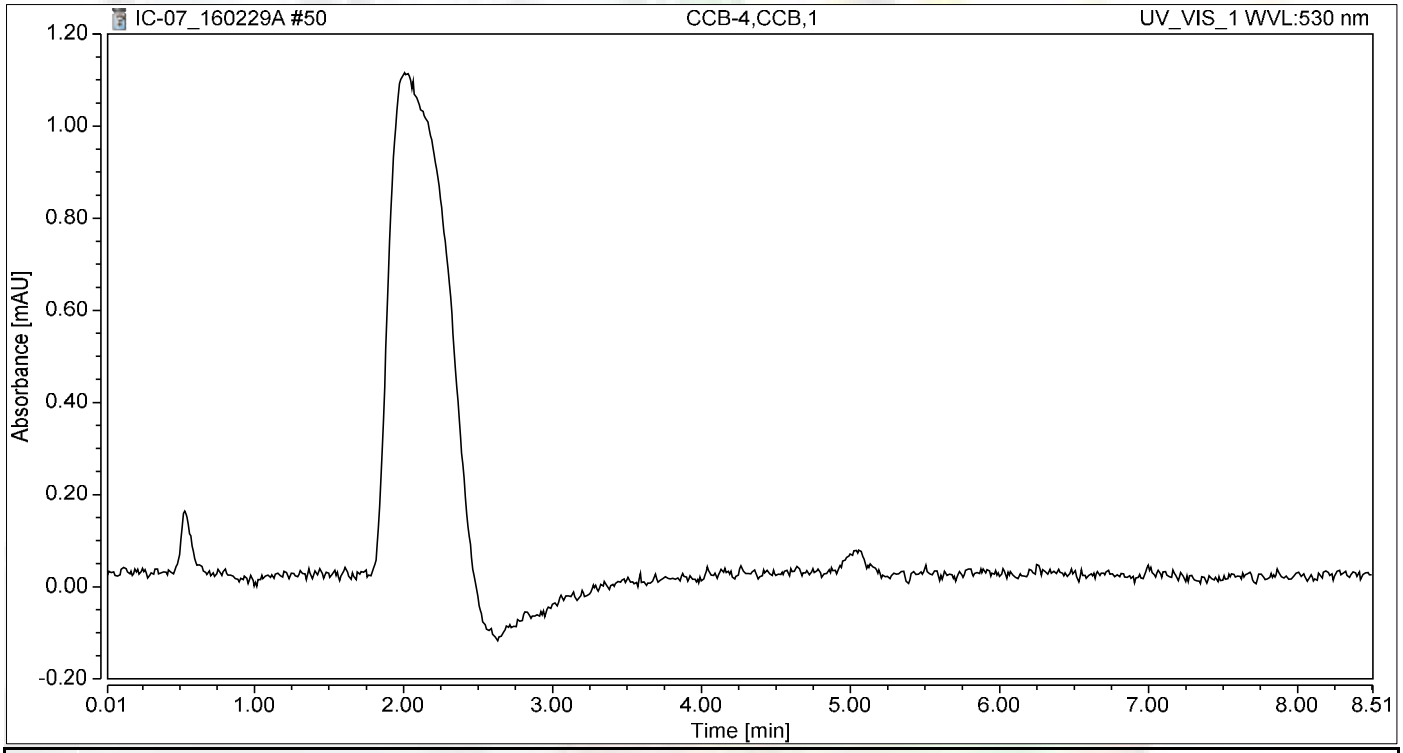
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.431	14.391	100.00	100.00	10.2704
Total:			**2.431**	**14.391**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106333 **Analyst:** REB

ASSET #: N018843 **Date Analyzed:** 3/7/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/10/2016 Date: —

2nd Level Reviewer Nancy 3/10/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018843-001E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.5604*1

= 0.5604 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 0.56

Reb 3/10/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

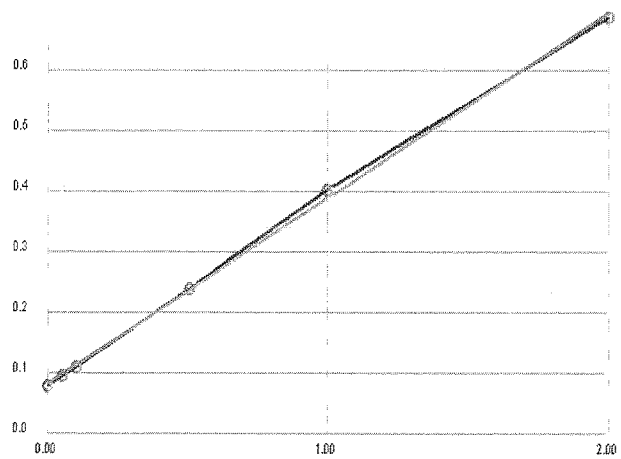
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3062x + 0.0814
Correlation	.999507



Calibrant	Energy	Set	Conc
1	0.0777	0.0000	-0.0122
2	0.0944	0.0500	0.0424
3	0.1086	0.1000	0.0888
4	0.2378	0.5000	0.5107
5	0.4012	1.0000	1.0444
6	0.6864	2.0000	1.9759

Notes:
R1 Buffer - R160217C
R2 Cadmium Rgt - R160217D
2% CuSO4 - R160217B
1° STD - 150206D
2° STD - 150730E

Reb 3/10/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ICV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.551	0.050	0.5000	0	110	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.516	0.050	0.5000	0	103	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.491	0.050	0.5000	0	98.2	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.483	0.050	0.5000	0	96.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ICB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-07-2016 18:42
Time end: 03-07-2016 21:34

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	20:54:20	-0.0011		0.0811
2	<BLANK>	20:55:19	-0.0037		0.0803
3	<CAL1>	20:56:14	-0.0122	[0]	0.0777
4	<CAL2>	20:57:16	0.0424	[0.05]	0.0944
5	<CAL3>	20:58:11	0.0888	[0.1]	0.1086
6	<CAL4>	20:59:11	0.5107	[0.5]	0.2378
7	<CAL5>	21:00:07	1.0444	[1]	0.4012
8	<CAL6>	21:01:02	1.9759	[2]	0.6864
9	,BLANK,BLANK,1,	21:02:04	0.0310		0.0909
10	,ICV,ICV,1,	21:02:58	0.5506		0.2500
11	,ICB,ICB,1,	21:03:53	-0.0056		0.0797
12	,MB-H2O,MBLK,1,	21:04:55	-0.0108		0.0781
13	,LCS-H2O,LCS,1,	21:05:49	0.5003		0.2346
14	,N018843-001E,SAMP,1,	21:06:50	0.5604		0.2530
15	,N018843-001EDUP,DUP,1,	21:07:46	0.5391		0.2465
16	,N018843-001EMS,MS,1,	21:08:42	1.0764		0.4110
17	,N018843-001EMSD,MSD,1,	21:09:42	1.0754		0.4107
18	,N018843-002E,SAMP,1,	21:10:37	0.5104		0.2377
19	,N018843-003E,SAMP,1,	21:11:33	0.5196		0.2405
20	,N018843-004E,SAMP,1,	21:12:33	0.5215		0.2411
21	,BLANK,BLANK,1	21:13:28	-0.0024		0.0807
22	,CCV-1,CCV,1,	21:14:30	0.5163		0.2395
23	,CCB-1,CCB,1,	21:15:25	-0.0066		0.0794
24	,N018843-005E,SAMP,1,	21:16:25	0.4761		0.2272
25	,N018843-006E,SAMP,1,	21:17:21	0.5196		0.2405
26	,N018843-007E,SAMP,1,	21:18:16	0.5186		0.2402

			EPA 353.2 NO3 as N ppm	Flags	OD
27	,N018843-008E,SAMP,1,	21:19:04	0.5039		0.2357
28	,N018843-009E,SAMP,1,	21:19:48	1.0640		0.4072
29	,N018843-010E,SAMP,1,	21:20:37	0.5173		0.2398
30	,N018845-001C,SAMP,1,	21:21:19	1.4520		0.5260
31	,N018845-002C,SAMP,1,	21:22:02	0.1012		0.1124
32	,N018845-003C,SAMP,20,	21:22:50	0.9807		0.3817
33	,BLANK,BLANK,1	21:23:34	0.0117		0.0850
34	,CCV-2,CCV,1,	21:24:22	0.4911		0.2318
35	,CCB-2,CCB,1,	21:25:05	-0.0184		0.0758
36	,N018845-004C,SAMP,10,	21:25:47	1.8919		0.6607
37	,N018845-005C,SAMP,50,	21:26:36	0.6224		0.2720
38	,N018845-006C,SAMP,20,	21:27:20	0.5705		0.2561
39	,N018845-007C,SAMP,5,	21:28:02	1.3635		0.4989
40	,N018845-008C,SAMP,1,	21:28:51	0.0087		0.0841
41	,N018845-009C,SAMP,1,	21:29:33	0.1629		0.1313
42	,N018845-010C,SAMP,1,	21:30:17	-0.0020		0.0808
43	,BLANK,BLANK,1	21:31:05	-0.0291		0.0725
44	,CCV-3,CCV,1,	21:31:48	0.4833		0.2294
45	,CCB-3,CCB,1,	21:32:31	-0.0233		0.0743

Reb 3/10/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/7/2016
Time Analyzed: 06:42 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018843-001E		8.77						
2)	N018843-002E		8.57						
3)	N018843-003E		7.48						
4)	N018843-004E		8.31						
5)	N018843-005E		8.43						
6)	N018843-006E		8.40						
7)	N018843-007E		8.70						
8)	N018843-008E		8.76						
9)	N018843-009E		7.90						
10)	N018843-010E		8.84						
11)	N018845-001C		8.04						
12)	N018845-002C		8.79						
13)	N018845-003C		8.52						
14)	N018845-004C		8.76						
15)	N018845-005C		8.84						
16)	N018845-006C		7.94						
17)	N018845-007C		8.47						
18)	N018845-008C		7.62						
19)	N018845-009C		7.86						
20)	N018845-010C		8.56						
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/10/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56471 **Instrument ID:** ICP-02
ASSET #: N018843 **Analyst:** CEI
Method: **Date Analyzed:** 3/3/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018843-001B to 008B only.
% Rec of Mg in ICSA3 failed, low bias. However Mg in not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date:
2nd Level Reviewer 3/11/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56545 **Instrument ID:** ICP-02
ASSET #: N018843 **Analyst:** CEI
Method: **Date Analyzed:** 3/8/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018843-009B & 010B only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date:
2nd Level Reviewer 3/11/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56545 **Instrument ID:** ICP-02
ASSET #: N018843 **Analyst:** CEI
Method: **Date Analyzed:** 3/10/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits			X			
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018843-010B rerun only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date:
2nd Level Reviewer 3/11/2016 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018843-009B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.~~01850~~ 0.00575 * 1 * (25/25) * 1000

Iron , ug/L = ~~18.50~~ 5.8

Reporting results in two significant figures,

Iron , ug/L = ~~19~~ 6

Since PQL of Iron , in ug/L = ~~20~~

Iron , ug/L = ND

Nancy 3/11/2016
for

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
MB-56471	MBLK	1	Fe	0.0077	8.0096	15	PASS
LCS-56471	LCS	1	Fe	0.11	0.38	15	PASS
N018833-001B	SAMP	1	Fe	0.012	4.028	15	PASS
N018833-001B	SAMP	5	Fe	0.0031	15.32	15	<PQL
N018833-001B-PS	PS	1	Fe	0.11	0.7	15	PASS
N018833-001B-MS	MS	1	Fe	0.11	0.48	15	PASS
N018833-001B-MSD	MSD	1	Fe	0.11	0.79	15	PASS
N018833-002B	SAMP	1	Fe	0.031	0.8	15	PASS
N018833-003B	SAMP	1	Fe	0.42	0.55	15	PASS
N018833-004B	SAMP	1	Fe	0.035	1.42	15	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
N018833-005B	SAMP	1	Fe	0.0064	1.66	15	PASS
N018833-006B	SAMP	1	Fe	0.014	4.64	15	PASS
N018833-007B	SAMP	1	Fe	0.029	0.85	15	PASS
N018833-008B	SAMP	1	Fe	0.0081	2.29	15	PASS
N018833-009B	SAMP	1	Fe	0.0057	12.76	15	PASS
N018833-010B	SAMP	1	Fe	0.0063	1.71	15	PASS
N018834-001B	SAMP	1	Fe	0.0057	11.8	15	PASS
N018834-001B-MS	MS	1	Fe	0.11	0.37	15	PASS
N018834-004B	SAMP	1	Fe	0.0069	1.42	15	PASS
N018843-001B	SAMP	1	Fe	0.0089	2.82	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
N018843-002B	SAMP	1	Fe	0.0059	2.069	15	PASS
N018843-003B	SAMP	1	Fe	0.0085	6.87	15	PASS
N018843-004B	SAMP	1	Fe	0.015	2.25	15	PASS
N018843-005B	SAMP	1	Fe	0.0061	4.29	15	PASS
N018843-006B	SAMP	1	Fe	0.013	5.042	15	PASS
N018843-007B	SAMP	1	Fe	0.005	2.32	15	PASS
N018843-008B	SAMP	1	Fe	0.0052	10.24	15	PASS
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV2	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

RSD SUMMARY: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	5.38	15	PASS
Standard1	ICAL	1	Fe	0.02	3.52	15	PASS
Standard2	ICAL	1	Fe	0.05	0.46	15	PASS
Standard3	ICAL	1	Fe	2	0.4	15	PASS
Standard4	ICAL	1	Fe	5	0.4	15	PASS
Standard5	ICAL	1	Fe	7.5	0.12	15	PASS
Standard6	ICAL	1	Fe	10	0.1	15	PASS
Standard7	ICAL	1	Fe	20	0.094	15	PASS
ICV	ICV	1	Fe	10.013	0.051	15	PASS
ICB	ICB	1	Fe	0.001	50.32	15	<PQL
LLCCV1	CCV1	1	Fe	0.023	5.15	20	PASS
ICSA1	ICSA	1	Fe	208.61	0.28	15	PASS
ICSAB1	ICSAB	1	Fe	187.55	0.57	15	PASS
MB-56545	MBLK	1	Fe	0.0068	21.78	15	<PQL
LCS1-56545	LCS	1	Fe	0.11	0.7	15	PASS
N018843-009B	SAMP	1	Fe	0.0058	27.73	15	<PQL
N018843-010B	SAMP	1	Fe	-1.009	174.43	15	<PQL
N018844-001B	SAMP	1	Fe	0.017	4.57	15	PASS
N018936-001A	SAMP	1	Fe	-0.074	181.68	15	<PQL
N018936-002B	SAMP	1	Fe	0.0021	125.57	15	<PQL
N018843-010B	SAMP	5	Fe	0.0024	55.51	15	<PQL
N018843-010B-PS	PS	1	Fe	0.11	0.46	15	PASS
N018843-010B-MS1	MS	1	Fe	0.11	0.45	15	PASS
CCV1	CCV	1	Fe	10.15	0.057	15	PASS
CCB1	CCB	1	Fe	0.0016	111.97	15	<PQL
N018843-010B-MSD1	MSD	1	Fe	0.12	0.45	15	PASS
N018936-001A	SAMP	1	Fe	0.0022	32.64	15	<PQL
CCV2	CCV	1	Fe	10.15	0.015	15	PASS
CCB2	CCB	1	Fe	0.00019	197.95	15	<PQL
LLCCV2	CCV2	1	Fe	0.025	10.24	20	PASS
ICSA2	ICSA	1	Fe	6429	167.62	15	NR!
ICSAB2	ICSAB	1	Fe	186.34	0.66	15	PASS
ICSA2	ICSA	1	Fe	207.36	0.22	15	PASS
ICSAB2	ICSAB	1	Fe	187.48	0.24	15	PASS

RSD SUMMARY: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	13.85	15	PASS
Standard1	ICAL	1	Fe	0.02	1.77	15	PASS
Standard2	ICAL	1	Fe	0.05	0.96	15	PASS
Standard3	ICAL	1	Fe	2	0.46	15	PASS
Standard4	ICAL	1	Fe	5	0.18	15	PASS
Standard5	ICAL	1	Fe	7.5	0.012	15	PASS
Standard6	ICAL	1	Fe	10	0.067	15	PASS
Standard7	ICAL	1	Fe	20	0.087	15	PASS
ICV	ICV	1	Fe	10.019	0.23	15	PASS
ICB	ICB	1	Fe	-0.0035	17.95	15	<PQL
LLCCV1	CCV1	1	Fe	0.019	4.21	20	PASS
ICSA1	ICSA	1	Fe	215.3	0.16	15	PASS
ICSAB1	ICSAB	1	Fe	186.78	0.086	15	PASS
N018843-010B	SAMP	1	Fe	0.0086	18.43	15	<PQL
CCV1	CCV	1	Fe	10.011	0.11	15	PASS
CCB1	CCB	1	Fe	-0.0039	8.61	15	PASS
LLCCV2	CCV2	1	Fe	0.019	2.063	20	PASS
ICSA2	ICSA	1	Fe	215.41	0.023	15	PASS
ICSAB2	ICSAB	1	Fe	188.59	1.25	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

INJECTION LOG: 160308A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/08/2016	01:54:36 PM
2	Standard1	ICAL	1	03/08/2016	01:58:55 PM
3	Standard2	ICAL	1	03/08/2016	02:03:43 PM
4	Standard3	ICAL	1	03/08/2016	02:08:33 PM
5	Standard4	ICAL	1	03/08/2016	02:13:42 PM
6	Standard5	ICAL	1	03/08/2016	02:18:35 PM
7	Standard6	ICAL	1	03/08/2016	02:22:57 PM
8	Standard7	ICAL	1	03/08/2016	02:27:20 PM
9	ICV	ICV	1	03/08/2016	02:34:25 PM
1	ICB	ICB	1	03/08/2016	02:38:49 PM
2	LLCCV1	CCV1	1	03/08/2016	02:43:08 PM
10	ICSA1	ICSA	1	03/08/2016	02:47:56 PM
11	ICSAB1	ICSAB	1	03/08/2016	02:53:57 PM
62	MB-56545	MBLK	1	03/08/2016	02:59:29 PM
63	LCS1-56545	LCS	1	03/08/2016	03:03:49 PM
64	N018843-009B	SAMP	1	03/08/2016	03:08:39 PM
65	N018843-010B	SAMP	1	03/08/2016	03:13:31 PM
66	N018844-001B	SAMP	1	03/08/2016	03:18:22 PM
67	N018936-001A	SAMP	1	03/08/2016	03:23:13 PM
68	N018936-002B	SAMP	1	03/08/2016	03:28:05 PM
69	N018843-010B	SAMP	5	03/08/2016	03:33:57 PM
70	N018843-010B-PS	PS	1	03/08/2016	03:38:48 PM
71	N018843-010B-MS1	MS	1	03/08/2016	03:43:39 PM
7	CCV1	CCV	1	03/08/2016	03:48:30 PM
1	CCB1	CCB	1	03/08/2016	03:53:53 PM
72	N018843-010B-MSD1	MSD	1	03/08/2016	03:58:12 PM
67	N018936-001A	SAMP	1	03/08/2016	04:03:03 PM
7	CCV2	CCV	1	03/08/2016	04:08:55 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB2	CCB	1	03/08/2016	04:14:18 PM
2	LLCCV2	CCV2	1	03/08/2016	04:18:36 PM
10	ICSA2	ICSA	1	03/08/2016	04:23:25 PM
11	ICSAB2	ICSAB	1	03/08/2016	04:29:29 PM
10	ICSA2	ICSA	1	03/08/2016	04:34:12 PM
11	ICSAB2	ICSAB	1	03/08/2016	04:40:16 PM

INJECTION LOG: 160310A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/10/2016	10:51:48 AM
2	Standard1	ICAL	1	03/10/2016	10:56:42 AM
3	Standard2	ICAL	1	03/10/2016	11:01:30 AM
4	Standard3	ICAL	1	03/10/2016	11:06:19 AM
5	Standard4	ICAL	1	03/10/2016	11:11:11 AM
6	Standard5	ICAL	1	03/10/2016	11:16:04 AM
7	Standard6	ICAL	1	03/10/2016	11:20:26 AM
8	Standard7	ICAL	1	03/10/2016	11:24:49 AM
9	ICV	ICV	1	03/10/2016	11:35:46 AM
1	ICB	ICB	1	03/10/2016	11:41:10 AM
2	LLCCV1	CCV1	1	03/10/2016	11:45:59 AM
4	ICSA1	ICSA	1	03/10/2016	11:50:48 AM
5	ICSAB1	ICSAB	1	03/10/2016	11:56:51 AM
38	N018843-010B	SAMP	1	03/10/2016	12:22:59 PM
7	CCV1	CCV	1	03/10/2016	12:27:50 PM
1	CCB1	CCB	1	03/10/2016	12:32:14 PM
2	LLCCV2	CCV2	1	03/10/2016	12:36:32 PM
4	ICSA2	ICSA	1	03/10/2016	12:41:21 PM
5	ICSAB2	ICSAB	1	03/10/2016	12:47:25 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:49:11 A**
Prep End Date: **3/2/2016 1:05:00 P**

Initials/ Date: For: 3/11/2016

Prep Batch **56471** Prep Code: **3010_W_DISS** Technician **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56471	Aqueous		25	☐	0	0	25	1.000		
MB-56471	Aqueous		25	☐	0	0	25	1.000		
N018833-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:49:11 A**
Prep End Date: **3/2/2016 1:05:00 P**

Initials/ Date: For: 3/11/2016

Prep Batch **56471** Prep Code: **3010_W_DISS** Technician **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/8/2016 8:19:19 A**
Prep End Date: **3/8/2016 12:30:00 P**

Initials/ Date: For: 3/11/2016

Prep Batch **56545** Prep Code: **200.7_PR** Technician: **ADMIN**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-56545	Aqueous		25	☐	0	0	25	1.000		
LCS2-56545	Aqueous		25	☐	0	0	25	1.000		
MB-56545	Aqueous		25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-002B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8296	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/08/2016	01:54:36 PM	Fe	273.953	-219	0.00	mg/L	
Standard1	03/08/2016	01:58:55 PM	Fe	273.953	724	0.0200	mg/L	
Standard2	03/08/2016	02:03:43 PM	Fe	273.953	1838	0.050	mg/L	
Standard3	03/08/2016	02:08:33 PM	Fe	273.953	66371	2.000	mg/L	
Standard4	03/08/2016	02:13:42 PM	Fe	273.953	166623	5.000	mg/L	
Standard5	03/08/2016	02:18:35 PM	Fe	273.953	242004	7.500	mg/L	
Standard6	03/08/2016	02:22:57 PM	Fe	273.953	323449	10.000	mg/L	
Standard7	03/08/2016	02:27:20 PM	Fe	273.953	640779	20.000	mg/L	1.0000

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160310A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/10/2016	10:51:48 AM	Fe	273.953	-43	0.00	mg/L	
Standard1	03/10/2016	10:56:42 AM	Fe	273.953	646	0.0200	mg/L	
Standard2	03/10/2016	11:01:30 AM	Fe	273.953	1728	0.050	mg/L	
Standard3	03/10/2016	11:06:19 AM	Fe	273.953	65870	2.000	mg/L	
Standard4	03/10/2016	11:11:11 AM	Fe	273.953	168486	5.000	mg/L	
Standard5	03/10/2016	11:16:04 AM	Fe	273.953	241656	7.500	mg/L	
Standard6	03/10/2016	11:20:26 AM	Fe	273.953	328730	10.000	mg/L	
Standard7	03/10/2016	11:24:49 AM	Fe	273.953	656893	20.000	mg/L	1.0000

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV7** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID **CCV8** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID **CCV9** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCV** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID **LLCCV4** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ZZZZZZ** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICV	SampType:	ICV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	ICV	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255371

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10012.857	20	10000	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV1	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	ZZZZZZ	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255373

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	23.021	20	20.00	0	115	80	120				

Sample ID	CCV1	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	CCV	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255386

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10153.157	20	10000	0	102	90	110				

Sample ID	CCV2	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	CCV	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255390

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10153.626	20	10000	0	102	90	110				

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	ZZZZZZ	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255392

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	24.527	20	20.00	0	123	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICV** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10018.762	20	10000	0	100	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ZZZZZZ** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262025**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	18.981	20	20.00	0	94.9	80	120				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **CCV** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10010.901	20	10000	0	100	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ZZZZZZ** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.158	20	20.00	0	95.8	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCB5** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID **CCB6** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID **CCB7** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID **CCB8** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID **CCB9** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **CCB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.032	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **CCB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.588	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **CCB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.192	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICB	SampType:	ICB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106355
Client ID:	ICB	Batch ID:	R106355	TestNo:	EPA 6010B			Analysis Date:	3/10/2016	SeqNo:	2262024

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-3.534463	20									

Sample ID	CCB2	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106355
Client ID:	CCB	Batch ID:	R106355	TestNo:	EPA 6010B			Analysis Date:	3/10/2016	SeqNo:	2262030

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-3.898401	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte for samples N018843.

Nancy 3/11/2016

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSA** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106233**
Client ID: **ICSAB** Batch ID: **R106233** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSA** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	549585.991	50	500000	0	110	80	120				
Calcium	546260.215	500	500000	0	109	80	120				
Iron	208606.778	20	200000	0	104	80	120				
Magnesium	509001.048	100	500000	0	102	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSAB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	570410.764	50	500000	0	114	80	120				
Calcium	565942.868	500	500000	0	113	80	120				
Iron	187545.573	20	200000	0	93.8	80	120				
Magnesium	528393.065	100	500000	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSA** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533094.075	50	500000	0	107	80	120				
Calcium	546931.225	500	500000	0	109	80	120				
Iron	207359.902	20	200000	0	104	80	120				
Magnesium	507614.918	100	500000	0	102	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSAB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	570780.328	50	500000	0	114	80	120				
Calcium	566393.447	500	500000	0	113	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	ICSAB	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187475.920	20	200000	0	93.7	80	120				
Magnesium	531198.392	100	500000	0	106	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSA** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	550762.772	50	500000	0	110	80	120				
Calcium	562746.914	500	500000	0	113	80	120				
Iron	215298.413	20	200000	0	108	80	120				
Magnesium	521638.964	100	500000	0	104	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	563220.621	50	500000	0	113	80	120				
Calcium	559124.311	500	500000	0	112	80	120				
Iron	186776.894	20	200000	0	93.4	80	120				
Magnesium	520492.827	100	500000	0	104	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSA** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	550140.768	50	500000	0	110	80	120				
Calcium	562777.017	500	500000	0	113	80	120				
Iron	215413.602	20	200000	0	108	80	120				
Magnesium	523741.668	100	500000	0	105	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	563145.329	50	500000	0	113	80	120				
Calcium	558624.476	500	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106355
Client ID:	ICSAB	Batch ID:	R106355	TestNo:	EPA 6010B			Analysis Date:	3/10/2016	SeqNo:	2262033

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	188587.781	20	200000	0	94.3	80	120				
Magnesium	527340.210	100	500000	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
MB-56471	MBLK	1	1.048	104.83	65-125	PASS
LCS-56471	LCS	1	1.015	101.48	65-125	PASS
N018833-001B	SAMP	1	0.98	97.63	65-125	PASS
N018833-001B	SAMP	5	1.0043	100.43	65-125	PASS
N018833-001B-PS	PS	1	0.98	98.009	65-125	PASS
N018833-001B-MS	MS	1	0.97	97.25	65-125	PASS
N018833-001B-MSD	MSD	1	0.97	97.35	65-125	PASS
N018833-002B	SAMP	1	0.99	99.42	65-125	PASS
N018833-003B	SAMP	1	0.98	98.2	65-125	PASS
N018833-004B	SAMP	1	0.99	98.51	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
N018833-005B	SAMP	1	1.028	102.84	65-125	PASS
N018833-006B	SAMP	1	1.0034	100.34	65-125	PASS
N018833-007B	SAMP	1	0.99	99.34	65-125	PASS
N018833-008B	SAMP	1	0.99	99.26	65-125	PASS
N018833-009B	SAMP	1	0.97	97.39	65-125	PASS
N018833-010B	SAMP	1	0.98	98.022	65-125	PASS
N018834-001B	SAMP	1	0.99	99.21	65-125	PASS
N018834-001B-MS	MS	1	0.99	98.72	65-125	PASS
N018834-004B	SAMP	1	1.0026	100.26	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018843-001B	SAMP	1	0.99	99.16	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
N018843-002B	SAMP	1	0.98	97.72	65-125	PASS
N018843-003B	SAMP	1	0.97	96.85	65-125	PASS
N018843-004B	SAMP	1	0.99	99.23	65-125	PASS
N018843-005B	SAMP	1	0.99	99.23	65-125	PASS
N018843-006B	SAMP	1	0.98	98.14	65-125	PASS
N018843-007B	SAMP	1	0.98	98.23	65-125	PASS
N018843-008B	SAMP	1	1	99.52	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV2	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

INTERNAL STANDARD: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	0.99	99.34	65-125	PASS
Standard2	ICAL	1	1.014	101.35	65-125	PASS
Standard3	ICAL	1	1.033	103.34	65-125	PASS
Standard4	ICAL	1	1.013	101.28	65-125	PASS
Standard5	ICAL	1	1.0054	100.54	65-125	PASS
Standard6	ICAL	1	0.98	97.56	65-125	PASS
Standard7	ICAL	1	0.96	96.46	65-125	PASS
ICV	ICV	1	0.98	98.058	65-125	PASS
ICB	ICB	1	0.98	98.26	65-125	PASS
LLCCV1	CCV1	1	0.99	99.31	65-125	PASS
ICSA1	ICSA	1	0.93	93.45	65-125	PASS
ICSAB1	ICSAB	1	0.88	87.66	65-125	PASS
MB-56545	MBLK	1	0.99	98.89	65-125	PASS
LCS1-56545	LCS	1	1.0014	100.14	65-125	PASS
N018843-009B	SAMP	1	0.98	98.45	65-125	PASS
N018843-010B	SAMP	1	0.68	67.53	65-125	PASS
N018844-001B	SAMP	1	1.01	101.02	65-125	PASS
N018936-001A	SAMP	1	0.59	58.74	65-125	NR!
N018936-002B	SAMP	1	0.82	82.21	65-125	PASS
N018843-010B	SAMP	5	0.98	98.47	65-125	PASS
N018843-010B-PS	PS	1	0.98	97.98	65-125	PASS
N018843-010B-MS1	MS	1	0.98	98.37	65-125	PASS
CCV1	CCV	1	0.99	98.52	65-125	PASS
CCB1	CCB	1	1	99.86	65-125	PASS
N018843-010B-MSD1	MSD	1	0.99	98.99	65-125	PASS
N018936-001A	SAMP	1	0.88	87.5	65-125	PASS
CCV2	CCV	1	0.99	98.82	65-125	PASS
CCB2	CCB	1	0.99	99.19	65-125	PASS
LLCCV2	CCV2	1	0.98	98.25	65-125	PASS
ICSA2	ICSA	1	0.62	62.16	65-125	NR!
ICSAB2	ICSAB	1	0.88	88.055	65-125	PASS
ICSA2	ICSA	1	0.95	95.052	65-125	PASS
ICSAB2	ICSAB	1	0.88	88.32	65-125	PASS

INTERNAL STANDARD: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.045	104.5	65-125	PASS
Standard2	ICAL	1	1.054	105.35	65-125	PASS
Standard3	ICAL	1	1.096	109.64	65-125	PASS
Standard4	ICAL	1	1.1	110.01	65-125	PASS
Standard5	ICAL	1	1.052	105.19	65-125	PASS
Standard6	ICAL	1	0.98	98.35	65-125	PASS
Standard7	ICAL	1	0.96	96.36	65-125	PASS
ICV	ICV	1	1.0035	100.35	65-125	PASS
ICB	ICB	1	0.99	98.95	65-125	PASS
LLCCV1	CCV1	1	1.054	105.37	65-125	PASS
ICSA1	ICSA	1	0.95	94.89	65-125	PASS
ICSAB1	ICSAB	1	0.83	83.15	65-125	PASS
N018843-010B	SAMP	1	0.94	93.77	65-125	PASS
CCV1	CCV	1	0.97	96.99	65-125	PASS
CCB1	CCB	1	1.0052	100.52	65-125	PASS
LLCCV2	CCV2	1	1.045	104.49	65-125	PASS
ICSA2	ICSA	1	0.95	95.3	65-125	PASS
ICSAB2	ICSAB	1	0.82	81.79	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56471

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018833-001B-DT 5X	Iron	ug/L	0	NA	0		10

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6010B
Analysis Date: 03/08/16

Matrix: Groundwater
Batch No.: 56545

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018843-010B-DT 5X	Iron	ug/L	0	NA	0		10

Note: NA - Not Applicable

ASSET Laboratories

Date: *10-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N018833-001B-PS**	SampType:	**PS**	TestCode:	**6010_WDPG**	Units:	**ug/L**	Prep Date:		RunNo:	**106233**
Client ID:	**ZZZZZZ**	Batch ID:	**56471**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**3/3/2016**	SeqNo:	**2251519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.200	20	100.0	0	107	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N018843-010B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.876	20	100.0	0	114	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6010B

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56472 **Instrument ID:** ICP-02
ASSET #: N018843 **Analyst:** CEI
Method: **Date Analyzed:** 3/3/2016

[X] EPA 6010B / 200.7 **Total** [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018843-001C to 008C only.
% Rec of Fe in N018833-001C PS & N018834-001C MS failed. However LCS passed criteria.
% Rec of Mg in ICSA3 failed, low bias. However Mg is not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/8/2016 Date: _____
2nd Level Reviewer _____ 3/10/2016 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56481
ASSET #: N018843

Instrument ID: ICP-02
Analyst: CEI
Date Analyzed: 3/3/2016

Method:
[X] EPA 6010B / 200.7 **Total**
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018843-009C & 010C only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/8/2016 Date: _____

2nd Level Reviewer _____ 3/10/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018843-001C** , the concentration in ug/L is calculated as follows:

Iron , ug/L = ~~0.13773~~ **0.14545** * 1 * (25/25) * 1000

Iron , ug/L = ~~137.73~~ **145.45**

Reporting results in two significant figures,

Iron , ug/L = ~~140~~ 150

Nancy 3/10/2016
for

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
MB-56472	MBLK	1	Fe	0.0052	7.28	15	PASS
LCS-56472	LCS	1	Fe	0.11	1.58	15	PASS
N018833-001C	SAMP	1	Fe	0.14	1.027	15	PASS
N018833-001C	SAMP	5	Fe	0.03	3.14	15	PASS
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
N018833-001C-PS	PS	1	Fe	0.26	0.79	15	PASS
N018833-001C-MS	MS	1	Fe	0.26	0.44	15	PASS
N018833-001C-MSD	MSD	1	Fe	0.26	0.45	15	PASS
N018833-002C	SAMP	1	Fe	0.15	0.21	15	PASS
N018833-003C	SAMP	1	Fe	3.2	0.17	15	PASS
N018833-004C	SAMP	1	Fe	2.19	0.24	15	PASS
N018833-005C	SAMP	1	Fe	0.12	0.91	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018833-006C	SAMP	1	Fe	0.12	0.43	15	PASS
N018833-007C	SAMP	1	Fe	0.13	0.98	15	PASS
N018833-008C	SAMP	1	Fe	0.1	0.14	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
N018833-009C	SAMP	1	Fe	0.15	0.51	15	PASS
N018833-010C	SAMP	1	Fe	0.11	0.32	15	PASS
N018834-001C	SAMP	1	Fe	0.4	0.29	15	PASS
N018834-001C-MS	MS	1	Fe	0.44	0.41	15	PASS
N018834-004C	SAMP	1	Fe	0.094	0.94	15	PASS
N018843-001C	SAMP	1	Fe	0.15	0.34	15	PASS
N018843-002C	SAMP	1	Fe	0.12	0.076	15	PASS
N018843-003C	SAMP	1	Fe	0.16	0.66	15	PASS
N018843-004C	SAMP	1	Fe	0.091	0.93	15	PASS
N018843-005C	SAMP	1	Fe	0.12	0.76	15	PASS
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
N018843-006C	SAMP	1	Fe	0.092	0.46	15	PASS
N018843-007C	SAMP	1	Fe	0.13	0.091	15	PASS
N018843-008C	SAMP	1	Fe	0.1	0.43	15	PASS
MB-56481	MBLK	1	Fe	0.009	8.14	15	PASS
LCS1-56481	LCS	1	Fe	0.11	0.35	15	PASS
N018843-009C	SAMP	1	Fe	0.084	0.66	15	PASS
N018843-009C	SAMP	5	Fe	0.018	3.23	15	PASS
N018843-009C-PS	PS	1	Fe	0.19	0.14	15	PASS
N018843-009C-MS1	MS	1	Fe	0.19	0.51	15	PASS
N018843-009C-MSD1	MSD	1	Fe	0.19	0.19	15	PASS
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
N018843-010C	SAMP	1	Fe	0.13	0.48	15	PASS
N018844-001C	SAMP	1	Fe	0.055	0.6	15	PASS
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV4	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:53:38 A**
Prep End Date: **3/2/2016 1:00:00 P**

Initials/ Date: For: 3/8/2016

Prep Batch **56472** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56472	Aqueous		25	☐	0	0	25	1.000		
MB-56472	Aqueous		25	☐	0	0	25	1.000		
N018833-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 8:53:38 A**
Prep End Date: **3/2/2016 1:00:00 P**

Initials/ Date: For: 3/8/2016

Prep Batch **56472** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 3:25:56 P**
Prep End Date: **3/3/2016 8:45:00 A**

Initials/ Date: For: 3/8/2016

Prep Batch **56481** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56481	Aqueous		25	☐	0	0	25	1.000		
MB-56481	Aqueous		25	☐	0	0	25	1.000		
N018843-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010C	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCV7** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID **CCV8** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID **CCV9** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID **LLCCV4** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB5	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/3/2016**	SeqNo: **2251678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB6	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB7	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB8	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB9	**CCB**	**6010_WPGE**	**ug/L**		**106236**
Client ID: **CCB**	Batch ID: **R106236**	TestNo: **EPA 6010B**		Analysis Date: **3/4/2016**	SeqNo: **2251721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte.

Nancy 3/10/2016

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
MB-56472	MBLK	1	1.061	106.12	65-125	PASS
LCS-56472	LCS	1	0.98	98.092	65-125	PASS
N018833-001C	SAMP	1	0.97	96.95	65-125	PASS
N018833-001C	SAMP	5	1	99.95	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
N018833-001C-PS	PS	1	0.97	97.057	65-125	PASS
N018833-001C-MS	MS	1	1	99.68	65-125	PASS
N018833-001C-MSD	MSD	1	0.99	99.07	65-125	PASS
N018833-002C	SAMP	1	0.98	98.16	65-125	PASS
N018833-003C	SAMP	1	0.98	97.84	65-125	PASS
N018833-004C	SAMP	1	0.96	96.3	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018833-005C	SAMP	1	1.0052	100.52	65-125	PASS
N018833-006C	SAMP	1	0.97	96.94	65-125	PASS
N018833-007C	SAMP	1	0.97	96.68	65-125	PASS
N018833-008C	SAMP	1	0.99	99.5	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
N018833-009C	SAMP	1	0.97	97.39	65-125	PASS
N018833-010C	SAMP	1	0.98	97.67	65-125	PASS
N018834-001C	SAMP	1	0.98	98.32	65-125	PASS
N018834-001C-MS	MS	1	0.99	98.98	65-125	PASS
N018834-004C	SAMP	1	1.0031	100.31	65-125	PASS
N018843-001C	SAMP	1	0.99	98.99	65-125	PASS
N018843-002C	SAMP	1	0.98	98.35	65-125	PASS
N018843-003C	SAMP	1	1	99.97	65-125	PASS
N018843-004C	SAMP	1	0.98	98.45	65-125	PASS
N018843-005C	SAMP	1	0.99	98.71	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
N018843-006C	SAMP	1	0.98	98.052	65-125	PASS
N018843-007C	SAMP	1	0.98	98.44	65-125	PASS
N018843-008C	SAMP	1	0.98	97.81	65-125	PASS
MB-56481	MBLK	1	1.068	106.76	65-125	PASS
LCS1-56481	LCS	1	1.026	102.63	65-125	PASS
N018843-009C	SAMP	1	0.98	97.58	65-125	PASS
N018843-009C	SAMP	5	0.99	99.17	65-125	PASS
N018843-009C-PS	PS	1	0.98	97.59	65-125	PASS
N018843-009C-MS1	MS	1	0.97	96.84	65-125	PASS
N018843-009C-MSD1	MSD	1	0.97	97.28	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
N018843-010C	SAMP	1	1	99.97	65-125	PASS
N018844-001C	SAMP	1	0.99	98.64	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV4	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56472

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018833-001C-DT 5X	Iron	ug/L	147.8492	NA	137.7292	7.35%	10

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56481

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018843-009C-DT 5X	Iron	ug/L	91.4182	NA	83.6912	9.23%	10

Note: NA - Not Applicable

ASSET Laboratories

Date: *06-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	**N018833-001C-PS**	SampType:	**PS**	TestCode:	**6010_WPGE**	Units:	**ug/L**	Prep Date:		RunNo:	**106236**
Client ID:	**ZZZZZZ**	Batch ID:	**56472**	TestNo:	**EPA 6010B**		**EPA 3010A**	Analysis Date:	**3/4/2016**	SeqNo:	**2251682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	259.790	20	100.0	137.7	122	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **N018843-009C-PS** SampType: **PS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56481** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	190.873	20	100.0	~~105.2~~ 83.69	~~85.7~~ 107.2%	80	120				

3/10/2016
for

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018843

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)		X				
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Cr in LLCCV2 failed, high bias. Cr in N018843-007B to 010B & 010B MS for rerun.
Ba in N018843-010B MS is over linear range. For dilution.
%Rec of IS in N018861-007B, PS/MS/MSD is failing. For rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date: —

2nd Level Reviewer 3/11/2016 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419 **Instrument ID:** ICPMS-02
ASSET #: N018843 **Analyst:** CEI
Method: **Date Analyzed:** 3/7/2016

[ ] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Ba in N018843-010B MS and Cr in N018843-007B to 010B & 010B MS dilution & rerun only.
%Rec of Rh [2] IS in N018861-007B, PS/MS/MSD failed. For further dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/11/2016 Date: _____

2nd Level Reviewer _____ 3/11/2016 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018844
Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/8/2016

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X				
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Mo in N018861-007B, PS/MS/MSD rerun only.
%Rec of Mo in N018861-007B PS/MSD & Cr in N018861-007B PS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/11/2016 Date: _____

2nd Level Reviewer _____ 3/11/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018843-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 0.05763 * 1 * (25/25)

Chromium , ug/L = 0.057630

Reporting results in two significant figures,

Chromium , ug/L = 0.1

Since PQL of Chromium ,in ug/L = 1.0

Chromium , ug/L = ND

% RSD SUMMARY

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.055	4.43	15	PASS	0.098	8.75	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	2.18	15	PASS	0.5	1.81	15	PASS
Std3-5/50 ppb	ICAL	1	5.24	0.95	15	PASS	5	0.72	15	PASS
Std4-10/100 ppb	ICAL	1	10.58	0.64	15	PASS	10.098	0.3	15	PASS
Std5-20/200 ppb	ICAL	1	20.78	0.6	15	PASS	19.95	0.4	15	PASS
Std6-40/400 ppb	ICAL	1	41.3	0.21	15	PASS	39.77	0.53	15	PASS
Std7-100/1000 ppb	ICAL	1	101	0.92	15	PASS	100.69	1.42	15	PASS
Std8-200/2000 ppb	ICAL	1	199.13	0.59	15	PASS	199.7	0.68	15	PASS
ICV	ICV	1	91.96	0.7	15	PASS	10.34	0.46	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.024	1.33	20	PASS	1.045	0.58	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.17	3.069	15	PASS
ICSAB1	ICSAB	1	20.49	0.46	15	PASS	20.12	0.63	15	PASS
CCV1	CCV	1	21.0079	0.94	15	PASS	20.24	0.99	15	PASS
CCB1	CCB	1	0.0049	123.099	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.88	0.72	15	PASS	20.38	1.42	15	PASS
CCB2	CCB	1	0.0079	27.49	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.01	79.39	15	<PQL
LCS-56419	LCS	1	100.85	0.58	15	PASS	9.63	0.64	15	PASS
N018861-007B	SAMP	1	40.8	0.29	15	PASS	5.58	1.46	15	PASS
CCV3	CCV	1	21.53	0.31	15	PASS	20.16	0.062	15	PASS
CCB3	CCB	1	0.046	183.78	15	<PQL	0.0025	310.52	15	<PQL
N018861-007B	SAMP	5	8.32	0.46	15	PASS	1.11	2.23	15	PASS
N018861-007B-PS	PS	1	133.7	0.43	15	PASS	13.57	0.18	15	PASS
N018861-007B-MS	MS	1	136.38	0.56	15	PASS	13.9	0.39	15	PASS
N018861-007B-MSD	MSD	1	135.87	0.87	15	PASS	13.71	1.017	15	PASS
N018843-001B	SAMP	1	136.6	0.24	15	PASS	0.058	15.33	15	<PQL
N018843-002B	SAMP	1	143.082	0.59	15	PASS	0.014	31.64	15	<PQL
N018843-003B	SAMP	1	136.65	0.56	15	PASS	0.058	9.39	15	PASS
N018843-004B	SAMP	1	137.17	0.93	15	PASS	0.028	24.28	15	<PQL
N018843-005B	SAMP	1	147.87	0.6	15	PASS	0.096	6.52	15	PASS
N018843-006B	SAMP	1	133.75	0.87	15	PASS	0.017	37.37	15	<PQL
CCV4	CCV	1	21.43	0.6	15	PASS	20.098	1.071	15	PASS
CCB4	CCB	1	0.0083	108.52	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.039	0.58	20	PASS	1.014	2.92	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.16	5.75	15	PASS
ICSAB2	ICSAB	1	20.88	0.34	15	PASS	19.74	0.54	15	PASS
N018843-007B	SAMP	1	136.25	0.16	15	PASS	<0.000	N/A	15	<PQL
N018843-008B	SAMP	1	140.093	0.091	15	PASS	0.023	17.34	15	<PQL
N018843-009B	SAMP	1	138.1	0.69	15	PASS	0.0069	81.59	15	<PQL

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	133.23	0.92	15	PASS	0.037	25.97	15	<PQL
N018843-010B-MS	MS	1	236.56	0.57	15	PASS	9.22	0.74	15	PASS
N018844-001B	SAMP	1	136.69	0.68	15	PASS	0.027	18.2	15	<PQL
N018845-001B	SAMP	1	54.1	0.31	15	PASS	7.2	0.92	15	PASS
N018845-002B	SAMP	1	46.062	0.58	15	PASS	0.4	2.97	15	PASS
N018845-003B	SAMP	1	22.93	0.77	15	PASS	625.83	1.16	15	PASS
N018845-004B	SAMP	1	23.3	0.2	15	PASS	625.71	0.67	15	PASS
CCV5	CCV	1	21.55	0.64	15	PASS	20.09	0.9	15	PASS
CCB5	CCB	1	0.0036	118.025	15	<PQL	0.032	17.27	15	<PQL
N018845-006B	SAMP	1	46.059	0.28	15	PASS	146.96	1.27	15	PASS
N018845-007B	SAMP	1	39.76	1.12	15	PASS	475.68	1.025	15	PASS
N018845-008B	SAMP	1	34.76	0.7	15	PASS	0.27	4.6	15	PASS
N018845-005B	SAMP	1	36.61	0.88	15	PASS	36331.98	0.5	15	PASS
CCV6	CCV	1	21.64	0.65	15	PASS	27.92	1.98	15	PASS
CCB6	CCB	1	0.0065	33.46	15	<PQL	4.053	14.037	15	PASS
LLCCV2	CCV2	1	1.07	1.63	20	PASS	3.027	7.16	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	1.58	10.41	15	PASS
ICSAB3	ICSAB	1	21.14	0.7	15	PASS	20.66	1.27	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.064	6.65	15	PASS	0.095	19.59	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.46	1.93	15	PASS	0.48	5.026	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.49	15	PASS	5.053	0.78	15	PASS
Std4-10/100 ppb	ICAL	1	10.0032	0.91	15	PASS	10.25	1.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.68	0.44	15	PASS	20.27	0.95	15	PASS
Std6-40/400 ppb	ICAL	1	39.12	0.31	15	PASS	40.24	1.38	15	PASS
Std7-100/1000 ppb	ICAL	1	98.18	0.5	15	PASS	100.75	0.86	15	PASS
Std8-200/2000 ppb	ICAL	1	201.12	0.47	15	PASS	199.53	0.85	15	PASS
ICV	ICV	1	97.95	0.43	15	PASS	9.96	3.61	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.49	4.81	20	PASS	0.11	9.71	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	16.46	1.38	15	PASS	20.2	0.5	15	PASS
CCV1	CCV	1	20.07	0.56	15	PASS	20.27	1.71	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0063	21.16	15	<PQL
CCV2	CCV	1	20.43	1.43	15	PASS	20.1	0.93	15	PASS
CCB2	CCB	1	0.015	16.52	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.0039	201.76	15	<PQL
LCS-56419	LCS	1	94.67	0.79	15	PASS	9.18	0.63	15	PASS
N018861-007B	SAMP	1	18.34	0.17	15	PASS	14.59	0.43	15	PASS
CCV3	CCV	1	20.0093	0.26	15	PASS	20.31	1.19	15	PASS
CCB3	CCB	1	0.00054	829.95	15	<PQL	0.0024	199.86	15	<PQL
N018861-007B	SAMP	5	4.76	0.67	15	PASS	3.2	0.74	15	PASS
N018861-007B-PS	PS	1	96.32	0.16	15	PASS	23.057	0.57	15	PASS
N018861-007B-MS	MS	1	97.24	0.51	15	PASS	23.25	0.29	15	PASS
N018861-007B-MSD	MSD	1	97.13	0.83	15	PASS	23.44	0.35	15	PASS
N018843-001B	SAMP	1	<0.000	N/A	15	<PQL	2.3	1.24	15	PASS
N018843-002B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.94	15	PASS
N018843-003B	SAMP	1	<0.000	N/A	15	<PQL	2.29	3.16	15	PASS
N018843-004B	SAMP	1	<0.000	N/A	15	<PQL	2.28	1.83	15	PASS
N018843-005B	SAMP	1	<0.000	N/A	15	<PQL	2.52	3.28	15	PASS
N018843-006B	SAMP	1	<0.000	N/A	15	<PQL	2.27	2	15	PASS
CCV4	CCV	1	20.005	0.87	15	PASS	20.37	0.54	15	PASS
CCB4	CCB	1	0.013	45.073	15	<PQL	0.0012	56.32	15	<PQL
LLCCV1	CCV2	1	0.49	5.23	20	PASS	0.098	16.56	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	16.35	1.29	15	PASS	20.37	0.37	15	PASS
N018843-007B	SAMP	1	<0.000	N/A	15	<PQL	2.32	1.26	15	PASS
N018843-008B	SAMP	1	<0.000	N/A	15	<PQL	2.41	2.52	15	PASS
N018843-009B	SAMP	1	<0.000	N/A	15	<PQL	2.31	3	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	<0.000	N/A	15	<PQL	2.21	1.89	15	PASS
N018843-010B-MS	MS	1	90.38	1.059	15	PASS	12.0013	0.62	15	PASS
N018844-001B	SAMP	1	0.4	5.47	15	PASS	2.33	2.17	15	PASS
N018845-001B	SAMP	1	9.44	1.29	15	PASS	5.86	0.31	15	PASS
N018845-002B	SAMP	1	73.69	0.55	15	PASS	5.0056	2.062	15	PASS
N018845-003B	SAMP	1	2.038	2.39	15	PASS	2.38	1.91	15	PASS
N018845-004B	SAMP	1	1.98	1.46	15	PASS	2.34	1.31	15	PASS
CCV5	CCV	1	19.89	0.53	15	PASS	20.62	1.48	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.00014	4234.47	15	<PQL
N018845-006B	SAMP	1	8.029	1.41	15	PASS	0.55	4.9	15	PASS
N018845-007B	SAMP	1	26.67	1.064	15	PASS	2.094	5.48	15	PASS
N018845-008B	SAMP	1	210.86	0.24	15	PASS	14.2	1.47	15	PASS
N018845-005B	SAMP	1	<0.000	N/A	15	<PQL	2.74	1.76	15	PASS
CCV6	CCV	1	20.085	1.63	15	PASS	20.39	0.54	15	PASS
CCB6	CCB	1	0.0032	114.36	15	<PQL	0.0051	292.0053	15	<PQL
LLCCV2	CCV2	1	0.48	4.33	20	PASS	0.083	24.88	20	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	16.51	1.12	15	PASS	20.35	0.75	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	26.28	15	<PQL	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	8.85	15	PASS	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	4.98	3.95	15	PASS	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	2.89	15	PASS	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	20.73	1.38	15	PASS	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	40.54	0.69	15	PASS	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.44	1.19	15	PASS	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	199.59	0.88	15	PASS	200.0022	1.13	15	PASS
ICV	ICV	1	10.16	3.87	15	PASS	9.54	0.89	15	PASS
ICB	ICB	1	0.025	68.0016	15	<PQL	0.27	4.45	15	PASS
LLICV	CCV1	1	0.49	11.65	20	PASS	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.028	26.29	15	<PQL	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	19.28	1.34	15	PASS	23.2	0.96	15	PASS
CCV1	CCV	1	20.13	1.29	15	PASS	19.89	1.67	15	PASS
CCB1	CCB	1	0.019	48.038	15	<PQL	0.11	5.59	15	PASS
CCV2	CCV	1	20.039	1.27	15	PASS	19.97	1.33	15	PASS
CCB2	CCB	1	0.0073	195.95	15	<PQL	0.11	12.11	15	PASS
MB-56419	MBLK	1	0.0034	356.98	15	<PQL	0.23	6.7	15	PASS
LCS-56419	LCS	1	8.65	3.94	15	PASS	9.93	0.7	15	PASS
N018861-007B	SAMP	1	0.25	18.33	15	<PQL	86.49	0.81	15	PASS
CCV3	CCV	1	20.2	3	15	PASS	20.37	0.56	15	PASS
CCB3	CCB	1	0.0051	287.87	15	<PQL	0.17	16.46	15	<PQL
N018861-007B	SAMP	5	0.078	20.65	15	<PQL	16.16	0.96	15	PASS
N018861-007B-PS	PS	1	8.47	3.74	15	PASS	93.56	0.25	15	PASS
N018861-007B-MS	MS	1	8.56	4.42	15	PASS	96.13	1.43	15	PASS
N018861-007B-MSD	MSD	1	8.25	5.17	15	PASS	95.14	1.54	15	PASS
N018843-001B	SAMP	1	1.69	9.9	15	PASS	5.81	1.68	15	PASS
N018843-002B	SAMP	1	1.83	3.35	15	PASS	5.63	1.47	15	PASS
N018843-003B	SAMP	1	1.58	4.26	15	PASS	5.4	0.53	15	PASS
N018843-004B	SAMP	1	1.72	9.73	15	PASS	5.26	2.46	15	PASS
N018843-005B	SAMP	1	1.86	4.15	15	PASS	5.84	1.49	15	PASS
N018843-006B	SAMP	1	1.69	6.77	15	PASS	5.13	1.097	15	PASS
CCV4	CCV	1	20.8	2.25	15	PASS	20.039	1.18	15	PASS
CCB4	CCB	1	0.006	179.56	15	<PQL	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	13.31	20	PASS	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.023	80	15	<PQL	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	19.51	1.44	15	PASS	23.23	0.89	15	PASS
N018843-007B	SAMP	1	1.74	5.65	15	PASS	5.33	1.65	15	PASS
N018843-008B	SAMP	1	1.68	6.45	15	PASS	5.53	2.91	15	PASS
N018843-009B	SAMP	1	1.61	7.92	15	PASS	5.45	0.54	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	1.58	9.043	15	PASS	5.25	0.92	15	PASS
N018843-010B-MS	MS	1	10.7	1.47	15	PASS	16.093	0.54	15	PASS
N018844-001B	SAMP	1	1.59	5.075	15	PASS	5.35	1.037	15	PASS
N018845-001B	SAMP	1	0.46	13.82	15	PASS	61.99	1.061	15	PASS
N018845-002B	SAMP	1	0.66	16.86	15	NR!	82.24	0.6	15	PASS
N018845-003B	SAMP	1	12.26	3.033	15	PASS	90.83	1.63	15	PASS
N018845-004B	SAMP	1	11.79	1.35	15	PASS	92.85	0.49	15	PASS
CCV5	CCV	1	20.45	2.34	15	PASS	20.19	0.37	15	PASS
CCB5	CCB	1	0.0051	290.48	15	<PQL	0.12	1.077	15	PASS
N018845-006B	SAMP	1	7.11	5.76	15	PASS	32.58	0.79	15	PASS
N018845-007B	SAMP	1	4.42	4.028	15	PASS	38.82	0.97	15	PASS
N018845-008B	SAMP	1	0.076	34.29	15	<PQL	41.68	1.16	15	PASS
N018845-005B	SAMP	1	17.31	2.37	15	PASS	56.78	0.94	15	PASS
CCV6	CCV	1	20.61	0.84	15	PASS	20.16	0.61	15	PASS
CCB6	CCB	1	0.024	63.98	15	<PQL	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.5	3.6	20	PASS	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.024	100.78	15	<PQL	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	19.19	1.78	15	PASS	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.14	2.88	15	PASS	0.091	12.56	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	2.16	15	PASS	0.47	3.7	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	0.92	15	PASS	4.77	0.77	15	PASS
Std4-10/100 ppb	ICAL	1	9.73	0.32	15	PASS	9.67	0.96	15	PASS
Std5-20/200 ppb	ICAL	1	19.66	0.31	15	PASS	19.43	0.53	15	PASS
Std6-40/400 ppb	ICAL	1	39.4	0.39	15	PASS	39.61	0.32	15	PASS
Std7-100/1000 ppb	ICAL	1	98.86	0.29	15	PASS	98.96	1.42	15	PASS
Std8-200/2000 ppb	ICAL	1	200.74	0.64	15	PASS	200.68	1.059	15	PASS
ICV	ICV	1	104.058	0.53	15	PASS	10.3	1.34	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.09	1.77	20	PASS	0.98	2.35	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.18	11.48	15	PASS
ICSAB1	ICSAB	1	20.72	0.17	15	PASS	21.11	0.63	15	PASS
LLICV	CCV1	1	1.074	0.71	20	PASS	0.95	2.68	20	PASS
CCV1	CCV	1	19.87	0.82	15	PASS	19.35	1.66	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.67	0.61	15	PASS	19.46	0.25	15	PASS
CCB2	CCB	1	0.0011	366.62	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.092	2	20	PASS	0.97	0.43	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.18	2.73	15	PASS
ICSAB	ICSAB	1	18.84	0.67	15	PASS	22.97	0.87	15	PASS
CCV3	CCV	1	19.9	0.33	15	PASS	19.55	0.94	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0.017	24.72	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.0063	23.58	15	<PQL
LCS-56419	LCS	1	106.41	0.41	15	PASS	10.25	0.95	15	PASS
N018861-007B	SAMP	1	40.44	0.4	15	PASS	5.49	0.67	15	PASS
N018861-007B	SAMP	5	8.17	1.21	15	PASS	1.13	1.84	15	PASS
N018861-007B	SAMP	25	1.68	3.37	15	PASS	0.23	2.11	15	PASS
N018861-007B-PS	PS	1	135.74	0.42	15	PASS	14.15	1.33	15	PASS
N018861-007B-PS	PS	5	28.75	0.96	15	PASS	3.089	0.48	15	PASS
CCV4	CCV	1	19.8	0.74	15	PASS	19.26	1.36	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.0049	48.31	15	<PQL
N018861-007B-MS	MS	1	136.25	0.59	15	PASS	14.29	1.38	15	PASS
N018861-007B-MS	MS	5	29.67	0.54	15	PASS	3.15	1.33	15	PASS
N018861-007B-MSD	MSD	1	135.25	0.29	15	PASS	14.088	0.52	15	PASS
N018861-007B-MSD	MSD	5	29.69	0.88	15	PASS	3.17	0.85	15	PASS
N018843-001B	SAMP	1	137.32	0.51	15	PASS	0.1	6.11	15	PASS
N018843-002B	SAMP	1	143.51	0.24	15	PASS	0.026	9.66	15	PASS
N018843-003B	SAMP	1	137.83	0.16	15	PASS	0.086	5.48	15	PASS
N018843-004B	SAMP	1	134.1	0.75	15	PASS	0.057	11.56	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	149.53	0.47	15	PASS	0.12	9.069	15	PASS
N018843-006B	SAMP	1	132.77	0.78	15	PASS	0.033	14.029	15	PASS
CCV5	CCV	1	19.7	0.93	15	PASS	19.32	0.61	15	PASS
CCB5	CCB	1	0.0042	31.095	15	<PQL	0.00096	269.0022	15	<PQL
N018843-007B	SAMP	1	134.091	0.33	15	PASS	0.021	15.0079	15	<PQL
N018843-008B	SAMP	1	137.54	0.71	15	PASS	0.042	25.72	15	<PQL
N018843-009B	SAMP	1	136.37	0.35	15	PASS	0.065	7.48	15	PASS
N018843-010B	SAMP	1	133.17	0.88	15	PASS	0.074	8.6	15	PASS
N018843-010B	SAMP	5	28.26	0.45	15	PASS	0.011	50.94	15	<PQL
N018843-010B-MS	MS	1	234.62	1.074	15	PASS	10.089	0.52	15	PASS
N018843-010B-MS	MSD	5	50.01	0.38	15	PASS	2.1	4.18	15	PASS
N018844-001B	SAMP	1	134.0096	0.37	15	PASS	0.13	15.034	15	<PQL
N018845-001B	SAMP	1	53.035	0.5	15	PASS	7.93	0.9	15	PASS
N018845-001B	SAMP	5	10.78	0.41	15	PASS	1.61	0.41	15	PASS
CCV6	CCV	1	19.6	0.62	15	PASS	19.29	0.92	15	PASS
CCB6	CCB	1	0.0021	237.91	15	<PQL	0.001	157.92	15	<PQL
LLCCV2	CCV2	1	1.098	1.46	20	PASS	0.98	2.22	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.17	3.89	15	PASS
ICSAB3	ICSAB	1	19.0072	0.5	15	PASS	22.31	0.34	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	11.33	15	PASS	0.09	7.61	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	5.13	15	PASS	0.46	5.78	15	PASS
Std3-5/50 ppb	ICAL	1	4.83	2.7	15	PASS	4.61	0.53	15	PASS
Std4-10/100 ppb	ICAL	1	9.85	1.16	15	PASS	9.34	0.24	15	PASS
Std5-20/200 ppb	ICAL	1	19.44	0.57	15	PASS	19.074	0.36	15	PASS
Std6-40/400 ppb	ICAL	1	39.61	0.77	15	PASS	38.77	1.44	15	PASS
Std7-100/1000 ppb	ICAL	1	99.78	0.59	15	PASS	98.11	0.15	15	PASS
Std8-200/2000 ppb	ICAL	1	200.26	0.45	15	PASS	201.33	0.41	15	PASS
ICV	ICV	1	100.89	0.77	15	PASS	10.19	0.55	15	PASS
ICB	ICB	1	0.0012	473.087	15	<PQL	0.013	36.76	15	<PQL
LLICV	CCV1	1	0.51	2.72	20	PASS	0.11	9.27	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	17.82	1.49	15	PASS	20.82	0.43	15	PASS
LLICV	CCV1	1	0.51	1.89	20	PASS	0.12	13.99	20	PASS
CCV1	CCV	1	19.16	0.86	15	PASS	18.95	0.74	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.16	0.67	15	PASS	19.3	0.33	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.0018	492.88	15	<PQL
LLCCV1	CCV2	1	0.52	4.17	20	PASS	0.1	16.55	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB	ICSAB	1	19.58	0.58	15	PASS	21.49	0.75	15	PASS
CCV3	CCV	1	19.16	1.54	15	PASS	19.25	1.74	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	100.056	0.76	15	PASS	10.35	0.37	15	PASS
N018861-007B	SAMP	1	23.46	1.13	15	PASS	14.7	2	15	PASS
N018861-007B	SAMP	5	4.9	0.98	15	PASS	3.26	1.096	15	PASS
N018861-007B	SAMP	25	1.026	3.53	15	PASS	0.64	4.75	15	PASS
N018861-007B-PS	PS	1	106.088	1.78	15	PASS	22.53	1.34	15	PASS
N018861-007B-PS	PS	5	23.29	0.8	15	PASS	5.047	2.45	15	PASS
CCV4	CCV	1	19.17	1.43	15	PASS	18.97	1.4	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.0028	105.69	15	<PQL
N018861-007B-MS	MS	1	108.48	0.35	15	PASS	22.81	1.12	15	PASS
N018861-007B-MS	MS	5	24.057	0.74	15	PASS	5.21	2.18	15	PASS
N018861-007B-MSD	MSD	1	106.24	0.17	15	PASS	22.46	2.25	15	PASS
N018861-007B-MSD	MSD	5	24.1	0.45	15	PASS	5.25	1.82	15	PASS
N018843-001B	SAMP	1	0.037	161.79	15	<PQL	2.26	3.92	15	PASS
N018843-002B	SAMP	1	<0.000	N/A	15	<PQL	2.37	0.7	15	PASS
N018843-003B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.2	15	PASS
N018843-004B	SAMP	1	<0.000	N/A	15	<PQL	2.26	2.66	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	<0.000	N/A	15	<PQL	2.5	1.82	15	PASS
N018843-006B	SAMP	1	<0.000	N/A	15	<PQL	2.26	5.15	15	PASS
CCV5	CCV	1	19.019	0.95	15	PASS	19.11	0.99	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.0041	47.71	15	<PQL
N018843-007B	SAMP	1	<0.000	N/A	15	<PQL	2.22	2.73	15	PASS
N018843-008B	SAMP	1	<0.000	N/A	15	<PQL	2.34	2.12	15	PASS
N018843-009B	SAMP	1	<0.000	N/A	15	<PQL	2.27	1.52	15	PASS
N018843-010B	SAMP	1	0.064	39.21	15	<PQL	2.3	1.94	15	PASS
N018843-010B	SAMP	5	0.037	40.29	15	<PQL	0.51	2.34	15	PASS
N018843-010B-MS	MS	1	96.83	0.75	15	PASS	12.29	1.82	15	PASS
N018843-010B-MS	MSD	5	20.29	2.085	15	PASS	2.56	3.12	15	PASS
N018844-001B	SAMP	1	0.54	5.93	15	PASS	2.34	3.4	15	PASS
N018845-001B	SAMP	1	10.17	1.46	15	PASS	5.69	0.18	15	PASS
N018845-001B	SAMP	5	2.078	1.63	15	PASS	1.28	0.92	15	PASS
CCV6	CCV	1	19.16	0.48	15	PASS	19.086	0.83	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL	0.0029	151.5	15	<PQL
LLCCV2	CCV2	1	0.5	2.83	20	PASS	0.1	6.54	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	19.56	1.073	15	PASS	21.53	1.7	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	14.54	15	PASS	0.084	7.039	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.45	21.93	15	<PQL	0.44	2.87	15	PASS
Std3-5/50 ppb	ICAL	1	4.89	5.2	15	PASS	4.73	0.66	15	PASS
Std4-10/100 ppb	ICAL	1	9.39	1.53	15	PASS	9.51	1.54	15	PASS
Std5-20/200 ppb	ICAL	1	18.96	1.43	15	PASS	18.97	0.25	15	PASS
Std6-40/400 ppb	ICAL	1	38.14	1.73	15	PASS	38.98	0.19	15	PASS
Std7-100/1000 ppb	ICAL	1	99.74	1.33	15	PASS	98.95	0.32	15	PASS
Std8-200/2000 ppb	ICAL	1	200.64	0.52	15	PASS	200.86	0.078	15	PASS
ICV	ICV	1	10.16	0.99	15	PASS	10.97	2.027	15	PASS
ICB	ICB	1	0.0022	513.46	15	<PQL	0.23	5.02	15	PASS
LLICV	CCV1	1	0.47	3.67	20	PASS	0.55	3.11	20	PASS
ICSA1	ICSA	1	0.012	69.51	15	<PQL	0.085	13.41	15	PASS
ICSAB1	ICSAB	1	19.099	0.85	15	PASS	23.94	1.37	15	PASS
LLICV	CCV1	1	0.53	9.27	20	PASS	0.55	3.24	20	PASS
CCV1	CCV	1	19.014	0.87	15	PASS	19.83	0.38	15	PASS
CCB1	CCB	1	0.0023	134.48	15	<PQL	0.19	4.59	15	PASS
CCV2	CCV	1	18.79	2.039	15	PASS	18.93	0.68	15	PASS
CCB2	CCB	1	0.0008	1086.091	15	<PQL	0.072	6.68	15	PASS
LLCCV1	CCV2	1	0.53	10.86	20	PASS	0.5	3.56	20	PASS
ICSA2	ICSA	1	0.0071	125.66	15	<PQL	0.039	21.64	15	<PQL
ICSAB	ICSAB	1	21.1	2.79	15	PASS	23.54	0.75	15	PASS
CCV3	CCV	1	18.86	1.96	15	PASS	19.28	1.089	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0.093	19.67	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.071	19.35	15	<PQL
LCS-56419	LCS	1	10.17	2.96	15	PASS	10.31	0.85	15	PASS
N018861-007B	SAMP	1	0.27	6.36	15	PASS	89.46	1.76	15	PASS
N018861-007B	SAMP	5	0.031	34.69	15	<PQL	16.65	1.18	15	PASS
N018861-007B	SAMP	25	0.0077	123.52	15	<PQL	3.25	3.27	15	PASS
N018861-007B-PS	PS	1	7.98	2.12	15	PASS	96.3	1.096	15	PASS
N018861-007B-PS	PS	5	1.7	4.78	15	PASS	18.5	1.044	15	PASS
CCV4	CCV	1	19.14	0.83	15	PASS	18.99	1.21	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.097	7.72	15	PASS
N018861-007B-MS	MS	1	7.95	6.053	15	PASS	97.85	0.66	15	PASS
N018861-007B-MS	MS	5	1.89	14.94	15	PASS	19.4	0.76	15	PASS
N018861-007B-MSD	MSD	1	8.24	4.59	15	PASS	96.4	0.63	15	PASS
N018861-007B-MSD	MSD	5	1.91	11.65	15	PASS	19.46	1.74	15	PASS
N018843-001B	SAMP	1	1.61	4.12	15	PASS	5.57	0.69	15	PASS
N018843-002B	SAMP	1	1.71	3.48	15	PASS	5.63	1.15	15	PASS
N018843-003B	SAMP	1	1.5	7.39	15	PASS	5.44	2.73	15	PASS
N018843-004B	SAMP	1	1.62	10.8	15	PASS	5.35	0.44	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	1.72	1.79	15	PASS	5.86	0.91	15	PASS
N018843-006B	SAMP	1	1.71	8.57	15	PASS	5.32	3.091	15	PASS
CCV5	CCV	1	18.72	4.0011	15	PASS	18.98	0.62	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.067	5.9	15	PASS
N018843-007B	SAMP	1	1.72	2.45	15	PASS	5.38	2.41	15	PASS
N018843-008B	SAMP	1	1.84	1.94	15	PASS	5.56	2.93	15	PASS
N018843-009B	SAMP	1	1.63	10.49	15	PASS	5.45	1.16	15	PASS
N018843-010B	SAMP	1	1.73	6.67	15	PASS	5.29	0.99	15	PASS
N018843-010B	SAMP	5	0.39	14.74	15	PASS	1.037	3.99	15	PASS
N018843-010B-MS	MS	1	10.41	0.16	15	PASS	16.46	0.89	15	PASS
N018843-010B-MS	MSD	5	2.45	4.18	15	PASS	3.28	2.65	15	PASS
N018844-001B	SAMP	1	1.67	15.55	15	NR!	5.38	1.16	15	PASS
N018845-001B	SAMP	1	0.42	5.94	15	PASS	62.87	1.23	15	PASS
N018845-001B	SAMP	5	0.078	23.41	15	<PQL	11.89	1.49	15	PASS
CCV6	CCV	1	18.87	1.59	15	PASS	18.83	0.85	15	PASS
CCB6	CCB	1	0.011	93.92	15	<PQL	0.077	11.44	15	PASS
LLCCV2	CCV2	1	0.53	13.83	20	PASS	0.5	2.19	20	PASS
ICSA3	ICSA	1	0.021	86.68	15	<PQL	0.043	22.7	15	<PQL
ICSAB3	ICSAB	1	20.039	1.043	15	PASS	23.54	1.61	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.087	8.46	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	6.027	15	PASS
Std3-5/50 ppb	ICAL	1	4.64	1.78	15	PASS
Std4-10/100 ppb	ICAL	1	9.24	1.96	15	PASS
Std5-20/200 ppb	ICAL	1	18.74	1.26	15	PASS
Std6-40/400 ppb	ICAL	1	38.94	1.16	15	PASS
Std7-100/1000 ppb	ICAL	1	98.015	0.51	15	PASS
Std8-200/2000 ppb	ICAL	1	201.38	0.75	15	PASS
ICV	ICV	1	10.99	1.08	15	PASS
ICB	ICB	1	0.22	3.93	15	PASS
LLICV	CCV1	1	0.56	4.078	20	PASS
ICSA1	ICSA	1	0.089	5.14	15	PASS
ICSAB1	ICSAB	1	23.7	1.2	15	PASS
LLICV	CCV1	1	0.65	2.33	20	PASS
N018845-002B	SAMP	1	84.65	1.64	15	PASS
N018845-002B	SAMP	5	15.45	0.76	15	PASS
N018845-003B	SAMP	1	92.12	0.22	15	PASS
N018845-003B	SAMP	5	17.9	0.89	15	PASS
N018845-004B	SAMP	1	94.15	1.026	15	PASS
N018845-004B	SAMP	5	17.66	0.5	15	PASS
N018845-006B	SAMP	1	33.61	0.13	15	PASS
N018845-006B	SAMP	5	6.44	0.98	15	PASS
N018845-007B	SAMP	1	39.46	1.091	15	PASS
N018845-007B	SAMP	5	7.19	2.18	15	PASS
CCV1	CCV	1	19.24	1.12	15	PASS
CCB1	CCB	1	0.087	20.8	15	<PQL
N018845-008B	SAMP	1	43.75	0.77	15	PASS
N018845-008B	SAMP	5	8.35	1.049	15	PASS
N018845-005B	SAMP	1	58.29	1	15	PASS
N018845-005B	SAMP	5	10.99	0.82	15	PASS
N018845-005B	SAMP	500	0.17	3.44	15	PASS
CCV2	CCV	1	19.52	0.63	15	PASS
CCB2	CCB	1	0.082	7.32	15	PASS
CCV3	CCV	1	19.31	0.54	15	PASS
CCB3	CCB	1	0.08	6.0063	15	PASS
N018861-007B	SAMP	125	0.61	6.99	15	PASS
N018861-007B-PS	PS	25	3.54	2.96	15	PASS
N018861-007B-MS	MS	25	3.55	1.44	15	PASS
N018861-007B-MSD	MSD	25	3.5	1.77	15	PASS
CCV4	CCV	1	19.089	0.86	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCB4	CCB	1	0.079	5.57	15	PASS
LLCCV1	CCV2	1	0.52	2.49	20	PASS
ICSA2	ICSA	1	0.047	11.22	15	PASS
ICSAB2	ICSAB	1	23.73	1.53	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB2	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MS	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM
A0308062.D	MB-56504	MBLK	1	03/08/16 6:45 PM
A0308063.D	LCS-56504	LCS	1	03/08/16 6:51 PM
A0308064.D	N018898-003A	SAMP	1	03/08/16 7:02 PM
A0308065.D	N018910-001B	SAMP	1	03/08/16 7:08 PM
A0308066.D	N018910-002B	SAMP	1	03/08/16 7:13 PM
A0308067.D	N018910-003B	SAMP	1	03/08/16 7:19 PM
A0308068.D	N018918-001C	SAMP	1	03/08/16 7:24 PM
A0308069.D	N018918-002E	SAMP	1	03/08/16 7:30 PM
A0308070.D	N018918-003C	SAMP	1	03/08/16 7:35 PM
A0308071.D	N018918-003C	SAMP	5	03/08/16 7:41 PM
A0308072.D	CCV5	CCV	1	03/08/16 7:47 PM
A0308073.D	CCB5	CCB	1	03/08/16 7:52 PM
A0308074.D	N018919-001B	SAMP	1	03/08/16 7:58 PM
A0308075.D	N018919-002B	SAMP	1	03/08/16 8:03 PM
A0308076.D	N018935-001B	SAMP	1	03/08/16 8:09 PM
A0308077.D	N018936-001A	SAMP	1	03/08/16 8:14 PM
A0308078.D	N018936-002B	SAMP	1	03/08/16 8:20 PM
A0308079.D	N018910-003B	SAMP	1	03/08/16 8:26 PM
A0308080.D	N018910-002B	SAMP	25	03/08/16 8:39 PM
A0308081.D	N018910-003B	SAMP	25	03/08/16 8:45 PM
A0308082.D	N018918-001C	SAMP	5	03/08/16 8:53 PM
A0308083.D	N018918-002E	SAMP	1	03/08/16 8:59 PM
A0308084.D	CCV6	CCV	1	03/08/16 9:05 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308085.D	CCB6	CCB	1	03/08/16 9:10 PM
A0308086.D	N018918-002E	SAMP	5	03/08/16 9:16 PM
A0308087.D	N018918-002E	SAMP	25	03/08/16 9:21 PM
A0308088.D	N018918-003C	SAMP	25	03/08/16 9:41 PM
A0308089.D	N018918-003C	SAMP	125	03/08/16 9:47 PM
A0308090.D	N018918-003C-PS	PS	1	03/08/16 9:53 PM
A0308091.D	N018918-003C-PS	PS	5	03/08/16 9:59 PM
A0308092.D	N018918-003C-PS	PS	25	03/08/16 10:04 PM
A0308093.D	N018918-003C-MS	MS	1	03/08/16 10:10 PM
A0308094.D	N018918-003C-MS	MS	5	03/08/16 10:15 PM
A0308095.D	N018918-003C-MS	MS	25	03/08/16 10:21 PM
A0308096.D	CCV7	CCV	1	03/08/16 10:27 PM
A0308097.D	CCB7	CCB	1	03/08/16 10:32 PM
A0308098.D	N018918-003C-MSD	MSD	1	03/08/16 10:38 PM
A0308099.D	N018918-003C-MSD	MSD	5	03/08/16 10:43 PM
A0308100.D	N018918-003C-MSD	MSD	25	03/08/16 10:49 PM
A0308101.D	N018919-002B	SAMP	5	03/08/16 10:55 PM
A0308102.D	N018919-002B-MS	MS	1	03/08/16 11:00 PM
A0308103.D	N018919-002B-MSD	MSD	1	03/08/16 11:06 PM
A0308104.D	N018935-001A	SAMP	25	03/08/16 11:11 PM
A0308105.D	N018936-002A	SAMP	5	03/08/16 11:17 PM
A0308106.D	CCV8	CCV	1	03/08/16 11:22 PM
A0308107.D	CCB8	CCB	1	03/08/16 11:28 PM
A0308108.D	LLCCV2	CCV2	1	03/08/16 11:33 PM
A0308109.D	ICSA3	ICSA	1	03/08/16 11:39 PM
A0308110.D	ICSAB3	ICSAB	1	03/08/16 11:45 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/11/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56419	Aqueous		25	☐	0	0	25	1.000		
MB-56419	Aqueous		25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/11/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018845-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 26 Feb 2016 01:09:35 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	86884.50	0.00	
24 Mg	368440.00	0.00	
25 Mg	49147.30	0.00	
26 Mg	58400.50	0.00	
59 Co	712632.00	0.00	
115 In	1577600.00	0.00	
206 Pb	461718.00	0.00	
207 Pb	404323.00	0.00	
208 Pb	985724.00	0.00	

RSD (%)

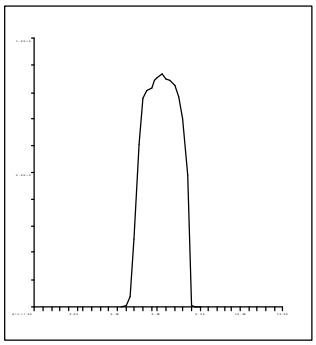
Element	Actual	Required	Flag
9 Be	0.78	5.00	
24 Mg	1.13	5.00	
25 Mg	1.29	5.00	
26 Mg	0.76	5.00	
59 Co	0.84	5.00	
115 In	0.38	5.00	
206 Pb	1.01	5.00	
207 Pb	0.85	5.00	
208 Pb	1.94	5.00	

Ion Ratio

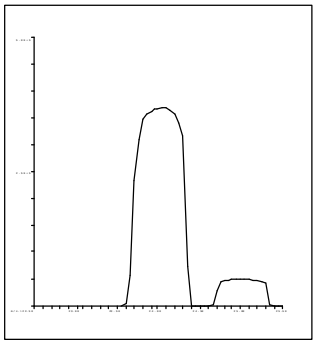
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

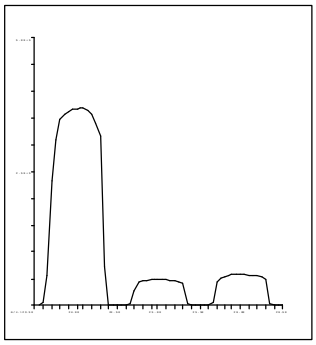
Element	Actual	Required	Flag



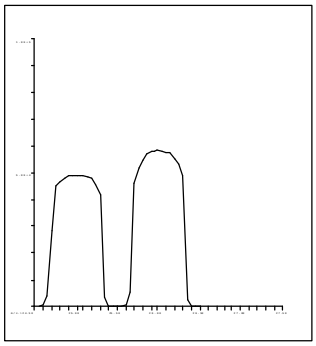
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



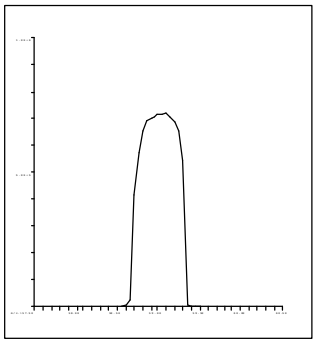
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



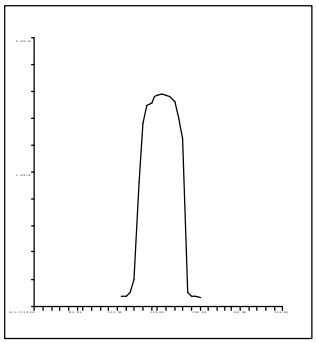
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



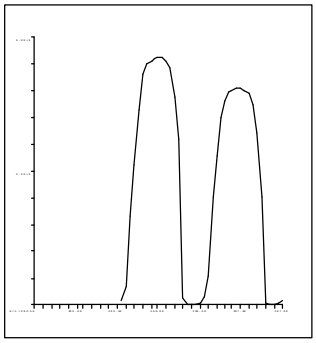
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



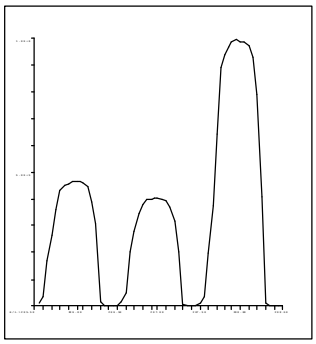
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

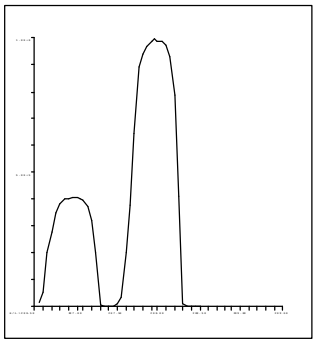


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

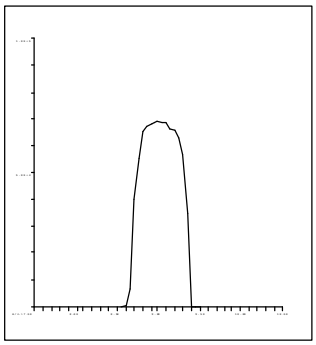
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

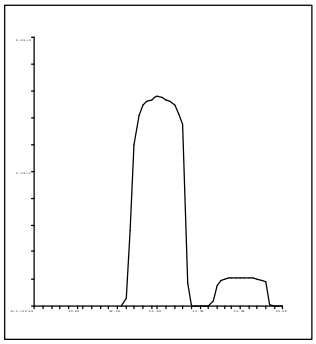
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

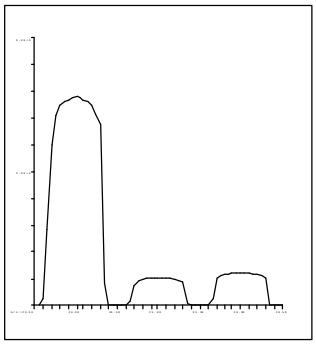
Element	Actual	Required	Flag



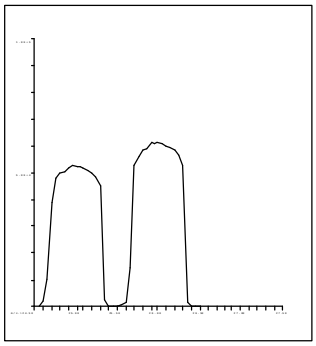
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



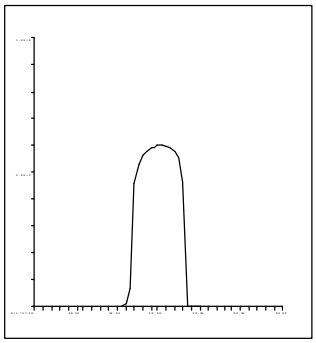
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



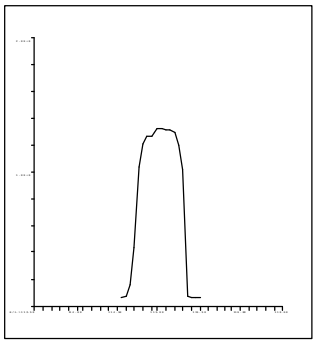
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



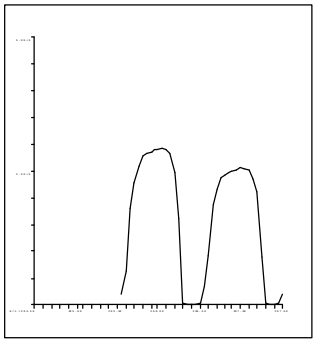
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



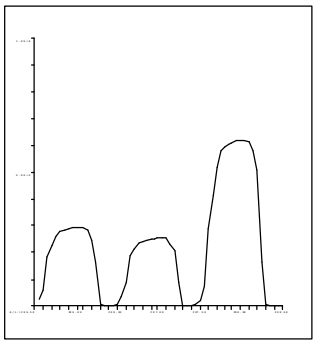
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

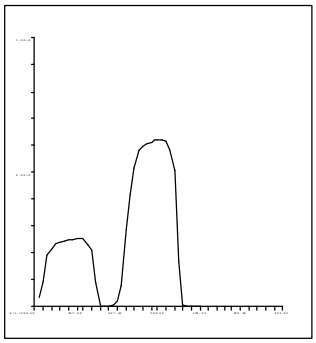


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Mar 2016 10:50:36 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	64030.00	0.00	
24 Mg	356184.00	0.00	
25 Mg	47474.40	0.00	
26 Mg	55352.20	0.00	
59 Co	548784.00	0.00	
115 In	1237250.00	0.00	
206 Pb	284929.00	0.00	
207 Pb	248633.00	0.00	
208 Pb	604949.00	0.00	

RSD (%)

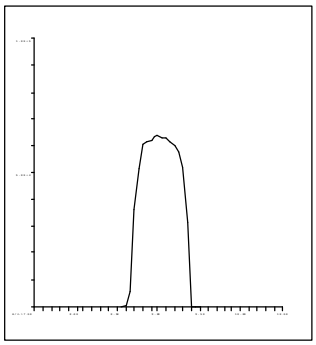
Element	Actual	Required	Flag
9 Be	1.43	5.00	
24 Mg	0.31	5.00	
25 Mg	0.61	5.00	
26 Mg	0.52	5.00	
59 Co	0.99	5.00	
115 In	0.45	5.00	
206 Pb	1.12	5.00	
207 Pb	1.38	5.00	
208 Pb	1.51	5.00	

Ion Ratio

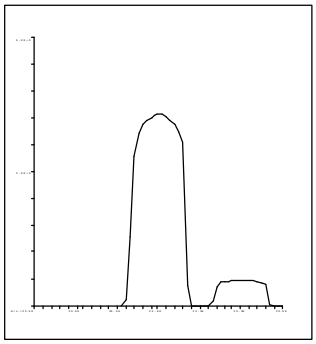
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

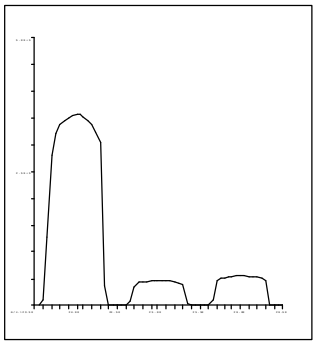
Element	Actual	Required	Flag



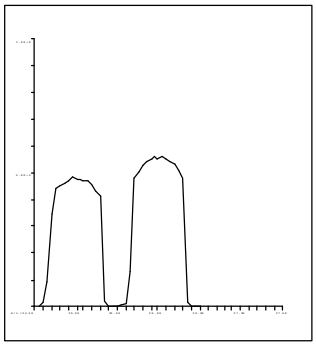
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



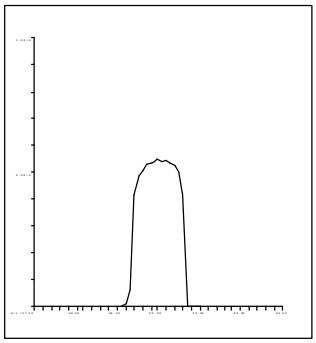
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



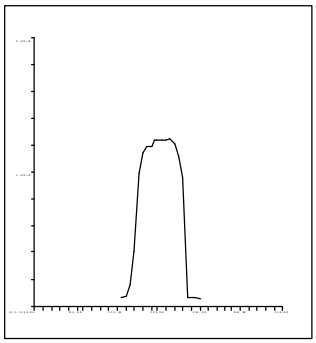
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



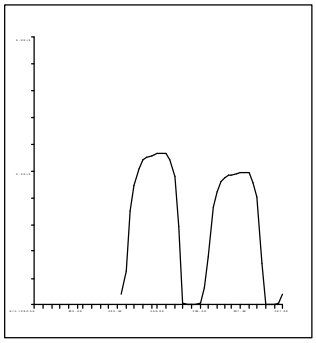
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



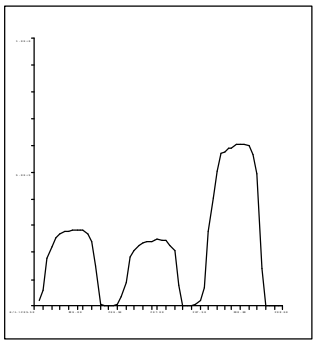
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

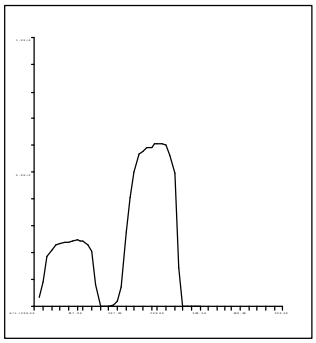


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160226A1

Instrument ID: ICPMS-02

Analyte	Data File	A0226002.D	A0226003.D	A0226004.D	A0226005.D	A0226006.D	A0226007.D	A0226008.D	A0226009.D	A0226010.D	
	Acq. Date-Time	02/26/2016 07:35 PM	02/26/2016 07:41 PM	02/26/2016 07:47 PM	02/26/2016 07:52 PM	02/26/2016 07:58 PM	02/26/2016 08:03 PM	02/26/2016 08:09 PM	02/26/2016 08:14 PM	02/26/2016 08:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	203921.1		219372.2	216758.8	213499.5	209337.4	209526.9	202738.2	200626.5	
55 Mn [2]	CPS	419.2		4510.6	44194.4	86721.2	166868.5	331604.7	804556.2	1630499.1	0.9999
52 Cr [2]	CPS	430		8290.4	78095.1	155015.8	299802.9	597867.8	1463807.5	2872645.4	1.0000
72 Ge (ISTD) [1]	CPS	164771.4		176991.3	176108.1	171058.3	168702.9	170189.2	166024.5	164349.5	
78 Se [1]	CPS	5.6		363.4	3783.9	7555.4	15064.2	29720.4	71825.8	141288.1	1.0000
72 Ge (ISTD) [2]	CPS	135207	147912.9	146598.5	145259.7	142616.2	139991.3	141092.9	136435.5	135652.3	
75 As [2]	CPS	42.7	212.9	886.3	8740.6	17366.7	33656.5	67293.5	162863.1	320668.9	1.0000
103 Rh (ISTD) [2]	CPS	3649054.4		3919515.8	3891447.1	3870199.5	3833322.2	3850266.1	3726860.3	3690356.2	
95 Mo [2]	CPS	535.6		5023.2	47934.9	93869.6	185151.6	372272.6	909396.3	1797219.2	1.0000
159 Tb (ISTD) [3]	CPS	12406544		13552421.6	13598866	13450887.6	13309725.2	13478300.6	13223698.7	13284122.3	
137 Ba [3]	CPS	1401.6		12608.2	122186.7	242377.5	469729.3	943719.1	2262164.3	4479034.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307003.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:48 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	171872.1		164481.1	162231.7	158833.7	159849.4	158058.1	154833.5	152727.7	
55 Mn [2]	CPS	160.1		3182.6	30919.3	61545	122150.4	245945.4	606643.3	1200838.7	1.0000
52 Cr [2]	CPS	240.5		5391.7	51963.5	102895.9	207876.3	418756.5	1024609.3	2049143.5	1.0000
72 Ge (ISTD) [1]	CPS	151772		146301.7	143870.9	142366.7	141838.4	138142	136219.5	132719.9	
78 Se [1]	CPS	4.4		294.5	3074.9	5838	11748	23003.7	59319.3	116263.3	1.0000
72 Ge (ISTD) [2]	CPS	114739.3	113154.9	110851.4	109870.7	107891	107005.2	106125.1	103960.2	101544.3	
75 As [2]	CPS	24.4	144	626.2	6010.1	11933.8	24136.6	48628	120525.2	241541.1	0.9999
103 Rh (ISTD) [2]	CPS	3065661.7		2997102.7	2941755.2	2921619.2	2927018.5	2892832.2	2857868.5	2799519.5	
95 Mo [2]	CPS	136.7		3299.4	33462.5	66703.6	133184	270430.5	677899.6	1347873.1	1.0000
159 Tb (ISTD) [3]	CPS	10274792.6		10060154.8	9947741.5	9909177.6	9833876.5	9881767.6	9830372.8	9680702.6	
137 Ba [3]	CPS	290.8		9176.2	85385.8	169393.2	339221.5	683027.9	1704303.2	3407686.3	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICPMS-02

Analyte	Data File	A0308002.D	A0308004.D	A0308005.D	A0308006.D	A0308007.D	A0308008.D	A0308009.D	A0308010.D	
	Acq. Date-Time	03/08/2016 11:24 AM	03/08/2016 11:35 AM	03/08/2016 11:41 AM	03/08/2016 11:46 AM	03/08/2016 11:52 AM	03/08/2016 11:57 AM	03/08/2016 12:03 PM	03/08/2016 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
103 Rh (ISTD) [2]	CPS	2123839.9	2046142.4	2046093.3	2033311.7	2029111.6	2021066.6	1990908.3	1961243.2	
95 Mo [2]	CPS	27.8	2190.2	21892.3	43302.7	87618.8	181283.3	449483	909695.9	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.958	0.10	10.00	0	99.6	90	110				
Barium	91.960	1.0	100.0	0	92.0	90	110				
Manganese	97.945	0.50	100.0	0	97.9	90	110				
Molybdenum	9.539	0.50	10.00	0	95.4	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.109	0.10	0.1000	0	109	80	120				
Barium	1.024	1.0	1.000	0	102	80	120				
Manganese	0.490	0.50	0.5000	0	98.0	80	120				
Molybdenum	0.590	0.50	0.5000	0	118	80	120				
Selenium	0.489	0.50	0.5000	0	97.8	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.269	0.10	20.00	0	101	90	110				
Barium	21.008	1.0	20.00	0	105	90	110				
Manganese	20.070	0.50	20.00	0	100	90	110				
Molybdenum	19.888	0.50	20.00	0	99.4	90	110				
Selenium	20.131	0.50	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.100	0.10	20.00	0	101	90	110				
Barium	20.882	1.0	20.00	0	104	90	110				
Manganese	20.430	0.50	20.00	0	102	90	110				
Molybdenum	19.971	0.50	20.00	0	99.9	90	110				
Selenium	20.039	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.307	0.10	20.00	0	102	90	110				
Barium	21.533	1.0	20.00	0	108	90	110				
Manganese	20.009	0.50	20.00	0	100	90	110				
Molybdenum	20.366	0.50	20.00	0	102	90	110				
Selenium	20.198	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	90	110				
Barium	21.433	1.0	20.00	0	107	90	110				
Manganese	20.005	0.50	20.00	0	100	90	110				
Molybdenum	20.039	0.50	20.00	0	100	90	110				
Selenium	20.800	0.50	20.00	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10	0.1000	0	97.5	70	130				
Barium	1.039	1.0	1.000	0	104	70	130				
Manganese	0.492	0.50	0.5000	0	98.4	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.7	70	130				
Selenium	0.495	0.50	0.5000	0	99.0	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.621	0.10	20.00	0	103	90	110				
Barium	21.550	1.0	20.00	0	108	90	110				
Manganese	19.891	0.50	20.00	0	99.5	90	110				
Molybdenum	20.187	0.50	20.00	0	101	90	110				
Selenium	20.453	0.50	20.00	0	102	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Barium	21.639	1.0	20.00	0	108	90	110				
Manganese	20.085	0.50	20.00	0	100	90	110				
Molybdenum	20.162	0.50	20.00	0	101	90	110				
Selenium	20.607	0.50	20.00	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ZZZZZZ	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.083	0.10	0.1000	0	82.9	70	130				
Barium	1.070	1.0	1.000	0	107	70	130				
Manganese	0.481	0.50	0.5000	0	96.2	70	130				
Molybdenum	0.524	0.50	0.5000	0	105	70	130				
Selenium	0.504	0.50	0.5000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0	102	90	110				
Barium	104.058	1.0	100.0	0	104	90	110				
Manganese	100.893	0.50	100.0	0	101	90	110				
Molybdenum	10.973	0.50	10.00	0	110	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.118	0.10	0.1000	0	118	80	120				
Barium	1.074	1.0	1.000	0	107	80	120				
Manganese	0.510	0.50	0.5000	0	102	80	120				
Molybdenum	0.555	0.50	0.5000	0	111	80	120				
Selenium	0.528	0.50	0.5000	0	106	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.950	0.10	20.00	0	94.8	90	110				
Barium	19.874	1.0	20.00	0	99.4	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	19.830	0.50	20.00	0	99.1	90	110				
Selenium	19.014	0.50	20.00	0	95.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.304	0.10	20.00	0	96.5	90	110				
Barium	19.668	1.0	20.00	0	98.3	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	18.928	0.50	20.00	0	94.6	90	110				
Selenium	18.795	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Barium	1.092	1.0	1.000	0	109	70	130				
Manganese	0.520	0.50	0.5000	0	104	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.5	70	130				
Selenium	0.529	0.50	0.5000	0	106	70	130				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.252	0.10	20.00	0	96.3	90	110				
Barium	19.902	1.0	20.00	0	99.5	90	110				
Manganese	19.159	0.50	20.00	0	95.8	90	110				
Molybdenum	19.275	0.50	20.00	0	96.4	90	110				
Selenium	18.855	0.50	20.00	0	94.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.971	0.10	20.00	0	94.9	90	110				
Barium	19.798	1.0	20.00	0	99.0	90	110				
Manganese	19.171	0.50	20.00	0	95.9	90	110				
Molybdenum	18.990	0.50	20.00	0	94.9	90	110				
Selenium	19.138	0.50	20.00	0	95.7	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.105	0.10	20.00	0	95.5	90	110				
Barium	19.696	1.0	20.00	0	98.5	90	110				
Manganese	19.019	0.50	20.00	0	95.1	90	110				
Molybdenum	18.977	0.50	20.00	0	94.9	90	110				
Selenium	18.725	0.50	20.00	0	93.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.086	0.10	20.00	0	95.4	90	110				
Barium	19.599	1.0	20.00	0	98.0	90	110				
Manganese	19.161	0.50	20.00	0	95.8	90	110				
Molybdenum	18.828	0.50	20.00	0	94.1	90	110				
Selenium	18.873	0.50	20.00	0	94.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Barium	1.098	1.0	1.000	0	110	70	130				
Manganese	0.504	0.50	0.5000	0	101	70	130				
Molybdenum	0.503	0.50	0.5000	0	101	70	130				
Selenium	0.530	0.50	0.5000	0	106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.992	0.50	10.00	0	110	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.563	0.50	0.5000	0	113	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.235	0.50	20.00	0	96.2	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.520	0.50	20.00	0	97.6	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.306	0.50	20.00	0	96.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV4	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCV	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255293

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.089	0.50	20.00	0	95.4	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255295

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.517	0.50	0.5000	0	103	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.336	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.045	1.0	1.000	0	105	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.382	1.0	20.00	0	102	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.164	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	CCV	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.098	1.0	20.00	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.014	1.0	1.000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.303	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.945	1.0	1.000	0	94.5	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.346	1.0	20.00	0	96.7	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.460	1.0	20.00	0	97.3	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.972	1.0	1.000	0	97.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.547	1.0	20.00	0	97.7	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.257	1.0	20.00	0	96.3	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.318	1.0	20.00	0	96.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.294	1.0	20.00	0	96.5	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.981	1.0	1.000	0	98.1	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.267	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.108	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.167	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.124	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.142	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.234	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.190	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.072	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.093	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.097	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.067	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.077	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.219	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.087	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.082	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.080	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.079	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.057	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	80	120				
Barium	20.485	1.0	20.00	0	102	80	120				
Manganese	16.459	0.50	20.00	0	82.3	80	120				
Molybdenum	23.196	0.50	20.00	0	116	80	120				
Selenium	19.281	0.50	20.00	0	96.4	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ICSAB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	80	120				
Barium	20.879	1.0	20.00	0	104	80	120				
Manganese	16.347	0.50	20.00	0	81.7	80	120				
Molybdenum	23.232	0.50	20.00	0	116	80	120				
Selenium	19.506	0.50	20.00	0	97.5	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ICSA	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247068

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ICSAB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247069

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.348	0.10	20.00	0	102	80	120				
Barium	21.142	1.0	20.00	0	106	80	120				
Manganese	16.506	0.50	20.00	0	82.5	80	120				
Molybdenum	23.406	0.50	20.00	0	117	80	120				
Selenium	19.192	0.50	20.00	0	96.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.085	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.824	0.10	20.00	0	104	80	120				
Barium	20.721	1.0	20.00	0	104	80	120				
Manganese	17.818	0.50	20.00	0	89.1	80	120				
Molybdenum	23.941	0.50	20.00	0	120	80	120				
Selenium	19.099	0.50	20.00	0	95.5	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.039	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.494	0.10	20.00	0	107	80	120				
Barium	18.841	1.0	20.00	0	94.2	80	120				
Manganese	19.579	0.50	20.00	0	97.9	80	120				
Molybdenum	23.538	0.50	20.00	0	118	80	120				
Selenium	21.101	0.50	20.00	0	106	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.043	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.531	0.10	20.00	0	108	80	120				
Barium	19.007	1.0	20.00	0	95.0	80	120				
Manganese	19.559	0.50	20.00	0	97.8	80	120				
Molybdenum	23.541	0.50	20.00	0	118	80	120				
Selenium	20.039	0.50	20.00	0	100	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.089	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.702	0.50	20.00	0	119	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.047	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.732	0.50	20.00	0	119	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.172	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.118	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.163	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.744	1.0	20.00	0	98.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.177	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.112	1.0	20.00	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.967	1.0	20.00	0	115	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.175	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255220

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.308	1.0	20.00	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	12406544	12406544	100	PASS	70-130	203921.1	203921.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	13541261.7	12406544	109.15	PASS	70-130	220681.7	203921.1	108.22	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	13552421.6	12406544	109.24	PASS	70-130	219372.2	203921.1	107.58	PASS	70-130
Std3-5/50 ppb	ICAL	1	13598866	12406544	109.61	PASS	70-130	216758.8	203921.1	106.3	PASS	70-130
Std4-10/100 ppb	ICAL	1	13450887.6	12406544	108.42	PASS	70-130	213499.5	203921.1	104.7	PASS	70-130
Std5-20/200 ppb	ICAL	1	13309725.2	12406544	107.28	PASS	70-130	209337.4	203921.1	102.66	PASS	70-130
Std6-40/400 ppb	ICAL	1	13478300.6	12406544	108.64	PASS	70-130	209526.9	203921.1	102.75	PASS	70-130
Std7-100/1000 ppb	ICAL	1	13223698.7	12406544	106.59	PASS	70-130	202738.2	203921.1	99.42	PASS	70-130
Std8-200/2000 ppb	ICAL	1	13284122.3	12406544	107.07	PASS	70-130	200626.5	203921.1	98.38	PASS	70-130
ICV	ICV	1	11249142.3	12406544	90.67	PASS	70-130	147643.7	203921.1	72.4	PASS	70-130
ICB	ICB	1	12061233.6	12406544	97.22	PASS	70-130	185314	203921.1	90.88	PASS	70-130
LLICV	CCV1	1	12742367.4	12406544	102.71	PASS	70-130	191313.1	203921.1	93.82	PASS	70-130
ICSA1	ICSA	1	12516305.4	12406544	100.88	PASS	70-130	213396.6	203921.1	104.65	PASS	70-130
ICSAB1	ICSAB	1	12408632.5	12406544	100.02	PASS	70-130	221245.2	203921.1	108.5	PASS	70-130
CCV1	CCV	1	12663523.1	12406544	102.07	PASS	70-130	195379.1	203921.1	95.81	PASS	70-130
CCB1	CCB	1	11697980	12406544	94.29	PASS	70-130	174751.1	203921.1	85.7	PASS	70-130
CCV2	CCV	1	12289033.2	12406544	99.053	PASS	70-130	179607.1	203921.1	88.077	PASS	70-130
CCB2	CCB	1	11252748.3	12406544	90.7	PASS	70-130	160161.7	203921.1	78.54	PASS	70-130
MB-56419	MBLK	1	12140690.9	12406544	97.86	PASS	70-130	195746.7	203921.1	95.99	PASS	70-130
LCS-56419	LCS	1	12763121.8	12406544	102.87	PASS	70-130	198779.1	203921.1	97.48	PASS	70-130
N018861-007B	SAMP	1	7217174	12406544	58.17	NR!	70-130	145037.4	203921.1	71.12	PASS	70-130
CCV3	CCV	1	13496201.2	12406544	108.78	PASS	70-130	218523.1	203921.1	107.16	PASS	70-130
CCB3	CCB	1	12186571.5	12406544	98.23	PASS	70-130	194355	203921.1	95.31	PASS	70-130
N018861-007B	SAMP	5	10119104.9	12406544	81.56	PASS	70-130	169755.1	203921.1	83.25	PASS	70-130
N018861-007B-PS	PS	1	7611565.4	12406544	61.35	NR!	70-130	152670	203921.1	74.87	PASS	70-130
N018861-007B-MS	MS	1	7630944.5	12406544	61.51	NR!	70-130	154727.3	203921.1	75.88	PASS	70-130
N018861-007B-MSD	MSD	1	7658131.9	12406544	61.73	NR!	70-130	156559.8	203921.1	76.77	PASS	70-130
N018843-001B	SAMP	1	12113796.8	12406544	97.64	PASS	70-130	198008.6	203921.1	97.1	PASS	70-130
N018843-002B	SAMP	1	11582577.2	12406544	93.36	PASS	70-130	192973	203921.1	94.63	PASS	70-130
N018843-003B	SAMP	1	11749852.2	12406544	94.71	PASS	70-130	191316.2	203921.1	93.82	PASS	70-130
N018843-004B	SAMP	1	11419882.2	12406544	92.047	PASS	70-130	186670	203921.1	91.54	PASS	70-130
N018843-005B	SAMP	1	11509084.8	12406544	92.77	PASS	70-130	187770.6	203921.1	92.08	PASS	70-130
N018843-006B	SAMP	1	11383850.8	12406544	91.76	PASS	70-130	185135.4	203921.1	90.79	PASS	70-130
CCV4	CCV	1	12644594.3	12406544	101.92	PASS	70-130	202073.9	203921.1	99.094	PASS	70-130
CCB4	CCB	1	11591555.9	12406544	93.43	PASS	70-130	180430.1	203921.1	88.48	PASS	70-130
LLCCV1	CCV2	1	12162976.6	12406544	98.037	PASS	70-130	189392	203921.1	92.88	PASS	70-130
ICSA2	ICSA	1	12058001.9	12406544	97.19	PASS	70-130	207757.1	203921.1	101.88	PASS	70-130
ICSAB2	ICSAB	1	11982098.4	12406544	96.58	PASS	70-130	212702.2	203921.1	104.31	PASS	70-130
N018843-007B	SAMP	1	11358387.3	12406544	91.55	PASS	70-130	182536.8	203921.1	89.51	PASS	70-130
N018843-008B	SAMP	1	11105175.4	12406544	89.51	PASS	70-130	176908.8	203921.1	86.75	PASS	70-130
N018843-009B	SAMP	1	11229135	12406544	90.51	PASS	70-130	178067.7	203921.1	87.32	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	11359082.3	12406544	91.56	PASS	70-130	178547.2	203921.1	87.56	PASS	70-130
N018843-010B-MS	MS	1	11239051.8	12406544	90.59	PASS	70-130	179079	203921.1	87.82	PASS	70-130
N018844-001B	SAMP	1	11057081.5	12406544	89.12	PASS	70-130	172947.3	203921.1	84.81	PASS	70-130
N018845-001B	SAMP	1	8475282.6	12406544	68.31	NR!	70-130	151931.7	203921.1	74.51	PASS	70-130
N018845-002B	SAMP	1	7679156.7	12406544	61.9	NR!	70-130	141662.4	203921.1	69.47	NR!	70-130
N018845-003B	SAMP	1	10365132.1	12406544	83.55	PASS	70-130	176500.7	203921.1	86.55	PASS	70-130
N018845-004B	SAMP	1	9916790.9	12406544	79.93	PASS	70-130	171517.6	203921.1	84.11	PASS	70-130
CCV5	CCV	1	12956269	12406544	104.43	PASS	70-130	213508.1	203921.1	104.7	PASS	70-130
CCB5	CCB	1	11661632.2	12406544	94	PASS	70-130	190287	203921.1	93.31	PASS	70-130
N018845-006B	SAMP	1	10055342.8	12406544	81.049	PASS	70-130	170328	203921.1	83.53	PASS	70-130
N018845-007B	SAMP	1	7687577	12406544	61.96	NR!	70-130	142169.3	203921.1	69.72	NR!	70-130
N018845-008B	SAMP	1	10856750.4	12406544	87.51	PASS	70-130	176078.2	203921.1	86.35	PASS	70-130
N018845-005B	SAMP	1	9332018.4	12406544	75.22	PASS	70-130	159059.1	203921.1	78	PASS	70-130
CCV6	CCV	1	12248258.2	12406544	98.72	PASS	70-130	190726	203921.1	93.53	PASS	70-130
CCB6	CCB	1	11214394	12406544	90.39	PASS	70-130	175643	203921.1	86.13	PASS	70-130
LLCCV2	CCV2	1	11845429.5	12406544	95.48	PASS	70-130	186336.9	203921.1	91.38	PASS	70-130
ICSA3	ICSA	1	11441629.6	12406544	92.22	PASS	70-130	193457.1	203921.1	94.87	PASS	70-130
ICSAB3	ICSAB	1	11422788	12406544	92.071	PASS	70-130	197474.6	203921.1	96.84	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	135207	135207	100	PASS	70-130	164771.4	164771.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	147912.9	135207	109.4	PASS	70-130	178524.1	164771.4	108.35	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146598.5	135207	108.43	PASS	70-130	176991.3	164771.4	107.42	PASS	70-130
Std3-5/50 ppb	ICAL	1	145259.7	135207	107.44	PASS	70-130	176108.1	164771.4	106.88	PASS	70-130
Std4-10/100 ppb	ICAL	1	142616.2	135207	105.48	PASS	70-130	171058.3	164771.4	103.82	PASS	70-130
Std5-20/200 ppb	ICAL	1	139991.3	135207	103.54	PASS	70-130	168702.9	164771.4	102.39	PASS	70-130
Std6-40/400 ppb	ICAL	1	141092.9	135207	104.35	PASS	70-130	170189.2	164771.4	103.29	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136435.5	135207	100.91	PASS	70-130	166024.5	164771.4	100.76	PASS	70-130
Std8-200/2000 ppb	ICAL	1	135652.3	135207	100.33	PASS	70-130	164349.5	164771.4	99.74	PASS	70-130
ICV	ICV	1	98316.8	135207	72.72	PASS	70-130	116781.5	164771.4	70.87	PASS	70-130
ICB	ICB	1	126582.2	135207	93.62	PASS	70-130	149925.6	164771.4	90.99	PASS	70-130
LLICV	CCV1	1	133211.4	135207	98.52	PASS	70-130	159338.6	164771.4	96.7	PASS	70-130
ICSA1	ICSA	1	135652.7	135207	100.33	PASS	70-130	156599	164771.4	95.04	PASS	70-130
ICSAB1	ICSAB	1	137509.6	135207	101.7	PASS	70-130	162406	164771.4	98.56	PASS	70-130
CCV1	CCV	1	134446.3	135207	99.44	PASS	70-130	166758.6	164771.4	101.21	PASS	70-130
CCB1	CCB	1	120968.8	135207	89.47	PASS	70-130	144543.2	164771.4	87.72	PASS	70-130
CCV2	CCV	1	126298.5	135207	93.41	PASS	70-130	156637.1	164771.4	95.063	PASS	70-130
CCB2	CCB	1	113420.9	135207	83.89	PASS	70-130	136446.8	164771.4	82.81	PASS	70-130
MB-56419	MBLK	1	133237.9	135207	98.54	PASS	70-130	160968.4	164771.4	97.69	PASS	70-130
LCS-56419	LCS	1	132942.6	135207	98.33	PASS	70-130	163545.2	164771.4	99.26	PASS	70-130
N018861-007B	SAMP	1	81790.3	135207	60.49	NR!	70-130	92172.8	164771.4	55.94	NR!	70-130
CCV3	CCV	1	147319.6	135207	108.96	PASS	70-130	180298.9	164771.4	109.42	PASS	70-130
CCB3	CCB	1	131180.5	135207	97.022	PASS	70-130	158917.8	164771.4	96.45	PASS	70-130
N018861-007B	SAMP	5	106697.1	135207	78.91	PASS	70-130	126139	164771.4	76.55	PASS	70-130
N018861-007B-PS	PS	1	84520.7	135207	62.51	NR!	70-130	97455.4	164771.4	59.15	NR!	70-130
N018861-007B-MS	MS	1	86130.2	135207	63.7	NR!	70-130	97479.9	164771.4	59.16	NR!	70-130
N018861-007B-MSD	MSD	1	85834.3	135207	63.48	NR!	70-130	97669.1	164771.4	59.28	NR!	70-130
N018843-001B	SAMP	1	127497.8	135207	94.3	PASS	70-130	154505	164771.4	93.77	PASS	70-130
N018843-002B	SAMP	1	125360.2	135207	92.72	PASS	70-130	153001.9	164771.4	92.86	PASS	70-130
N018843-003B	SAMP	1	125853.5	135207	93.082	PASS	70-130	152606.6	164771.4	92.62	PASS	70-130
N018843-004B	SAMP	1	122724.5	135207	90.77	PASS	70-130	148205.7	164771.4	89.95	PASS	70-130
N018843-005B	SAMP	1	121427.1	135207	89.81	PASS	70-130	149713.4	164771.4	90.86	PASS	70-130
N018843-006B	SAMP	1	120717.9	135207	89.28	PASS	70-130	146394.4	164771.4	88.85	PASS	70-130
CCV4	CCV	1	137979.7	135207	102.05	PASS	70-130	173239.7	164771.4	105.14	PASS	70-130
CCB4	CCB	1	123115.4	135207	91.057	PASS	70-130	148965.3	164771.4	90.41	PASS	70-130
LLCCV1	CCV2	1	129440.7	135207	95.74	PASS	70-130	155869.7	164771.4	94.6	PASS	70-130
ICSA2	ICSA	1	130512.1	135207	96.53	PASS	70-130	150867.6	164771.4	91.56	PASS	70-130
ICSAB2	ICSAB	1	132273.4	135207	97.83	PASS	70-130	158271.8	164771.4	96.055	PASS	70-130
N018843-007B	SAMP	1	118808.5	135207	87.87	PASS	70-130	142975.8	164771.4	86.77	PASS	70-130
N018843-008B	SAMP	1	115177.1	135207	85.19	PASS	70-130	141168.5	164771.4	85.68	PASS	70-130
N018843-009B	SAMP	1	116983.2	135207	86.52	PASS	70-130	141702.9	164771.4	86	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	118426.2	135207	87.59	PASS	70-130	142570.5	164771.4	86.53	PASS	70-130
N018843-010B-MS	MS	1	117237.4	135207	86.71	PASS	70-130	142060.1	164771.4	86.22	PASS	70-130
N018844-001B	SAMP	1	114601.5	135207	84.76	PASS	70-130	139722.8	164771.4	84.8	PASS	70-130
N018845-001B	SAMP	1	91318.1	135207	67.54	NR!	70-130	108610.4	164771.4	65.92	NR!	70-130
N018845-002B	SAMP	1	82787.6	135207	61.23	NR!	70-130	95869.5	164771.4	58.18	NR!	70-130
N018845-003B	SAMP	1	110473.1	135207	81.71	PASS	70-130	128511.8	164771.4	77.99	PASS	70-130
N018845-004B	SAMP	1	105804.5	135207	78.25	PASS	70-130	125067.9	164771.4	75.9	PASS	70-130
CCV5	CCV	1	143851.3	135207	106.39	PASS	70-130	179680.3	164771.4	109.05	PASS	70-130
CCB5	CCB	1	128120.7	135207	94.76	PASS	70-130	159505.7	164771.4	96.8	PASS	70-130
N018845-006B	SAMP	1	107112.9	135207	79.22	PASS	70-130	125078.4	164771.4	75.91	PASS	70-130
N018845-007B	SAMP	1	82802.3	135207	61.24	NR!	70-130	96905.6	164771.4	58.81	NR!	70-130
N018845-008B	SAMP	1	113615.6	135207	84.031	PASS	70-130	135908.1	164771.4	82.48	PASS	70-130
N018845-005B	SAMP	1	98587.6	135207	72.92	PASS	70-130	117850.1	164771.4	71.52	PASS	70-130
CCV6	CCV	1	130106.5	135207	96.23	PASS	70-130	161230.3	164771.4	97.85	PASS	70-130
CCB6	CCB	1	119420.7	135207	88.32	PASS	70-130	146286.4	164771.4	88.78	PASS	70-130
LLCCV2	CCV2	1	127750.8	135207	94.49	PASS	70-130	154368	164771.4	93.69	PASS	70-130
ICSA3	ICSA	1	123555.9	135207	91.38	PASS	70-130	146304.2	164771.4	88.79	PASS	70-130
ICSAB3	ICSAB	1	124020.1	135207	91.73	PASS	70-130	148570.5	164771.4	90.17	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	3649054.4	3649054.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	3936389.5	3649054.4	107.87	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	3919515.8	3649054.4	107.41	PASS	70-130
Std3-5/50 ppb	ICAL	1	3891447.1	3649054.4	106.64	PASS	70-130
Std4-10/100 ppb	ICAL	1	3870199.5	3649054.4	106.06	PASS	70-130
Std5-20/200 ppb	ICAL	1	3833322.2	3649054.4	105.05	PASS	70-130
Std6-40/400 ppb	ICAL	1	3850266.1	3649054.4	105.51	PASS	70-130
Std7-100/1000 ppb	ICAL	1	3726860.3	3649054.4	102.13	PASS	70-130
Std8-200/2000 ppb	ICAL	1	3690356.2	3649054.4	101.13	PASS	70-130
ICV	ICV	1	3036599.5	3649054.4	83.22	PASS	70-130
ICB	ICB	1	3466105.7	3649054.4	94.99	PASS	70-130
LLICV	CCV1	1	3608489	3649054.4	98.89	PASS	70-130
ICSA1	ICSA	1	3377494.3	3649054.4	92.56	PASS	70-130
ICSAB1	ICSAB	1	3395422	3649054.4	93.049	PASS	70-130
CCV1	CCV	1	3637663.8	3649054.4	99.69	PASS	70-130
CCB1	CCB	1	3292290.8	3649054.4	90.22	PASS	70-130
CCV2	CCV	1	3429982.5	3649054.4	94	PASS	70-130
CCB2	CCB	1	3110562	3649054.4	85.24	PASS	70-130
MB-56419	MBLK	1	3536710.9	3649054.4	96.92	PASS	70-130
LCS-56419	LCS	1	3578821.9	3649054.4	98.075	PASS	70-130
N018861-007B	SAMP	1	1849419.4	3649054.4	50.68	NR!	70-130
CCV3	CCV	1	3895709.1	3649054.4	106.76	PASS	70-130
CCB3	CCB	1	3505563	3649054.4	96.068	PASS	70-130
N018861-007B	SAMP	5	2630783.5	3649054.4	72.095	PASS	70-130
N018861-007B-PS	PS	1	1922403.9	3649054.4	52.68	NR!	70-130
N018861-007B-MS	MS	1	1950060	3649054.4	53.44	NR!	70-130
N018861-007B-MSD	MSD	1	1960540.1	3649054.4	53.73	NR!	70-130
N018843-001B	SAMP	1	3201090.1	3649054.4	87.72	PASS	70-130
N018843-002B	SAMP	1	3082537.6	3649054.4	84.47	PASS	70-130
N018843-003B	SAMP	1	3088205.7	3649054.4	84.63	PASS	70-130
N018843-004B	SAMP	1	3041807.1	3649054.4	83.36	PASS	70-130
N018843-005B	SAMP	1	3027730.7	3649054.4	82.97	PASS	70-130
N018843-006B	SAMP	1	3000338.5	3649054.4	82.22	PASS	70-130
CCV4	CCV	1	3640849	3649054.4	99.78	PASS	70-130
CCB4	CCB	1	3275233.4	3649054.4	89.76	PASS	70-130
LLCCV1	CCV2	1	3446043.8	3649054.4	94.44	PASS	70-130
ICSA2	ICSA	1	3213929.4	3649054.4	88.076	PASS	70-130
ICSAB2	ICSAB	1	3224762.2	3649054.4	88.37	PASS	70-130
N018843-007B	SAMP	1	2995327.3	3649054.4	82.085	PASS	70-130
N018843-008B	SAMP	1	2872974.6	3649054.4	78.73	PASS	70-130
N018843-009B	SAMP	1	2919941.9	3649054.4	80.019	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	2942353.9	3649054.4	80.63	PASS	70-130
N018843-010B-MS	MS	1	2932205.3	3649054.4	80.36	PASS	70-130
N018844-001B	SAMP	1	2876373.1	3649054.4	78.83	PASS	70-130
N018845-001B	SAMP	1	2128330.6	3649054.4	58.33	NR!	70-130
N018845-002B	SAMP	1	1942286.2	3649054.4	53.23	NR!	70-130
N018845-003B	SAMP	1	2649370.4	3649054.4	72.6	PASS	70-130
N018845-004B	SAMP	1	2557456.8	3649054.4	70.085	PASS	70-130
CCV5	CCV	1	3748949.6	3649054.4	102.74	PASS	70-130
CCB5	CCB	1	3364377.4	3649054.4	92.2	PASS	70-130
N018845-006B	SAMP	1	2575526.2	3649054.4	70.58	PASS	70-130
N018845-007B	SAMP	1	1907283.2	3649054.4	52.27	NR!	70-130
N018845-008B	SAMP	1	2804713.8	3649054.4	76.86	PASS	70-130
N018845-005B	SAMP	1	2381565	3649054.4	65.27	NR!	70-130
CCV6	CCV	1	3441226.2	3649054.4	94.3	PASS	70-130
CCB6	CCB	1	3180107.3	3649054.4	87.15	PASS	70-130
LLCCV2	CCV2	1	3364032	3649054.4	92.19	PASS	70-130
ICSA3	ICSA	1	3007549.2	3649054.4	82.42	PASS	70-130
ICSAB3	ICSAB	1	3002123.9	3649054.4	82.27	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	10274792.6	10274792.6	100	PASS	70-130	171872.1	171872.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	10013811.8	10274792.6	97.46	PASS	70-130	166885.6	171872.1	97.099	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	10060154.8	10274792.6	97.91	PASS	70-130	164481.1	171872.1	95.7	PASS	70-130
Std3-5/50 ppb	ICAL	1	9947741.5	10274792.6	96.82	PASS	70-130	162231.7	171872.1	94.39	PASS	70-130
Std4-10/100 ppb	ICAL	1	9909177.6	10274792.6	96.44	PASS	70-130	158833.7	171872.1	92.41	PASS	70-130
Std5-20/200 ppb	ICAL	1	9833876.5	10274792.6	95.71	PASS	70-130	159849.4	171872.1	93.005	PASS	70-130
Std6-40/400 ppb	ICAL	1	9881767.6	10274792.6	96.17	PASS	70-130	158058.1	171872.1	91.96	PASS	70-130
Std7-100/1000 ppb	ICAL	1	9830372.8	10274792.6	95.67	PASS	70-130	154833.5	171872.1	90.086	PASS	70-130
Std8-200/2000 ppb	ICAL	1	9680702.6	10274792.6	94.22	PASS	70-130	152727.7	171872.1	88.86	PASS	70-130
ICV	ICV	1	10685283.7	10274792.6	104	PASS	70-130	169671.3	171872.1	98.72	PASS	70-130
ICB	ICB	1	10017451.5	10274792.6	97.5	PASS	70-130	161352	171872.1	93.88	PASS	70-130
LLICV	CCV1	1	10255095.8	10274792.6	99.81	PASS	70-130	162638.9	171872.1	94.63	PASS	70-130
ICSA1	ICSA	1	9560743.2	10274792.6	93.05	PASS	70-130	165823.9	171872.1	96.48	PASS	70-130
ICSAB1	ICSAB	1	8558570.6	10274792.6	83.3	PASS	70-130	155734.6	171872.1	90.61	PASS	70-130
LLICV	CCV1	1	10361934.5	10274792.6	100.85	PASS	70-130	177090.1	171872.1	103.04	PASS	70-130
CCV1	CCV	1	9809066	10274792.6	95.47	PASS	70-130	165901.8	171872.1	96.53	PASS	70-130
CCB1	CCB	1	9801052.9	10274792.6	95.39	PASS	70-130	163804.8	171872.1	95.31	PASS	70-130
CCV2	CCV	1	9581000.7	10274792.6	93.25	PASS	70-130	155556.3	171872.1	90.51	PASS	70-130
CCB2	CCB	1	9738744	10274792.6	94.78	PASS	70-130	157102.8	171872.1	91.41	PASS	70-130
LLCCV1	CCV2	1	9901281.2	10274792.6	96.36	PASS	70-130	157849.7	171872.1	91.84	PASS	70-130
ICSA2	ICSA	1	9501460.7	10274792.6	92.47	PASS	70-130	169212.6	171872.1	98.45	PASS	70-130
ICSAB	ICSAB	1	11152296.4	10274792.6	108.54	PASS	70-130	152714.6	171872.1	88.85	PASS	70-130
CCV3	CCV	1	9220588	10274792.6	89.74	PASS	70-130	153037.7	171872.1	89.042	PASS	70-130
CCB3	CCB	1	9128620.1	10274792.6	88.84	PASS	70-130	148270.4	171872.1	86.27	PASS	70-130
MB-56419	MBLK	1	9358593.8	10274792.6	91.083	PASS	70-130	153280.5	171872.1	89.18	PASS	70-130
LCS-56419	LCS	1	9919698	10274792.6	96.54	PASS	70-130	161470.8	171872.1	93.95	PASS	70-130
N018861-007B	SAMP	1	5794513.2	10274792.6	56.4	NR!	70-130	107626.7	171872.1	62.62	NR!	70-130
N018861-007B	SAMP	5	7987047	10274792.6	77.73	PASS	70-130	139931.1	171872.1	81.42	PASS	70-130
N018861-007B	SAMP	25	8960981.3	10274792.6	87.21	PASS	70-130	147151.9	171872.1	85.62	PASS	70-130
N018861-007B-PS	PS	1	6126298.9	10274792.6	59.62	NR!	70-130	115884.6	171872.1	67.42	NR!	70-130
N018861-007B-PS	PS	5	8336845	10274792.6	81.14	PASS	70-130	143156.6	171872.1	83.29	PASS	70-130
CCV4	CCV	1	9498284.5	10274792.6	92.44	PASS	70-130	153911.3	171872.1	89.55	PASS	70-130
CCB4	CCB	1	9389099.9	10274792.6	91.38	PASS	70-130	149834.3	171872.1	87.18	PASS	70-130
N018861-007B-MS	MS	1	6213535.5	10274792.6	60.47	NR!	70-130	116288.3	171872.1	67.66	NR!	70-130
N018861-007B-MS	MS	5	8251851.2	10274792.6	80.31	PASS	70-130	142234.7	171872.1	82.76	PASS	70-130
N018861-007B-MSD	MSD	1	6180744.3	10274792.6	60.15	NR!	70-130	120049.1	171872.1	69.85	NR!	70-130
N018861-007B-MSD	MSD	5	8293961.1	10274792.6	80.72	PASS	70-130	143043.2	171872.1	83.23	PASS	70-130
N018843-001B	SAMP	1	8867293.6	10274792.6	86.3	PASS	70-130	143101.4	171872.1	83.26	PASS	70-130
N018843-002B	SAMP	1	8637908.1	10274792.6	84.069	PASS	70-130	138294.9	171872.1	80.46	PASS	70-130
N018843-003B	SAMP	1	8640662.9	10274792.6	84.096	PASS	70-130	133971.5	171872.1	77.95	PASS	70-130
N018843-004B	SAMP	1	8609849.5	10274792.6	83.8	PASS	70-130	131403.8	171872.1	76.45	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	8559934.7	10274792.6	83.31	PASS	70-130	133001.7	171872.1	77.38	PASS	70-130
N018843-006B	SAMP	1	8394207.9	10274792.6	81.7	PASS	70-130	130116.3	171872.1	75.71	PASS	70-130
CCV5	CCV	1	8726002.5	10274792.6	84.93	PASS	70-130	138521.4	171872.1	80.6	PASS	70-130
CCB5	CCB	1	8980966.5	10274792.6	87.41	PASS	70-130	138681.8	171872.1	80.69	PASS	70-130
N018843-007B	SAMP	1	8541865.2	10274792.6	83.13	PASS	70-130	128697.6	171872.1	74.88	PASS	70-130
N018843-008B	SAMP	1	8294128.8	10274792.6	80.72	PASS	70-130	124792.6	171872.1	72.61	PASS	70-130
N018843-009B	SAMP	1	8443951.3	10274792.6	82.18	PASS	70-130	125473.5	171872.1	73.004	PASS	70-130
N018843-010B	SAMP	1	8434559.2	10274792.6	82.09	PASS	70-130	125801	171872.1	73.19	PASS	70-130
N018843-010B	SAMP	5	8540987.7	10274792.6	83.13	PASS	70-130	130323.7	171872.1	75.83	PASS	70-130
N018843-010B-MS	MS	1	8534608.7	10274792.6	83.064	PASS	70-130	127364.2	171872.1	74.1	PASS	70-130
N018843-010B-MS	MSD	5	8554805.5	10274792.6	83.26	PASS	70-130	132060.2	171872.1	76.84	PASS	70-130
N018844-001B	SAMP	1	8395907.4	10274792.6	81.71	PASS	70-130	121935.3	171872.1	70.95	PASS	70-130
N018845-001B	SAMP	1	6363420.2	10274792.6	61.93	NR!	70-130	107644.1	171872.1	62.63	NR!	70-130
N018845-001B	SAMP	5	8170313.6	10274792.6	79.52	PASS	70-130	130910.2	171872.1	76.17	PASS	70-130
CCV6	CCV	1	8787476.5	10274792.6	85.52	PASS	70-130	140105.1	171872.1	81.52	PASS	70-130
CCB6	CCB	1	8822683.1	10274792.6	85.87	PASS	70-130	137384.6	171872.1	79.93	PASS	70-130
LLCCV2	CCV2	1	8899868.9	10274792.6	86.62	PASS	70-130	136439.8	171872.1	79.38	PASS	70-130
ICSA3	ICSA	1	8341254.7	10274792.6	81.18	PASS	70-130	139750.5	171872.1	81.31	PASS	70-130
ICSAB3	ICSAB	1	11419229.3	10274792.6	111.14	PASS	70-130	162057	171872.1	94.29	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	114739.3	114739.3	100	PASS	70-130	151772	151772	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	113154.9	114739.3	98.62	PASS	70-130	146962.5	151772	96.83	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	110851.4	114739.3	96.61	PASS	70-130	146301.7	151772	96.4	PASS	70-130
Std3-5/50 ppb	ICAL	1	109870.7	114739.3	95.76	PASS	70-130	143870.9	151772	94.79	PASS	70-130
Std4-10/100 ppb	ICAL	1	107891	114739.3	94.031	PASS	70-130	142366.7	151772	93.8	PASS	70-130
Std5-20/200 ppb	ICAL	1	107005.2	114739.3	93.26	PASS	70-130	141838.4	151772	93.45	PASS	70-130
Std6-40/400 ppb	ICAL	1	106125.1	114739.3	92.49	PASS	70-130	138142	151772	91.019	PASS	70-130
Std7-100/1000 ppb	ICAL	1	103960.2	114739.3	90.61	PASS	70-130	136219.5	151772	89.75	PASS	70-130
Std8-200/2000 ppb	ICAL	1	101544.3	114739.3	88.5	PASS	70-130	132719.9	151772	87.45	PASS	70-130
ICV	ICV	1	113930.8	114739.3	99.3	PASS	70-130	145029.5	151772	95.56	PASS	70-130
ICB	ICB	1	109872.1	114739.3	95.76	PASS	70-130	142122.4	151772	93.64	PASS	70-130
LLICV	CCV1	1	106883.6	114739.3	93.15	PASS	70-130	138927.8	151772	91.54	PASS	70-130
ICSA1	ICSA	1	104594.7	114739.3	91.16	PASS	70-130	132052.7	151772	87.007	PASS	70-130
ICSAB1	ICSAB	1	97742.6	114739.3	85.19	PASS	70-130	124666.6	151772	82.14	PASS	70-130
LLICV	CCV1	1	114372.4	114739.3	99.68	PASS	70-130	150707.1	151772	99.3	PASS	70-130
CCV1	CCV	1	109469.2	114739.3	95.41	PASS	70-130	143042.9	151772	94.25	PASS	70-130
CCB1	CCB	1	109342.2	114739.3	95.3	PASS	70-130	140510.1	151772	92.58	PASS	70-130
CCV2	CCV	1	102231.9	114739.3	89.099	PASS	70-130	128575.5	151772	84.72	PASS	70-130
CCB2	CCB	1	104574.2	114739.3	91.14	PASS	70-130	134516.8	151772	88.63	PASS	70-130
LLCCV1	CCV2	1	102750.8	114739.3	89.55	PASS	70-130	133473.7	151772	87.94	PASS	70-130
ICSA2	ICSA	1	106011.6	114739.3	92.39	PASS	70-130	127789.1	151772	84.2	PASS	70-130
ICSAB	ICSAB	1	98577.6	114739.3	85.91	PASS	70-130	114090.2	151772	75.17	PASS	70-130
CCV3	CCV	1	100796.8	114739.3	87.85	PASS	70-130	131560.2	151772	86.68	PASS	70-130
CCB3	CCB	1	98954.3	114739.3	86.24	PASS	70-130	126508.4	151772	83.35	PASS	70-130
MB-56419	MBLK	1	102190.6	114739.3	89.063	PASS	70-130	133126	151772	87.71	PASS	70-130
LCS-56419	LCS	1	105443.2	114739.3	91.9	PASS	70-130	134847.4	151772	88.85	PASS	70-130
N018861-007B	SAMP	1	61963.8	114739.3	54.004	NR!	70-130	73439.7	151772	48.39	NR!	70-130
N018861-007B	SAMP	5	85832.7	114739.3	74.81	PASS	70-130	107925.6	151772	71.11	PASS	70-130
N018861-007B	SAMP	25	96711	114739.3	84.29	PASS	70-130	123461	151772	81.35	PASS	70-130
N018861-007B-PS	PS	1	65106.7	114739.3	56.74	NR!	70-130	77612.5	151772	51.14	NR!	70-130
N018861-007B-PS	PS	5	88045.5	114739.3	76.74	PASS	70-130	111354.5	151772	73.37	PASS	70-130
CCV4	CCV	1	101146.1	114739.3	88.15	PASS	70-130	130942.4	151772	86.28	PASS	70-130
CCB4	CCB	1	101093.8	114739.3	88.11	PASS	70-130	127959.2	151772	84.31	PASS	70-130
N018861-007B-MS	MS	1	66165.7	114739.3	57.67	NR!	70-130	77888.9	151772	51.32	NR!	70-130
N018861-007B-MS	MS	5	86770.1	114739.3	75.62	PASS	70-130	111806.9	151772	73.67	PASS	70-130
N018861-007B-MSD	MSD	1	67568.3	114739.3	58.89	NR!	70-130	81696.3	151772	53.83	NR!	70-130
N018861-007B-MSD	MSD	5	87883.8	114739.3	76.59	PASS	70-130	110005.7	151772	72.48	PASS	70-130
N018843-001B	SAMP	1	93414	114739.3	81.41	PASS	70-130	118695.3	151772	78.21	PASS	70-130
N018843-002B	SAMP	1	90858.4	114739.3	79.19	PASS	70-130	116264	151772	76.6	PASS	70-130
N018843-003B	SAMP	1	90197.3	114739.3	78.61	PASS	70-130	113949.5	151772	75.079	PASS	70-130
N018843-004B	SAMP	1	88164	114739.3	76.84	PASS	70-130	113486	151772	74.77	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	88120.4	114739.3	76.8	PASS	70-130	111466.7	151772	73.44	PASS	70-130
N018843-006B	SAMP	1	86799	114739.3	75.65	PASS	70-130	112715.4	151772	74.27	PASS	70-130
CCV5	CCV	1	91764.9	114739.3	79.98	PASS	70-130	119334.6	151772	78.63	PASS	70-130
CCB5	CCB	1	91960	114739.3	80.15	PASS	70-130	117380.6	151772	77.34	PASS	70-130
N018843-007B	SAMP	1	85767.1	114739.3	74.75	PASS	70-130	107922.4	151772	71.11	PASS	70-130
N018843-008B	SAMP	1	82876.8	114739.3	72.23	PASS	70-130	105241.6	151772	69.34	NR!	70-130
N018843-009B	SAMP	1	83642.8	114739.3	72.9	PASS	70-130	106605.2	151772	70.24	PASS	70-130
N018843-010B	SAMP	1	84701.6	114739.3	73.82	PASS	70-130	107896.7	151772	71.091	PASS	70-130
N018843-010B	SAMP	5	89559.4	114739.3	78.055	PASS	70-130	113032.1	151772	74.47	PASS	70-130
N018843-010B-MS	MS	1	85640.9	114739.3	74.64	PASS	70-130	106355.2	151772	70.076	PASS	70-130
N018843-010B-MS	MSD	5	89504.6	114739.3	78.007	PASS	70-130	116575.5	151772	76.81	PASS	70-130
N018844-001B	SAMP	1	83423.8	114739.3	72.71	PASS	70-130	105792.8	151772	69.71	NR!	70-130
N018845-001B	SAMP	1	67051.2	114739.3	58.44	NR!	70-130	82526.2	151772	54.38	NR!	70-130
N018845-001B	SAMP	5	83409.2	114739.3	72.69	PASS	70-130	105388.5	151772	69.44	NR!	70-130
CCV6	CCV	1	92720.3	114739.3	80.81	PASS	70-130	119369.2	151772	78.65	PASS	70-130
CCB6	CCB	1	91840.9	114739.3	80.043	PASS	70-130	117770.8	151772	77.6	PASS	70-130
LLCCV2	CCV2	1	89468.7	114739.3	77.98	PASS	70-130	114732.8	151772	75.6	PASS	70-130
ICSA3	ICSA	1	88581.9	114739.3	77.2	PASS	70-130	108470.5	151772	71.47	PASS	70-130
ICSAB3	ICSAB	1	103010.5	114739.3	89.78	PASS	70-130	122164.3	151772	80.49	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	3065661.7	3065661.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	3012633.5	3065661.7	98.27	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	2997102.7	3065661.7	97.76	PASS	70-130
Std3-5/50 ppb	ICAL	1	2941755.2	3065661.7	95.96	PASS	70-130
Std4-10/100 ppb	ICAL	1	2921619.2	3065661.7	95.3	PASS	70-130
Std5-20/200 ppb	ICAL	1	2927018.5	3065661.7	95.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	2892832.2	3065661.7	94.36	PASS	70-130
Std7-100/1000 ppb	ICAL	1	2857868.5	3065661.7	93.22	PASS	70-130
Std8-200/2000 ppb	ICAL	1	2799519.5	3065661.7	91.32	PASS	70-130
ICV	ICV	1	3118126.4	3065661.7	101.71	PASS	70-130
ICB	ICB	1	3000190.3	3065661.7	97.86	PASS	70-130
LLICV	CCV1	1	3013514.1	3065661.7	98.3	PASS	70-130
ICSA1	ICSA	1	2625999.5	3065661.7	85.66	PASS	70-130
ICSAB1	ICSAB	1	2429414.3	3065661.7	79.25	PASS	70-130
LLICV	CCV1	1	3143402.4	3065661.7	102.54	PASS	70-130
CCV1	CCV	1	2914783.7	3065661.7	95.078	PASS	70-130
CCB1	CCB	1	2897607	3065661.7	94.52	PASS	70-130
CCV2	CCV	1	2805985.1	3065661.7	91.53	PASS	70-130
CCB2	CCB	1	2846550.3	3065661.7	92.85	PASS	70-130
LLCCV1	CCV2	1	2835229	3065661.7	92.48	PASS	70-130
ICSA2	ICSA	1	2600319.2	3065661.7	84.82	PASS	70-130
ICSAB	ICSAB	1	2667953.6	3065661.7	87.027	PASS	70-130
CCV3	CCV	1	2686495.3	3065661.7	87.63	PASS	70-130
CCB3	CCB	1	2634925.7	3065661.7	85.95	PASS	70-130
MB-56419	MBLK	1	2704909.5	3065661.7	88.23	PASS	70-130
LCS-56419	LCS	1	2823509	3065661.7	92.1	PASS	70-130
N018861-007B	SAMP	1	1399640.5	3065661.7	45.66	NR!	70-130
N018861-007B	SAMP	5	2106210.7	3065661.7	68.7	NR!	70-130
N018861-007B	SAMP	25	2427565.5	3065661.7	79.19	PASS	70-130
N018861-007B-PS	PS	1	1493594.9	3065661.7	48.72	NR!	70-130
N018861-007B-PS	PS	5	2182119.3	3065661.7	71.18	PASS	70-130
CCV4	CCV	1	2716989.8	3065661.7	88.63	PASS	70-130
CCB4	CCB	1	2699916.1	3065661.7	88.07	PASS	70-130
N018861-007B-MS	MS	1	1503820.5	3065661.7	49.054	NR!	70-130
N018861-007B-MS	MS	5	2128237.7	3065661.7	69.42	NR!	70-130
N018861-007B-MSD	MSD	1	1522774.8	3065661.7	49.67	NR!	70-130
N018861-007B-MSD	MSD	5	2153217.9	3065661.7	70.24	PASS	70-130
N018843-001B	SAMP	1	2374852.8	3065661.7	77.47	PASS	70-130
N018843-002B	SAMP	1	2309486.9	3065661.7	75.33	PASS	70-130
N018843-003B	SAMP	1	2285971.3	3065661.7	74.57	PASS	70-130
N018843-004B	SAMP	1	2258287.9	3065661.7	73.66	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	2225034	3065661.7	72.58	PASS	70-130
N018843-006B	SAMP	1	2204002.7	3065661.7	71.89	PASS	70-130
CCV5	CCV	1	2489512.8	3065661.7	81.21	PASS	70-130
CCB5	CCB	1	2533105.9	3065661.7	82.63	PASS	70-130
N018843-007B	SAMP	1	2193481.6	3065661.7	71.55	PASS	70-130
N018843-008B	SAMP	1	2143677.1	3065661.7	69.93	NR!	70-130
N018843-009B	SAMP	1	2174854.7	3065661.7	70.94	PASS	70-130
N018843-010B	SAMP	1	2182438.9	3065661.7	71.19	PASS	70-130
N018843-010B	SAMP	5	2319156.9	3065661.7	75.65	PASS	70-130
N018843-010B-MS	MS	1	2202663.6	3065661.7	71.85	PASS	70-130
N018843-010B-MS	MSD	5	2330678.3	3065661.7	76.025	PASS	70-130
N018844-001B	SAMP	1	2168983.8	3065661.7	70.75	PASS	70-130
N018845-001B	SAMP	1	1574607.9	3065661.7	51.36	NR!	70-130
N018845-001B	SAMP	5	2105662.7	3065661.7	68.69	NR!	70-130
CCV6	CCV	1	2504572.7	3065661.7	81.7	PASS	70-130
CCB6	CCB	1	2514564.6	3065661.7	82.024	PASS	70-130
LLCCV2	CCV2	1	2486822.8	3065661.7	81.12	PASS	70-130
ICSA3	ICSA	1	2195659.5	3065661.7	71.62	PASS	70-130
ICSAB3	ICSAB	1	2767708.7	3065661.7	90.28	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	2123839.9	2123839.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	2056633.4	2123839.9	96.84	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	2046142.4	2123839.9	96.34	PASS	70-130
Std3-5/50 ppb	ICAL	1	2046093.3	2123839.9	96.34	PASS	70-130
Std4-10/100 ppb	ICAL	1	2033311.7	2123839.9	95.74	PASS	70-130
Std5-20/200 ppb	ICAL	1	2029111.6	2123839.9	95.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	2021066.6	2123839.9	95.16	PASS	70-130
Std7-100/1000 ppb	ICAL	1	1990908.3	2123839.9	93.74	PASS	70-130
Std8-200/2000 ppb	ICAL	1	1961243.2	2123839.9	92.34	PASS	70-130
ICV	ICV	1	2161188.7	2123839.9	101.76	PASS	70-130
ICB	ICB	1	2151314	2123839.9	101.29	PASS	70-130
LLICV	CCV1	1	2165445.2	2123839.9	101.96	PASS	70-130
ICSA1	ICSA	1	1809989.7	2123839.9	85.22	PASS	70-130
ICSAB1	ICSAB	1	1683332.9	2123839.9	79.26	PASS	70-130
LLICV	CCV1	1	2159885.6	2123839.9	101.7	PASS	70-130
N018845-002B	SAMP	1	1219141.1	2123839.9	57.4	NR!	70-130
N018845-002B	SAMP	5	1675927	2123839.9	78.91	PASS	70-130
N018845-003B	SAMP	1	1644574.9	2123839.9	77.43	PASS	70-130
N018845-003B	SAMP	5	1891392.1	2123839.9	89.055	PASS	70-130
N018845-004B	SAMP	1	1568671.6	2123839.9	73.86	PASS	70-130
N018845-004B	SAMP	5	1921365.8	2123839.9	90.47	PASS	70-130
N018845-006B	SAMP	1	1632791.1	2123839.9	76.88	PASS	70-130
N018845-006B	SAMP	5	1888023.3	2123839.9	88.9	PASS	70-130
N018845-007B	SAMP	1	1253635.9	2123839.9	59.027	NR!	70-130
N018845-007B	SAMP	5	1793237.5	2123839.9	84.43	PASS	70-130
CCV1	CCV	1	2169330.9	2123839.9	102.14	PASS	70-130
CCB1	CCB	1	2196696	2123839.9	103.43	PASS	70-130
N018845-008B	SAMP	1	1817139.7	2123839.9	85.56	PASS	70-130
N018845-008B	SAMP	5	2009551.1	2123839.9	94.62	PASS	70-130
N018845-005B	SAMP	1	1520787.8	2123839.9	71.61	PASS	70-130
N018845-005B	SAMP	5	1808357	2123839.9	85.15	PASS	70-130
N018845-005B	SAMP	500	2177798.4	2123839.9	102.54	PASS	70-130
CCV2	CCV	1	2009935.1	2123839.9	94.64	PASS	70-130
CCB2	CCB	1	2025804.1	2123839.9	95.38	PASS	70-130
CCV3	CCV	1	1944448.1	2123839.9	91.55	PASS	70-130
CCB3	CCB	1	1998227.2	2123839.9	94.086	PASS	70-130
N018861-007B	SAMP	125	1862943.8	2123839.9	87.72	PASS	70-130
N018861-007B-PS	PS	25	1714053.7	2123839.9	80.71	PASS	70-130
N018861-007B-MS	MS	25	1727986.3	2123839.9	81.36	PASS	70-130
N018861-007B-MSD	MSD	25	1754014.7	2123839.9	82.59	PASS	70-130
CCV4	CCV	1	1947126.3	2123839.9	91.68	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
CCB4	CCB	1	1975849.4	2123839.9	93.032	PASS	70-130
LLCCV1	CCV2	1	1996379.3	2123839.9	94	PASS	70-130
ICSA2	ICSA	1	1721848.6	2123839.9	81.072	PASS	70-130
ICSAB2	ICSAB	1	1678560.7	2123839.9	79.034	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 5X	Chromium	ug/L	5.551185	NA	5.575755	0.44%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 25X	Arsenic	ug/L	15.99961	PASS	16.30795	1.89%	10
N018861-007B DT 25X	Barium	ug/L	41.89108	PASS	40.87206	2.49%	10
N018861-007B DT 25X	Manganese	ug/L	25.65824	PASS	24.48796	4.78%	10
N018861-007B DT 25X	Selenium	ug/L	~~1.961576~~ 0	NA	0		10

Note: NA - Not applicable

Mary 3/11/2016
for

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018843
Test Method: EPA 6020
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 125X	Molybdenum	ug/L	75.84905	PASS	81.14314	6.52%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	**N018861-007B-PS**	SampType:	**PS**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:			RunNo:	**106153**
Client ID:	**ZZZZZZ**	Batch ID:	**56419**	TestNo:	**EPA 6020**		**EPA 3010A**	Analysis Date:	**2/27/2016**		SeqNo:	**2246851**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.566	1.0	10.00	5.576	79.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018843
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.233	0.50	10.00	16.31	89.2	80	120				
Barium	143.757	5.0	100.0	40.87	103	80	120				
Manganese	116.471	2.5	100.0	24.49	92.0	80	120				
Selenium	8.502	2.5	10.00	0	85.0	80	120				

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.498	12	10.00	81.14	73.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock – RMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018844

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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March 14, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018844

RE: PG&E Topock - RMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 24, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018844

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum on QC sample N018861-007B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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3151 W. Post Rd., Las Vegas, NV 89118
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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *14-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RMP, RC000753.0801
Lab Order: N018844
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018844-001A	RRB-D-Q116	Groundwater	2/24/2016 8:40:00 AM	2/24/2016	3/14/2016
N018844-001B	RRB-D-Q116	Groundwater	2/24/2016 8:40:00 AM	2/24/2016	3/14/2016
N018844-001C	RRB-D-Q116	Groundwater	2/24/2016 8:40:00 AM	2/24/2016	3/14/2016
N018844-001D	RRB-D-Q116	Groundwater	2/24/2016 8:40:00 AM	2/24/2016	3/14/2016
N018844-001E	RRB-D-Q116	Groundwater	2/24/2016 8:40:00 AM	2/24/2016	3/14/2016
N018844-002A	RMP-AB1-Q116	Groundwater	2/24/2016 8:10:00 AM	2/24/2016	3/14/2016
N018844-003A	RMP-AB2-Q116	Groundwater	2/24/2016 8:30:00 AM	2/24/2016	3/14/2016
N018844-004A	RMP-AB3-Q116	Groundwater	2/24/2016 11:30:00 AM	2/24/2016	3/14/2016
N018844-005A	MW-206A-Q116	Groundwater	2/24/2016 2:50:00 PM	2/24/2016	3/14/2016

ASSET LABORATORIES
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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160225B**	QC Batch: **R106088**			PrepDate			Analyst: **LR**
Specific Conductance	970	0.10	0.10		umhos/cm	1	2/25/2016 03:45 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018843-010DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106088**
Client ID: **ZZZZZZ** Batch ID: **R106088** TestNo: **EPA 120.1** Analysis Date: **2/25/2016** SeqNo: **2244260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	964.000	0.10						966.0	0.207	10	

Sample ID **N018844-001DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106088**
Client ID: **ZZZZZZ** Batch ID: **R106088** TestNo: **EPA 120.1** Analysis Date: **2/25/2016** SeqNo: **2244262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	974.000	0.10						973.0	0.103	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160225D**	QC Batch: **R106090**			PrepDate			Analyst: **LR**
pH	8.2	0.10	0.10	H	pH Units	1	2/25/2016 04:40 PM
Temp. at time of pH Analysis	21	0.10	0.10	H	°C	1	2/25/2016 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018843-001DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106090**
Client ID: **ZZZZZZ** Batch ID: **R106090** TestNo: **SM4500-H+B** Analysis Date: **2/25/2016** SeqNo: **2244283**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.180	0.10						8.140	0.490	10	H
Temp. at time of pH Analysis	20.600	0.10						20.80	0.966	10	H

Sample ID **N018844-001DDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106090**
Client ID: **ZZZZZZ** Batch ID: **R106090** TestNo: **SM4500-H+B** Analysis Date: **2/25/2016** SeqNo: **2244294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.180	0.10						8.170	0.122	10	H
Temp. at time of pH Analysis	20.500	0.10						20.90	1.93	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_160229H**	QC Batch: **56442**				PrepDate	**2/29/2016**	Analyst: **LR**
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	2/29/2016 12:54 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID	MB-56442	SampType:	MBLK	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/29/2016	RunNo:	106138
Client ID:	PBW	Batch ID:	56442	TestNo:	SM2540D			Analysis Date:	2/29/2016	SeqNo:	2246411

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID	LCS-56442	SampType:	LCS	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/29/2016	RunNo:	106138
Client ID:	LCSW	Batch ID:	56442	TestNo:	SM2540D			Analysis Date:	2/29/2016	SeqNo:	2246412

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	984.000	10	1000	0	98.4	80	120				

Sample ID	N018879-001ADUP	SampType:	DUP	TestCode:	160.2_2540D	Units:	mg/L	Prep Date:	2/29/2016	RunNo:	106138
Client ID:	ZZZZZZ	Batch ID:	56442	TestNo:	SM2540D			Analysis Date:	2/29/2016	SeqNo:	2246423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	5585.000	50						5370	3.93	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 04:57 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 03:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-206A-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 2:50:00 PM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160229A**	QC Batch: **R106239**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	2/29/2016 05:16 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **LCS-R106239** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **LCSW** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.961	0.20	5.000	0	99.2	90	110				

Sample ID **MB-R106239** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **PBW** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **N018861-004ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	121.956	4.0						123.1	0.906	20	

Sample ID **N018861-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	223.418	4.0	100.0	123.1	100	90	110				

Sample ID **N018861-004AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	225.768	4.0	100.0	123.1	103	90	110	223.4	1.05	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018843-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.121	0.20	1.000	0.08790	103	90	110				

Sample ID **N018843-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.142	0.20	1.000	0.09600	105	90	110				

Sample ID **N018843-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.144	0.20	1.000	0.08670	106	90	110				

Sample ID **N018843-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.121	0.20	1.000	0.04940	107	90	110				

Sample ID **N018843-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.07340	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018843-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.125	0.20	1.000	0.08870	104	90	110				

Sample ID **N018843-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.104	0.20	1.000	0.09380	101	90	110				

Sample ID **N018843-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.149	0.20	1.000	0.06660	108	90	110				

Sample ID **N018843-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.171	0.20	1.000	0.1076	106	90	110				

Sample ID **N018843-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.119	0.20	1.000	0.06820	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018844-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106239
Client ID:	ZZZZZZ	Batch ID:	R106239	TestNo:	EPA 218.6			Analysis Date:	2/29/2016	SeqNo:	2251837

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.06750	99.5	90	110				

Sample ID	N018844-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106239
Client ID:	ZZZZZZ	Batch ID:	R106239	TestNo:	EPA 218.6			Analysis Date:	2/29/2016	SeqNo:	2251839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.107	0.20	1.000	0.03120	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.628	1.0	10.00	0	96.3	85	115				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.902	1.0	10.00	5.576	83.3	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.707	1.0	10.00	5.576	81.3	75	125	13.90	1.41	20	

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.089	1.0	10.00	0	101	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160308F** QC Batch: **R106334** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.53	0.022	0.050		mg/L	1	3/8/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106334** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **PBW** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106334** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **LCSW** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.518	0.050	0.5000	0	104	85	115				

Sample ID **N018844-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.495	0.050						0.5301	6.91	20	

Sample ID **N018844-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.073	0.050	0.5000	0.5301	109	75	125				

Sample ID **N018844-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.090	0.050	0.5000	0.5301	112	75	125	1.073	1.59	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 6010B				
RunID: **ICP2_160308A**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Iron	ND	17	20		ug/L	1	3/8/2016 03:18 PM
TOTAL METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160303D**	QC Batch: **56481**				PrepDate	**3/2/2016**	Analyst: **CEI**
Iron	55	17	20		ug/L	1	3/4/2016 03:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-56545	SampType:	MBLK	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	3/8/2016	RunNo:	106302
Client ID:	PBW	Batch ID:	56545	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255376

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-56545	SampType:	LCS	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	3/8/2016	RunNo:	106302
Client ID:	LCSW	Batch ID:	56545	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255377

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.368	20	100.0	0	111	85	115				

Sample ID	N018843-010B-MS1	SampType:	MS	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	3/8/2016	RunNo:	106302
Client ID:	ZZZZZZ	Batch ID:	56545	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255385

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.982	20	100.0	0	114	75	125				

Sample ID	N018843-010B-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:	3/8/2016	RunNo:	106302
Client ID:	ZZZZZZ	Batch ID:	56545	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255388

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	119.698	20	100.0	0	120	75	125	114.0	4.89	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-56481	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	PBW	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251709

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-56481	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	LCSW	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251710

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.188	20	100.0	0	105	85	115				

Sample ID	N018843-009C-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251714

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	191.340	20	100.0	83.69	108	75	125				

Sample ID	N018843-009C-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	3/2/2016	RunNo:	106236
Client ID:	ZZZZZZ	Batch ID:	56481	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	3/4/2016	SeqNo:	2251715

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	192.018	20	100.0	83.69	108	75	125	191.3	0.354	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-D-Q116
Lab Order:	N018844	**Collection Date:**	2/24/2016 8:40:00 AM
Project:	PG&E Topock - RMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018844-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160226B**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	2/27/2016 02:04 AM
Barium	140	0.072	1.0		µg/L	1	2/27/2016 02:04 AM
Manganese	ND	0.023	0.50		µg/L	1	2/27/2016 02:04 AM
Molybdenum	5.4	0.029	0.50		µg/L	1	2/27/2016 02:04 AM
Selenium	1.6	0.070	0.50		µg/L	1	2/27/2016 02:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.231	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.181	0.10	10.00	0	91.8	85	115				
Barium	100.851	1.0	100.0	0	101	85	115				
Manganese	94.670	0.50	100.0	0	94.7	85	115				
Molybdenum	9.932	0.50	10.00	0	99.3	85	115				
Selenium	8.651	0.50	10.00	0	86.5	85	115				

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2247053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.001	0.10	10.00	2.210	97.9	75	125				
Manganese	90.378	0.50	100.0	0	90.4	75	125				
Molybdenum	16.093	0.50	10.00	5.252	108	75	125				
Selenium	10.696	0.50	10.00	1.585	91.1	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.046	0.50	10.00	16.31	97.4	75	125				
Barium	148.366	5.0	100.0	40.87	107	75	125				
Manganese	120.283	2.5	100.0	24.49	95.8	75	125				
Selenium	9.448	2.5	10.00	0	94.5	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.237	0.50	10.00	16.31	99.3	75	125	26.05	0.729	20	
Barium	148.439	5.0	100.0	40.87	108	75	125	148.4	0.0491	20	
Manganese	120.509	2.5	100.0	24.49	96.0	75	125	120.3	0.187	20	
Selenium	9.553	2.5	10.00	0	95.5	75	125	9.448	1.10	20	

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	250.051	5.0	100.0	141.3	109	75	125				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.797	12	10.00	81.14	76.5	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	87.519	12	10.00	81.14	63.8	75	125	88.80	1.45	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis
Address: 1410 Rocky Ridge Dr # 330
Address: Roseville, CA 95661
Phone: 916-786-3302 Fax:
Submitted By: Gary Clift
Title: SR. Technician
Signature: Date: 2-24-16
I hereby authorize ASSET Labs to perform the tests indicated below
Project Name: PG&E Topock - RMP
Project Number: RC000753.0801

Report to: Dan Bush
Company: Arcadis
Email: dan.bush@arcadis.com
daniel.moore@critigen.com
Address: 1410 Rocky Ridge Dr # 330
Roseville, CA 95661
Phone: 916-786-3302 Fax:
Sampled By: Jordan Jerome
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for
Signature: Date: 2/24/16

Bill to: Marty Bloes
Address:
Address:
Email to: mbloes@pivox.com P.O.#
Phone: 949-727-1400, ext 200 Fax:

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	2	
6. Method of Cooling: ICE		
Sample Temp: 3.1, 4.0, 5.2, 2.8°C		
Courier: ASSET		
Tracking No.:		

Matrix		
Ground	x	Sediment
Potable		Soil
NPDES		Other Solid
Surface		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (3x250 mL poly)	Field QC Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Cr (3x500mL poly)	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 Ca, Mg, K, Na, B (3x500mL poly)	Dissolved metals (SW6010B/SW6020Adis) FF; HNO3 As, Mn, Fe, Se, Mo, Ba (3x500mL poly)	Total metals (SW6010B); HNO3 Fe (500 mL poly)	Anions (E300.0); Br, Cl, SO4 (2x1 liter poly)	Specific Conductance (E120.1) (2x1 liter poly)	pH (SM4500HB) (2x1 liter poly)	TDS (SM2540C) (2x1 liter poly)	Alkalinity (Total, reported as CaCO3) (SM2320B) (2x1 liter poly)	TSS (SM2540) (2x1 liter poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N016844-1	RRB-D-Q116	2/24/2016	840		X		X		X	X		X	X			X	X	E	10	P	BN
2	-2	RMP-AB1-Q116	2/24/2016	810			X												E	1	P	BN HOLD
3	-3	RMP-AB2-Q116	2/24/2016	830			X												E	1	P	BN HOLD
4	-4	RMP-AB3-Q116	2/24/2016	1130			X												E	1	P	BN HOLD
5	-5	MW-206A-Q116	2/24/2016	1450		X													E	1	P	BN
6																						
7																						
8																						
9																						
10																						

Relinquished by (Signature and Printed Name): Jordan Jerome Date/Time: 2/24/16 1300
Relinquished by (Signature and Printed Name): Date/Time: 2/24/16 @ 1515
Relinquished by (Signature and Printed Name): Date/Time: 2/24/16 @ 80
Relinquished by (Signature and Printed Name): Date/Time: 2/24/16 @ 1800
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages. 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/24/2016	Workorder:	N018844
Rep sample Temp (Deg C):	3.1/4.0/5.2/2.8	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☑	NA ☐

Comments: Sample for pH was pastholding time upon receipt.

For: 2/26/2016

Checklist Completed By MBC

Reviewed By: 03/07/16

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018844

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018844-001A	RRB-D-Q116	2/24/2016 8:40:00 AM	3/9/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018844-001B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018844-001C			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N018844-001D			3/9/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/9/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/9/2016		SM2540D	TOTAL NON-FILTERABLE RESIDUE	☐	☐	☐	WW
			3/9/2016			Total Suspended Solids Prep	☐	☐	☐	WW
N018844-001E			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018844-002A	RMP-AB1-Q116	2/24/2016 8:10:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018844-003A	RMP-AB2-Q116	2/24/2016 8:30:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018844-004A	RMP-AB3-Q116	2/24/2016 11:30:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N018844-005A	MW-206A-Q116	2/24/2016 2:50:00 PM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018844-006A	FOLDER		3/9/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/9/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018844**

NAME	TEST METHOD
Claire Ignacio	EPA 6010B, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, SM 4500-H+B, SM 2540D

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106088 **Analyst:** LSR

ASSET #: N018844 **Date Analyzed:** 2/25/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer Nancy 3/10/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 2/25/16 1545

Analyst: LSR

Standard	Std ID	Reading	Comments
9.78 mS/cm	CIW-150619A	9.79 mS/cm @ 24.8°C	% Rec: (90-110%)
1412	151012A	1419 @ 24.7°C	
9992	160111B	10190 @ 24.6°C	
99797	151012B	101300 @ 24.6°C	

	Sample ID	Matrix	Reading	Comments
1	N0188443-001D	Water	952 mS/cm @ 22.1°C	
2	2D		945 @ 22.0°C	
3	3D		949 @ 21.8°C	
4	4D		953 @ 22.1°C	
5	5D		958 @ 21.6°C	
6	6D		952 @ 22.2°C	
7	7D		967 @ 22.2°C	
8	8D		979 @ 22.6°C	
9	9D		986 @ 22.8°C	
10	10D		966 @ 22.1°C	
Dup	10D DUP		964 ✓ @ 21.9°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Julia Ramit 3/2/2016

Date:

Analyst: CONTD

Standard	Std ID	Reading	Comments
1413 mS/cm	CIW-150527A	1453 mS/cm @ 24.9°C	% Rec: (90-110%)
10000	150909A	10370 @ 24.9°C	
99893	151130A	97500 @ 24.7°C	

	Sample ID	Matrix	Reading	Comments
1	N0188444-001D	Water	973 mS/cm @ 22.3°C	
2	1D DUP		974 @ 21.9°C	
3				
4				
5				
6				
7				
8	1413 mS/cm	CIW-150527A	1456 mS/cm @ 24.6°C	
9	10000	150909A	10380 @ 24.2°C	
10	99893	151130A	98600 @ 24.3°C	
Dup				Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Logbook # 5

SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106090 **Instrument ID:** pH meter

ASSET #: N018844 **Analyst:** LSR

Date Analyzed: 2/25/2016

Method: EPA 150.1

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?	X					
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/2/2016

2nd Level Reviewer Nancy 3/10/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

pH Logbook

Date: 2/25/14 @ 1640
Analyst: LSR

Standard	Std ID	pH	Comments
Buffer 7	CINW-150858A	6.98 @ 24.9°C	SLOPE: 98.4%
Buffer 4	↓ B	4.01 @ 24.6°C	
Buffer 10	CINW-150708A	10.03 @ 24.6°C	

Sample ID	Matrix	pH	Comments
N0188443-001D	Water	8.14 @ 20.8°C	
1D DUP		8.18 @ 20.6°C	
2D		8.15 @ 20.2°C	
3D		8.18 @ 20.1°C	
4D		8.19 @ 19.7°C	
5D		8.19 @ 20.1°C	
6D		8.20 @ 20.4°C	
7D		8.19 @ 20.5°C	
8D		8.20 @ 20.9°C	
9D		8.21 @ 21.0°C	
10D		8.22 @ 20.4°C	Accept: 10% water, 20% soil
Buffer 7, 4, 10	CINW-150604A	7.00 @ 24.6°C	Accept: +/-0.1 pH units from expected value

(Circle one)

Date: _____
Analyst: _____

Standard	Std ID	pH	Comments
Buffer 7			
Buffer 4	CONT'D		
Buffer 10			

Sample ID	Matrix	pH	Comments
N0188444-001D	Water	8.17 @ 20.9°C	
1D DUP		8.18 @ 20.5°C	
N0188454-001D		7.85 @ 23.2°C	
2B	Sludge	6.86 @ 24.4°C	
2B DUP		6.93 @ 24.4°C	
			Julia Ramit 3/2/2016
			Accept: 10% water, 20% soil
Buffer 7, 4, 10	CINW-150604A	7.05 @ 25.0°C	Accept: +/-0.1 pH units from expected value

(Circle one)

Logbook #8

SM 2540D

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56442 **Analyst:** LSR

ASSET #: N018844 **Date Analyzed:** 2/29/2016

Method: EPA 160.2

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Lilia Ramit Date: 3/3/2016

2nd Level Reviewer ~~3/10/2016~~ Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018844-001D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4215 - 1.4211) *1000000}{100}$$
$$= 4 \text{ mg/L}$$

Since reporting limit is 10 mg/L, therefore:

TSS = ND

Julia Ramit 3/3/2016

SAMPLE PREPARATION LOG

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.2691
www.assetlaboratories.com

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/29/2016 12:54:45**
Prep End Date: **2/29/2016 6:15:00 P**

Initials/ Date: Lilia Ramit 3/3/2016

Prep Batch **56442** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **105**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56442	Water		100	☐	0	0	100	1.000		
MB-56442	Water		100	☐	0	0	100	1.000		
N018840-001A	Water		100	☐	0	0	100	1.000		
N018844-001D	Groundwater		100	☐	0	0	100	1.000		
N018863-001D	Groundwater		50	☐	0	0	100	2.000		
N018863-002D	Groundwater		100	☐	0	0	100	1.000		
N018863-003D	Groundwater		100	☐	0	0	100	1.000		
N018863-004D	Groundwater		100	☐	0	0	100	1.000		
N018863-005D	Groundwater		50	☐	0	0	100	2.000		
N018863-006D	Groundwater		50	☐	0	0	100	2.000		
N018863-007D	Groundwater		50	☐	0	0	100	2.000		
N018879-001A	Water		20	☐	0	0	100	5.000		
N018879-001A-DU	Water		20	☐	0	0	100	5.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160215A	1000 ppm Talc	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/29/2016 12:54:45**
Prep End Date:

Initials/ Date: Lilia Ramit 3/3/2016

Prep Batch **56442** Prep Code: **160.2_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units
mL / mL

	Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
MB	LCS-56442	Water	IW ST160215A	100	☐	0	0	100	1.000		
LCS	MB-56442	Water		100	☐	0	0	100	1.000		
1	N018840-001A	Water		100	☐	0	0	100	1.000		
2	N018844-001D	Groundwater		100	☐	0	0	100	1.000		
3	N018863-001D	Groundwater		100/50	☐	0	0	100	1.000		
4	N018863-002D	Groundwater		100	☐	0	0	100	1.000		
5	N018863-003D	Groundwater		100	☐	0	0	100	1.000		
6	N018863-004D	Groundwater		100	☐	0	0	100	1.000		
27	N018863-005D	Groundwater		100/50	☐	0	0	100	1.000		
28	N018863-006D	Groundwater		100/50	☐	0	0	100	1.000		
29	N018863-007D	Groundwater		100/50	☐	0	0	100	1.000		
30	N018879-001A	Water		100/20	☐	0	0	100	1.000		
DUP	N018879-001A-DU	Water		100/20	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #
T60V10

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST: TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/29/16 1254	MB 56442	100	1.4245 1.4248	1.4245 1.4243	
	LCS 56442	100	1.4161 1.4162	1.5148 1.5146	
1	N018840-001A	100	1.4279 1.4278	1.4354 1.4353	
2	N018844-001D	100	1.4212 1.4211	1.4213 1.4215	
3	N018863-001D	50	1.4209 1.4210	1.4661 1.4664	
4	20	100	1.4196 1.4198	1.4409 1.4413	
5	30	100	1.4168 1.4167	1.4286 1.4287	
6	40	100	1.4215 1.4213	1.4347 1.4348	
27	50	50	1.4192 1.4192	1.4663 1.4664	
28	60	50	1.4251 1.4249	1.4792 1.4793	

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ASSET Laboratories

Logbook#1

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
2/29/16 29	N018863-007D	50	1.4570 ~~1.4244~~ 1.4268 DHL 2/29	1.4972 1.4973	
30	N018879-001A	20	1.4344 1.4343	1.5414 1.5417	
DUP	1A DUP	20	1.4080 1.4080	1.5195 1.5197	

Julia Ramit 3/3/2016

ASSET Laboratories

Logbook#1

TOTAL SUSPENDED SOLIDS, TSS

TSS, mg/L = (A-B) * 10000*PF

where:

A = weight in g of aluminum dish + filter disc + residue after drying
B = weight in g of aluminum dish + filter disc
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight in g of aluminum dish + filter disc (B)	weight in g of aluminum dish + filter disc + residue after drying (A)	A-B*10000	Prep Fact (PF)	TSS, mg/L
Date: 2/29/16						
MB-56442	100	1.4243	1.4243	0.0000	1.00	0
LCS-56442	100	1.4162	1.5146	984.0000	1.00	984
N018840-001A	100	1.4278	1.4353	75.0000	1.00	75
N018844-001D	100	1.4211	1.4215	4.0000	1.00	4
N018863-001D	50	1.421	1.4664	454.0000	2.00	908
N018863-002D	100	1.4198	1.4413	215.0000	1.00	215
N018863-003D	100	1.4167	1.4287	120.0000	1.00	120
N018863-004D	100	1.4213	1.4348	135.0000	1.00	135
N018863-005D	50	1.4192	1.4664	472.0000	2.00	944
N018863-006D	50	1.4249	1.4793	544.0000	2.00	1088
N018863-007D	50	1.4208	1.4973	765.0000	2.00	1530
N018879-001A	20	1.4343	1.5417	1074.0000	5.00	5370
N018879-001ADUP	20	1.408	1.5197	1117.0000	5.00	5585

Silia Ramit 3/3/2016

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106239
ASSET #: N018844

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/29/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/9/2016 Date: –

2nd Level Reviewer Mary 3/10/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018844-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.0675* 1

= 0.0675

Since reporting limit is 0.2 µg/L,

Cr^{+6}, µg/L = ND

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/29/16 11:08 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	02/29/16 11:19 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/29/16 11:29 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:38 AM	Not Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:47 AM	Reported
15	LCS-R106239	LCS	1	Hexavalent Chromium	02/29/16 11:57 AM	Reported
16	MB-R106239	MBLK	1	Hexavalent Chromium	02/29/16 12:06 PM	Reported
17	N018861-004A	SAMP	20	Hexavalent Chromium	02/29/16 12:31 PM	Reported
18	N018861-004ADUP	DUP	20	Hexavalent Chromium	02/29/16 12:41 PM	Reported
19	N018861-004AMS	MS	20	Hexavalent Chromium	02/29/16 12:51 PM	Reported
20	N018861-004AMSD	MSD	20	Hexavalent Chromium	02/29/16 1:00 PM	Reported
21	N018843-001A	SAMP	1	Hexavalent Chromium	02/29/16 1:10 PM	Reported
22	N018843-001AMS	MS	1	Hexavalent Chromium	02/29/16 1:19 PM	Reported
23	N018843-002A	SAMP	1	Hexavalent Chromium	02/29/16 1:29 PM	Reported
24	N018843-002AMS	MS	1	Hexavalent Chromium	02/29/16 1:38 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/29/16 1:48 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/29/16 1:57 PM	Reported
27	N018843-003A	SAMP	1	Hexavalent Chromium	02/29/16 2:07 PM	Reported
28	N018843-003AMS	MS	1	Hexavalent Chromium	02/29/16 2:16 PM	Reported
29	N018843-004A	SAMP	1	Hexavalent Chromium	02/29/16 2:26 PM	Reported
30	N018843-004AMS	MS	1	Hexavalent Chromium	02/29/16 2:35 PM	Reported
31	N018843-005A	SAMP	1	Hexavalent Chromium	02/29/16 2:44 PM	Reported
32	N018843-005AMS	MS	1	Hexavalent Chromium	02/29/16 2:54 PM	Reported
33	N018843-006A	SAMP	1	Hexavalent Chromium	02/29/16 3:03 PM	Reported
34	N018843-006AMS	MS	1	Hexavalent Chromium	02/29/16 3:13 PM	Reported
35	N018843-007A	SAMP	1	Hexavalent Chromium	02/29/16 3:22 PM	Reported
36	N018843-007AMS	MS	1	Hexavalent Chromium	02/29/16 3:32 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/29/16 3:41 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/29/16 3:51 PM	Reported
39	N018843-008A	SAMP	1	Hexavalent Chromium	02/29/16 4:00 PM	Reported
40	N018843-008AMS	MS	1	Hexavalent Chromium	02/29/16 4:10 PM	Reported
41	N018843-009A	SAMP	1	Hexavalent Chromium	02/29/16 4:19 PM	Reported
42	N018843-009AMS	MS	1	Hexavalent Chromium	02/29/16 4:29 PM	Reported

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018843-010A	SAMP	1	Hexavalent Chromium	02/29/16 4:38 PM	Reported
44	N018843-010AMS	MS	1	Hexavalent Chromium	02/29/16 4:48 PM	Reported
45	N018844-001A	SAMP	1	Hexavalent Chromium	02/29/16 4:57 PM	Reported
46	N018844-001AMS	MS	1	Hexavalent Chromium	02/29/16 5:06 PM	Reported
47	N018844-005A	SAMP	1	Hexavalent Chromium	02/29/16 5:16 PM	Reported
48	N018844-005AMS	MS	1	Hexavalent Chromium	02/29/16 5:25 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/29/16 5:35 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/29/16 5:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160229A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:47:52**
No. of Injections:	**53**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/29/2016 11:08	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		02/29/2016 11:19	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		02/29/2016 11:29	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		02/29/2016 11:38	Finished	CCB R160209C
14	CCB-1,CCB,1	5	1000	Unknown		02/29/2016 11:47	Finished	CCB R160209C
15	LCS-H2O,LCS,1	6	1000	Unknown		02/29/2016 11:57	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	7	1000	Unknown		02/29/2016 12:06	Finished	MB
17	N018861-004A,SAMP	8	1000	Unknown		02/29/2016 12:31	Finished	SAMP, 0.5 to 10mL
18	N018861-004ADUP,D	9	1000	Unknown		02/29/2016 12:41	Finished	DOP, 0.5 to 10mL
19	N018861-004AMS,MS	10	1000	Unknown		02/29/2016 12:51	Finished	MS(5ppb), IWST-160202B, 10r
20	N018861-004AMSD,M	11	1000	Unknown		02/29/2016 13:00	Finished	MSD(5ppb), IWST-160202B, 1
21	N018843-001A,SAMP	12	1000	Unknown		02/29/2016 13:10	Finished	SAMP, 10mL
22	N018843-001AMS,MS	13	1000	Unknown		02/29/2016 13:19	Finished	MS(1ppb), IWST-160202B, 10r
23	N018843-002A,SAMP	14	1000	Unknown		02/29/2016 13:29	Finished	SAMP, 10mL
24	N018843-002AMS,MS	15	1000	Unknown		02/29/2016 13:38	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/29/2016 13:48	Finished	CCV @ 10ppb, IWST 160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/29/2016 13:57	Finished	CCB
27	N018843-003A,SAMP	18	1000	Unknown		02/29/2016 14:07	Finished	SAMP, 10mL
28	N018843-003AMS,MS	19	1000	Unknown		02/29/2016 14:16	Finished	MS(1ppb), IWST-160202B, 10r
29	N018843-004A,SAMP	20	1000	Unknown		02/29/2016 14:26	Finished	SAMP, 10mL
30	N018843-004AMS,MS	21	1000	Unknown		02/29/2016 14:35	Finished	MS(1ppb), IWST-160202B, 10r
31	N018843-005A,SAMP	22	1000	Unknown		02/29/2016 14:44	Finished	SAMP, 10mL
32	N018843-005AMS,MS	23	1000	Unknown		02/29/2016 14:54	Finished	MS(1ppb), IWST-160202B, 10r
33	N018843-006A,SAMP	24	1000	Unknown		02/29/2016 15:03	Finished	SAMP, 10mL
34	N018843-006AMS,MS	25	1000	Unknown		02/29/2016 15:13	Finished	MS(1ppb), IWST-160202B, 10r
35	N018843-007A,SAMP	26	1000	Unknown		02/29/2016 15:22	Finished	SAMP, 10mL
36	N018843-007AMS,MS	27	1000	Unknown		02/29/2016 15:32	Finished	MS(1ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/29/2016 15:41	Finished	CCV @ 5ppb, IWST 160202A
38	CCB-3,CCB,1	29	1000	Unknown		02/29/2016 15:51	Finished	CCB
39	N018843-008A,SAMP	30	1000	Unknown		02/29/2016 16:00	Finished	SAMP, 10mL
40	N018843-008AMS,MS	31	1000	Unknown		02/29/2016 16:10	Finished	MS(1ppb), IWST-160202B, 10r
41	N018843-009A,SAMP	32	1000	Unknown		02/29/2016 16:19	Finished	SAMP, 10mL
42	N018843-009AMS,MS	33	1000	Unknown		02/29/2016 16:29	Finished	MS(1ppb), IWST-160202B, 10r
43	N018843-010A,SAMP	34	1000	Unknown		02/29/2016 16:38	Finished	SAMP, 10mL
44	N018843-010AMS,MS	35	1000	Unknown		02/29/2016 16:48	Finished	MS(1ppb), IWST-160202B, 10r
45	N018844-001A,SAMP	36	1000	Unknown		02/29/2016 16:57	Finished	SAMP, 10mL
46	N018844-001AMS,MS	37	1000	Unknown		02/29/2016 17:06	Finished	MS(1ppb), IWST-160202B, 10r
47	N018844-005A,SAMP	38	1000	Unknown		02/29/2016 17:16	Finished	SAMP, 10mL
48	N018844-005AMS,MS	39	1000	Unknown		02/29/2016 17:25	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/29/2016 17:35	Finished	CCV @ 10ppb, IWST 160202A
50	CCB-4,CCB,1	41	1000	Unknown		02/29/2016 17:44	Finished	CCB
51	SHUTDOWN	42	1000	Unknown		02/29/2016 17:54	Finished	BLANK
52	Eluent: R160224A	43	1000	Unknown		n.a.	Finished	Eluent
53	PCR: R160226A	44	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40AM
Prepared By: NEB

Reagent ID:
Sulfuric Acid: C1N-151130D
Diphenylcarbazide: C1N-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018843-006A1	9.41	—	—	—	—	R160219D
2)	A2	9.41	—	—	—	—	
3)	A3	9.40	—	—	—	—	
4)	7A1	9.43	—	—	—	—	
5)	A2	9.41	—	—	—	—	
6)	A3	9.40	—	—	—	—	
7)	8A1	9.43	—	—	—	—	
8)	A2	9.39	—	—	—	—	
9)	A3	9.43	—	—	—	—	
10)	9A1	9.43	—	—	—	—	
11)	A2	9.42	—	—	—	—	
12)	A3	9.41	—	—	—	—	
13)	10A1	9.42	—	—	—	—	
14)	A2	9.40	—	—	—	—	
15)	A3	9.40	—	—	—	—	

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40AM
Prepared By: NEB

Reagent ID:
Sulfuric Acid: C1N-151130D
Diphenylcarbazide: C1N-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018844-001A1	9.44	—	—	—	—	R160219D
2)	5A	9.56	—	—	—	—	
3)	N018845-002A	9.45	—	—	—	—	
4)	6A	9.43	—	—	—	—	
5)	7A	9.38	—	—	—	—	
6)	8A	9.44	—	—	—	—	
7)	9A	9.46	—	—	—	—	
8)	10A	9.50	—	—	—	—	
9)	N018844-001A2	9.43	—	—	—	—	
10)	A3	9.41	—	—	—	—	
11)	N018845-001A	9.52	—	—	—	—	
12)							
13)							
14)							
15)							

Logbook No. 10

Reb 3/9/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0546	0.2480	1.1957	2.3389	3.5494	4.7448	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ICV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	100	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.237	0.20	0.2000	0	118	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.946	0.20	10.00	0	99.5	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.990	0.20	5.000	0	99.8	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.270	0.20	10.00	0	103	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ICB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.014	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/29/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.031	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
LCS-R106239	5.040	PASS
MB-R106239	N.A.	N.A.
N018861-004A	5.023	PASS
N018861-004ADUP	5.031	PASS
N018861-004AMS	5.031	PASS
N018861-004AMSD	5.031	PASS
N018843-001A	5.040	PASS
N018843-001AMS	5.031	PASS
N018843-002A	5.040	PASS
N018843-002AMS	5.031	PASS
N018843-003A	5.048	PASS
N018843-003AMS	5.031	PASS
N018843-004A	5.031	PASS
N018843-004AMS	5.031	PASS
N018843-005A	5.023	PASS
N018843-005AMS	5.031	PASS
N018843-006A	5.031	PASS
N018843-006AMS	5.031	PASS
N018843-007A	5.031	PASS
N018843-007AMS	5.031	PASS
N018843-008A	5.031	PASS
N018843-008AMS	5.023	PASS
N018843-009A	5.023	PASS
N018843-009AMS	5.031	PASS
N018843-010A	5.031	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/29/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.031	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
N018843-010AMS	5.023	PASS
N018844-001A	5.023	PASS
N018844-001AMS	5.023	PASS
N018844-005A	5.023	PASS
N018844-005AMS	5.040	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Reb 2/8/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

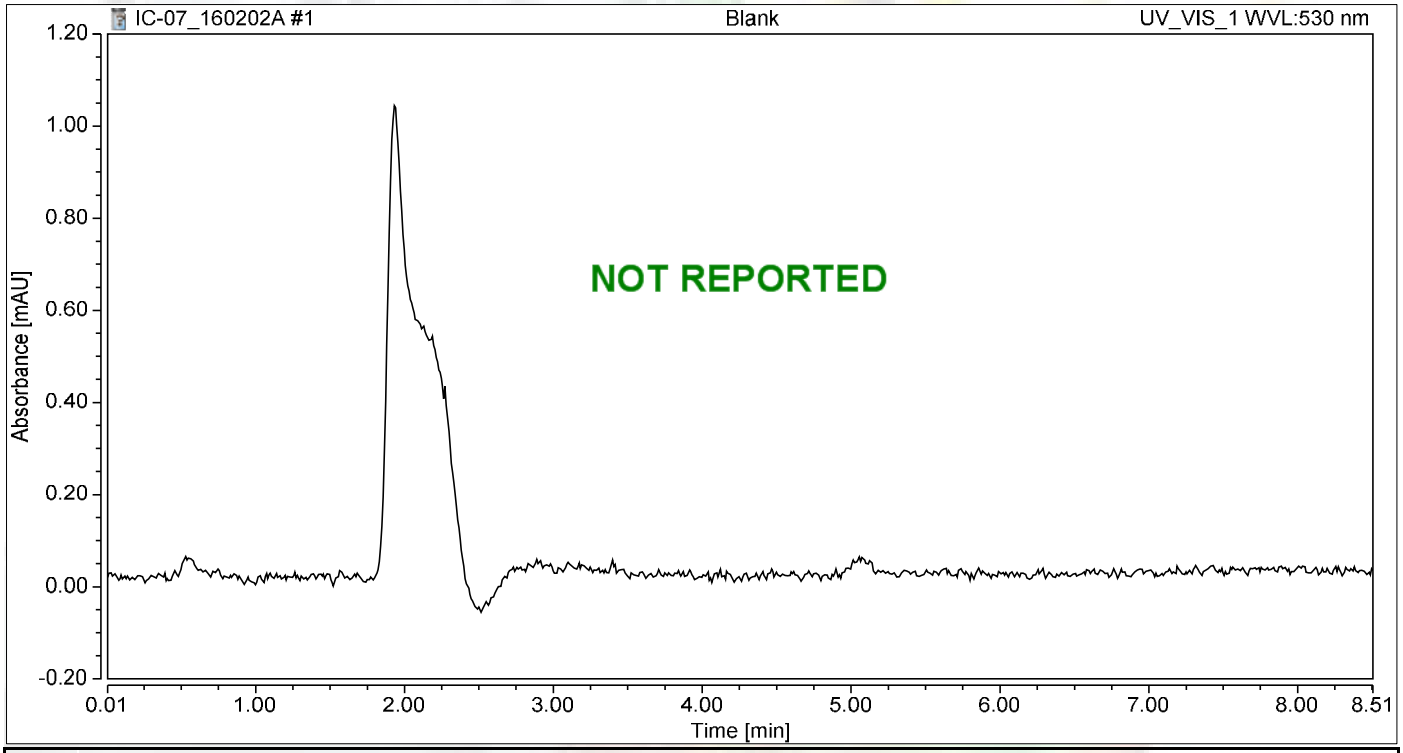
Nancy 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

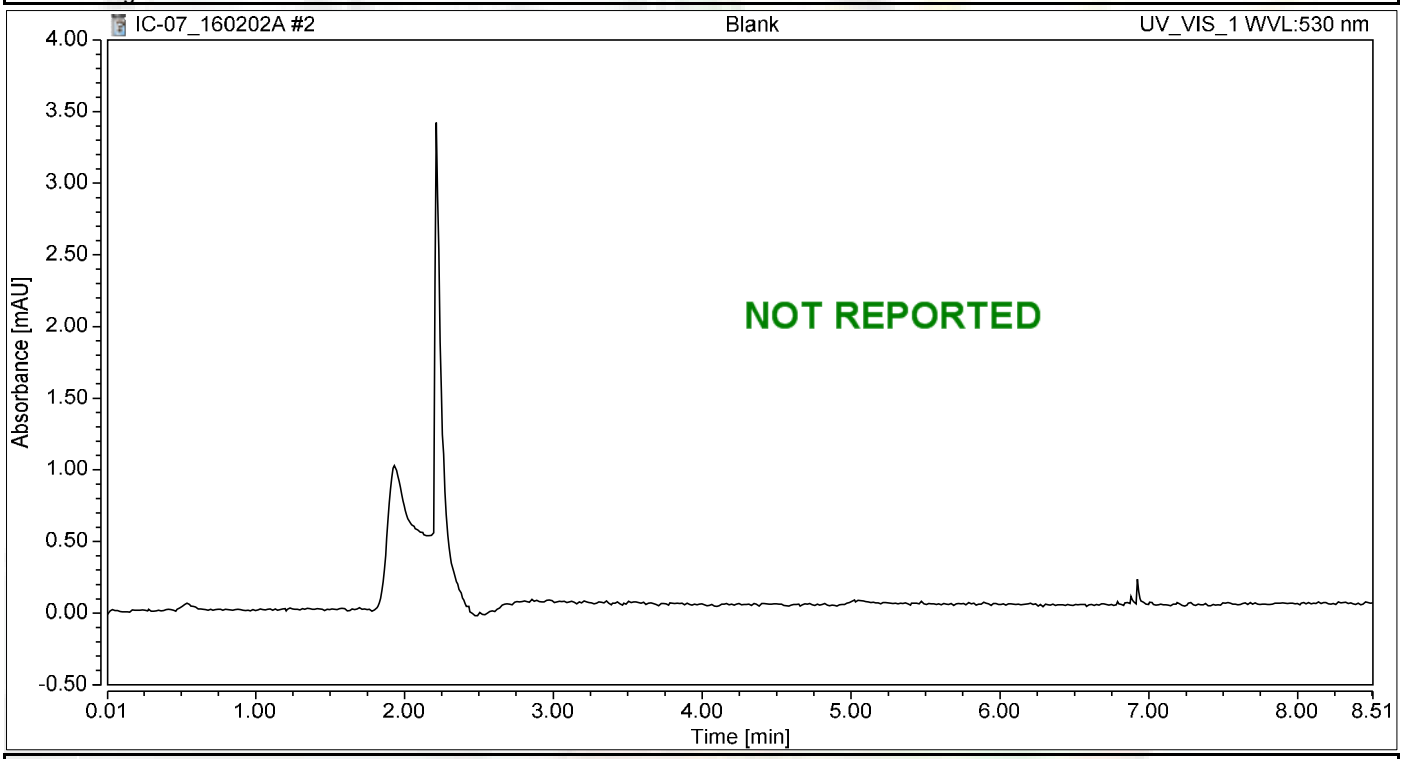
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

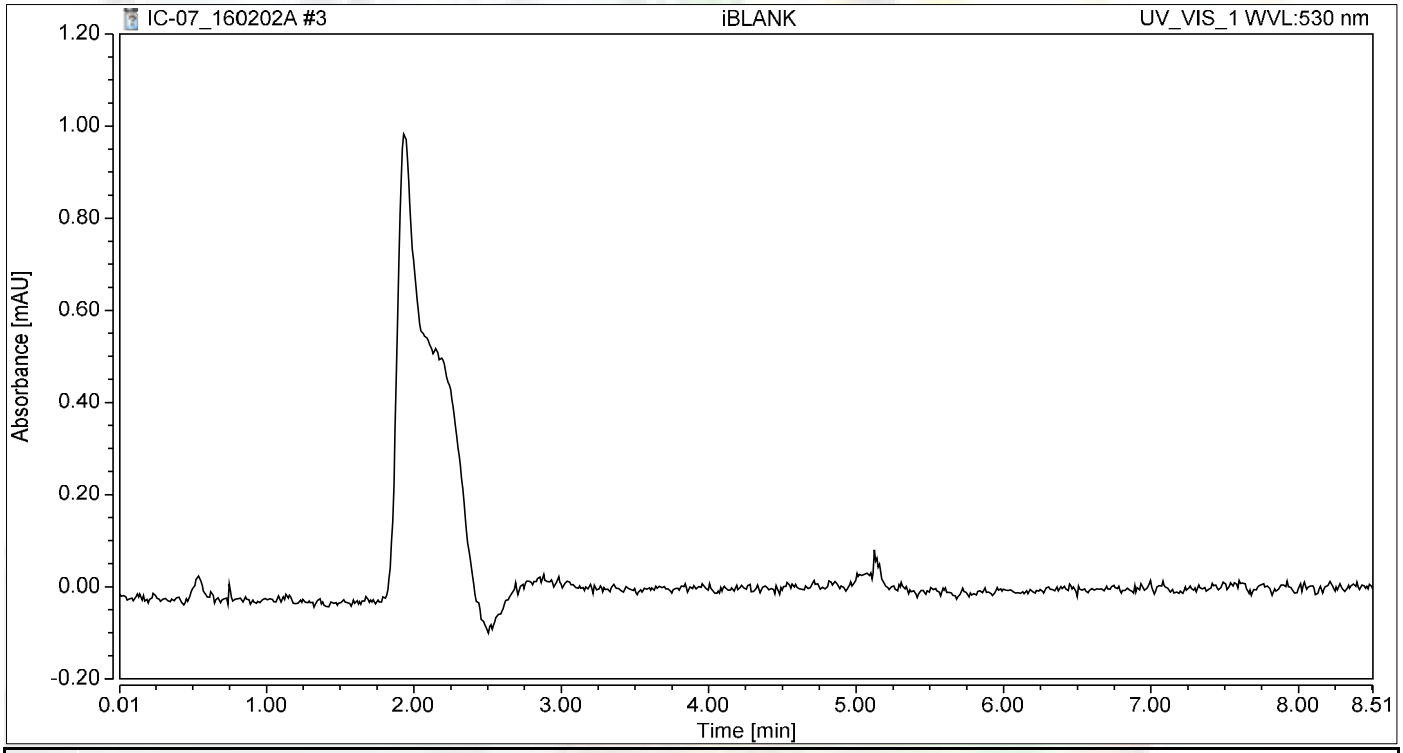
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

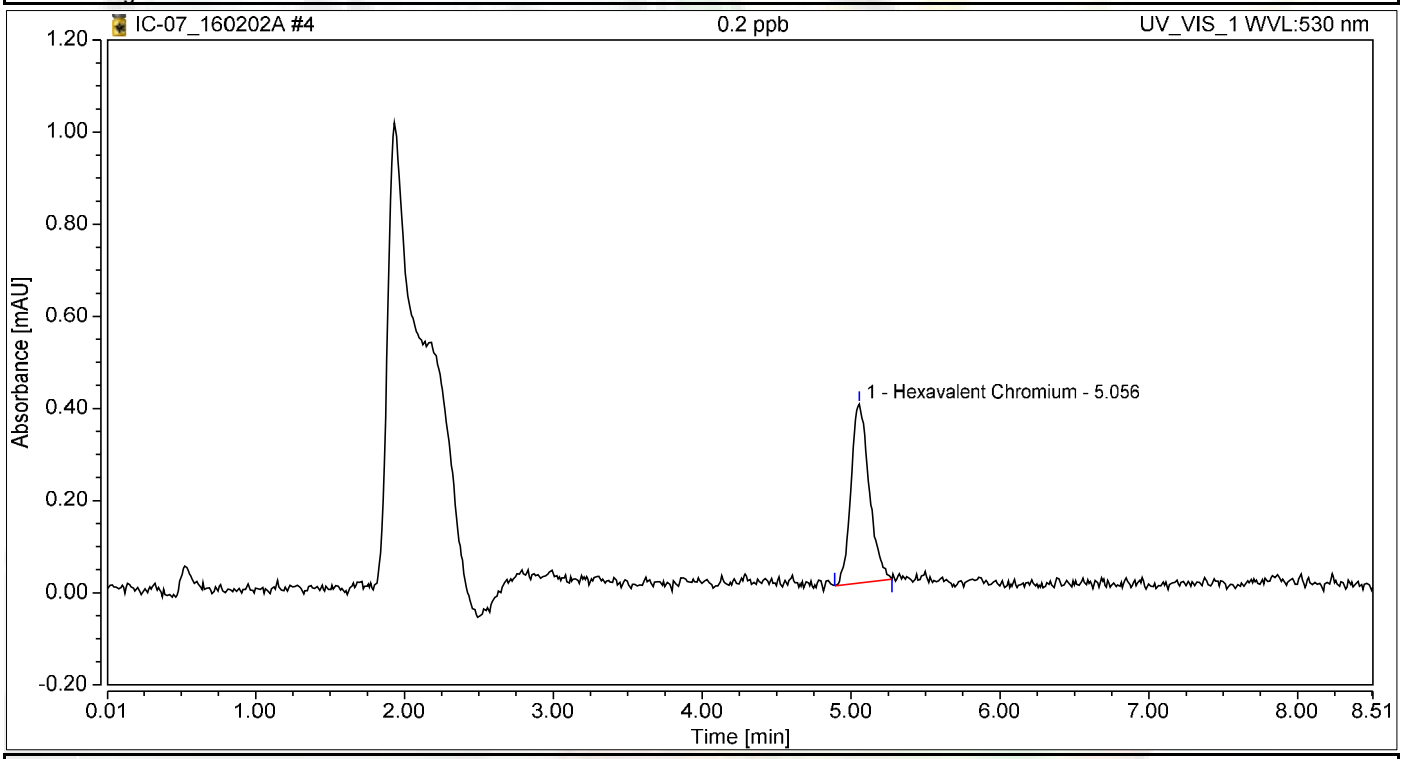
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

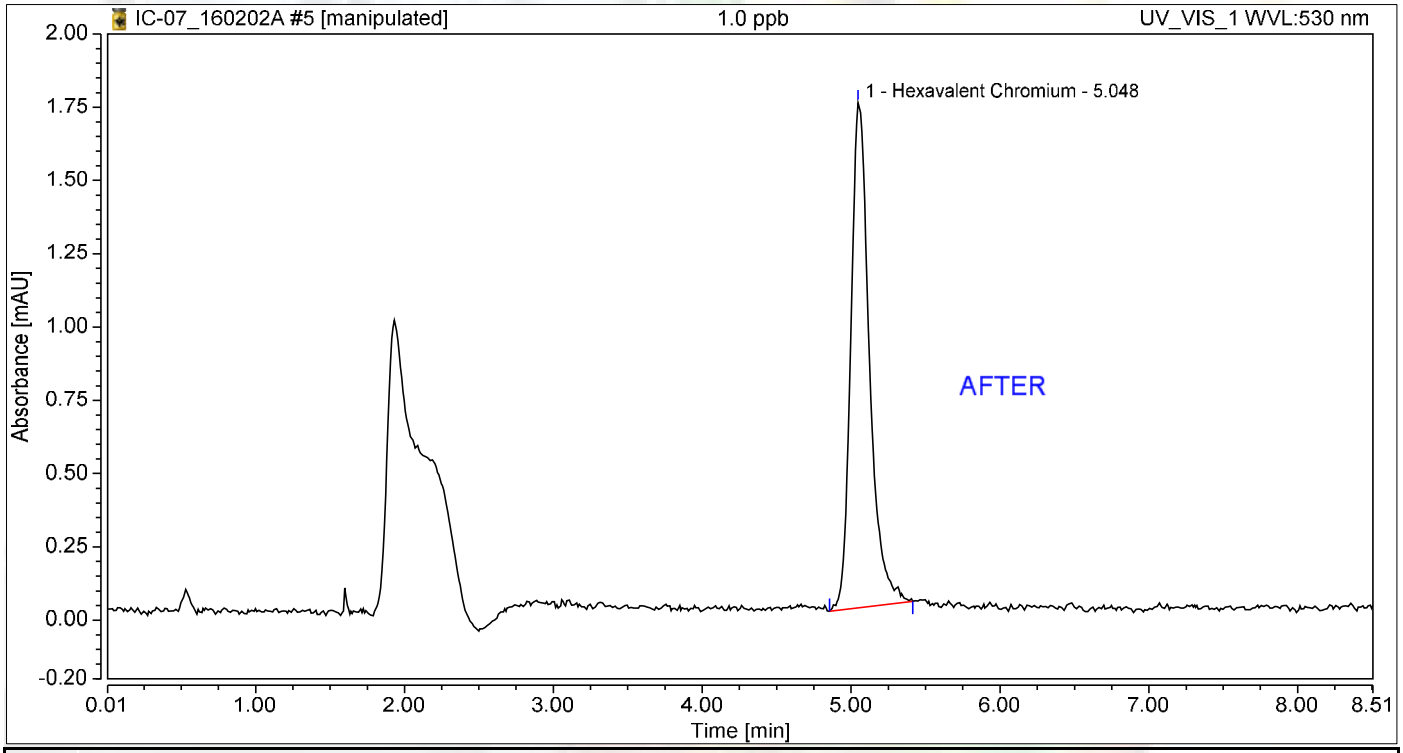
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.055	0.389	100.00	100.00	0.2305
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.723	100.00	100.00	1.0477
Total:			**0.248**	**1.723**	**100.00**	**100.00**	

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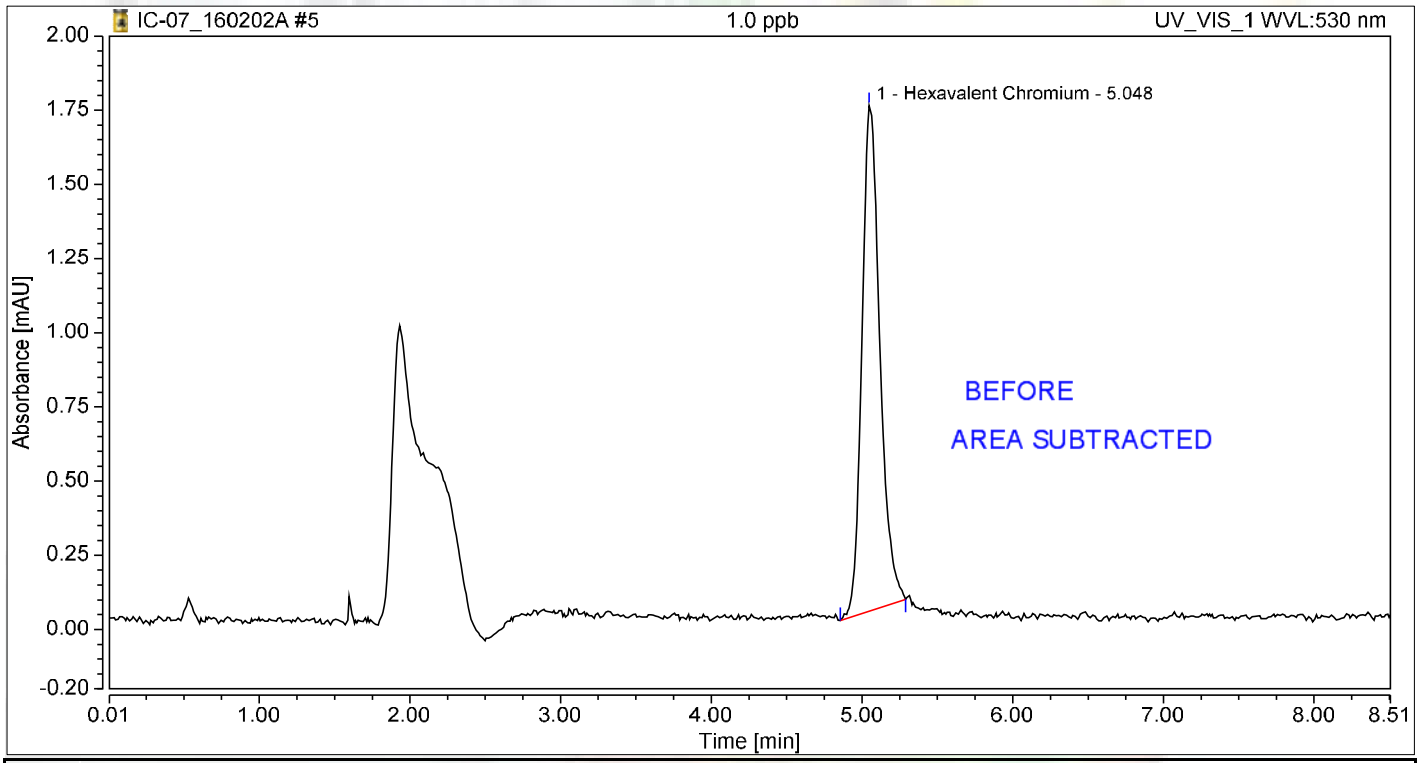
Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.235	1.704	100.00	100.00	0.9945
Total:			**0.235**	**1.704**	**100.00**	**100.00**	

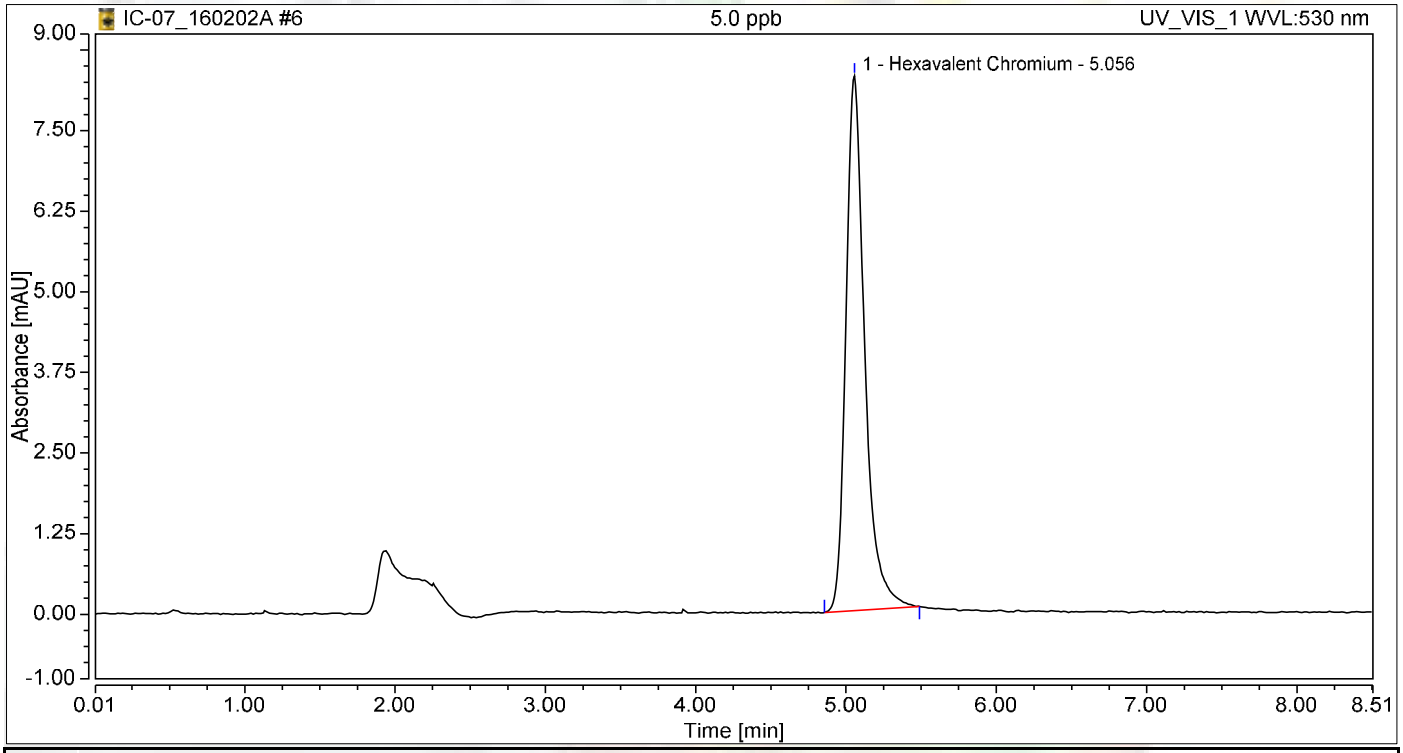
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

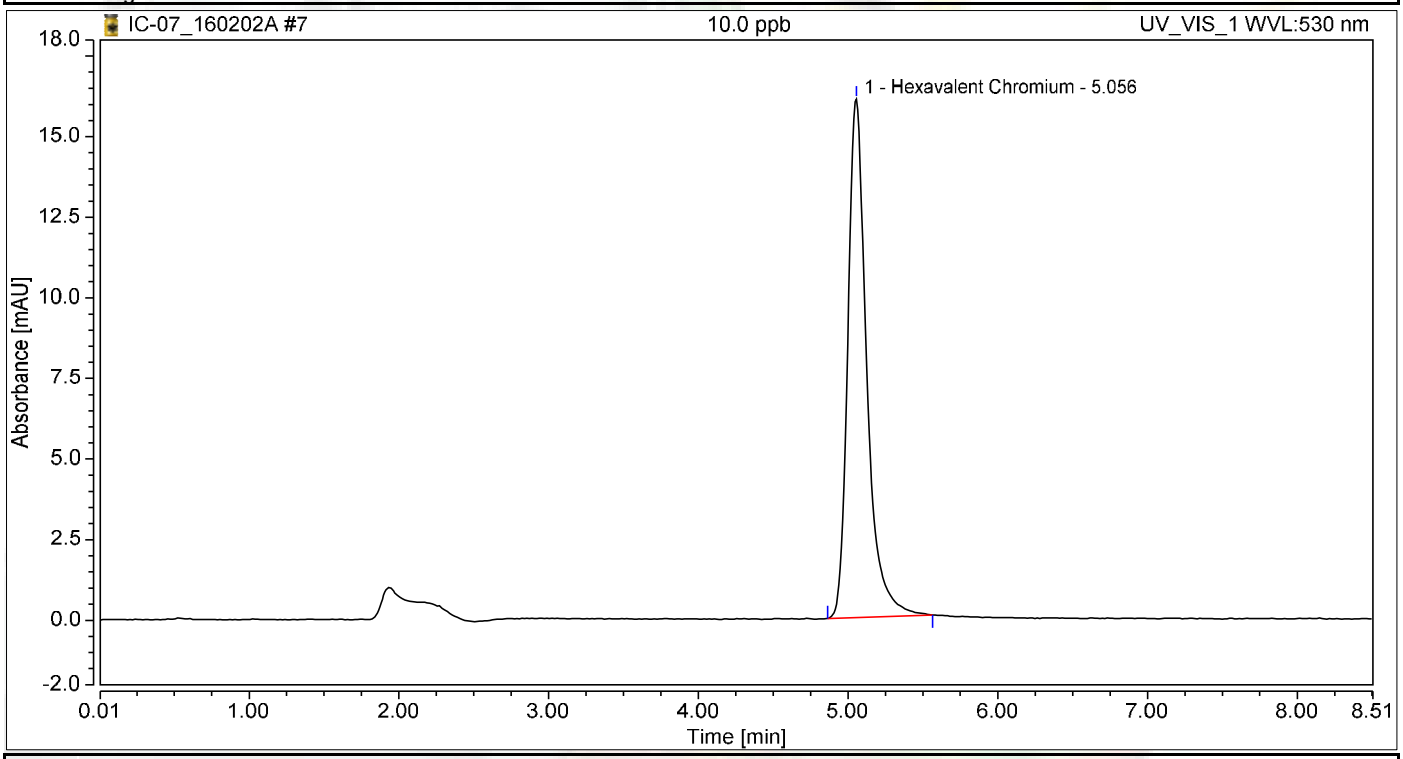
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.196	8.293	100.00	100.00	5.0518
Total:			**1.196**	**8.293**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

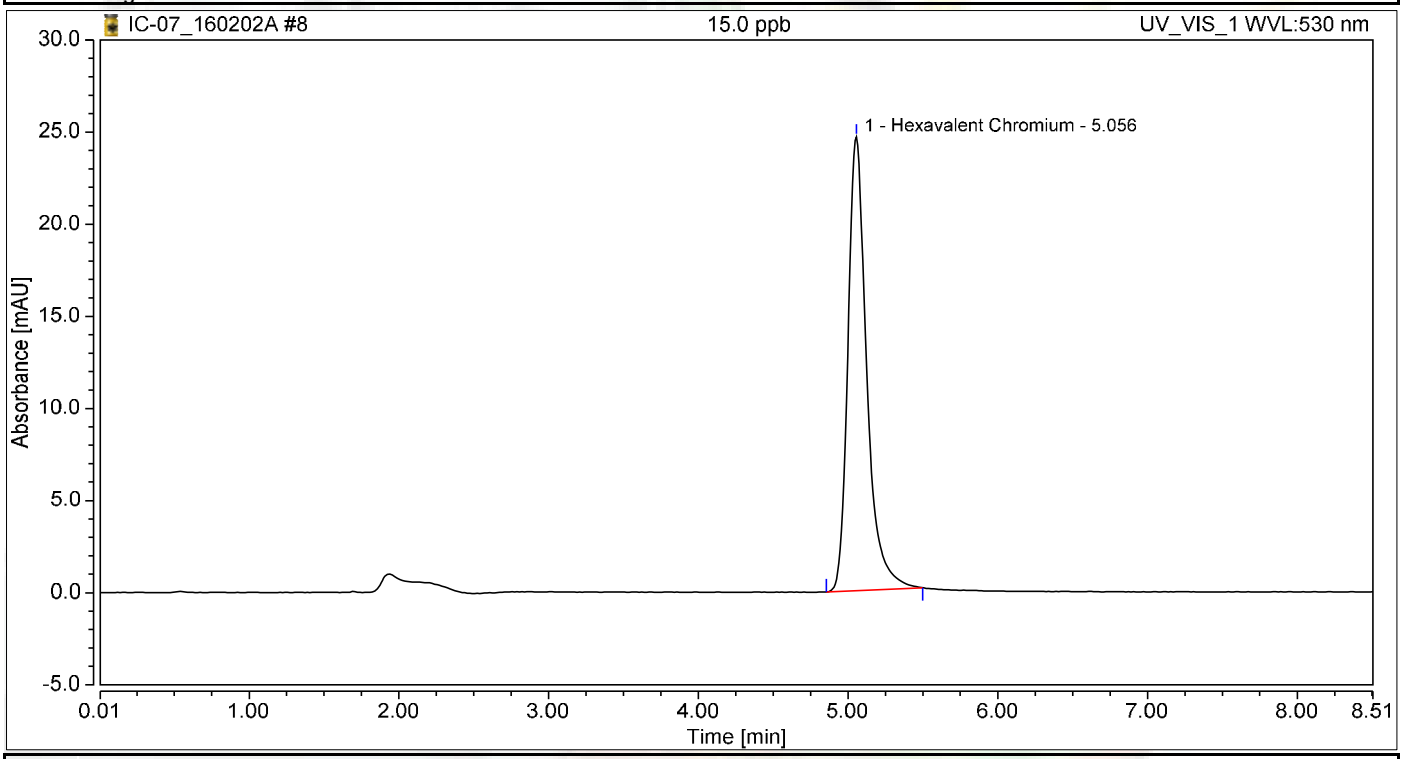
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.339	16.085	100.00	100.00	9.8818
Total:			**2.339**	**16.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

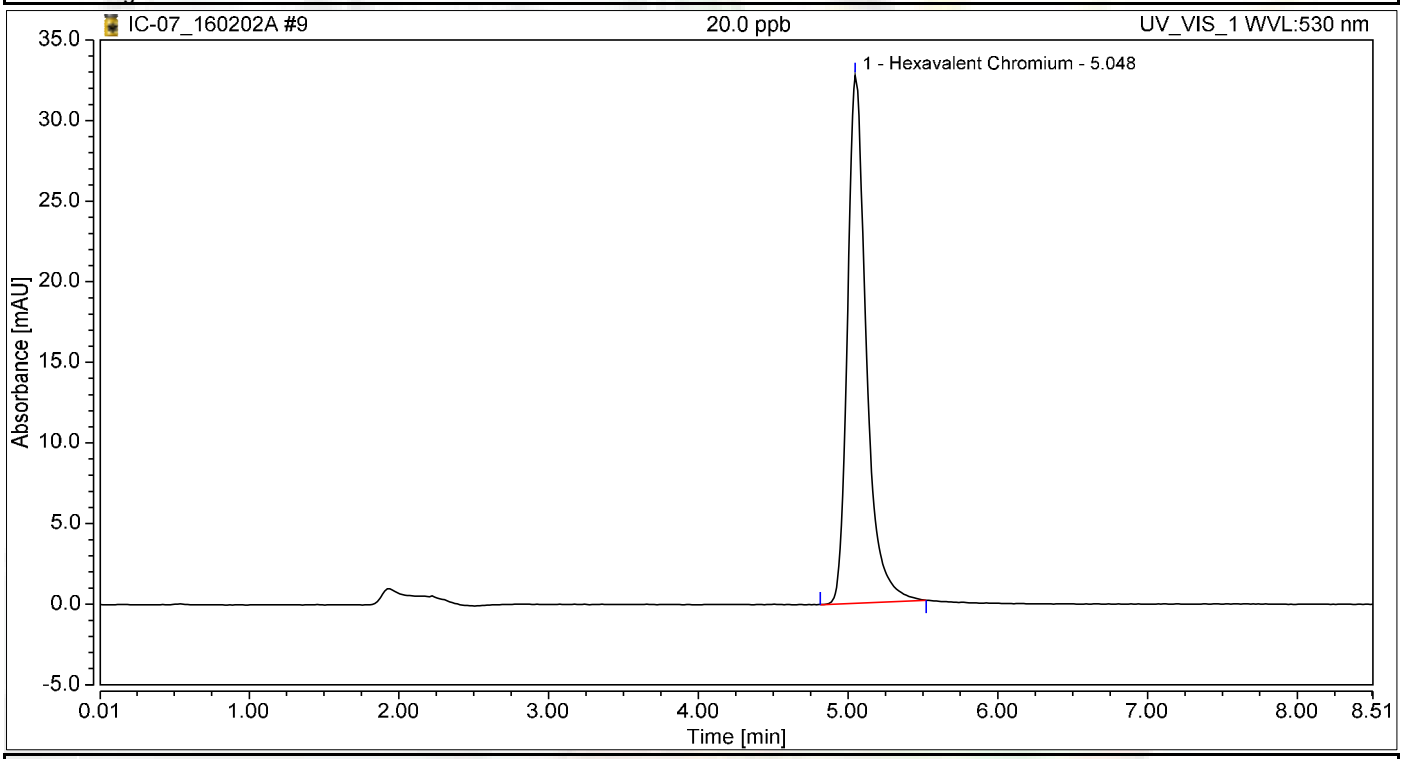
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.549	24.617	100.00	100.00	14.9960
Total:			**3.549**	**24.617**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



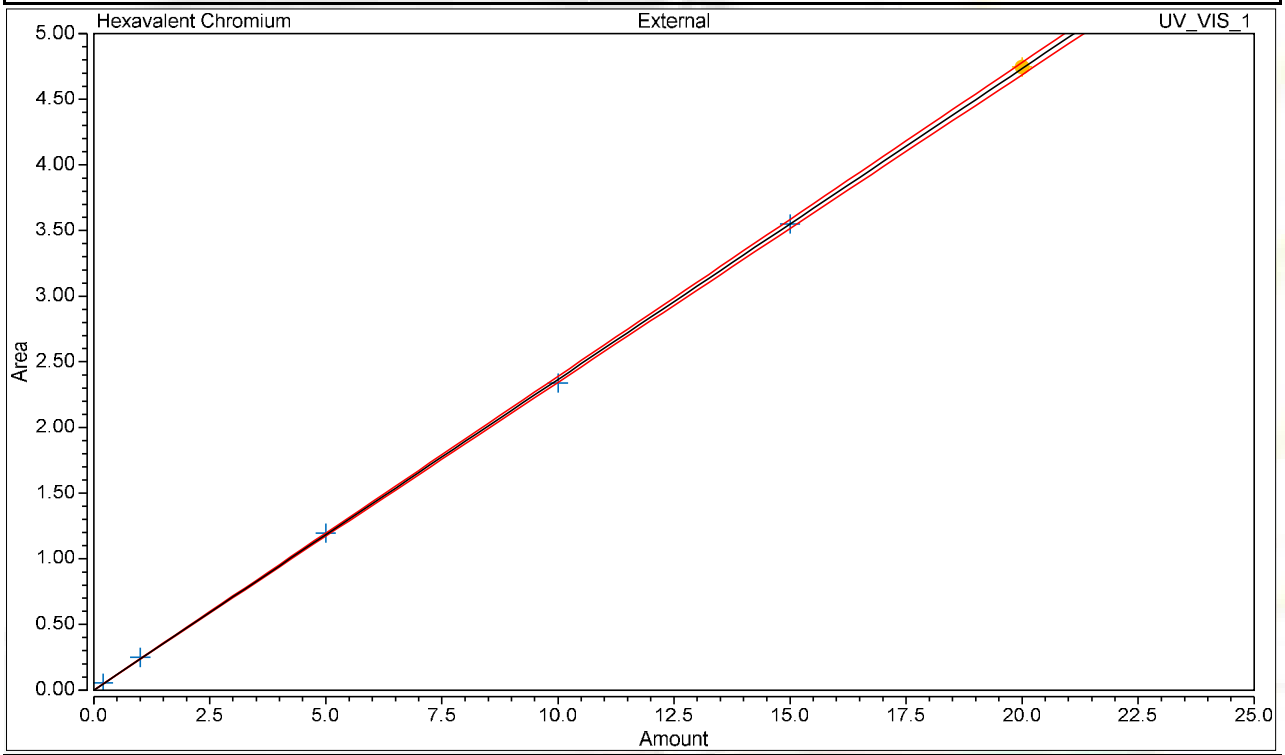
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	4.745	32.729	100.00	100.00	20.0465
Total:			**4.745**	**32.729**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2367
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99993

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

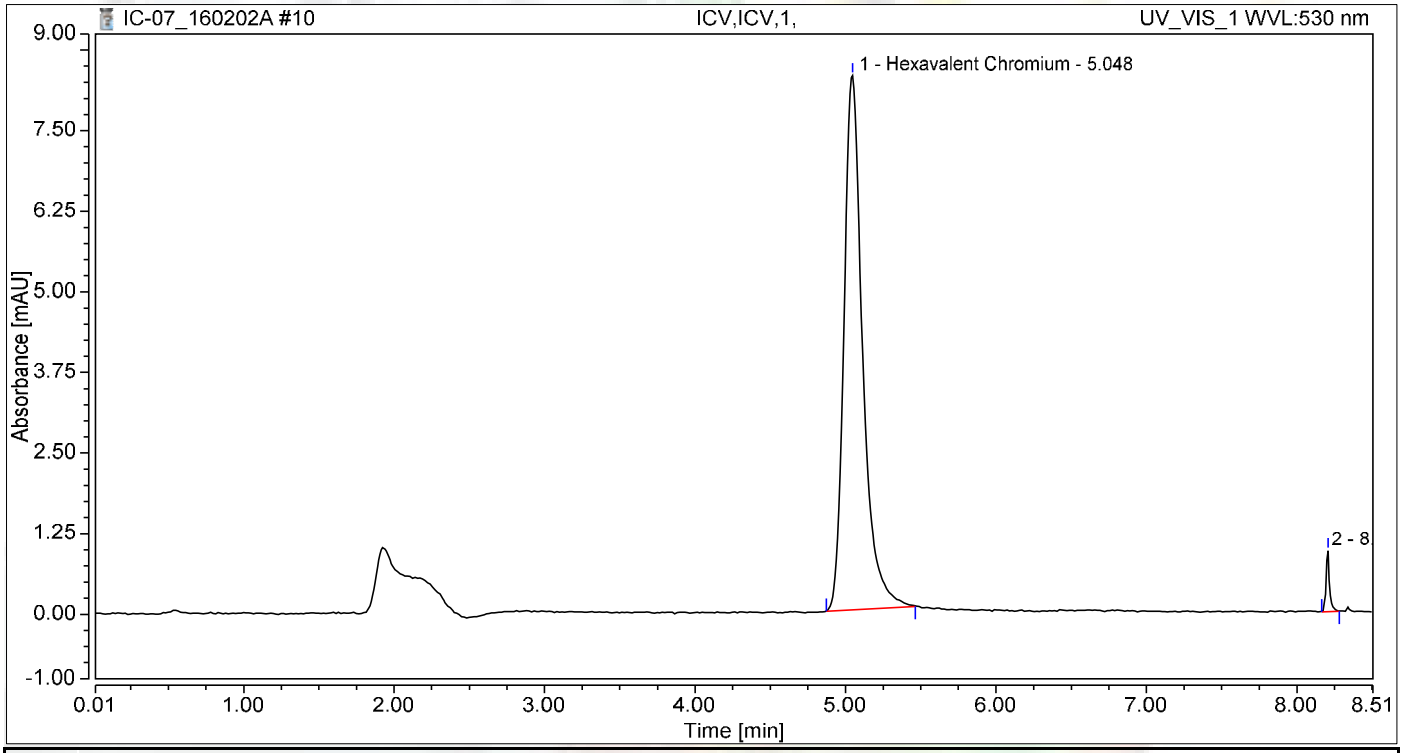
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0546	0.055	0.389
5	1.0 ppb	02	1.0000	0.2480	0.248	1.723
6	5.0 ppb	03	5.0000	1.1957	1.196	8.293
7	10.0 ppb	04	10.0000	2.3389	2.339	16.085
8	15.0 ppb	05	15.0000	3.5494	3.549	24.617
9	20.0 ppb	06	20.0000	4.7448	4.745	32.729

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

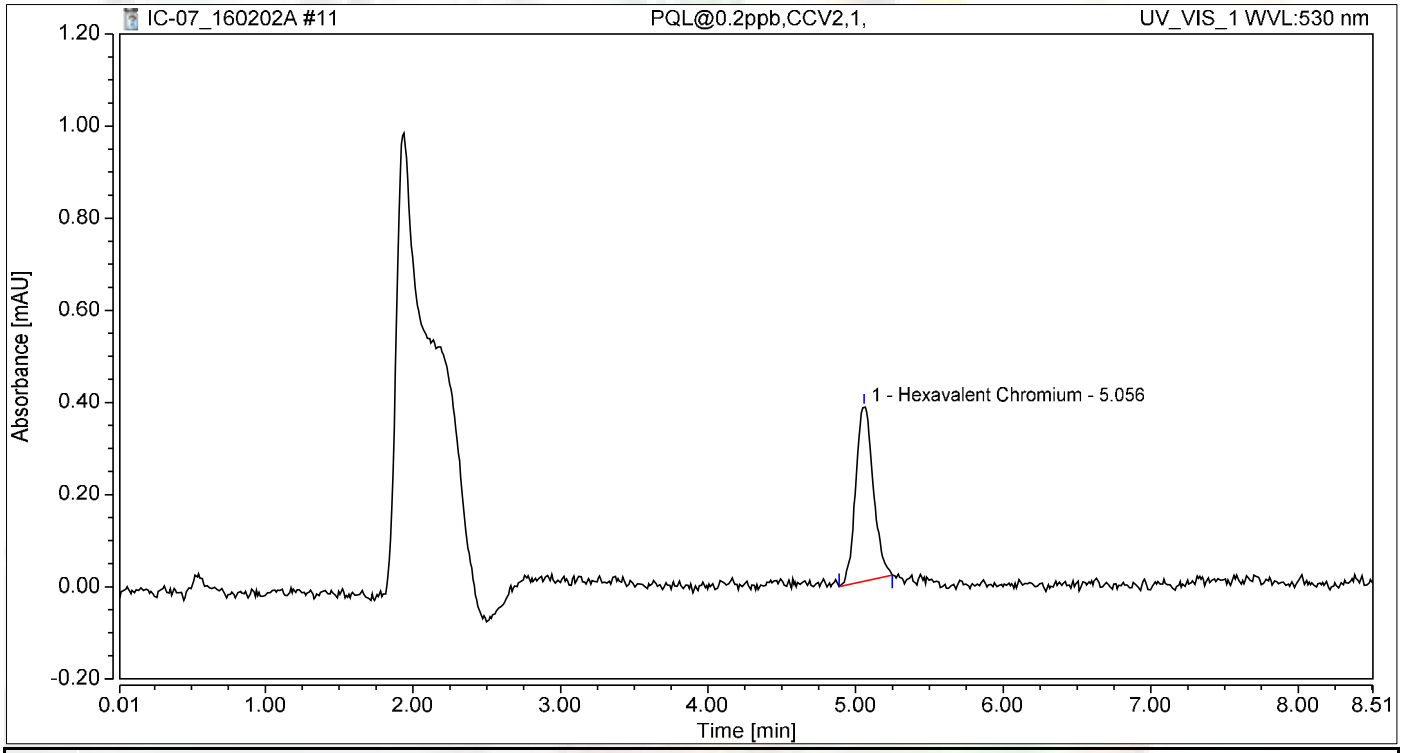
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.187	8.280	97.89	89.76	5.0149
2		8.206	0.026	0.944	2.11	10.24	n.a.
Total:			**1.213**	**9.225**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

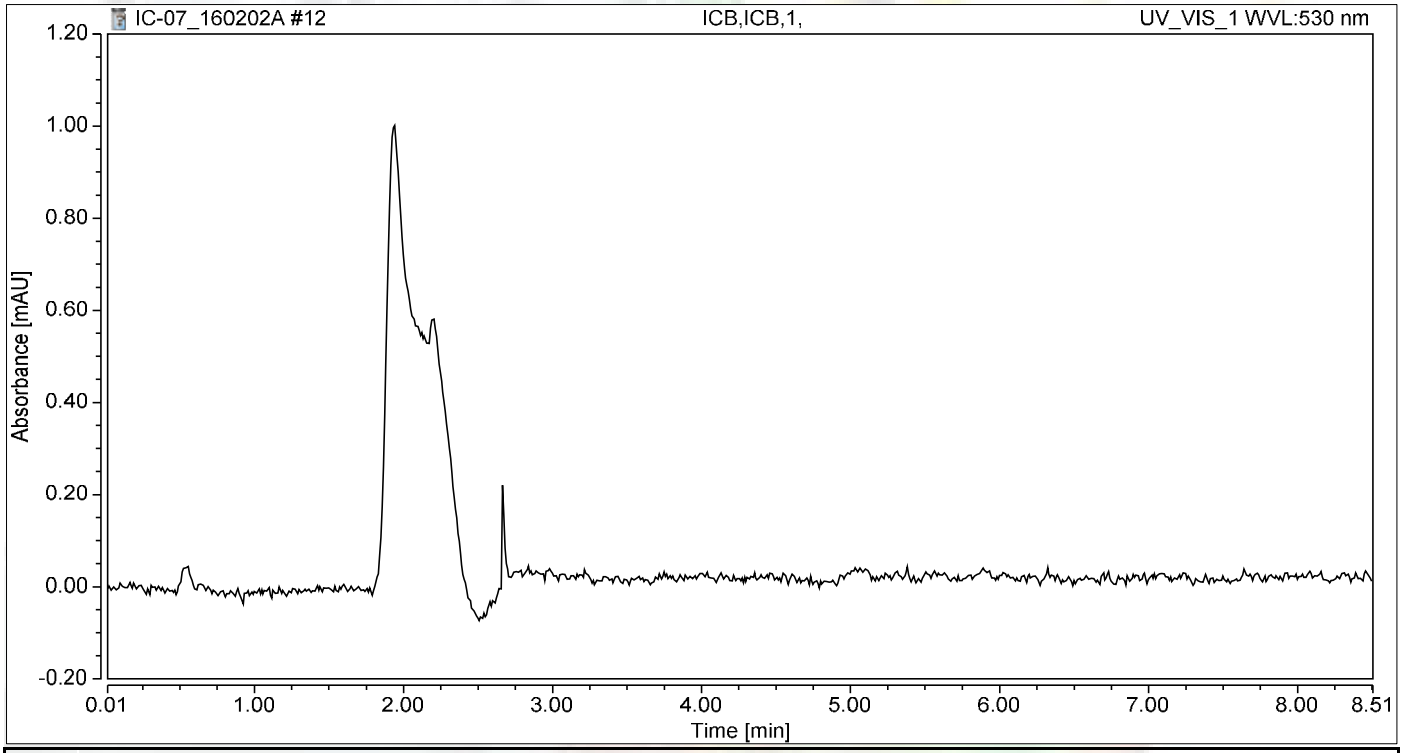
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.052	0.379	100.00	100.00	0.2196
Total:			**0.052**	**0.379**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

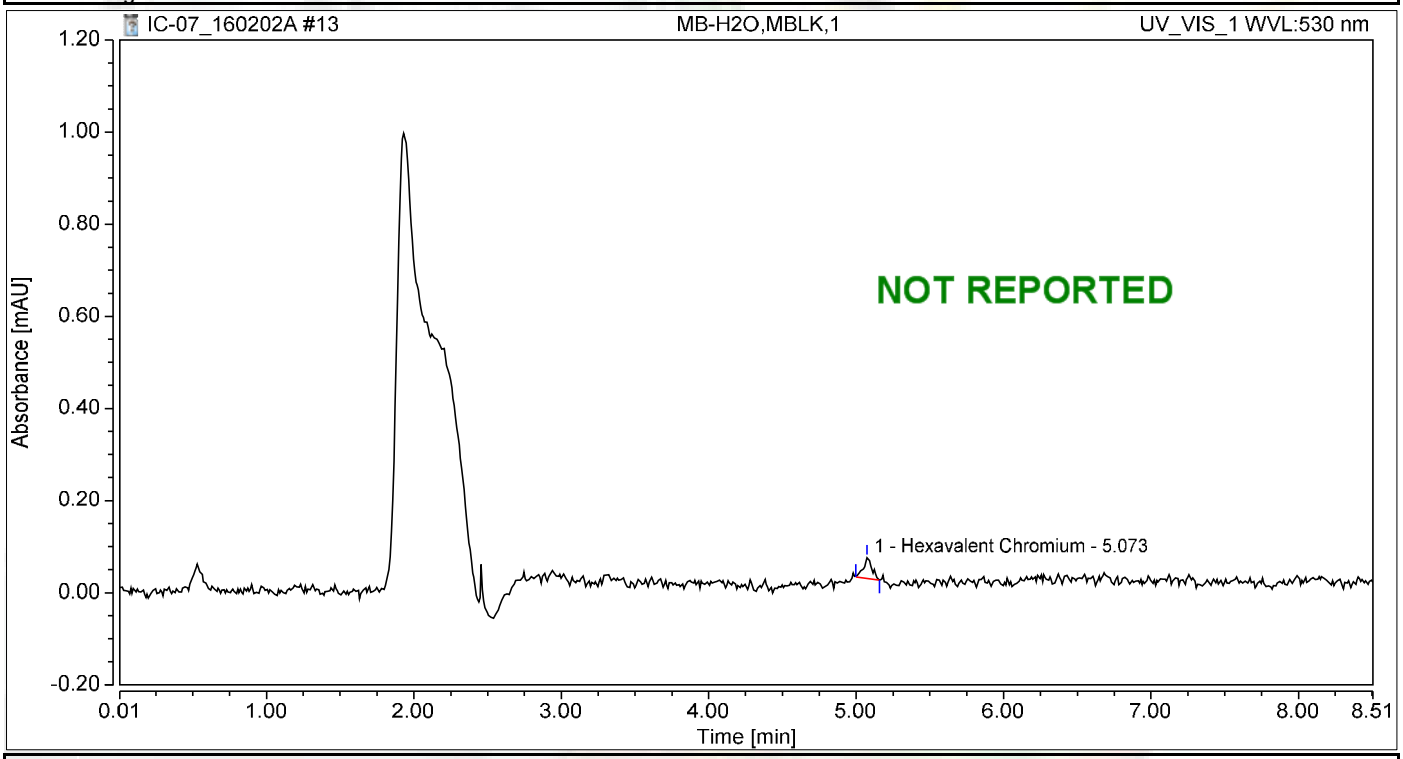
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

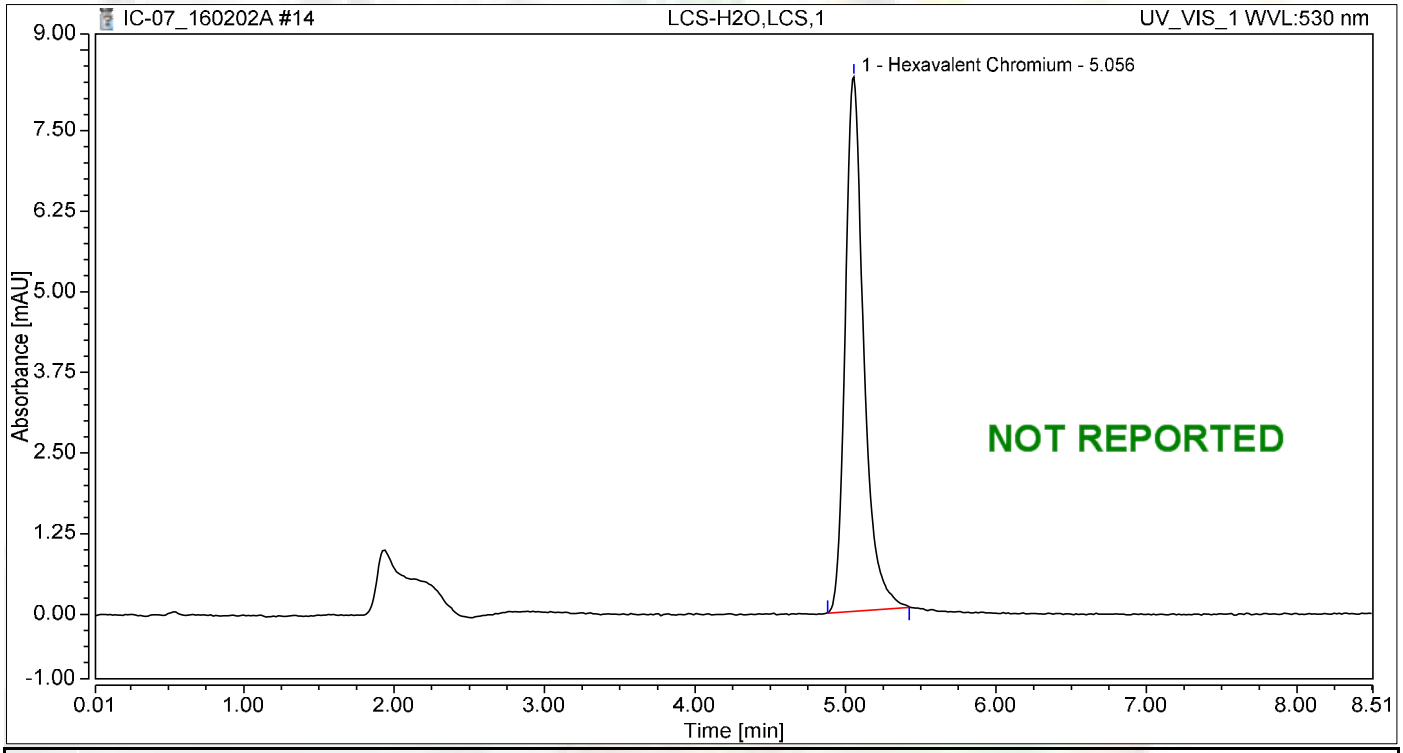
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.003	0.045	100.00	100.00	0.0130
Total:			**0.003**	**0.045**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.183	8.285	100.00	100.00	4.9980
Total:			**1.183**	**8.285**	**100.00**	**100.00**	

RAW DATA

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/29/16 11:08 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	02/29/16 11:19 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/29/16 11:29 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:38 AM	Not Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:47 AM	Reported
15	LCS-R106239	LCS	1	Hexavalent Chromium	02/29/16 11:57 AM	Reported
16	MB-R106239	MBLK	1	Hexavalent Chromium	02/29/16 12:06 PM	Reported
17	N018861-004A	SAMP	20	Hexavalent Chromium	02/29/16 12:31 PM	Reported
18	N018861-004ADUP	DUP	20	Hexavalent Chromium	02/29/16 12:41 PM	Reported
19	N018861-004AMS	MS	20	Hexavalent Chromium	02/29/16 12:51 PM	Reported
20	N018861-004AMSD	MSD	20	Hexavalent Chromium	02/29/16 1:00 PM	Reported
21	N018843-001A	SAMP	1	Hexavalent Chromium	02/29/16 1:10 PM	Reported
22	N018843-001AMS	MS	1	Hexavalent Chromium	02/29/16 1:19 PM	Reported
23	N018843-002A	SAMP	1	Hexavalent Chromium	02/29/16 1:29 PM	Reported
24	N018843-002AMS	MS	1	Hexavalent Chromium	02/29/16 1:38 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/29/16 1:48 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/29/16 1:57 PM	Reported
27	N018843-003A	SAMP	1	Hexavalent Chromium	02/29/16 2:07 PM	Reported
28	N018843-003AMS	MS	1	Hexavalent Chromium	02/29/16 2:16 PM	Reported
29	N018843-004A	SAMP	1	Hexavalent Chromium	02/29/16 2:26 PM	Reported
30	N018843-004AMS	MS	1	Hexavalent Chromium	02/29/16 2:35 PM	Reported
31	N018843-005A	SAMP	1	Hexavalent Chromium	02/29/16 2:44 PM	Reported
32	N018843-005AMS	MS	1	Hexavalent Chromium	02/29/16 2:54 PM	Reported
33	N018843-006A	SAMP	1	Hexavalent Chromium	02/29/16 3:03 PM	Reported
34	N018843-006AMS	MS	1	Hexavalent Chromium	02/29/16 3:13 PM	Reported
35	N018843-007A	SAMP	1	Hexavalent Chromium	02/29/16 3:22 PM	Reported
36	N018843-007AMS	MS	1	Hexavalent Chromium	02/29/16 3:32 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/29/16 3:41 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/29/16 3:51 PM	Reported
39	N018843-008A	SAMP	1	Hexavalent Chromium	02/29/16 4:00 PM	Reported
40	N018843-008AMS	MS	1	Hexavalent Chromium	02/29/16 4:10 PM	Reported
41	N018843-009A	SAMP	1	Hexavalent Chromium	02/29/16 4:19 PM	Reported
42	N018843-009AMS	MS	1	Hexavalent Chromium	02/29/16 4:29 PM	Reported

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018843-010A	SAMP	1	Hexavalent Chromium	02/29/16 4:38 PM	Reported
44	N018843-010AMS	MS	1	Hexavalent Chromium	02/29/16 4:48 PM	Reported
45	N018844-001A	SAMP	1	Hexavalent Chromium	02/29/16 4:57 PM	Reported
46	N018844-001AMS	MS	1	Hexavalent Chromium	02/29/16 5:06 PM	Reported
47	N018844-005A	SAMP	1	Hexavalent Chromium	02/29/16 5:16 PM	Reported
48	N018844-005AMS	MS	1	Hexavalent Chromium	02/29/16 5:25 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/29/16 5:35 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/29/16 5:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160229A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:47:52**
No. of Injections:	**53**	*Updated By:*	**ics 5000**

Injection Details

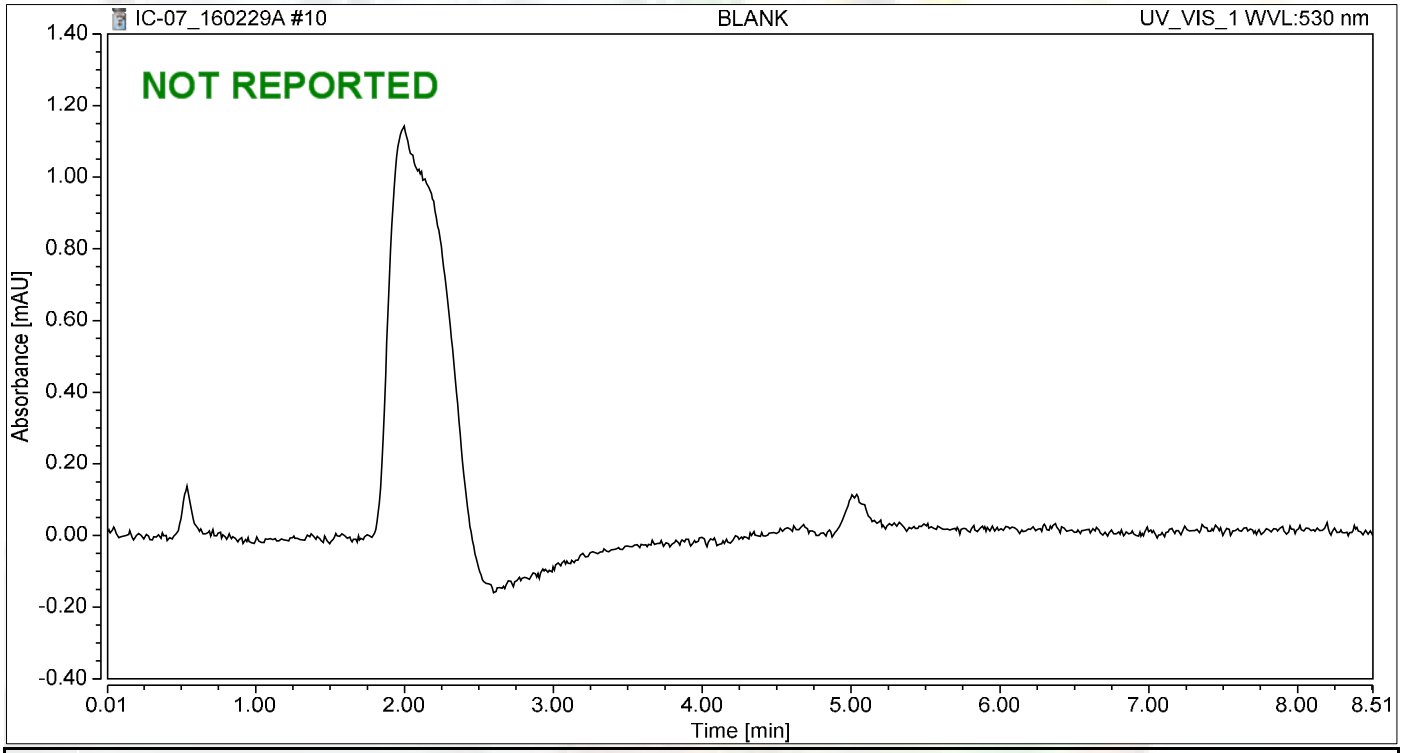
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/29/2016 11:08	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		02/29/2016 11:19	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		02/29/2016 11:29	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		02/29/2016 11:38	Finished	CCB R160209C
14	CCB-1,CCB,1	5	1000	Unknown		02/29/2016 11:47	Finished	CCB R160209C
15	LCS-H2O,LCS,1	6	1000	Unknown		02/29/2016 11:57	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	7	1000	Unknown		02/29/2016 12:06	Finished	MB
17	N018861-004A,SAMP	8	1000	Unknown		02/29/2016 12:31	Finished	SAMP, 0.5 to 10mL
18	N018861-004ADUP,D	9	1000	Unknown		02/29/2016 12:41	Finished	DOP, 0.5 to 10mL
19	N018861-004AMS,MS	10	1000	Unknown		02/29/2016 12:51	Finished	MS(5ppb), IWST-160202B, 10r
20	N018861-004AMSD,M	11	1000	Unknown		02/29/2016 13:00	Finished	MSD(5ppb), IWST-160202B, 1
21	N018843-001A,SAMP	12	1000	Unknown		02/29/2016 13:10	Finished	SAMP, 10mL
22	N018843-001AMS,MS	13	1000	Unknown		02/29/2016 13:19	Finished	MS(1ppb), IWST-160202B, 10r
23	N018843-002A,SAMP	14	1000	Unknown		02/29/2016 13:29	Finished	SAMP, 10mL
24	N018843-002AMS,MS	15	1000	Unknown		02/29/2016 13:38	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/29/2016 13:48	Finished	CCV @ 10ppb, IWST 160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/29/2016 13:57	Finished	CCB
27	N018843-003A,SAMP	18	1000	Unknown		02/29/2016 14:07	Finished	SAMP, 10mL
28	N018843-003AMS,MS	19	1000	Unknown		02/29/2016 14:16	Finished	MS(1ppb), IWST-160202B, 10r
29	N018843-004A,SAMP	20	1000	Unknown		02/29/2016 14:26	Finished	SAMP, 10mL
30	N018843-004AMS,MS	21	1000	Unknown		02/29/2016 14:35	Finished	MS(1ppb), IWST-160202B, 10r
31	N018843-005A,SAMP	22	1000	Unknown		02/29/2016 14:44	Finished	SAMP, 10mL
32	N018843-005AMS,MS	23	1000	Unknown		02/29/2016 14:54	Finished	MS(1ppb), IWST-160202B, 10r
33	N018843-006A,SAMP	24	1000	Unknown		02/29/2016 15:03	Finished	SAMP, 10mL
34	N018843-006AMS,MS	25	1000	Unknown		02/29/2016 15:13	Finished	MS(1ppb), IWST-160202B, 10r
35	N018843-007A,SAMP	26	1000	Unknown		02/29/2016 15:22	Finished	SAMP, 10mL
36	N018843-007AMS,MS	27	1000	Unknown		02/29/2016 15:32	Finished	MS(1ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/29/2016 15:41	Finished	CCV @ 5ppb, IWST 160202A
38	CCB-3,CCB,1	29	1000	Unknown		02/29/2016 15:51	Finished	CCB
39	N018843-008A,SAMP	30	1000	Unknown		02/29/2016 16:00	Finished	SAMP, 10mL
40	N018843-008AMS,MS	31	1000	Unknown		02/29/2016 16:10	Finished	MS(1ppb), IWST-160202B, 10r
41	N018843-009A,SAMP	32	1000	Unknown		02/29/2016 16:19	Finished	SAMP, 10mL
42	N018843-009AMS,MS	33	1000	Unknown		02/29/2016 16:29	Finished	MS(1ppb), IWST-160202B, 10r
43	N018843-010A,SAMP	34	1000	Unknown		02/29/2016 16:38	Finished	SAMP, 10mL
44	N018843-010AMS,MS	35	1000	Unknown		02/29/2016 16:48	Finished	MS(1ppb), IWST-160202B, 10r
45	N018844-001A,SAMP	36	1000	Unknown		02/29/2016 16:57	Finished	SAMP, 10mL
46	N018844-001AMS,MS	37	1000	Unknown		02/29/2016 17:06	Finished	MS(1ppb), IWST-160202B, 10r
47	N018844-005A,SAMP	38	1000	Unknown		02/29/2016 17:16	Finished	SAMP, 10mL
48	N018844-005AMS,MS	39	1000	Unknown		02/29/2016 17:25	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/29/2016 17:35	Finished	CCV @ 10ppb, IWST 160202A
50	CCB-4,CCB,1	41	1000	Unknown		02/29/2016 17:44	Finished	CCB
51	SHUTDOWN	42	1000	Unknown		02/29/2016 17:54	Finished	BLANK
52	Eluent: R160224A	43	1000	Unknown		n.a.	Finished	Eluent
53	PCR: R160226A	44	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

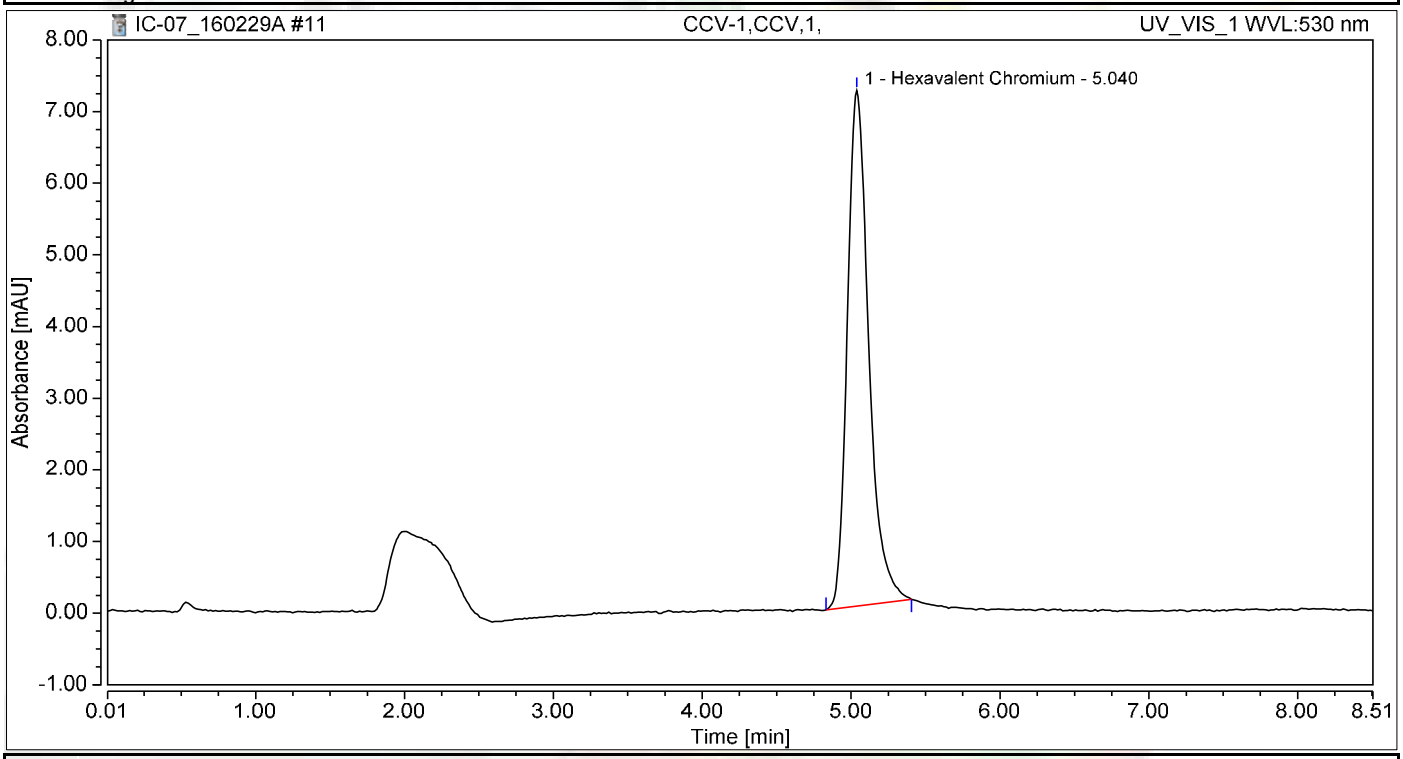
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

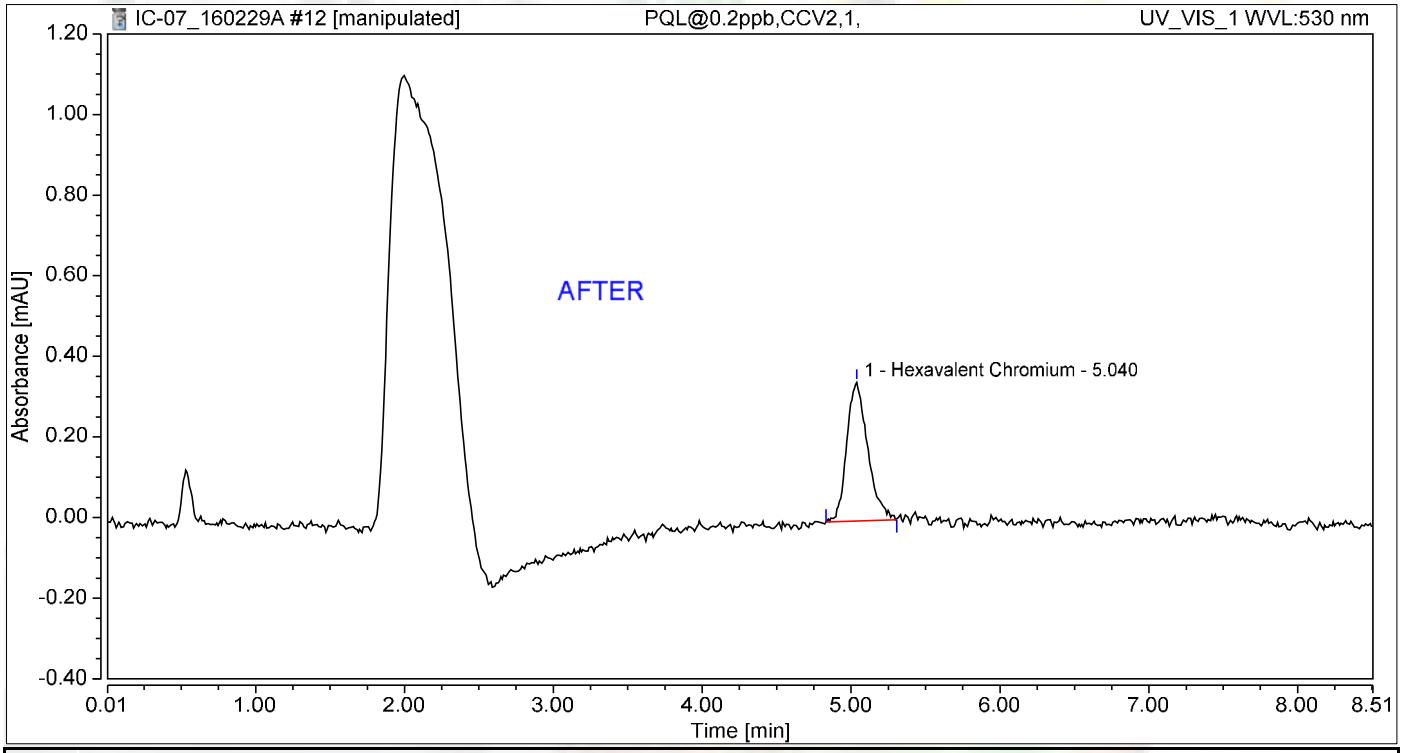
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.189	7.197	100.00	100.00	5.0246
Total:			**1.189**	**7.197**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.056	0.344	100.00	100.00	0.2368
Total:			**0.056**	**0.344**	**100.00**	**100.00**	

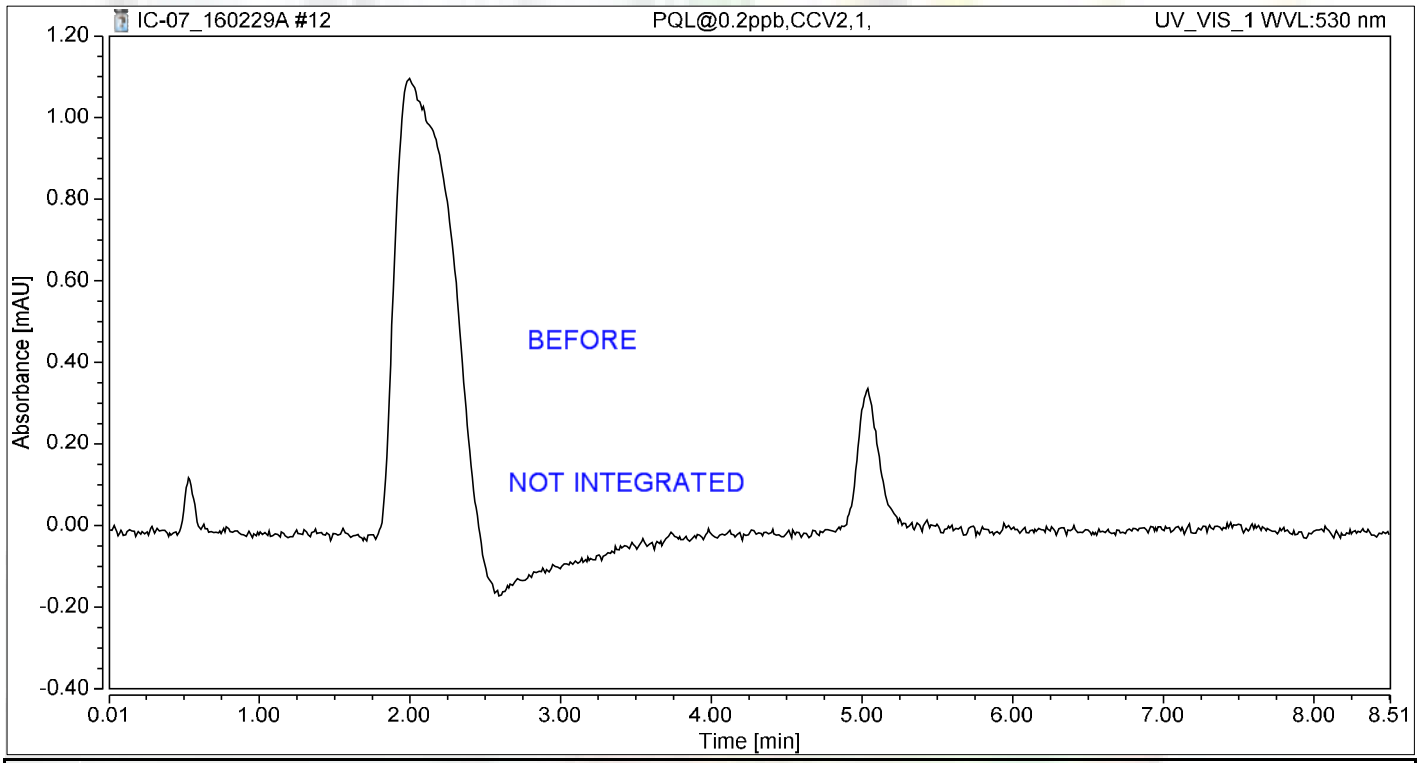
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

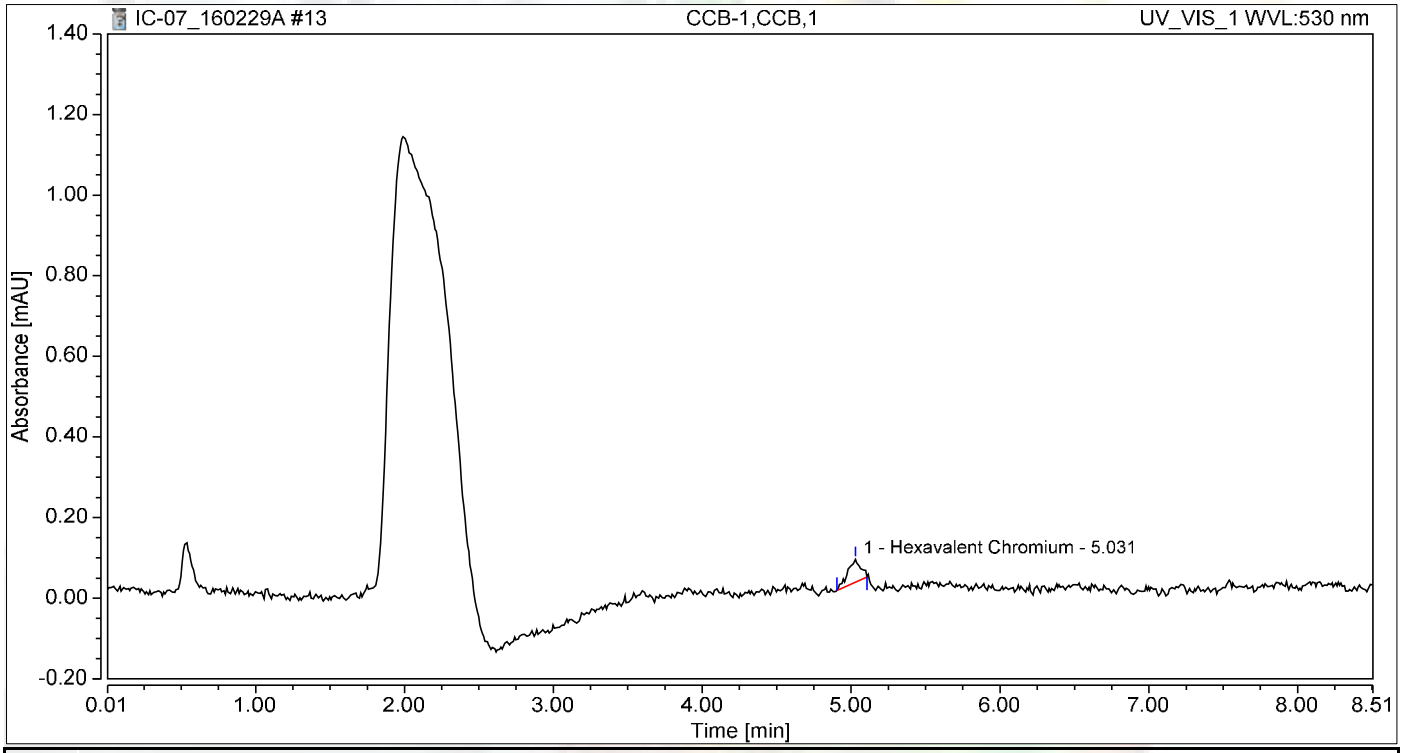
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.006	0.056	100.00	100.00	0.0240
Total:			**0.006**	**0.056**	**100.00**	**100.00**	

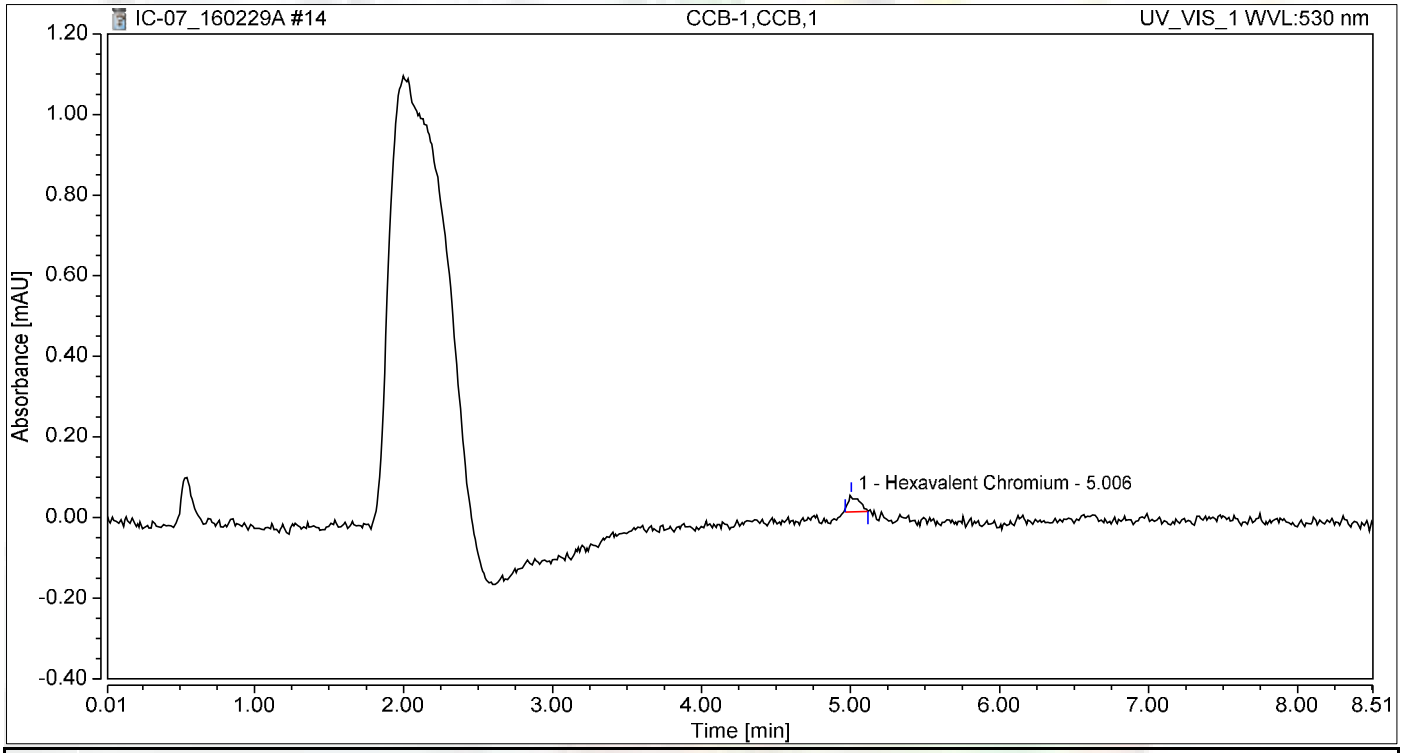
not reported

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

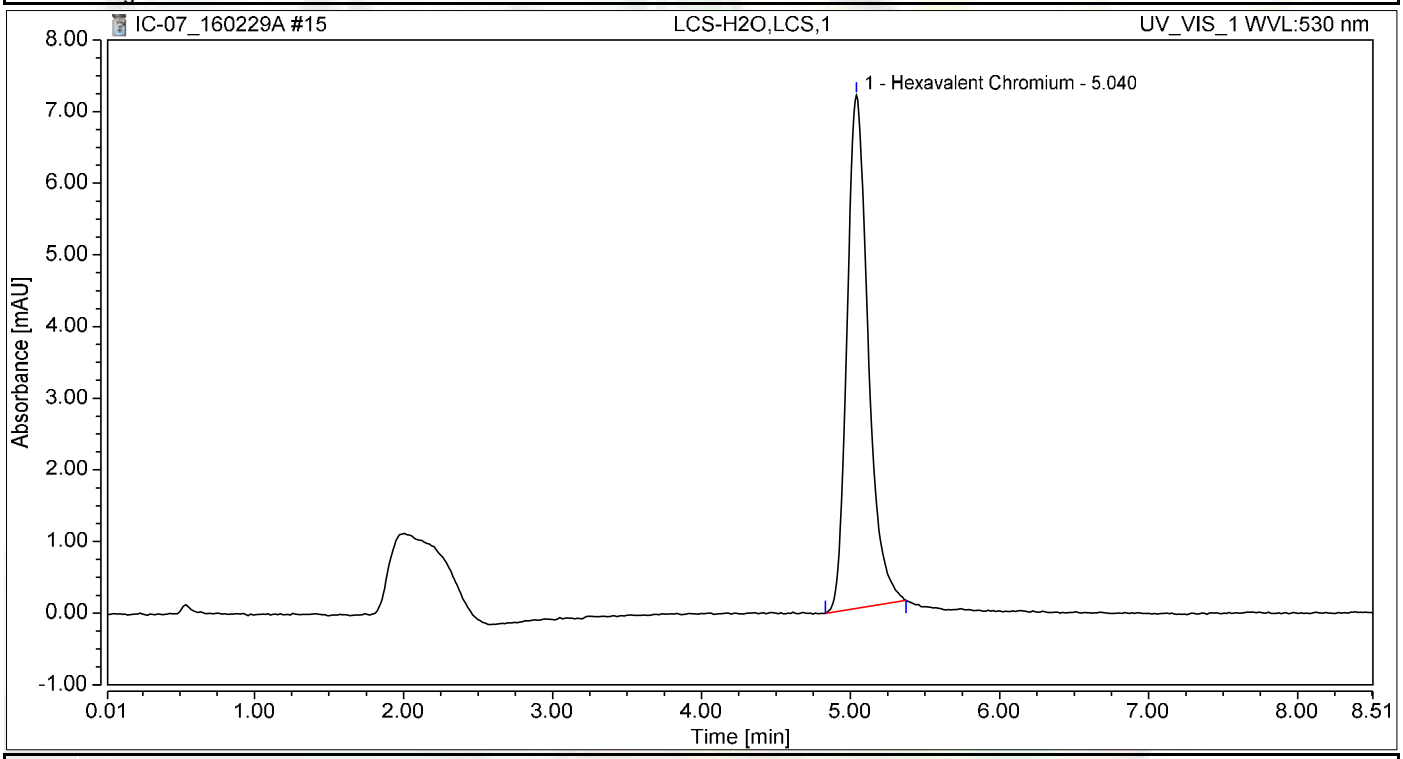
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.003	0.042	100.00	100.00	0.0142
Total:			**0.003**	**0.042**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

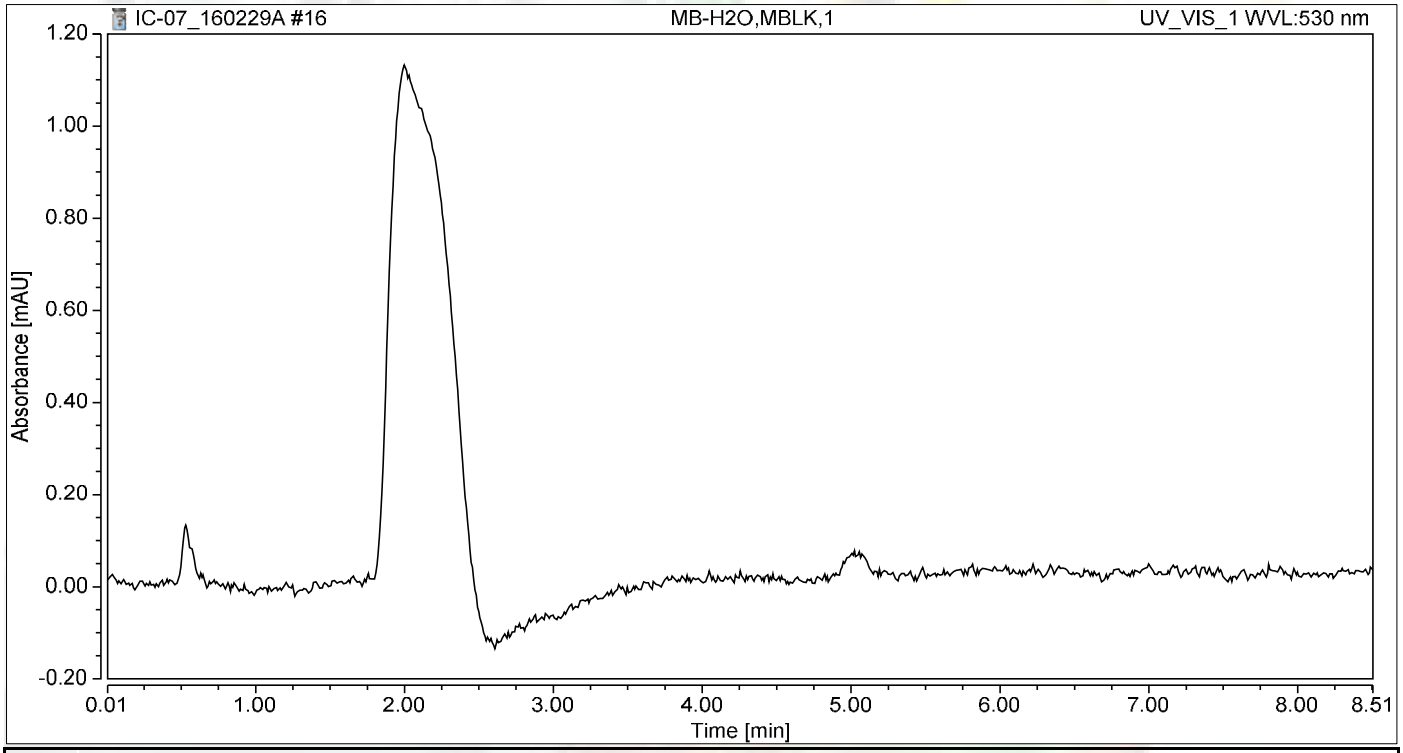
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.174	7.164	100.00	100.00	4.9610
Total:			**1.174**	**7.164**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

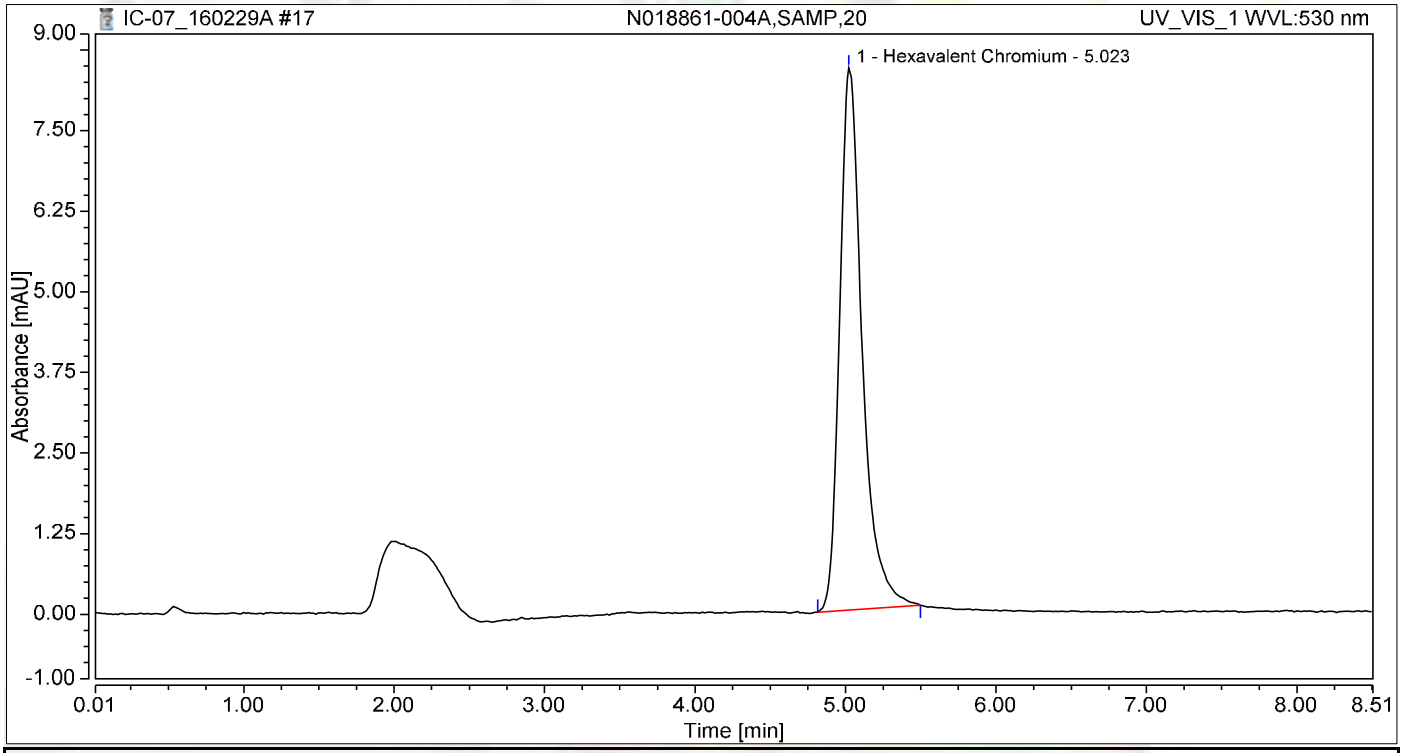
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004A,SAMP,20**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

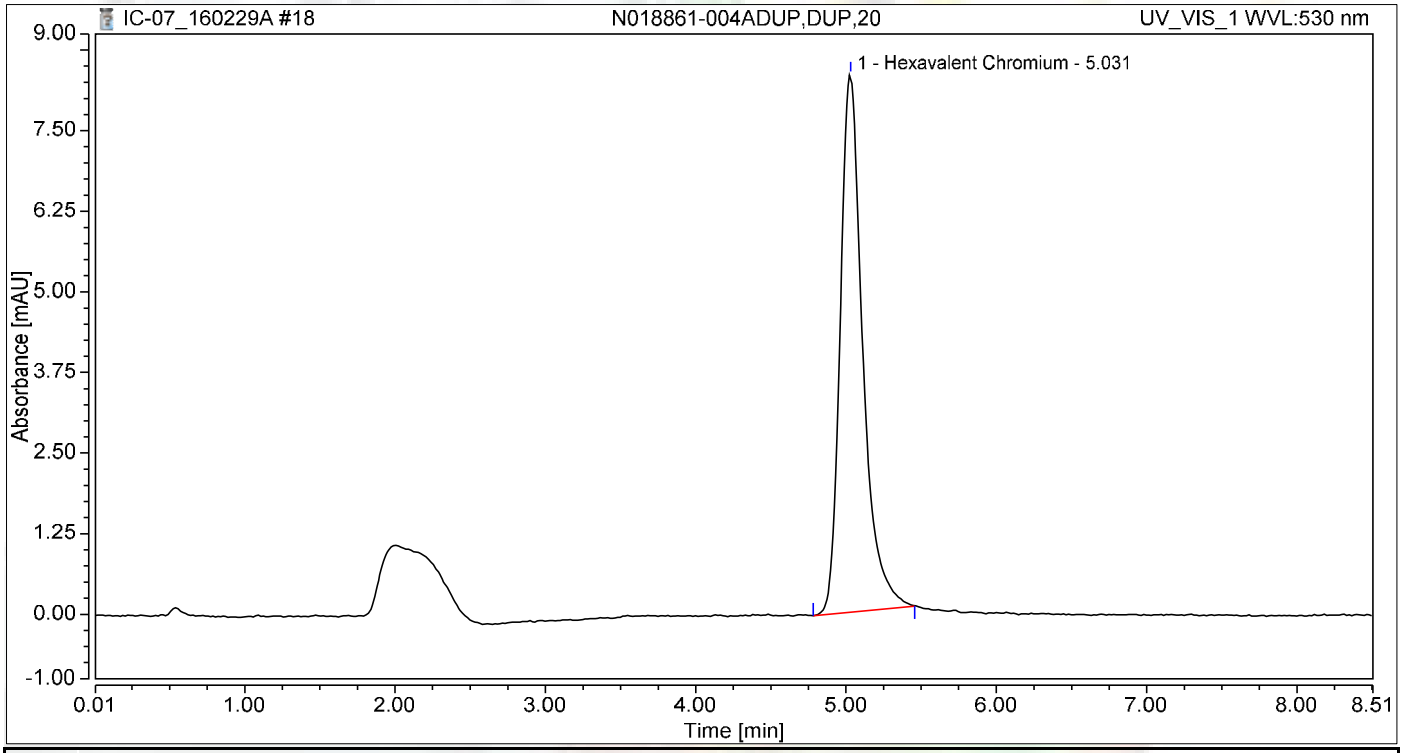
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	1.456	8.404	100.00	100.00	6.1533
Total:			**1.456**	**8.404**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004ADUP,DUP,20**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

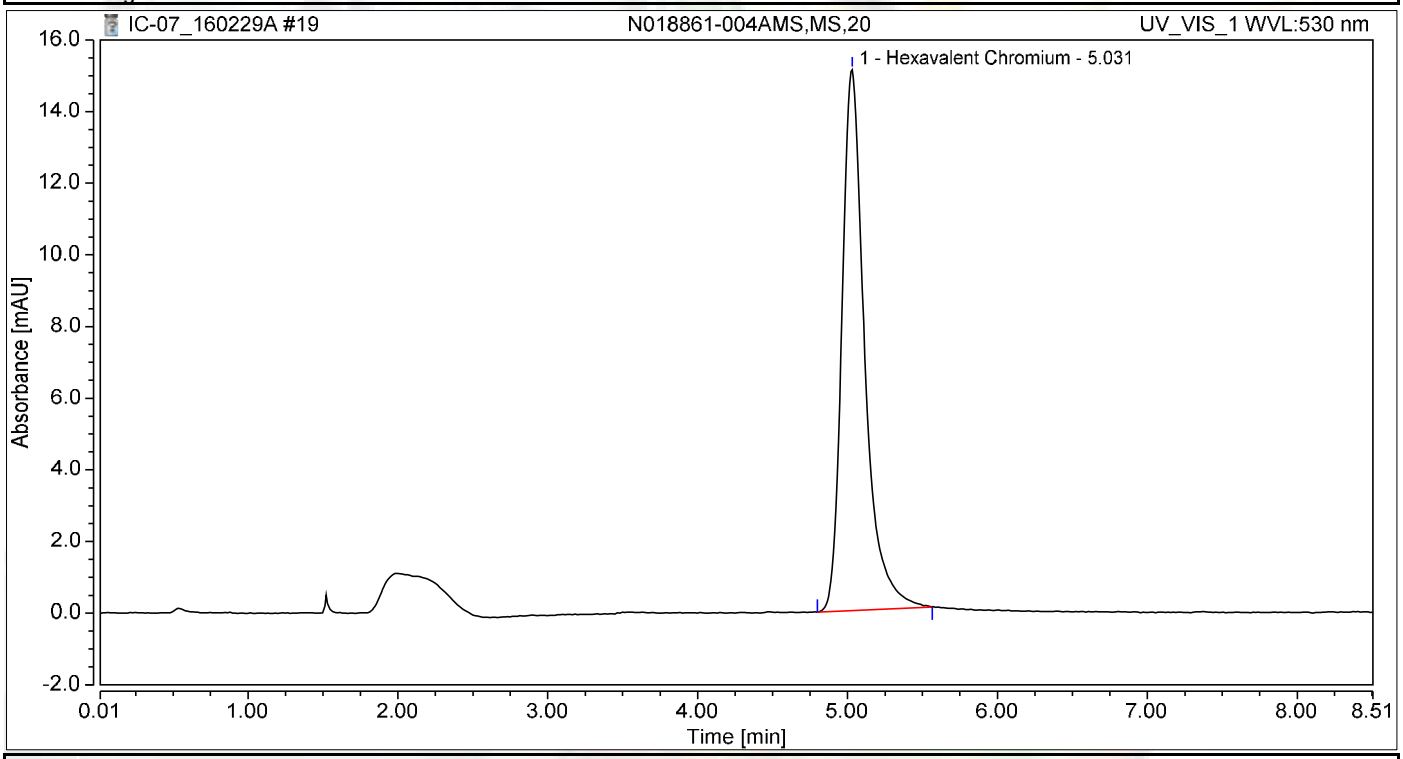
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.443	8.332	100.00	100.00	6.0978
Total:			**1.443**	**8.332**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMS,MS,20**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

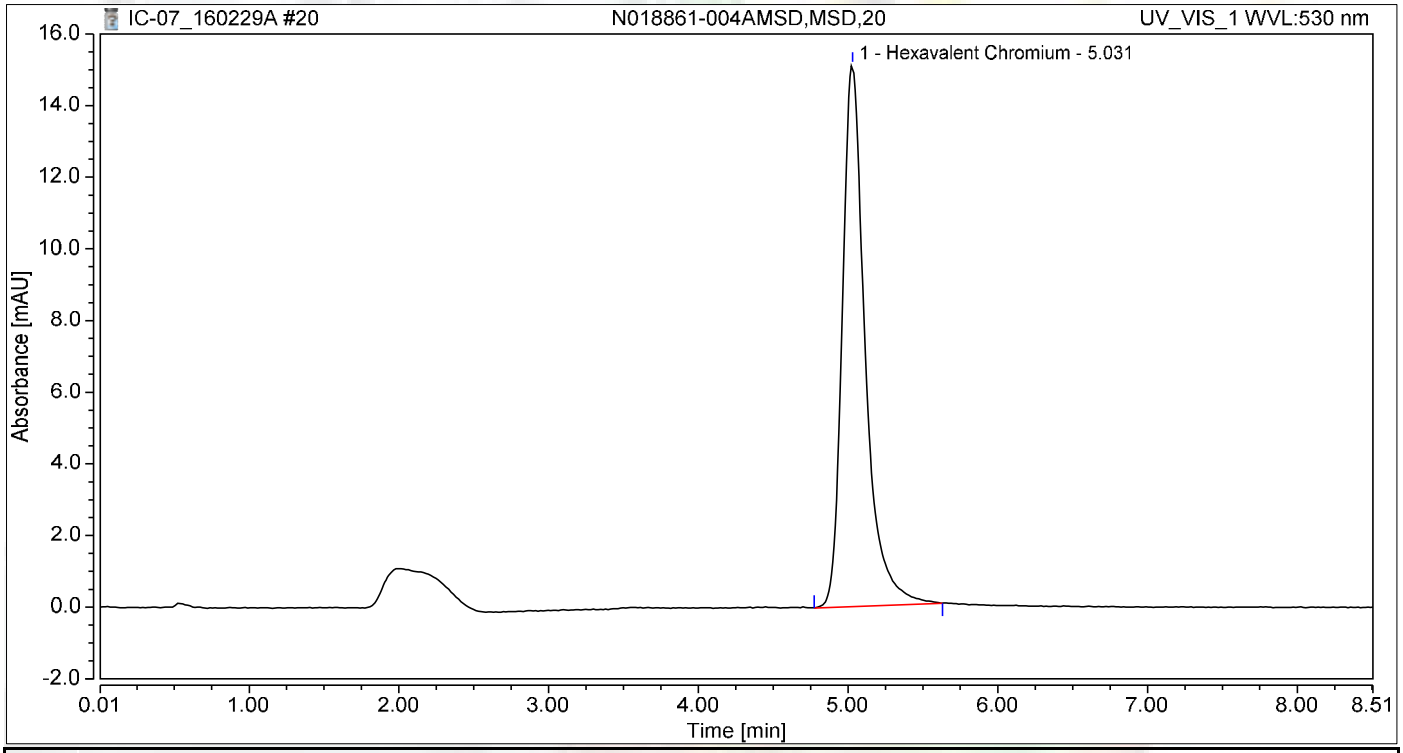
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.644	15.087	100.00	100.00	11.1709
Total:			**2.644**	**15.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMSD,MSD,20**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

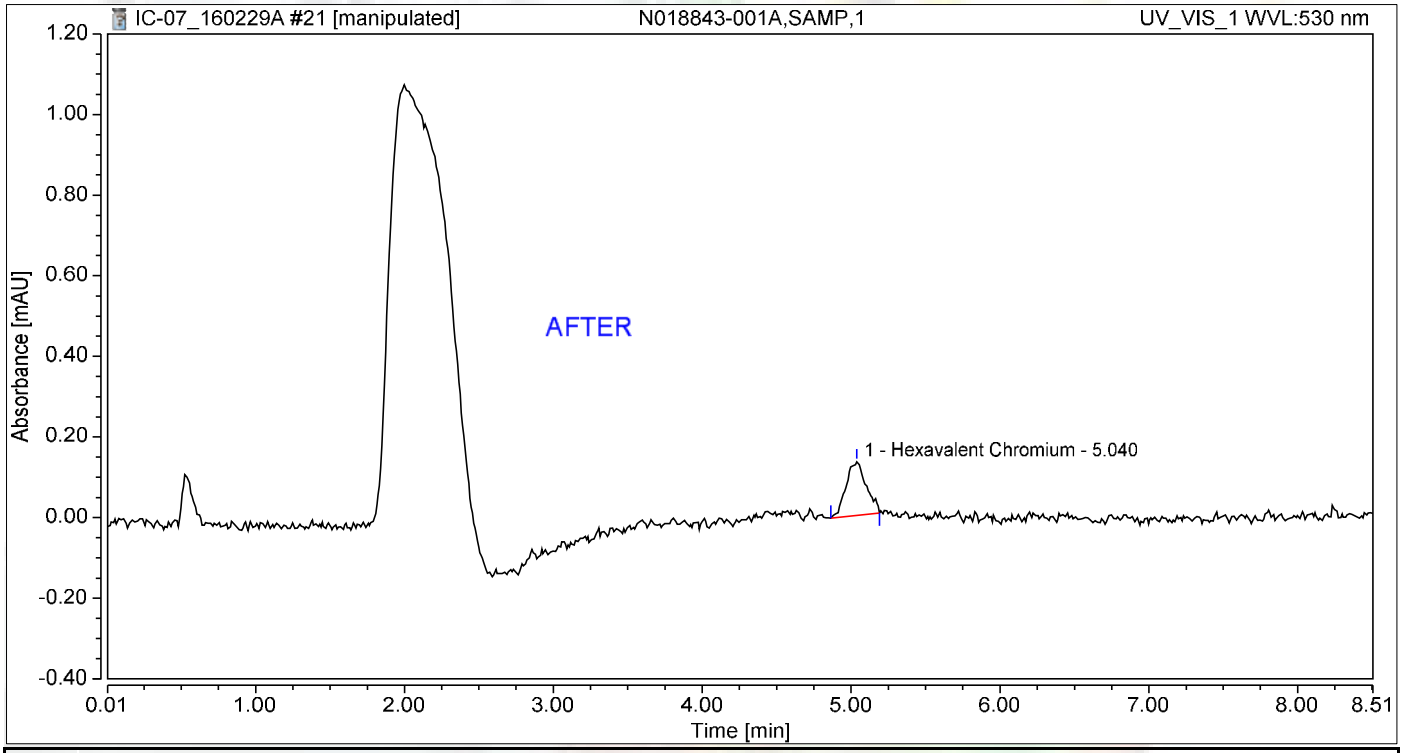
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.672	15.117	100.00	100.00	11.2884
Total:			**2.672**	**15.117**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.021	0.133	100.00	100.00	0.0879
Total:			**0.021**	**0.133**	**100.00**	**100.00**	

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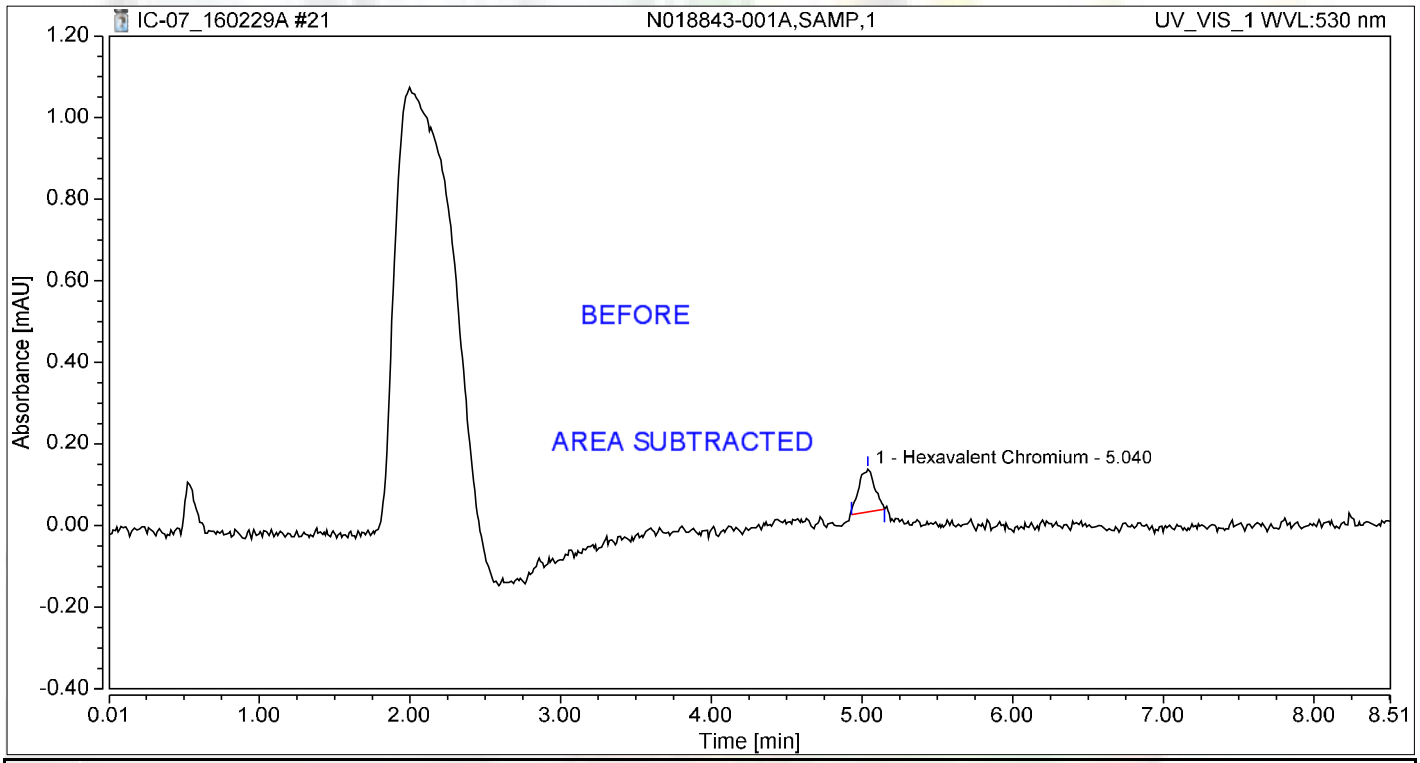
Chromatogram and Results

Injection Details

Injection Name:	**N018843-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

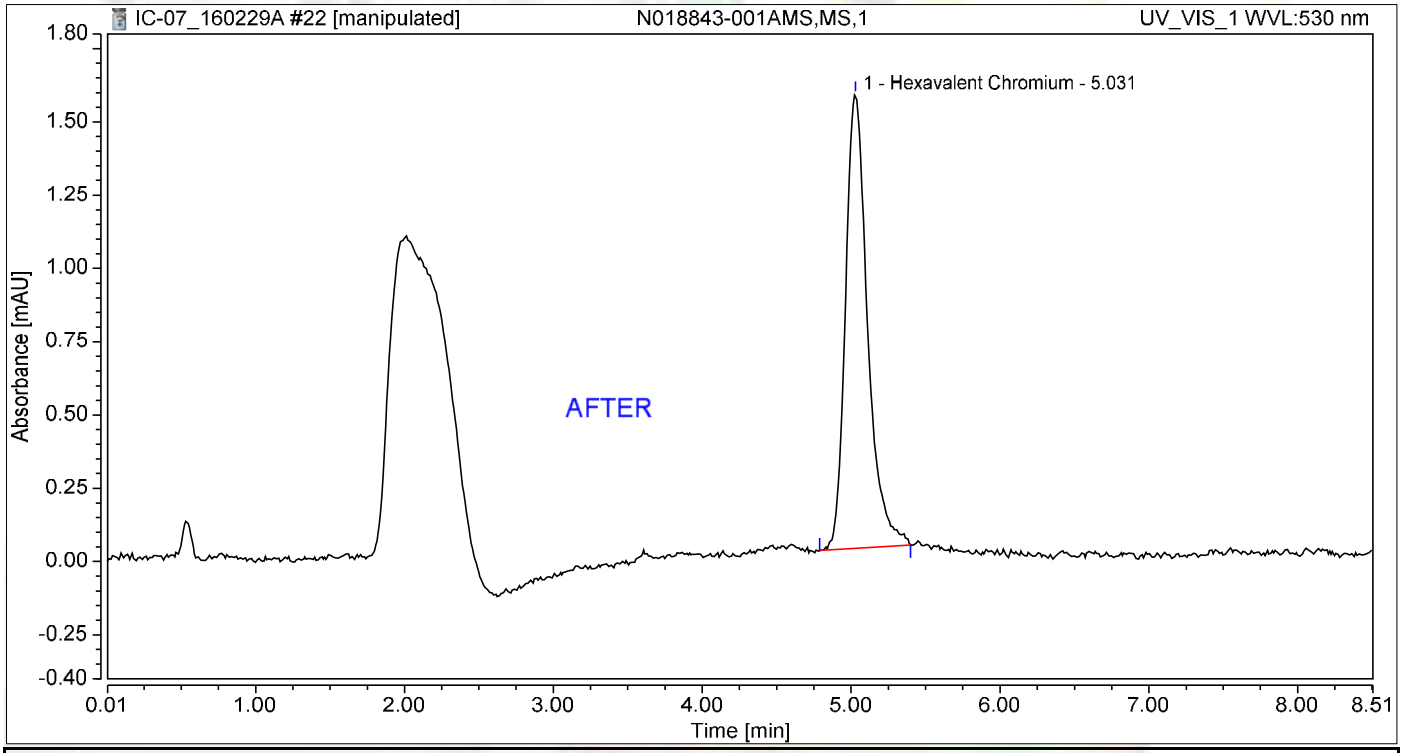
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.013	0.104	100.00	100.00	0.0543
Total:			**0.013**	**0.104**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.549	100.00	100.00	1.1206
Total:			**0.265**	**1.549**	**100.00**	**100.00**	

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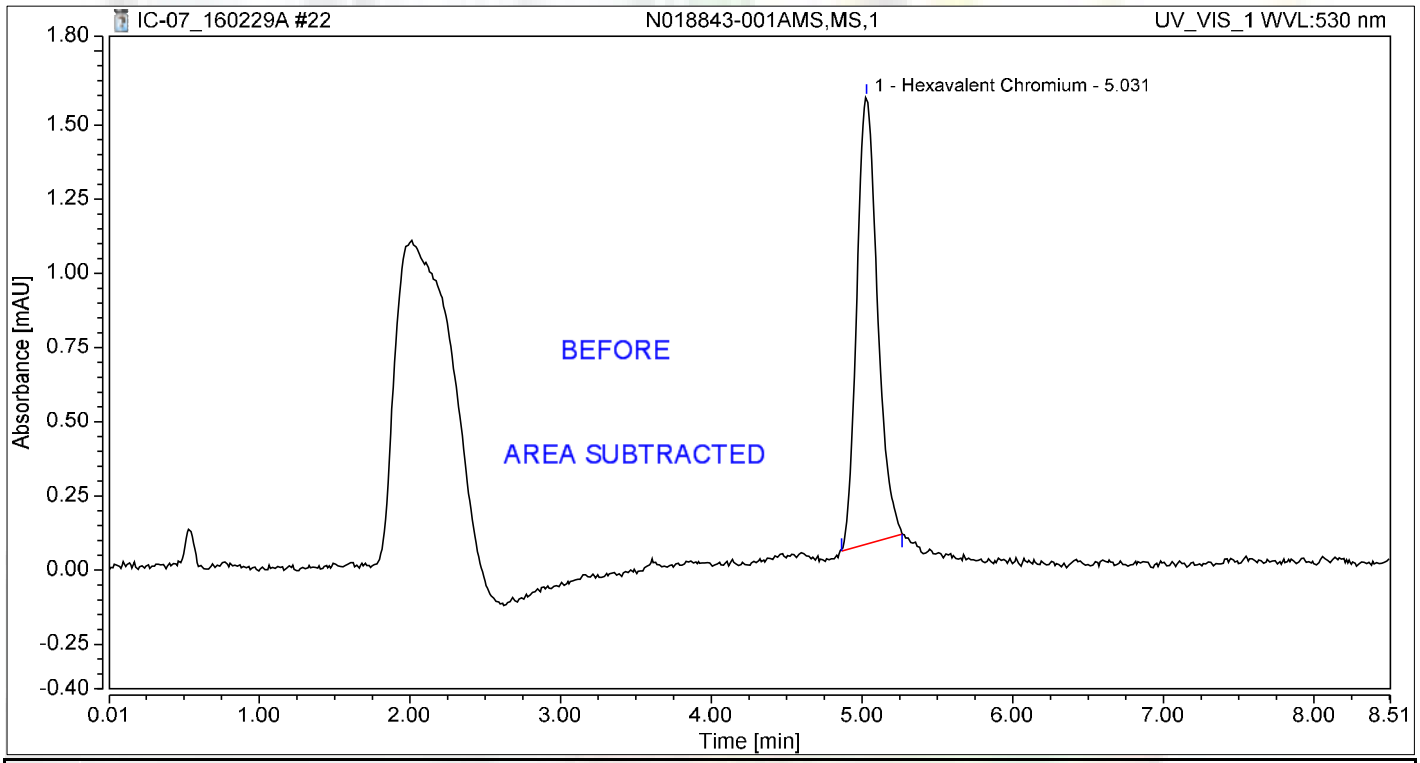
Chromatogram and Results

Injection Details

Injection Name:	**N018843-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

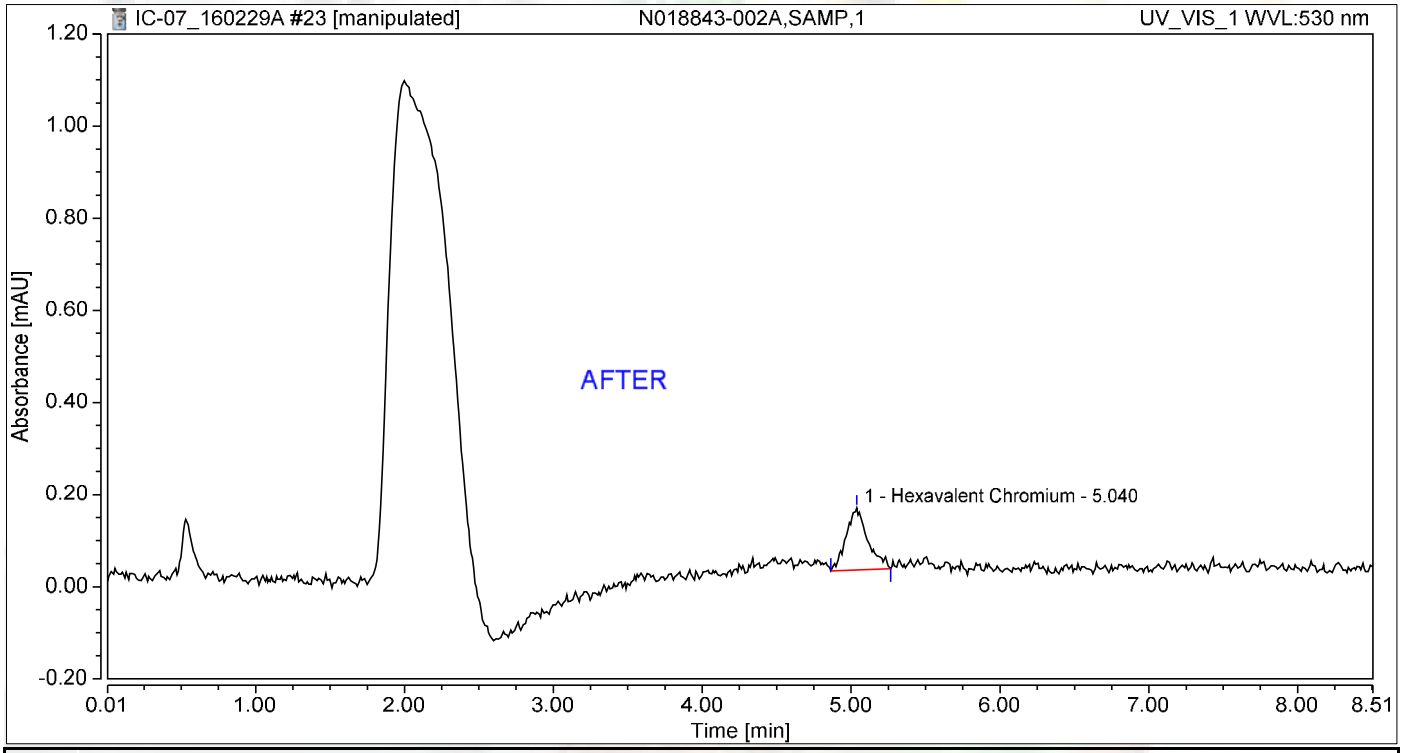
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.507	100.00	100.00	1.0160
Total:			**0.240**	**1.507**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.023	0.136	100.00	100.00	0.0960
Total:			**0.023**	**0.136**	**100.00**	**100.00**	

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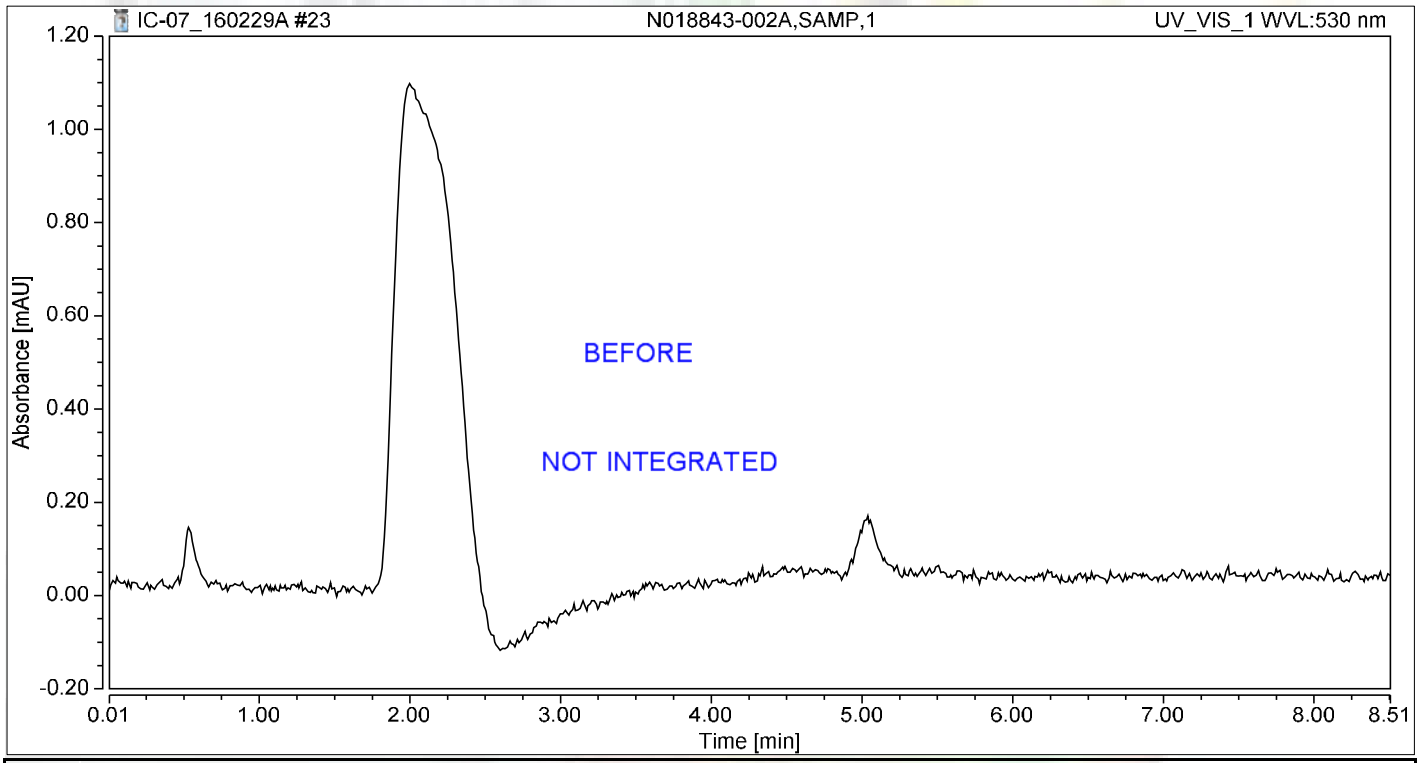
Chromatogram and Results

Injection Details

Injection Name:	**N018843-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

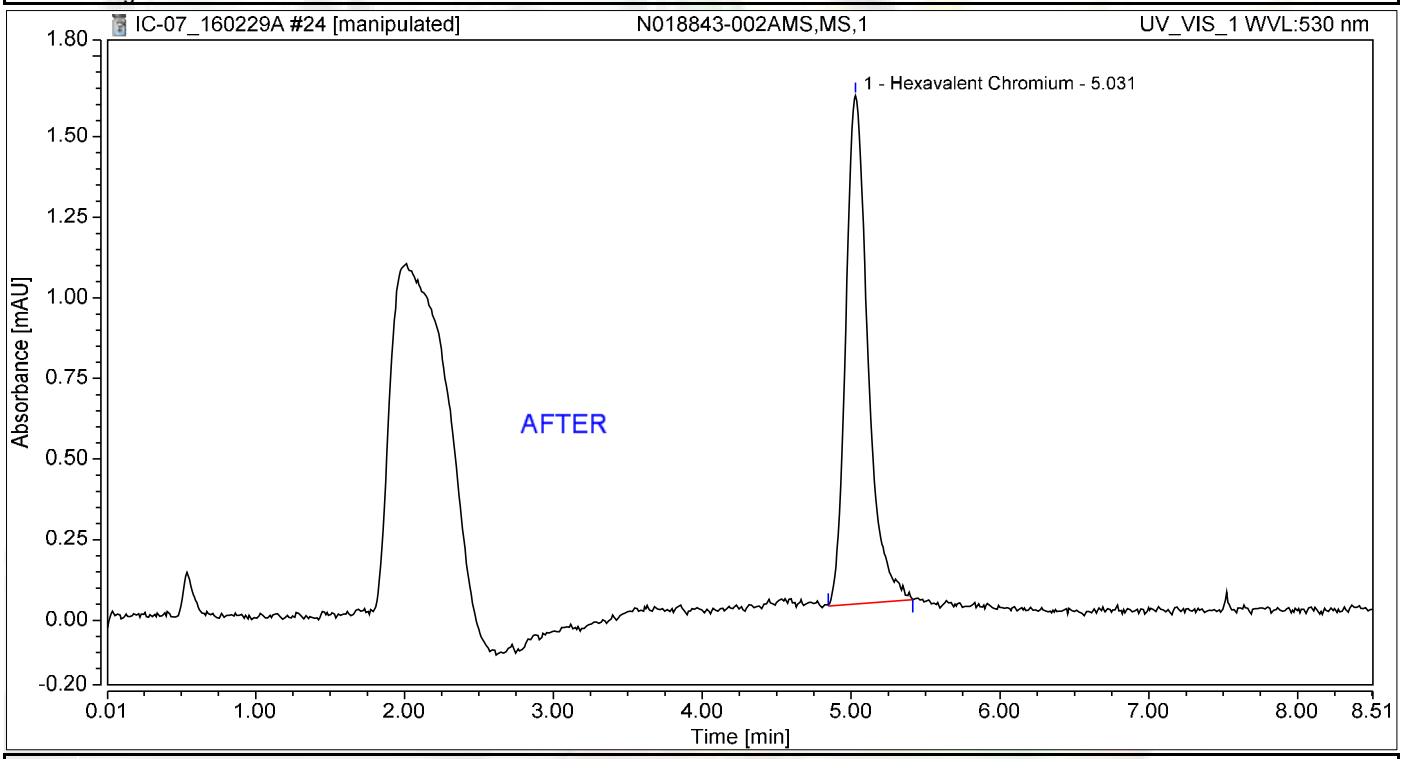
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.270	1.577	100.00	100.00	1.1416
Total:			**0.270**	**1.577**	**100.00**	**100.00**	

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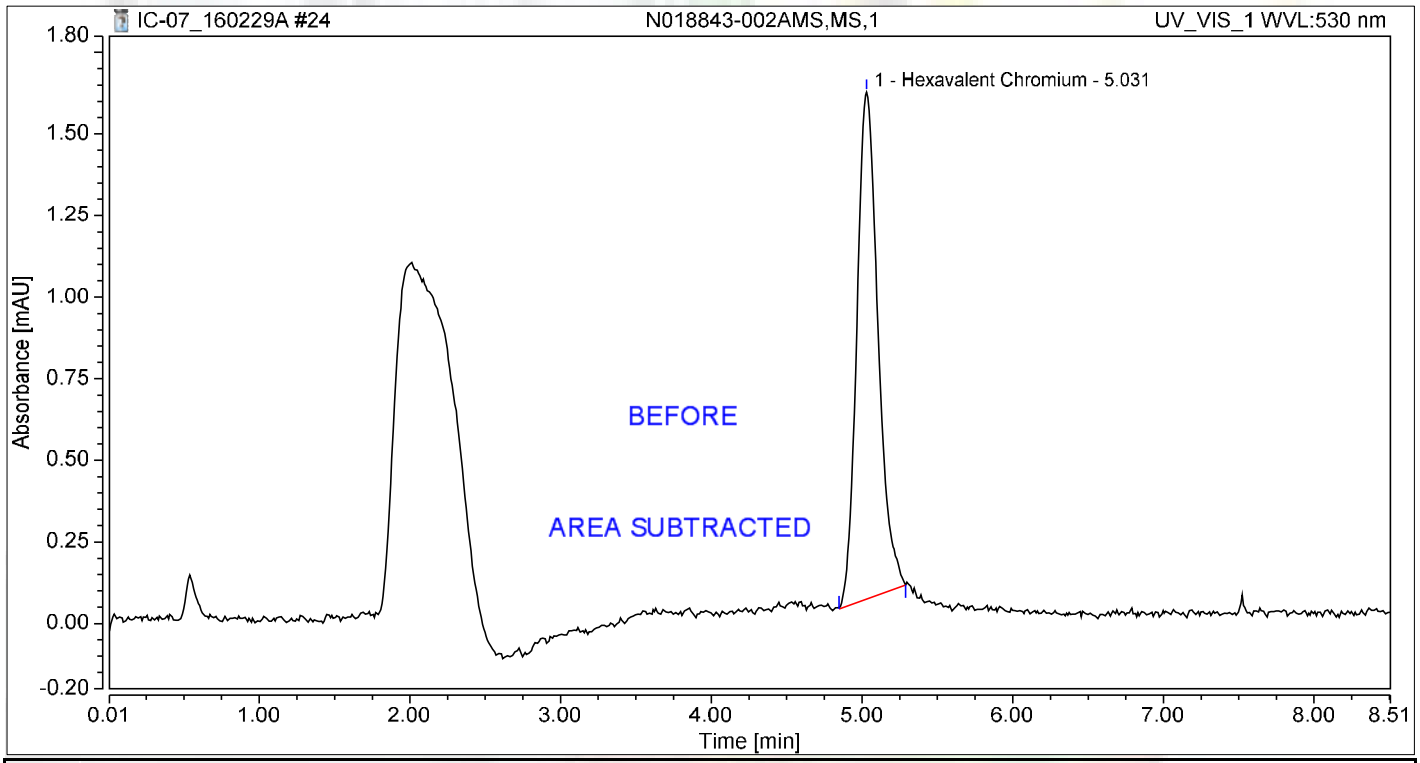
Chromatogram and Results

Injection Details

Injection Name:	**N018843-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

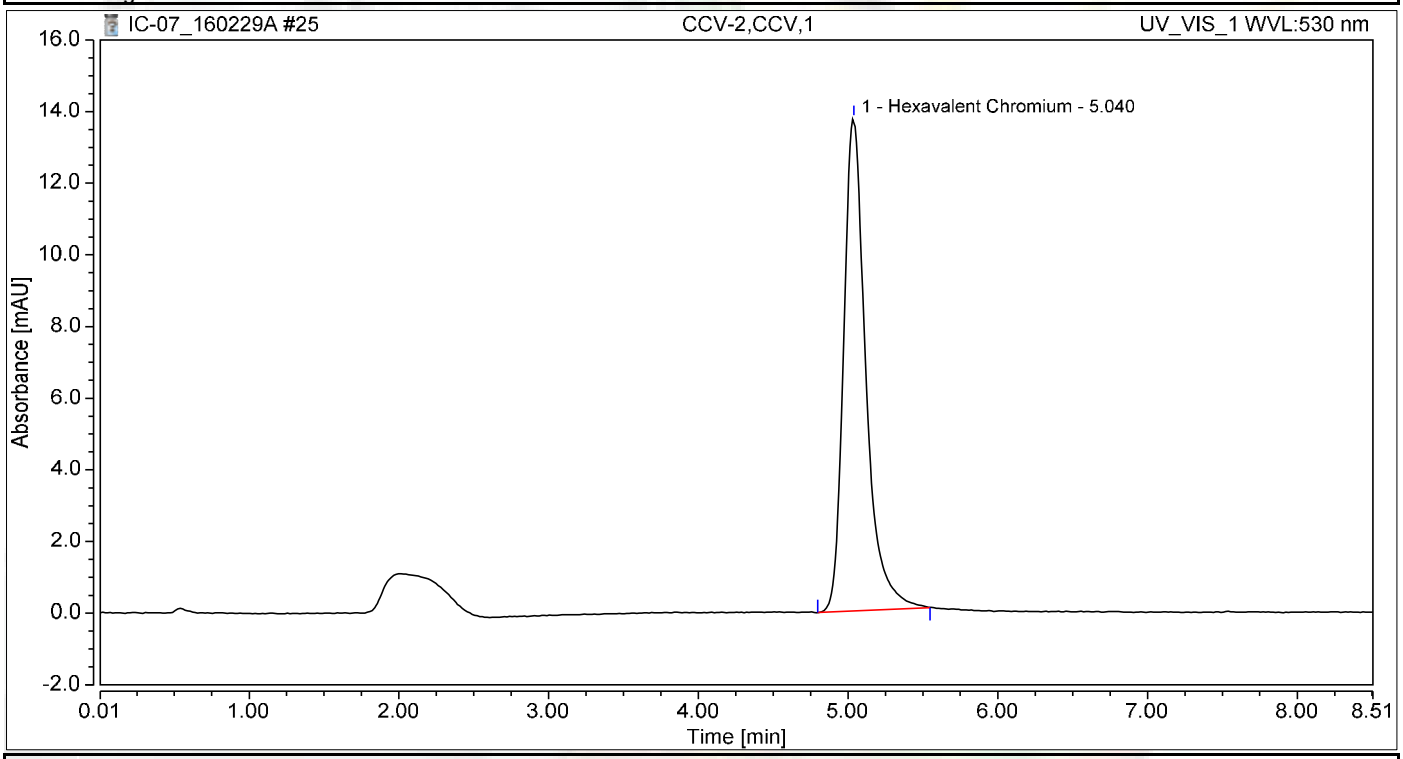
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.253	1.553	100.00	100.00	1.0687
Total:			**0.253**	**1.553**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

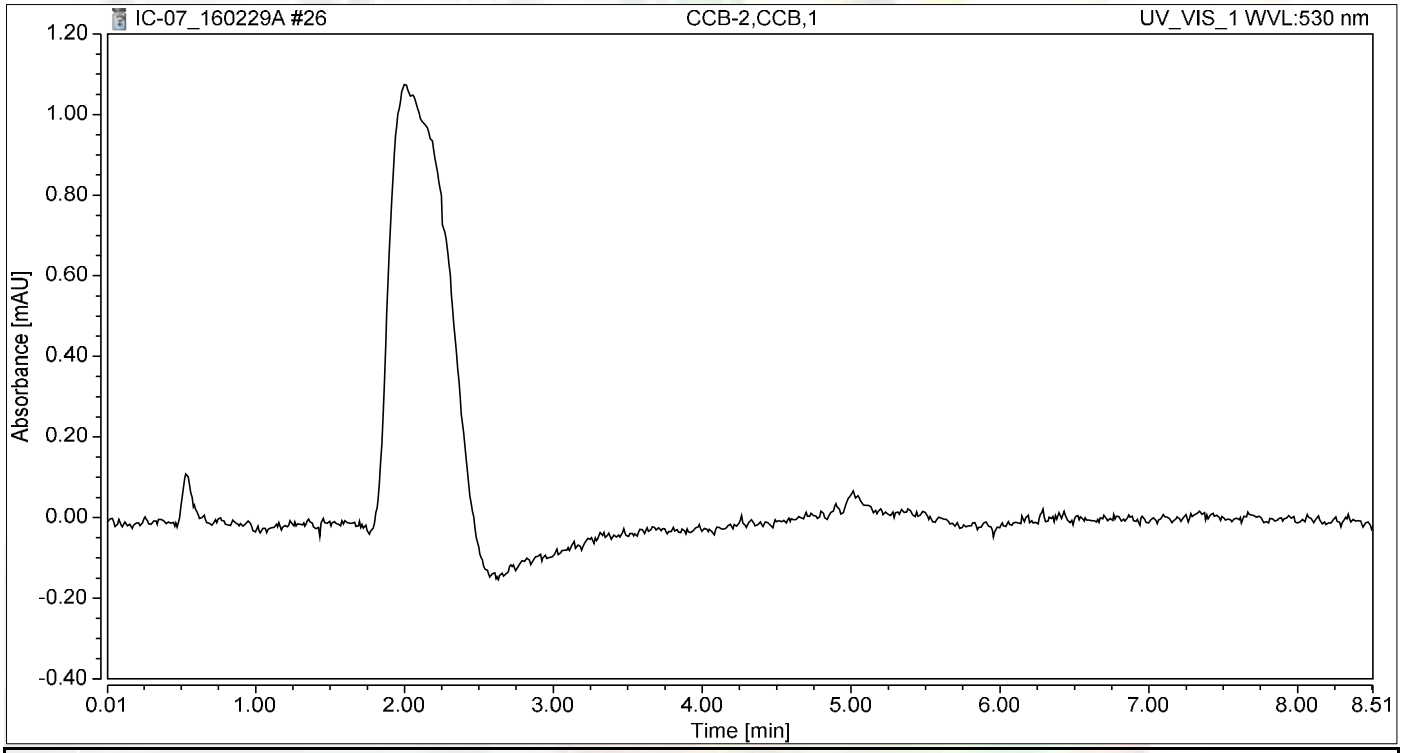
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.354	13.748	100.00	100.00	9.9462
Total:			**2.354**	**13.748**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

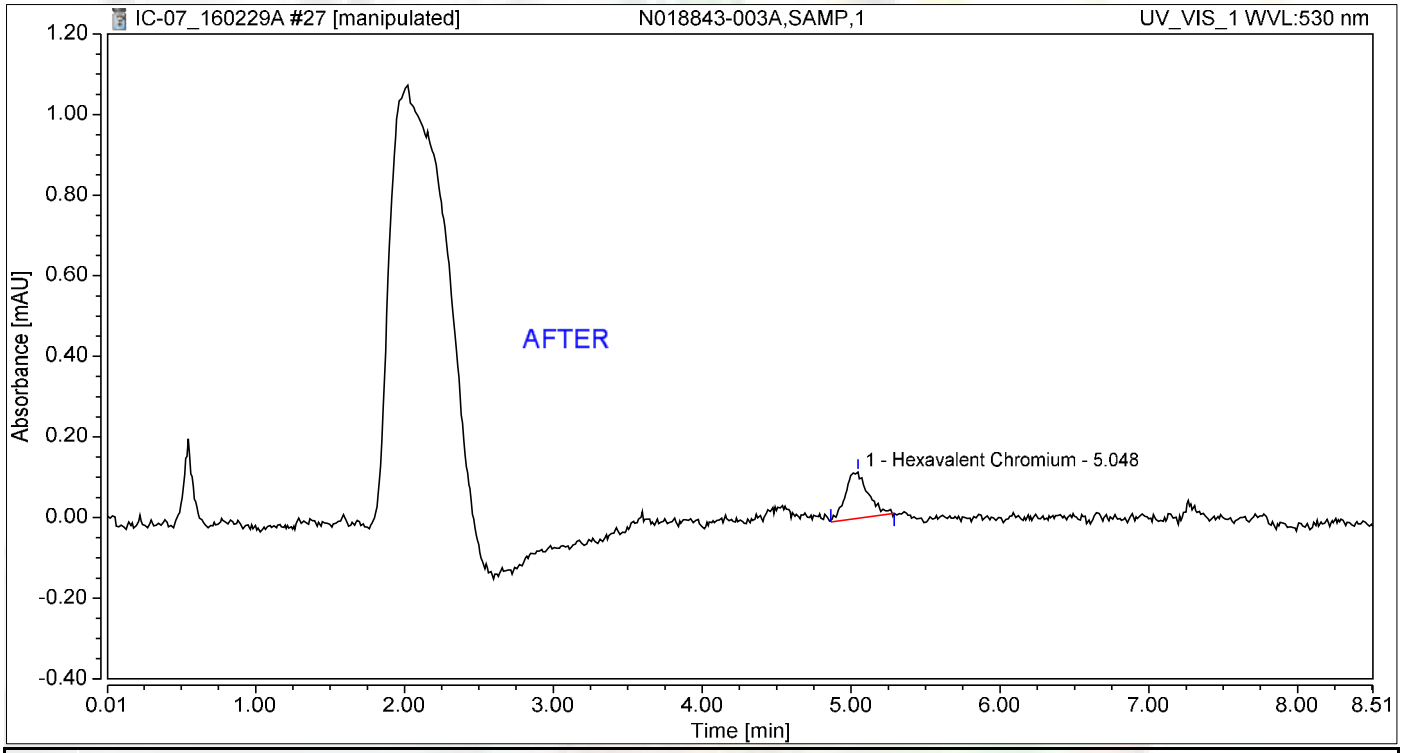
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.021	0.114	100.00	100.00	0.0867
Total:			**0.021**	**0.114**	**100.00**	**100.00**	

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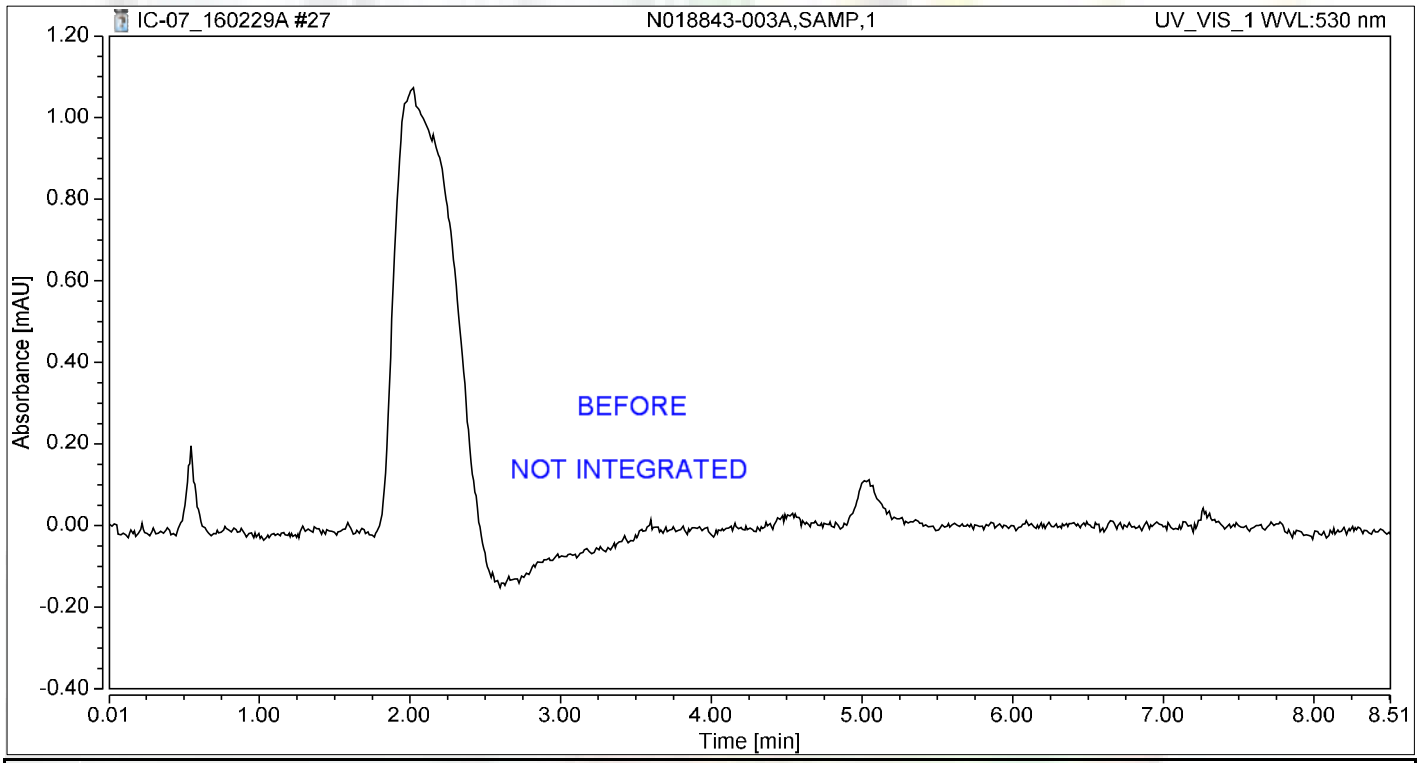
Chromatogram and Results

Injection Details

Injection Name:	**N018843-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

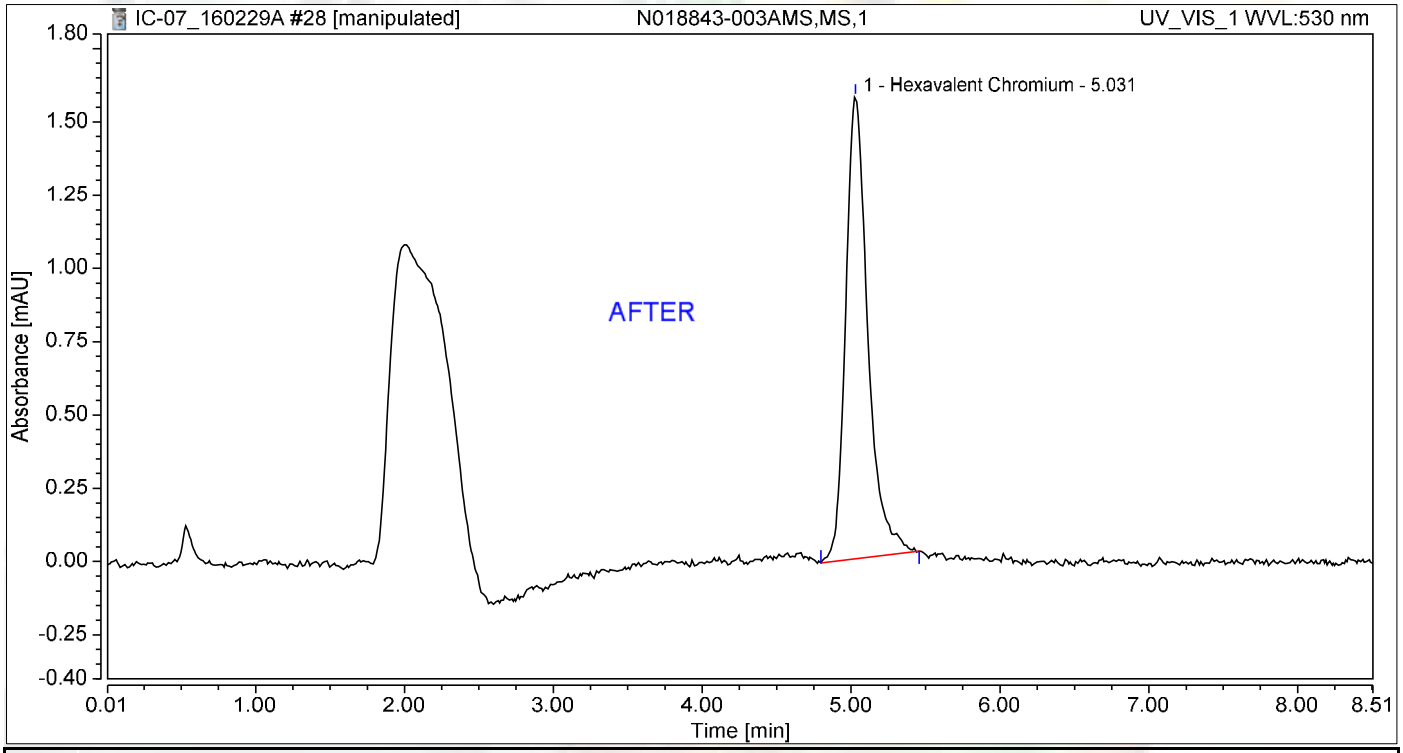
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.271	1.576	100.00	100.00	1.1437
Total:			**0.271**	**1.576**	**100.00**	**100.00**	

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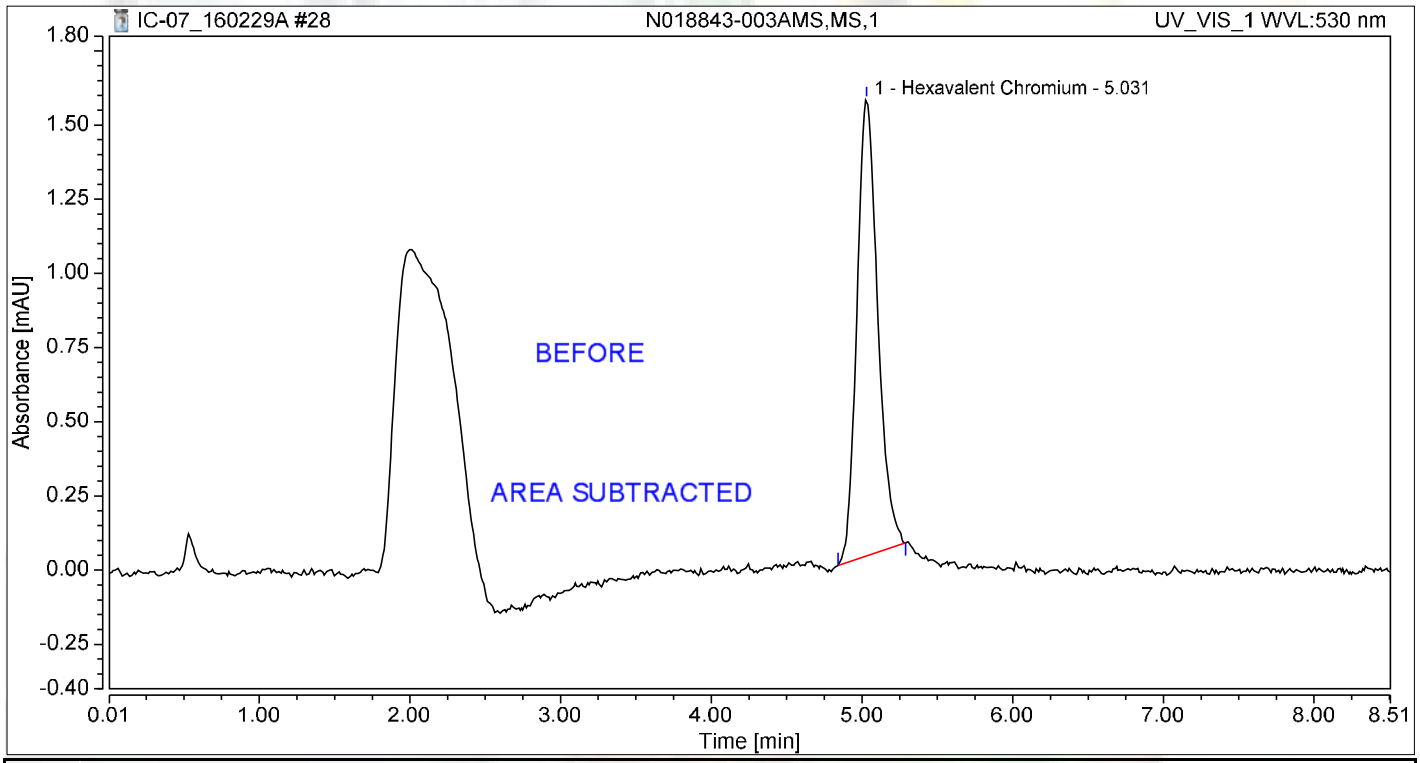
Chromatogram and Results

Injection Details

Injection Name:	**N018843-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

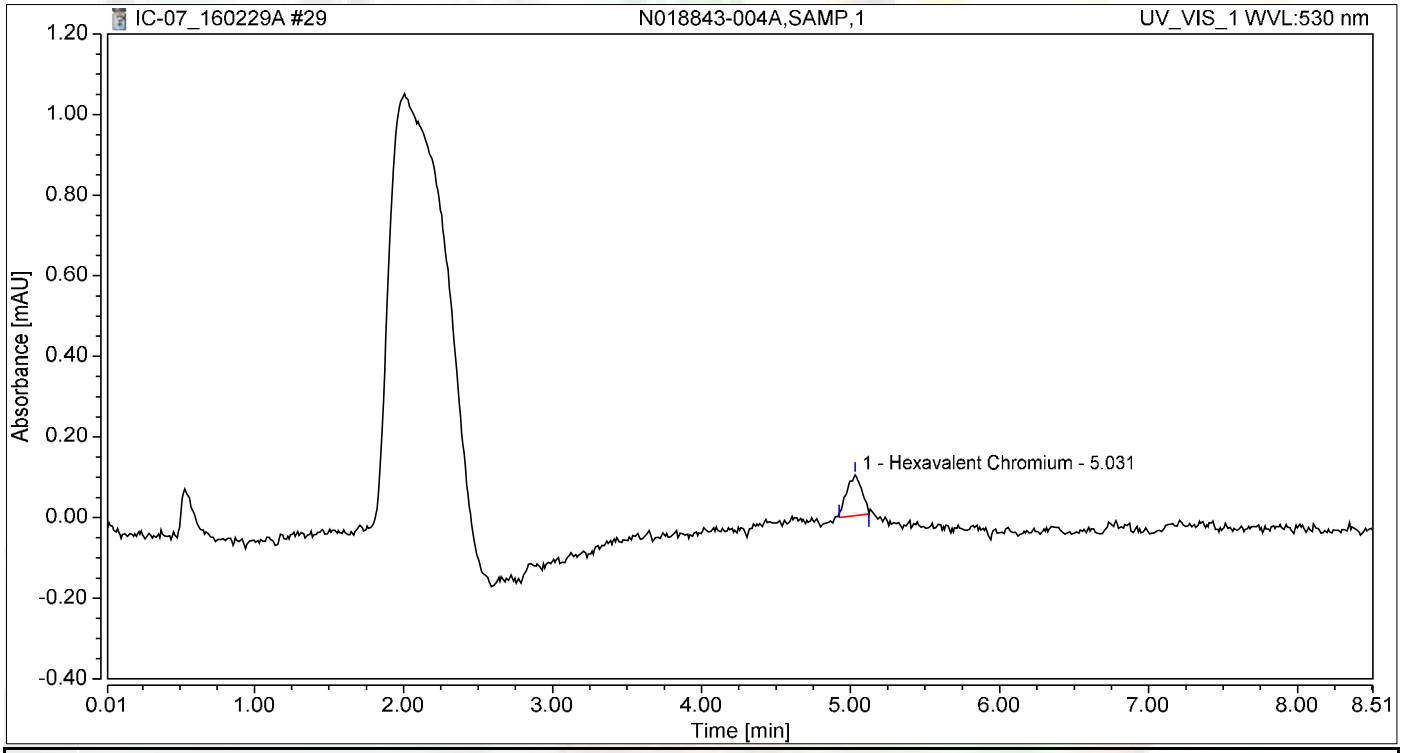
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.247	1.537	100.00	100.00	1.0417
Total:			**0.247**	**1.537**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

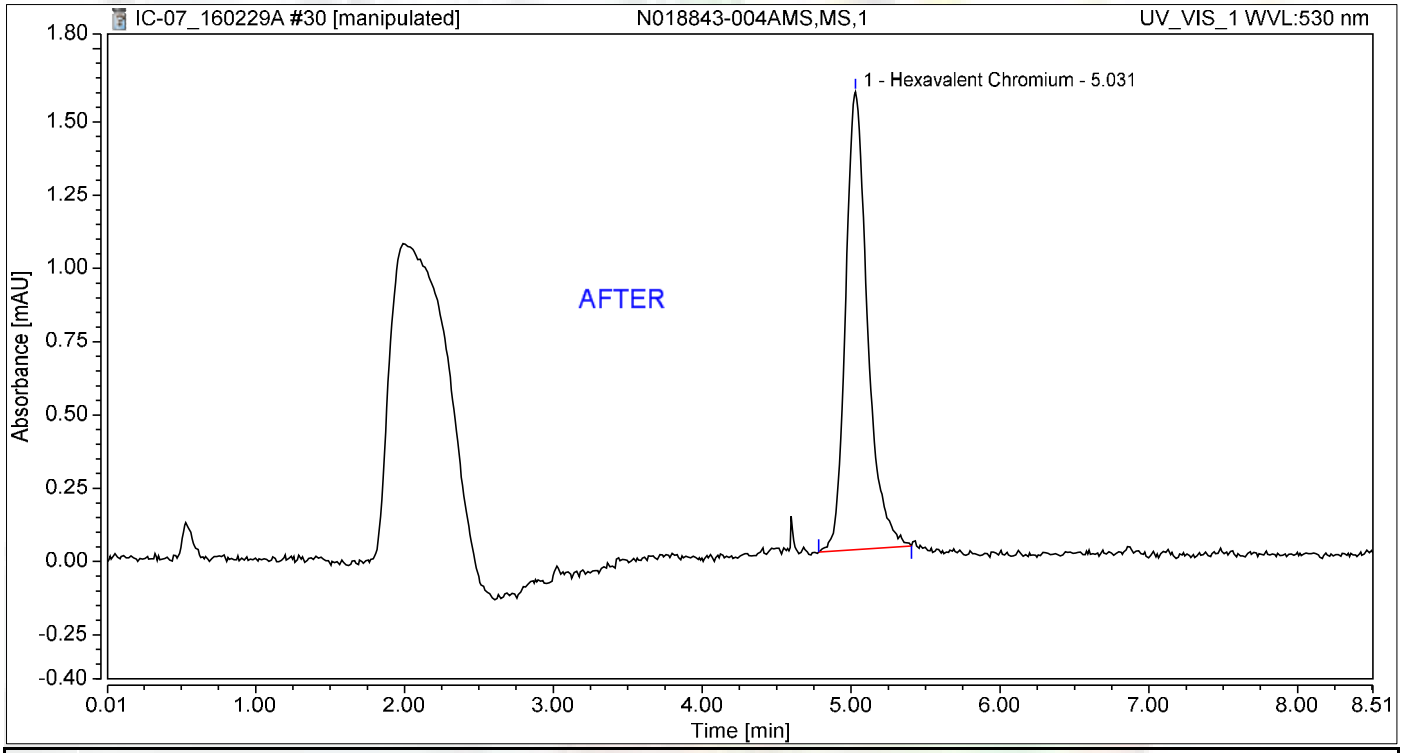
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.012	0.101	100.00	100.00	0.0494
Total:			**0.012**	**0.101**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.563	100.00	100.00	1.1212
Total:			**0.265**	**1.563**	**100.00**	**100.00**	

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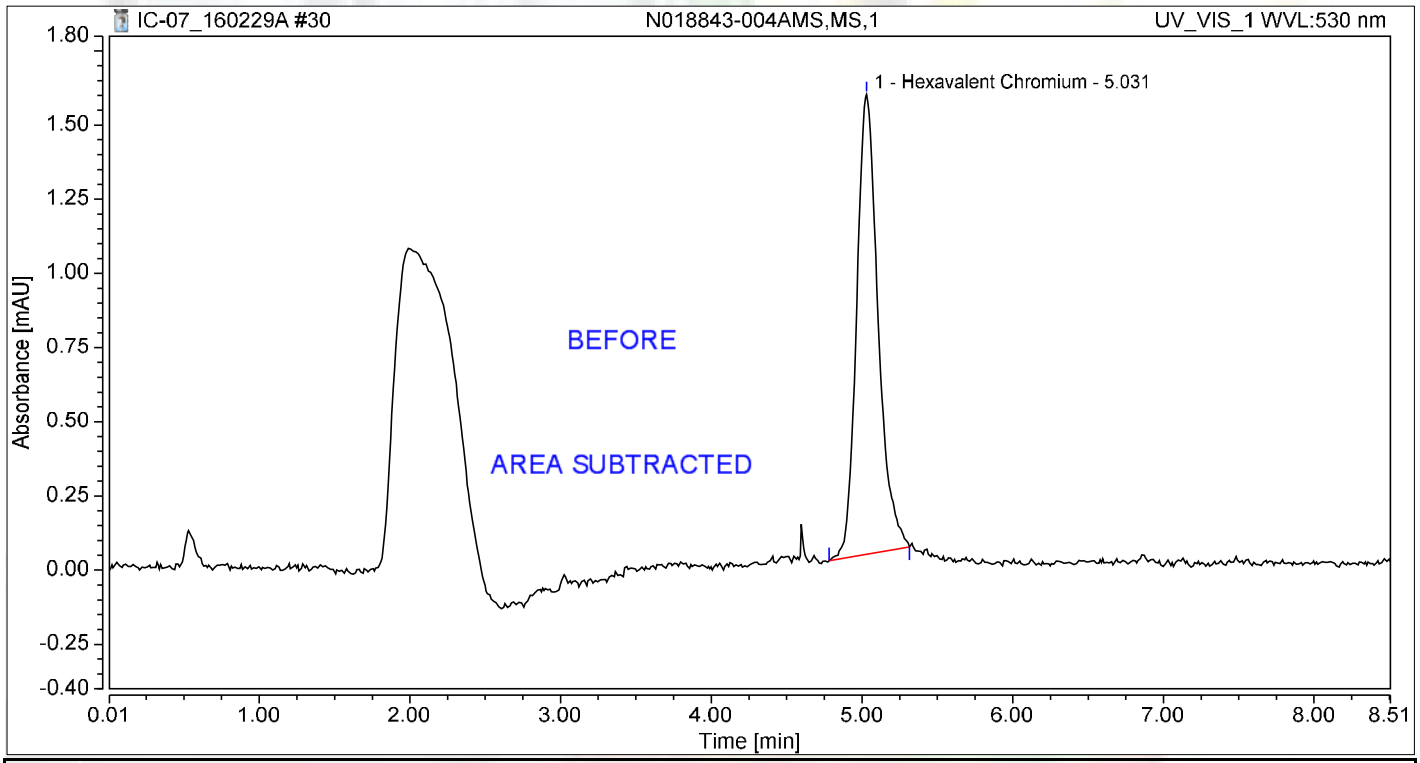
Chromatogram and Results

Injection Details

Injection Name:	**N018843-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

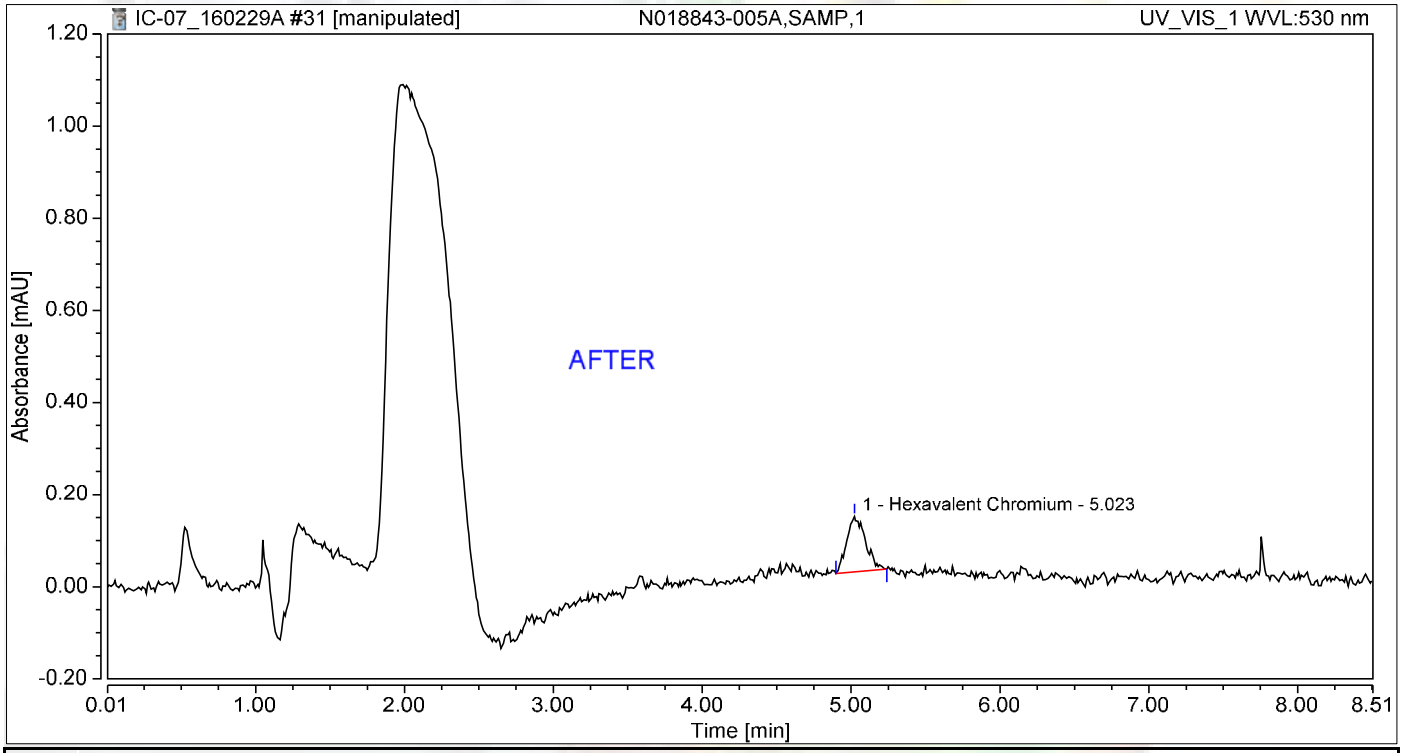
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.256	1.549	100.00	100.00	1.0811
Total:			**0.256**	**1.549**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.017	0.121	100.00	100.00	0.0734
Total:			**0.017**	**0.121**	**100.00**	**100.00**	

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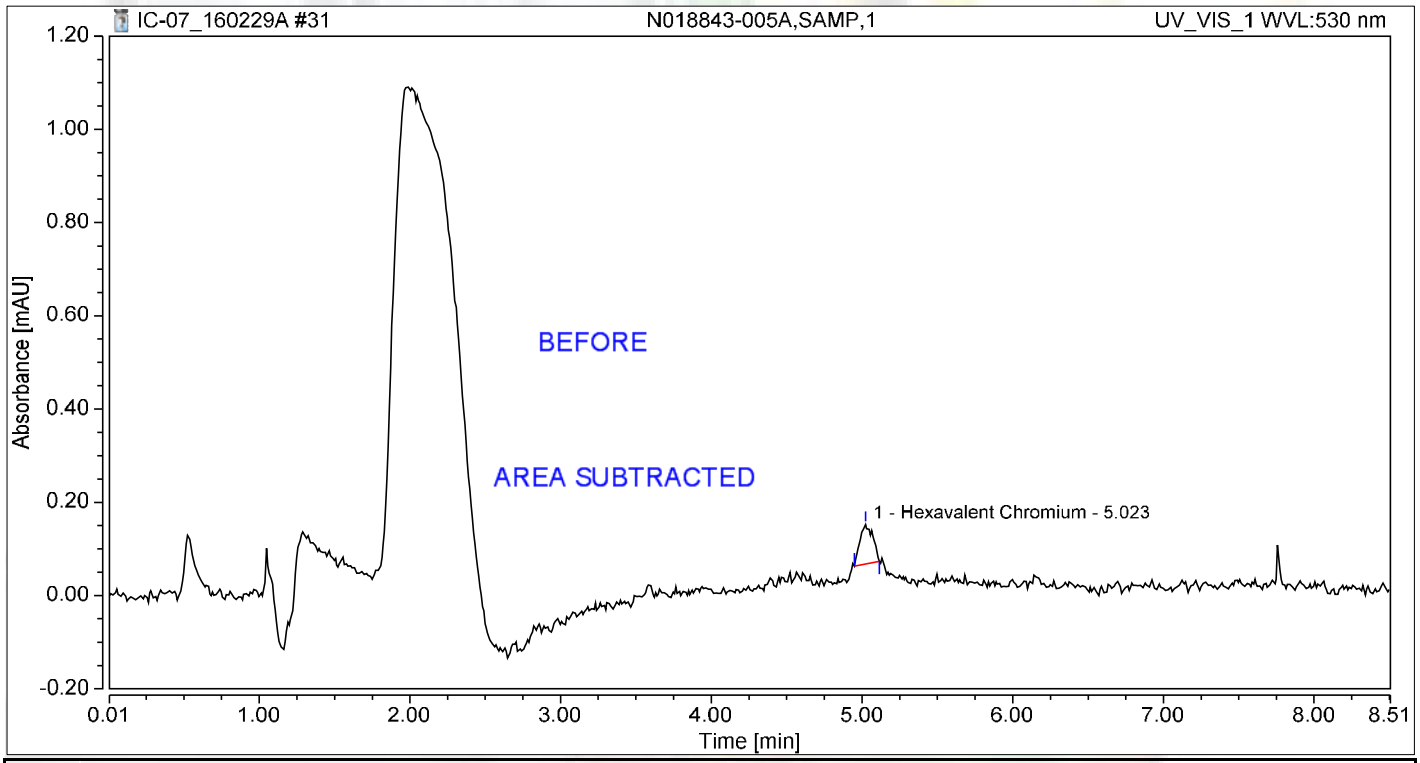
Chromatogram and Results

Injection Details

Injection Name:	**N018843-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

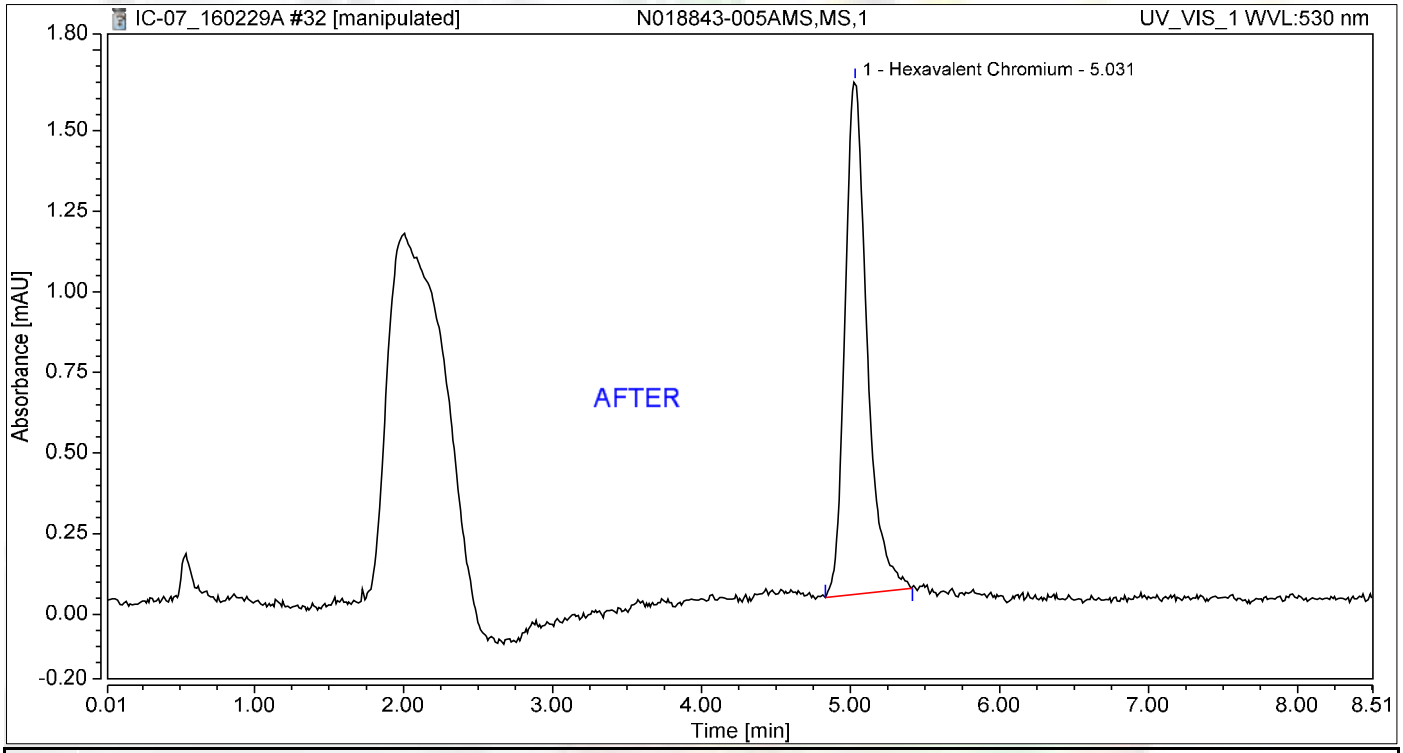
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.008	0.085	100.00	100.00	0.0356
Total:			**0.008**	**0.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.272	1.590	100.00	100.00	1.1503
Total:			**0.272**	**1.590**	**100.00**	**100.00**	

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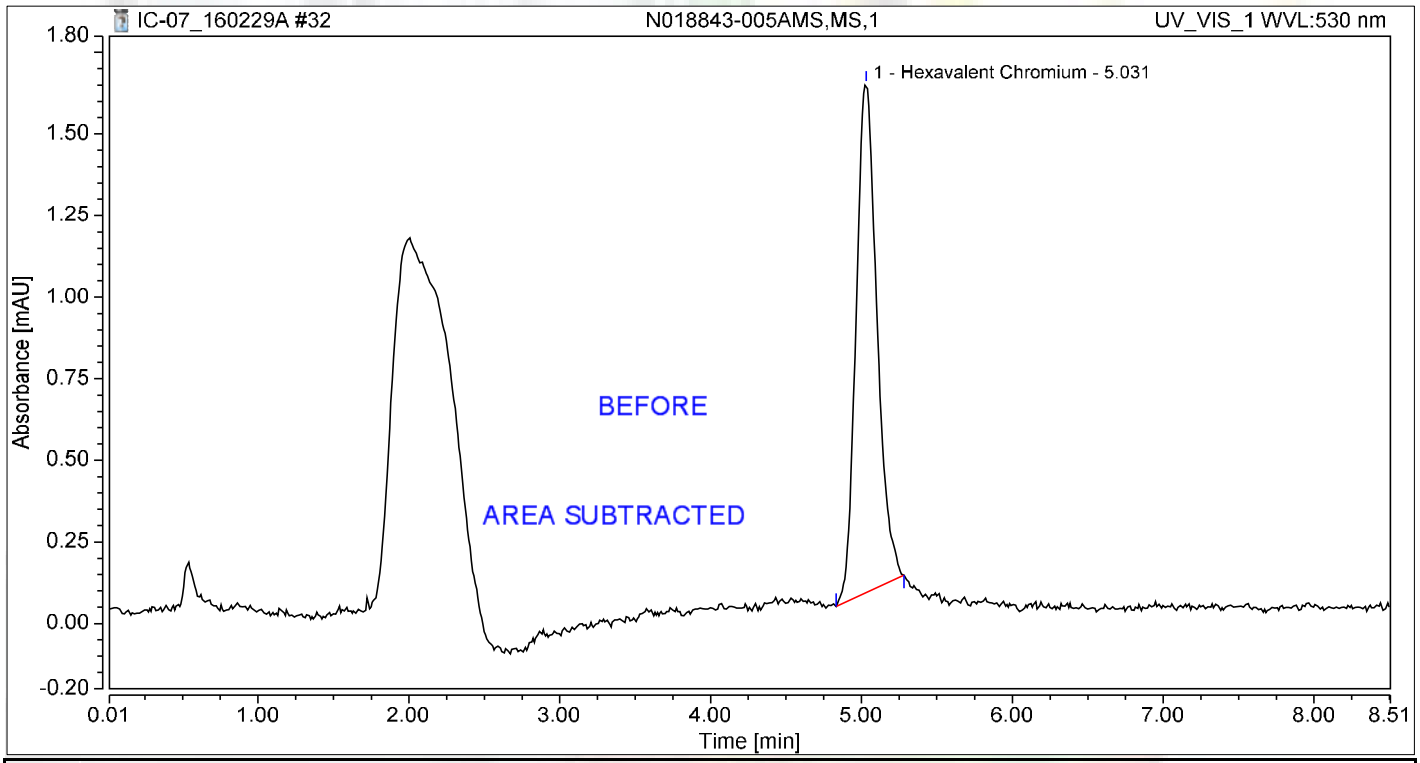
Chromatogram and Results

Injection Details

Injection Name:	**N018843-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

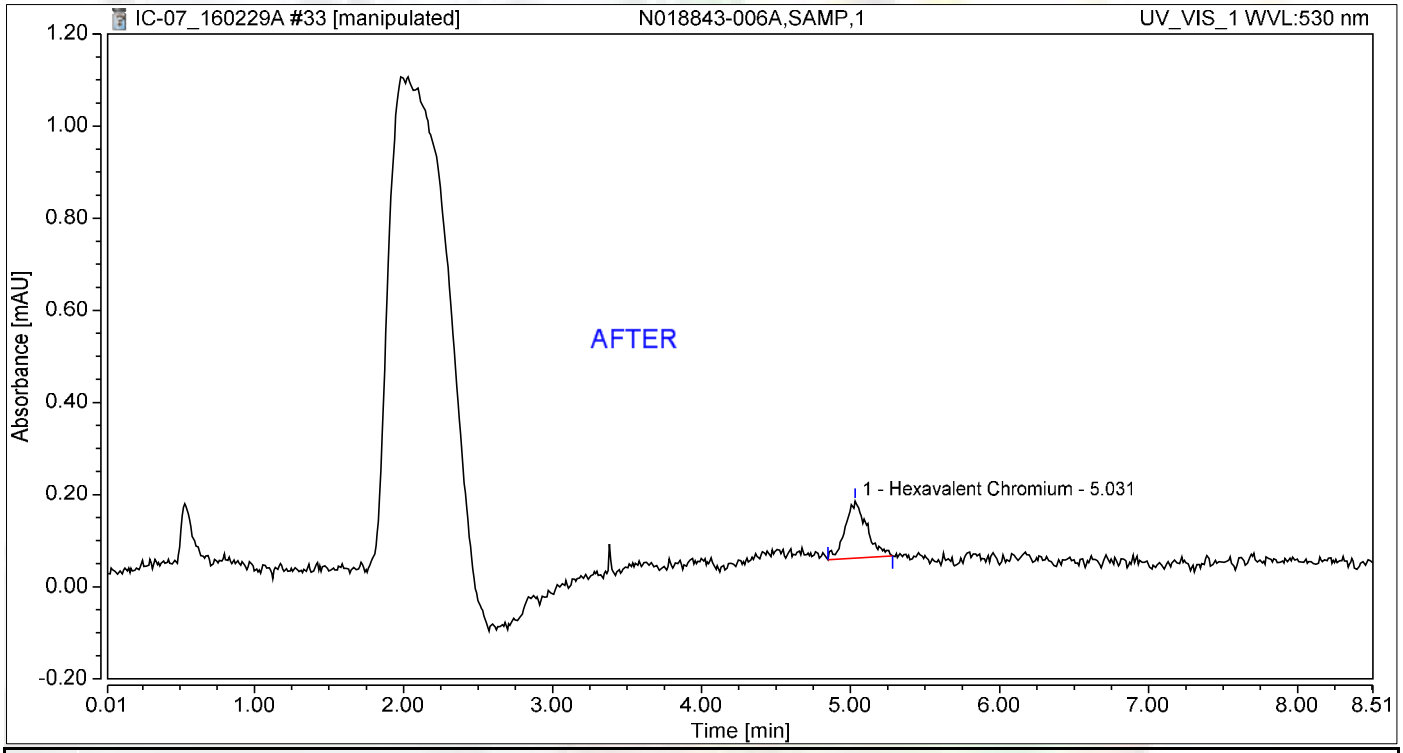
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.251	1.557	100.00	100.00	1.0608
Total:			**0.251**	**1.557**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.021	0.124	100.00	100.00	0.0887
Total:			**0.021**	**0.124**	**100.00**	**100.00**	

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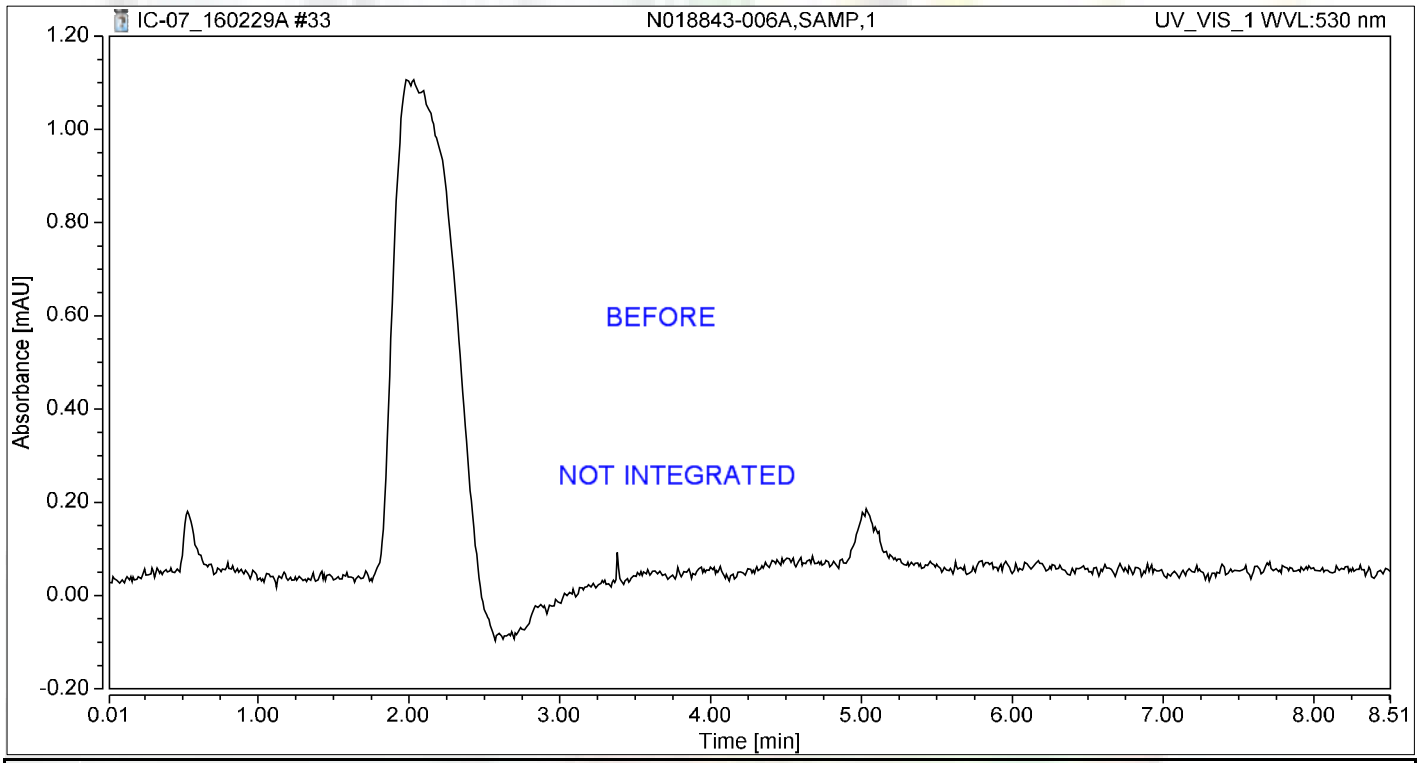
Chromatogram and Results

Injection Details

Injection Name:	**N018843-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

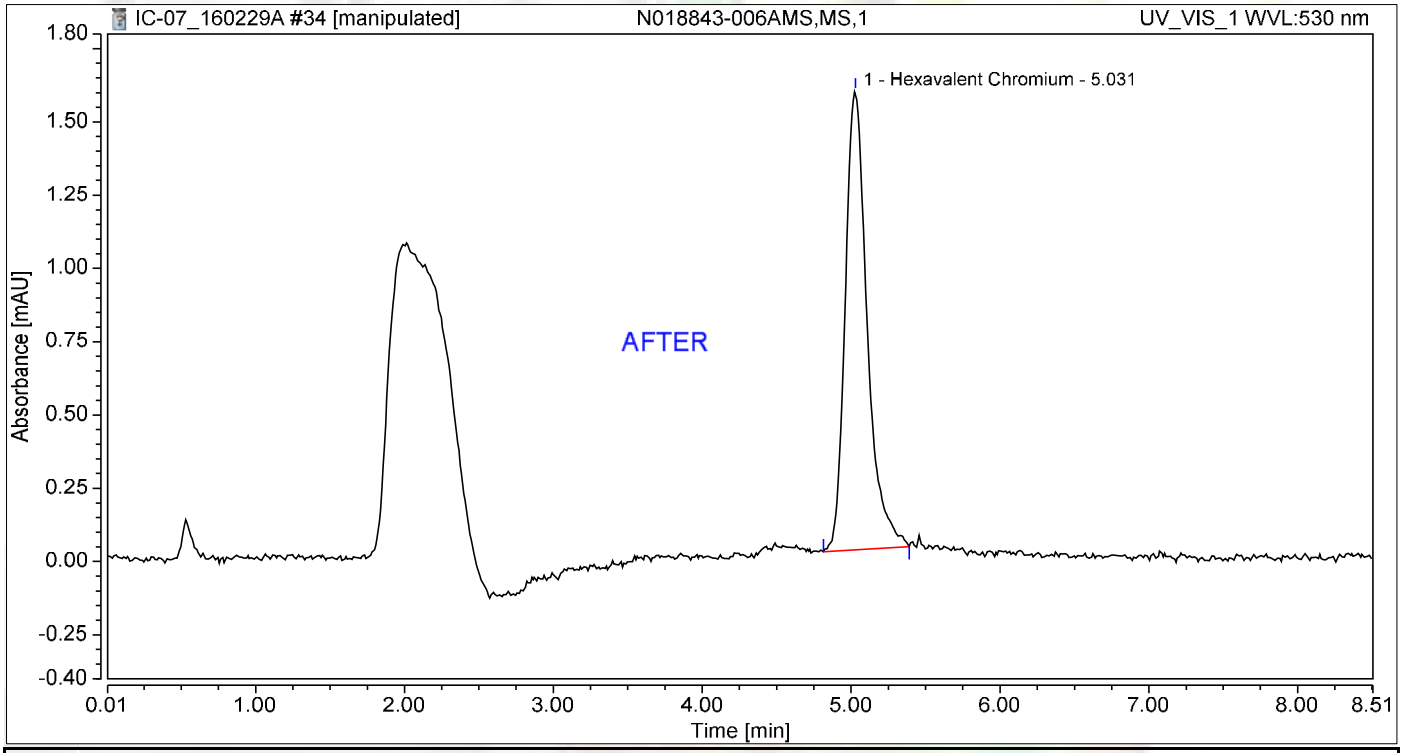
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.266	1.565	100.00	100.00	1.1251
Total:			**0.266**	**1.565**	**100.00**	**100.00**	

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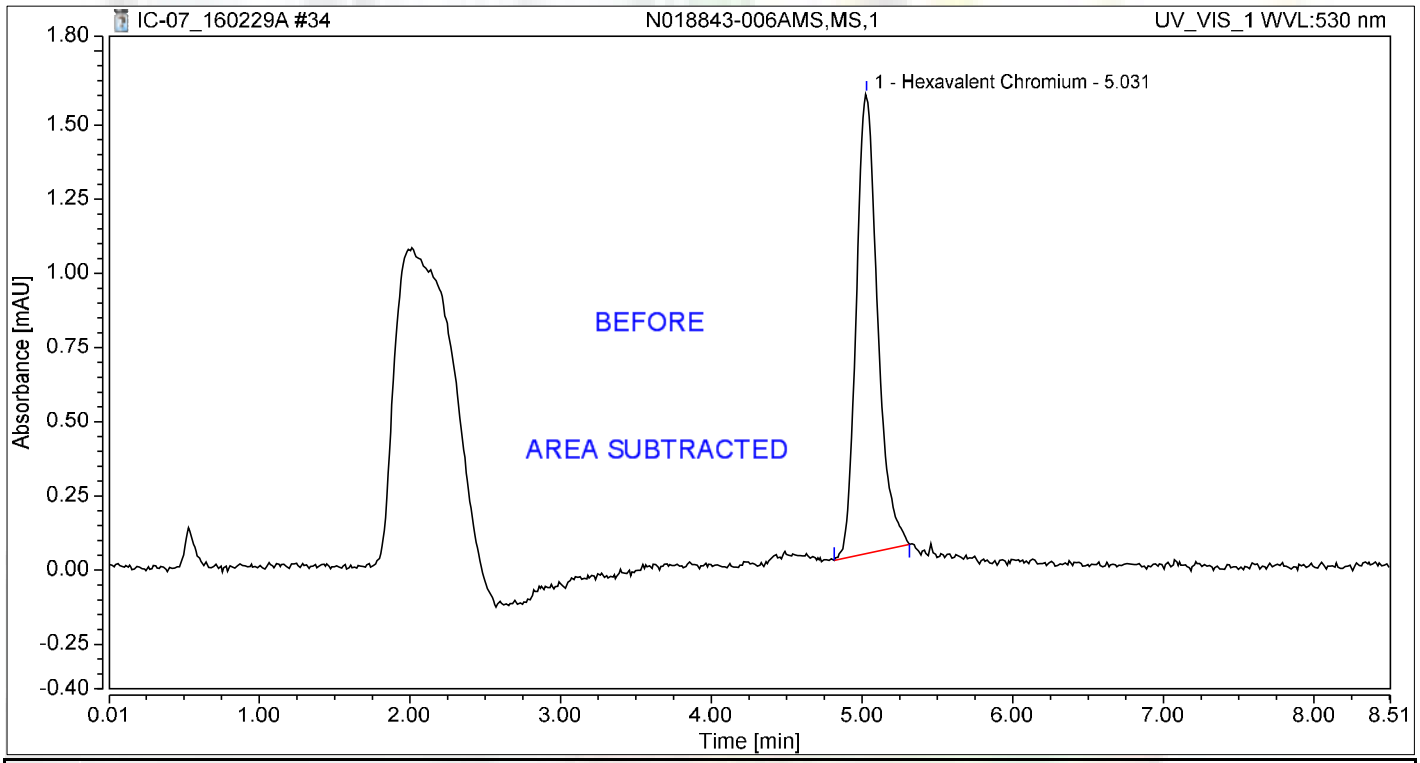
Chromatogram and Results

Injection Details

Injection Name:	**N018843-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

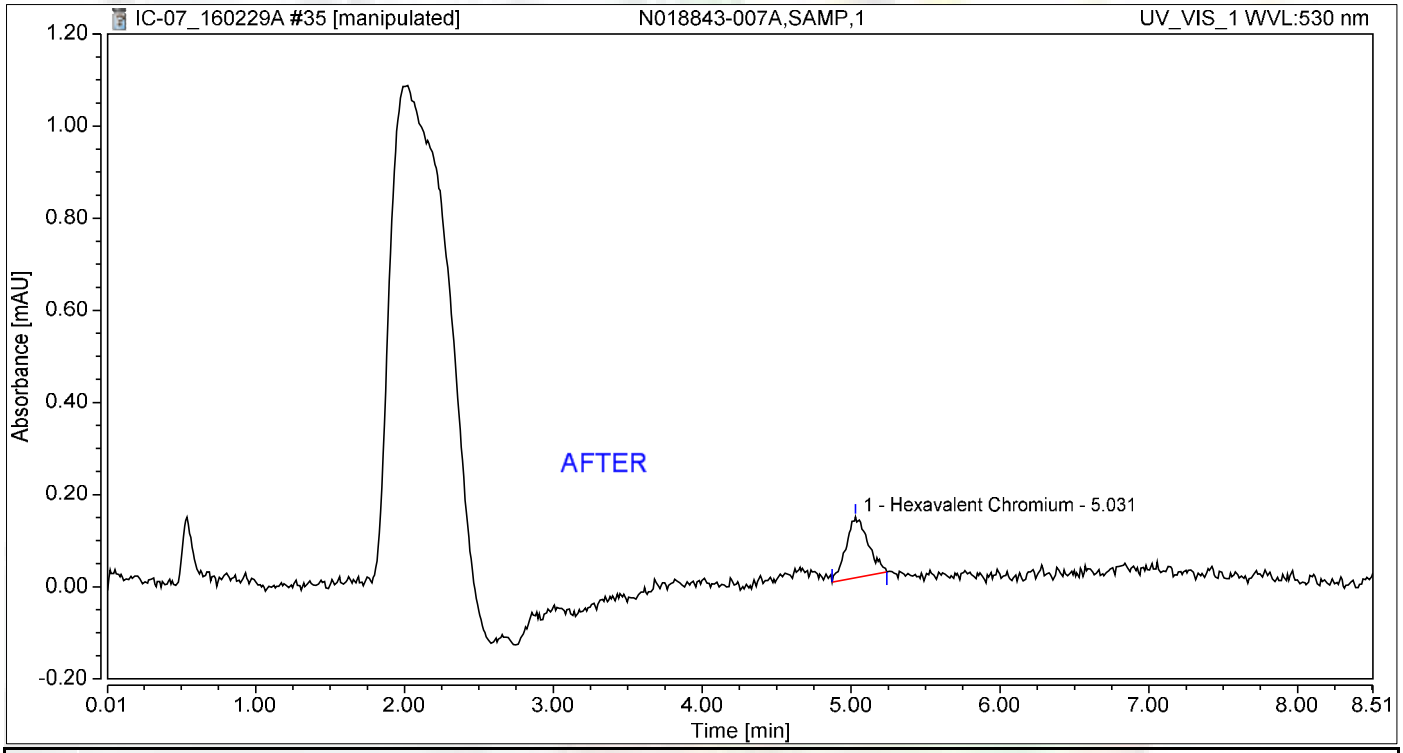
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.254	1.548	100.00	100.00	1.0750
Total:			**0.254**	**1.548**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.022	0.132	100.00	100.00	0.0938
Total:			**0.022**	**0.132**	**100.00**	**100.00**	

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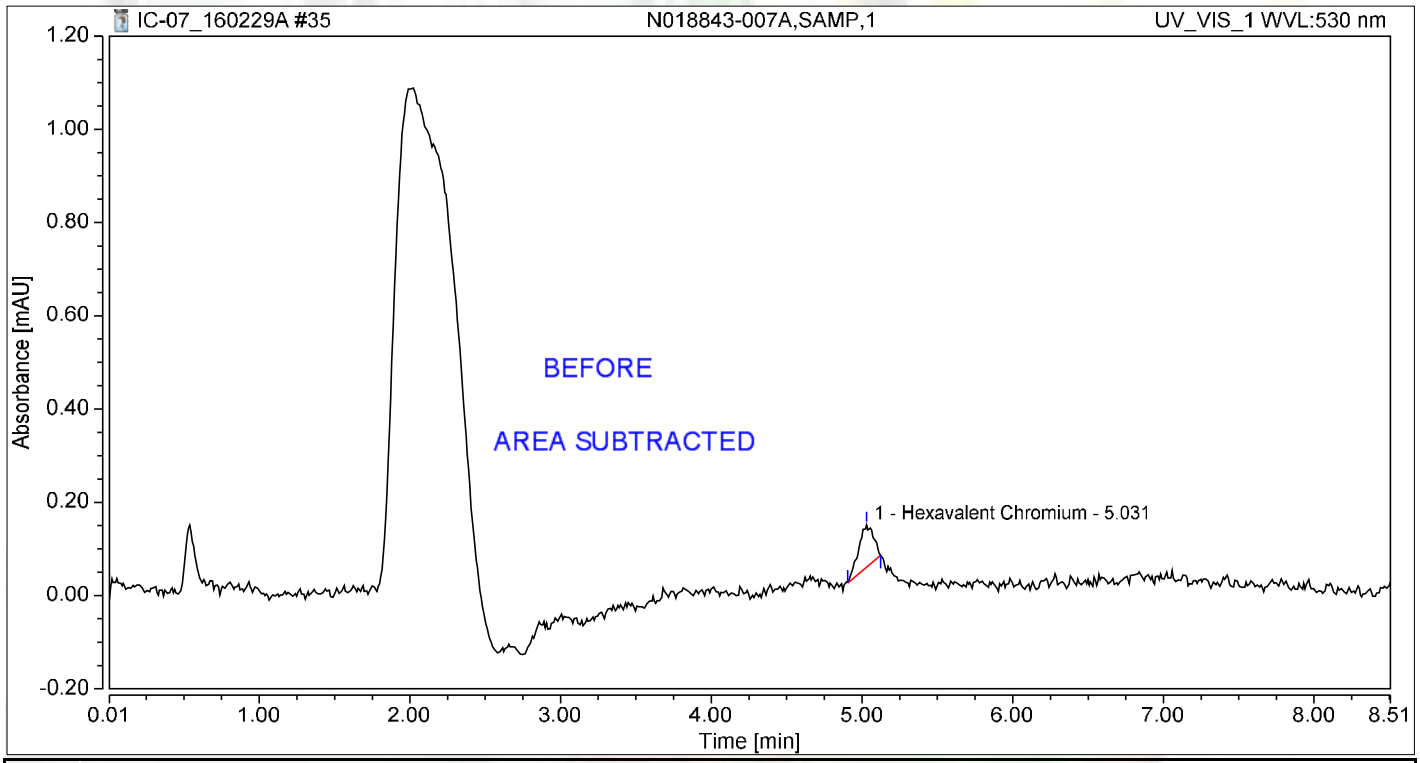
Chromatogram and Results

Injection Details

Injection Name:	**N018843-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

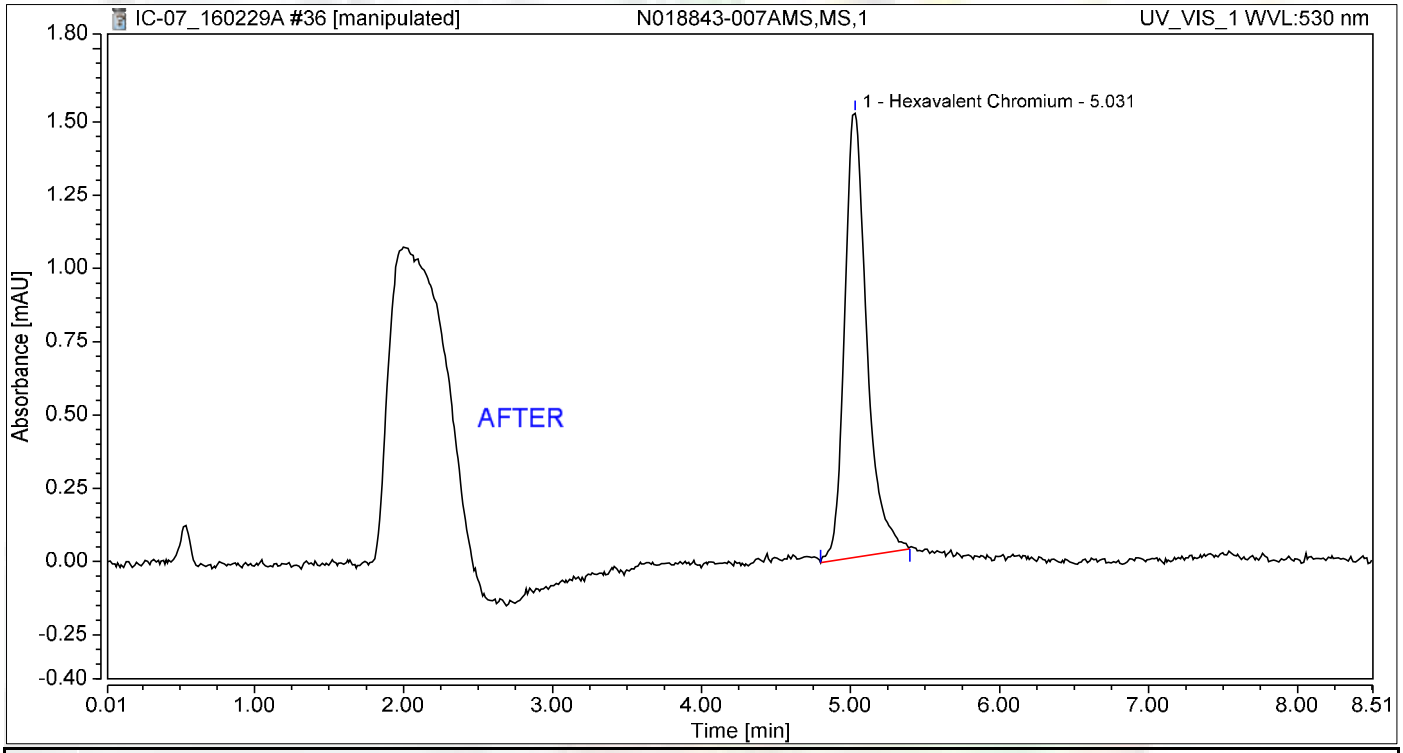
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.010	0.091	100.00	100.00	0.0434
Total:			**0.010**	**0.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-007AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.261	1.515	100.00	100.00	1.1038
Total:			**0.261**	**1.515**	**100.00**	**100.00**	

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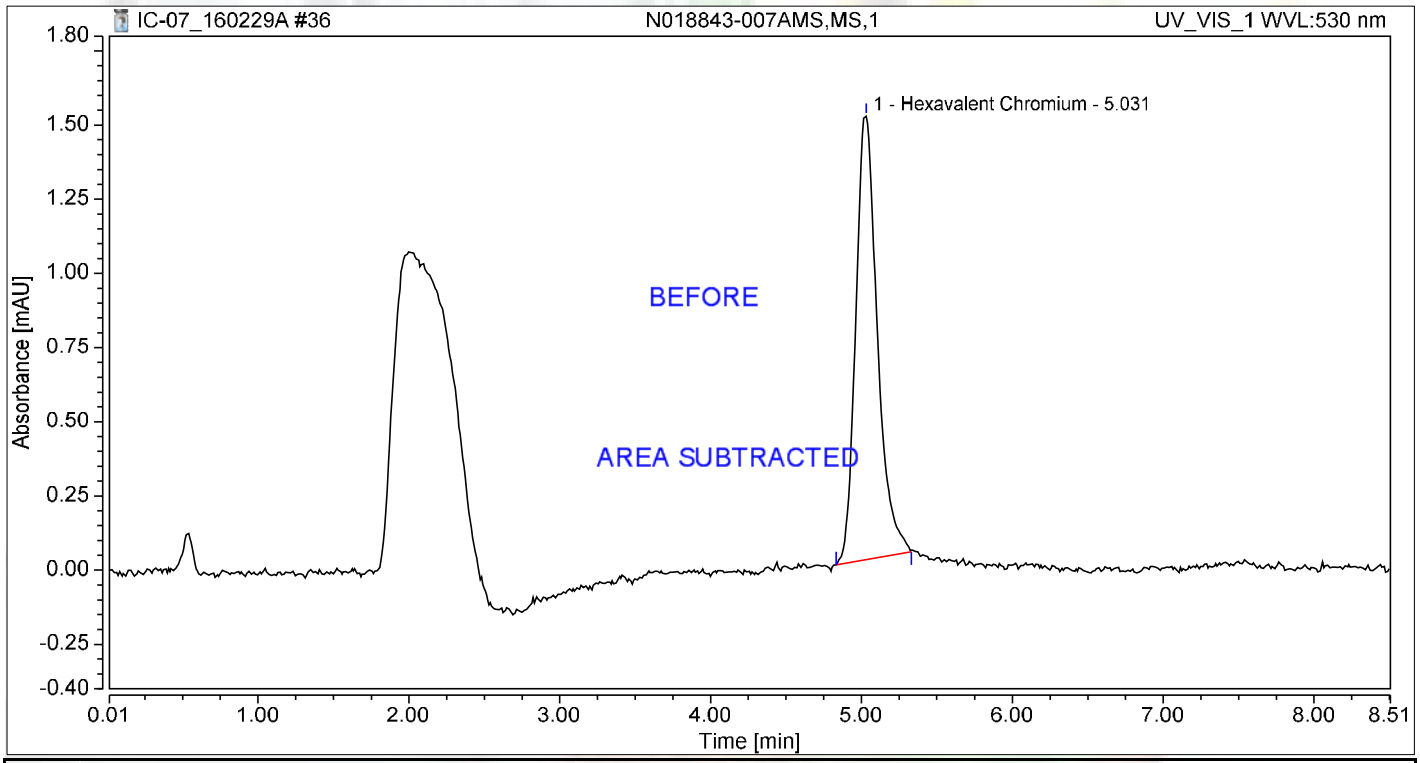
Chromatogram and Results

Injection Details

Injection Name:	**N018843-007AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

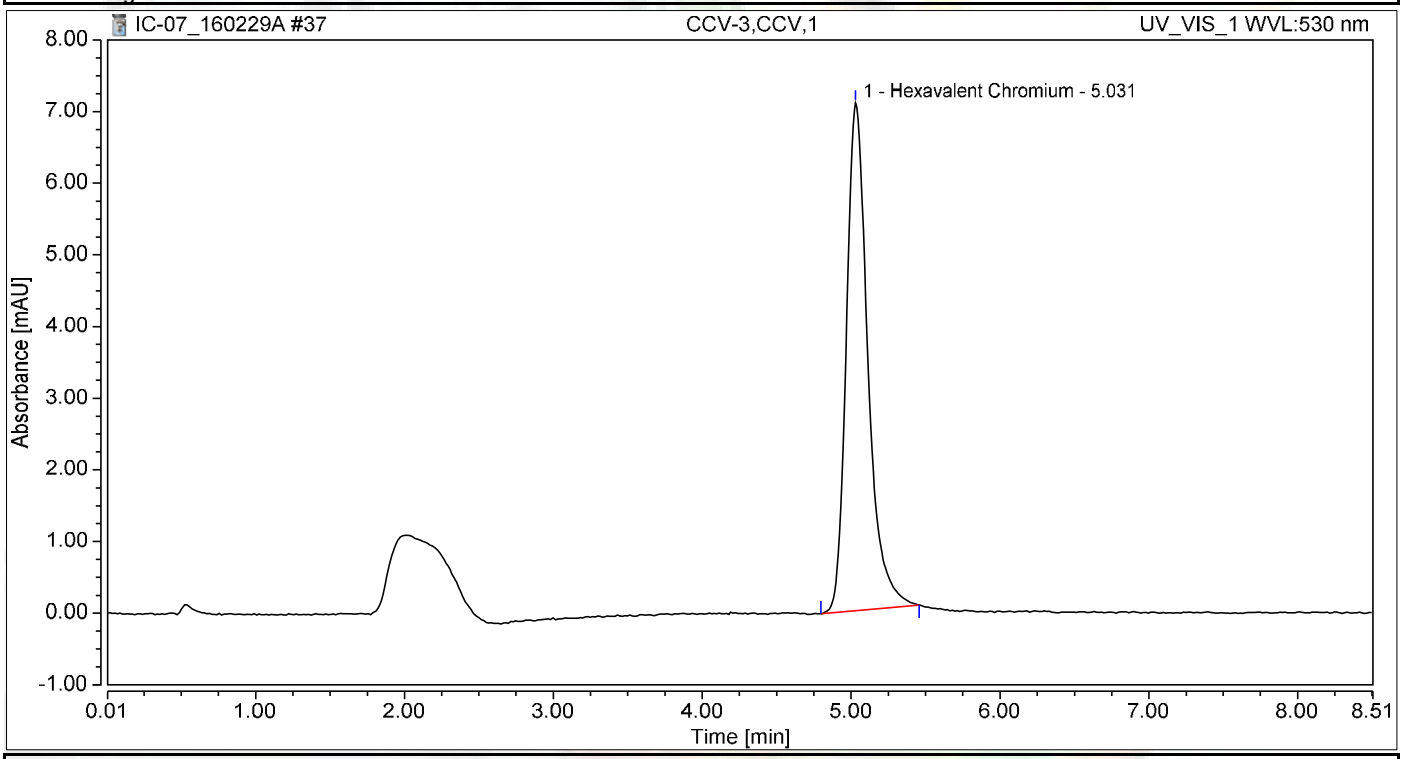
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.249	1.495	100.00	100.00	1.0514
Total:			**0.249**	**1.495**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

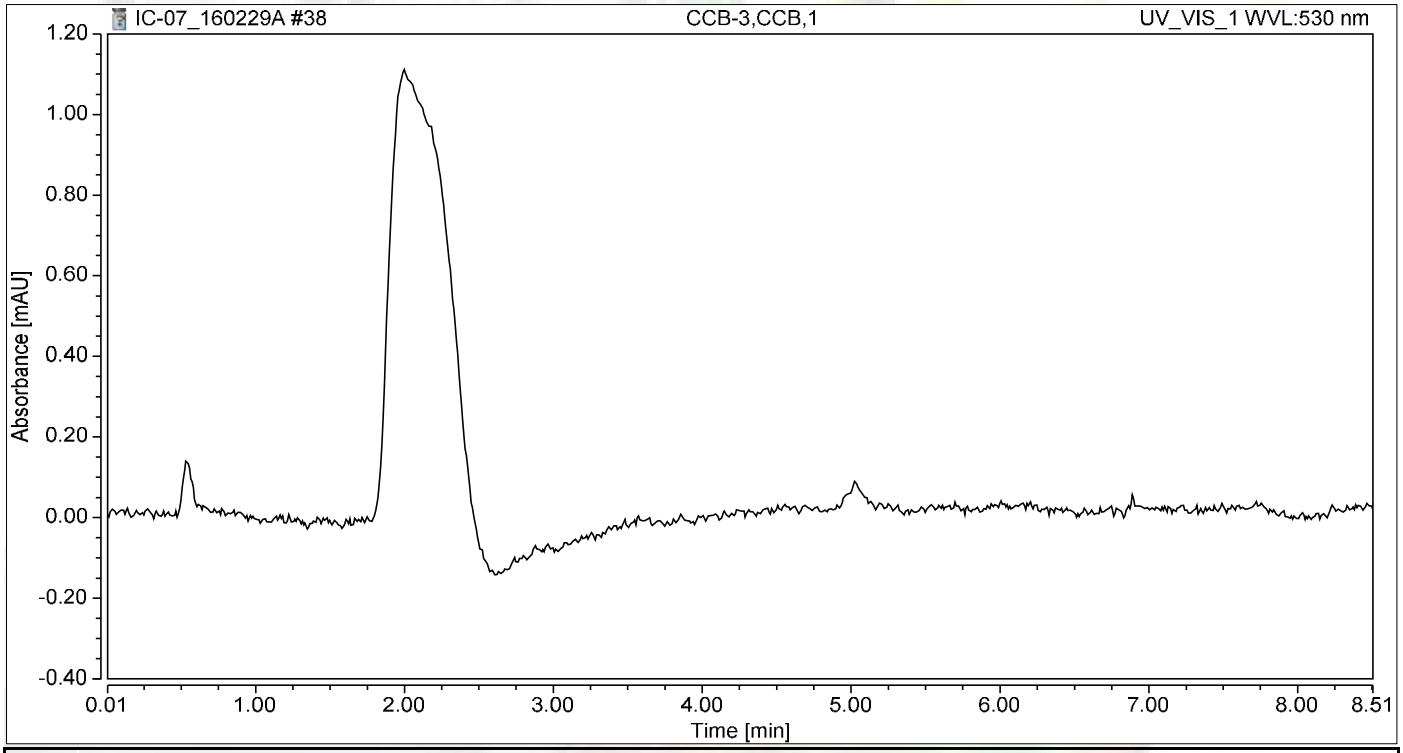
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.181	7.086	100.00	100.00	4.9896
Total:			**1.181**	**7.086**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

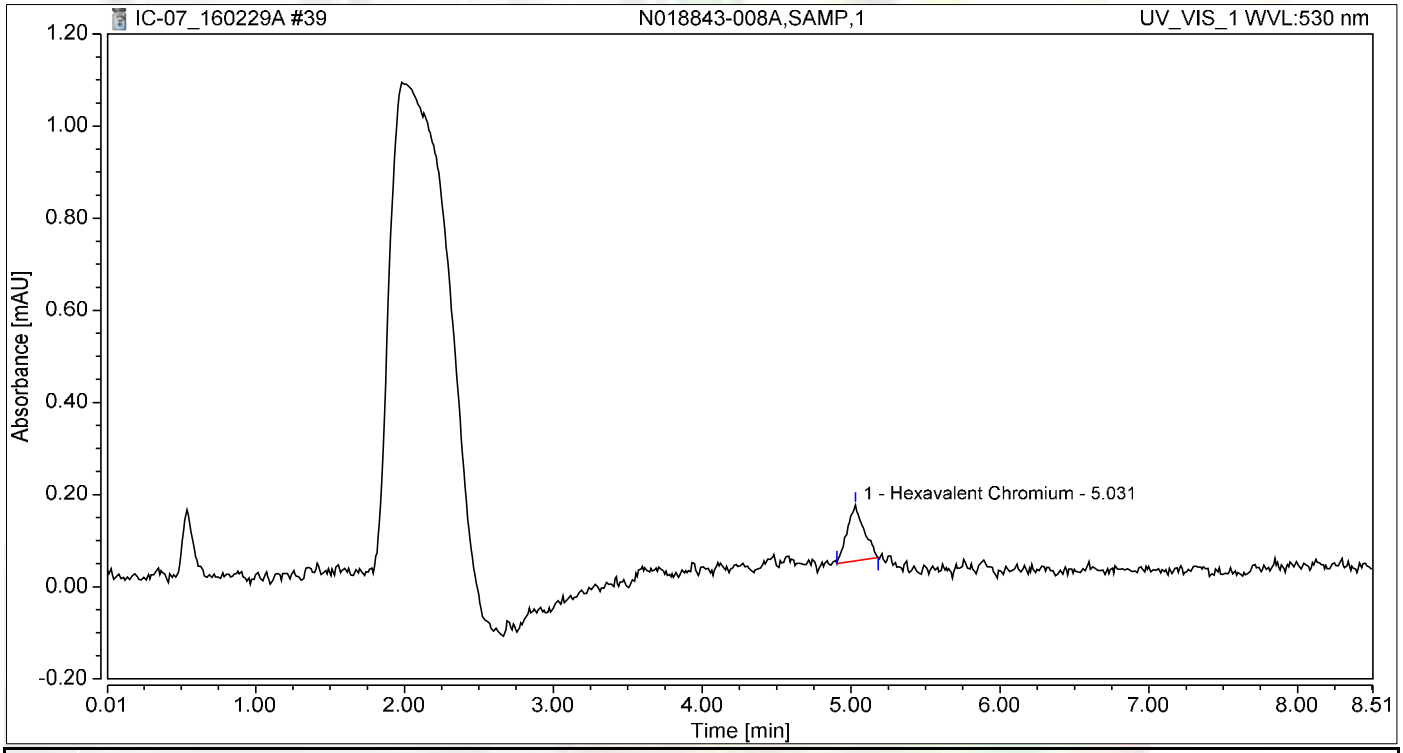
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

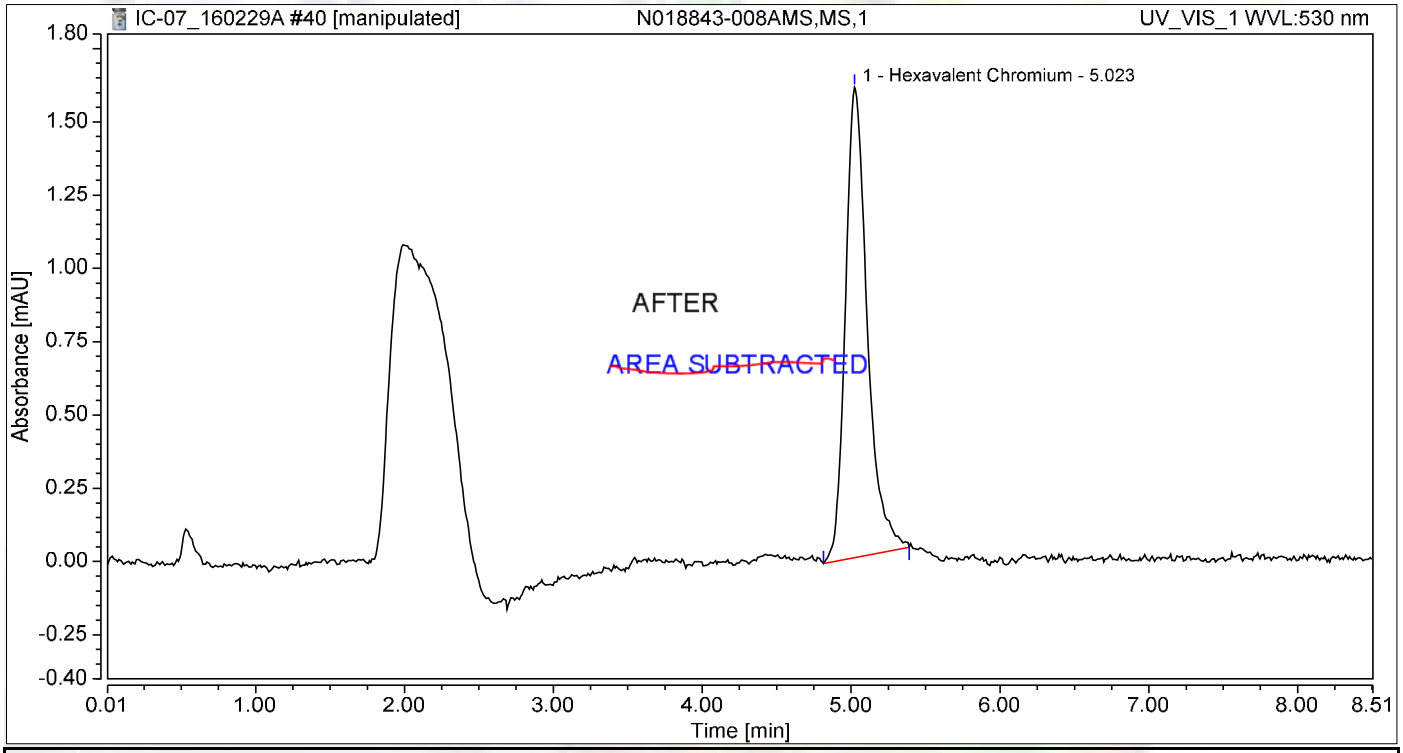
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.121	100.00	100.00	0.0666
Total:			**0.016**	**0.121**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.272	1.605	100.00	100.00	1.1494
Total:			**0.272**	**1.605**	**100.00**	**100.00**	

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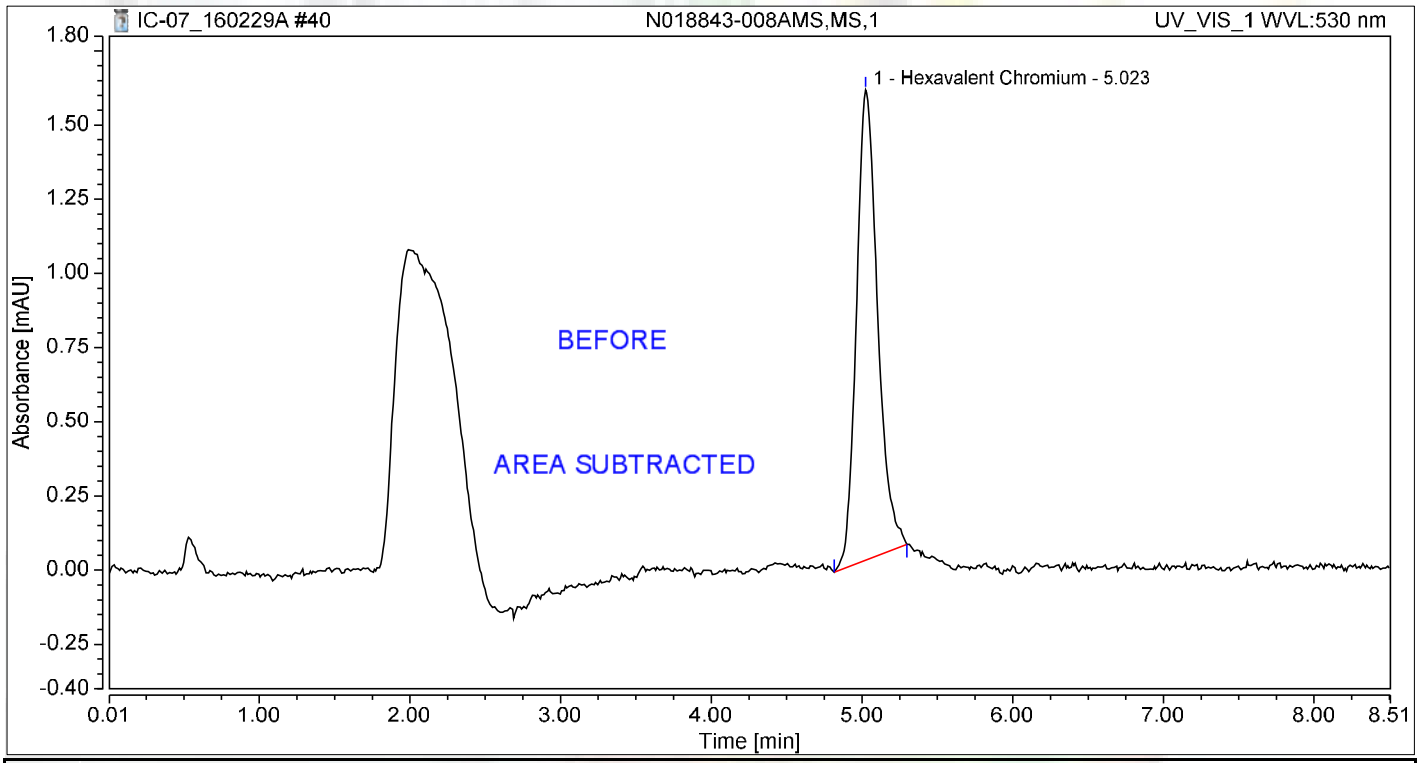
Chromatogram and Results

Injection Details

Injection Name:	**N018843-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

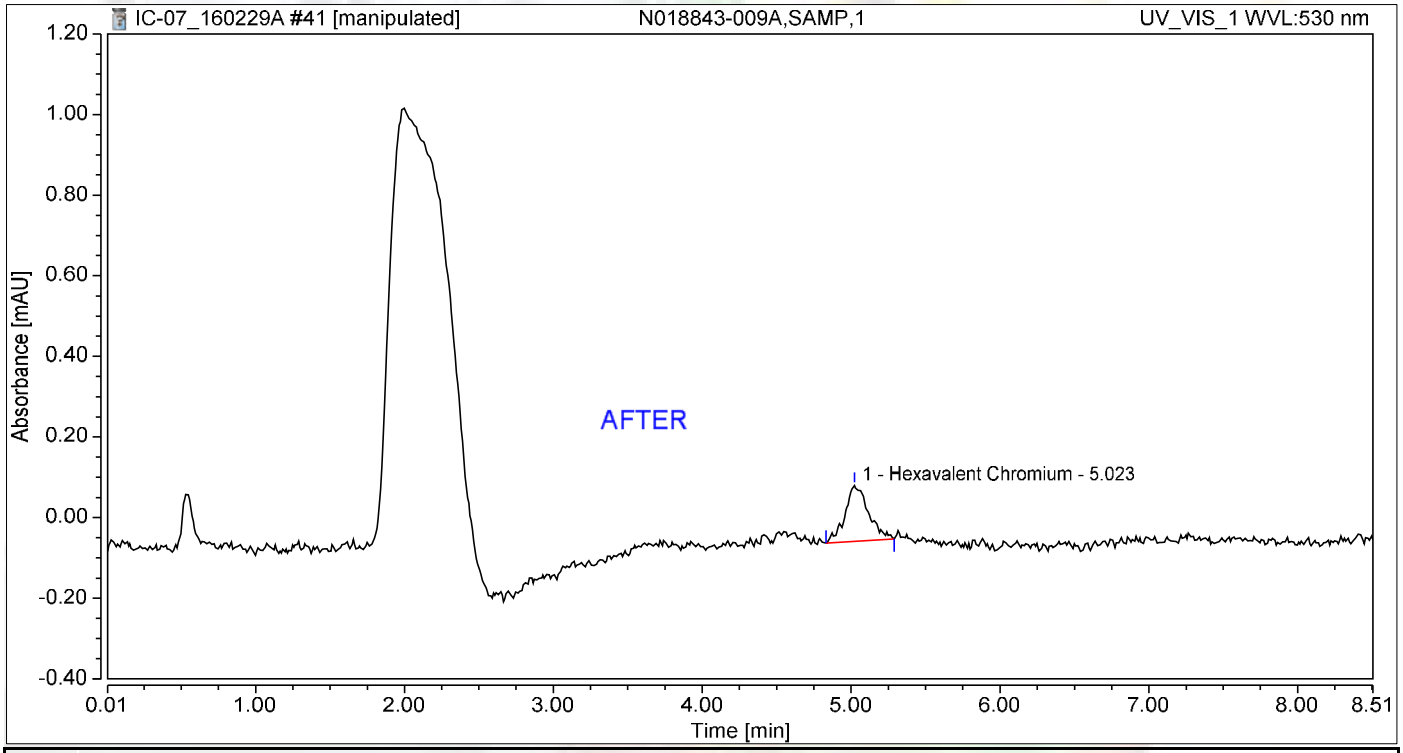
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.258	1.584	100.00	100.00	1.0901
Total:			**0.258**	**1.584**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.025	0.139	100.00	100.00	0.1076
Total:			**0.025**	**0.139**	**100.00**	**100.00**	

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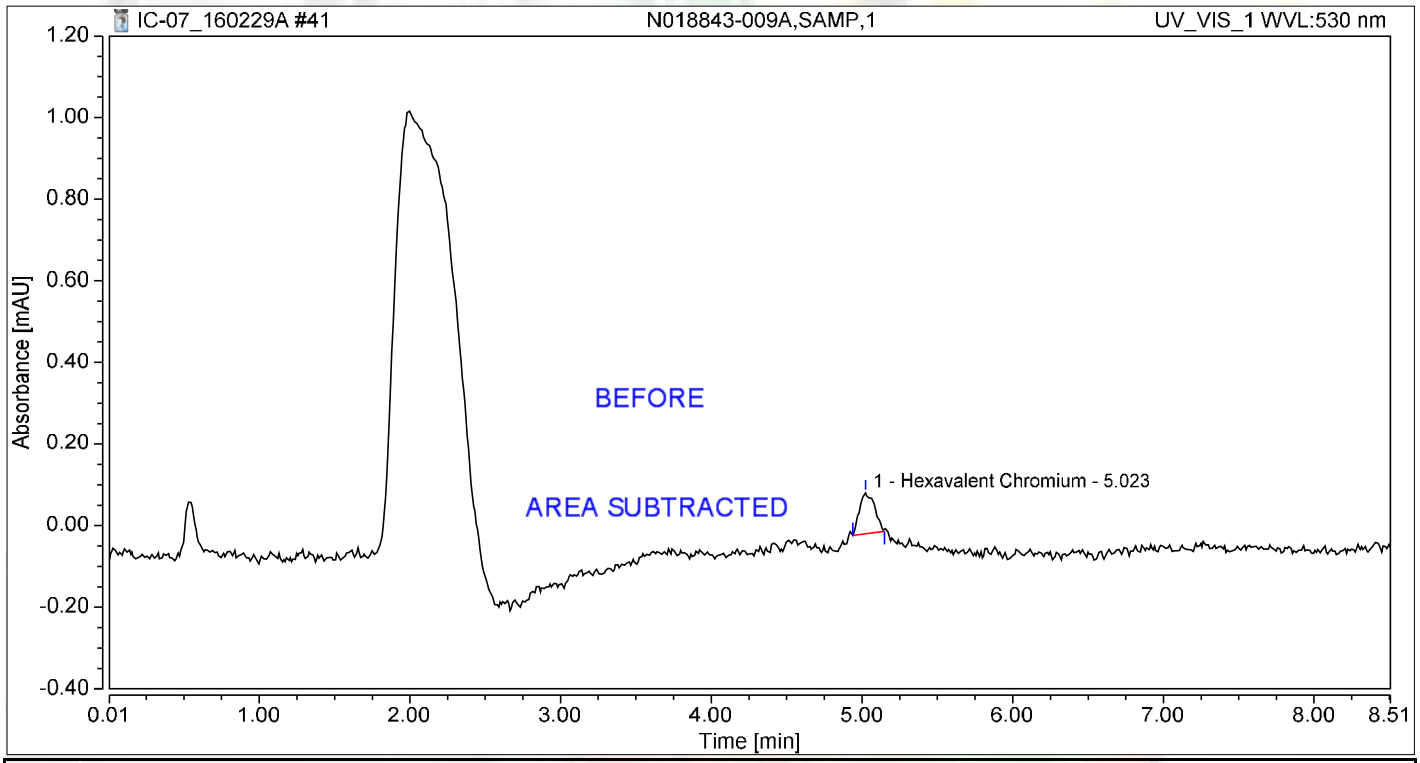
Chromatogram and Results

Injection Details

Injection Name:	**N018843-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

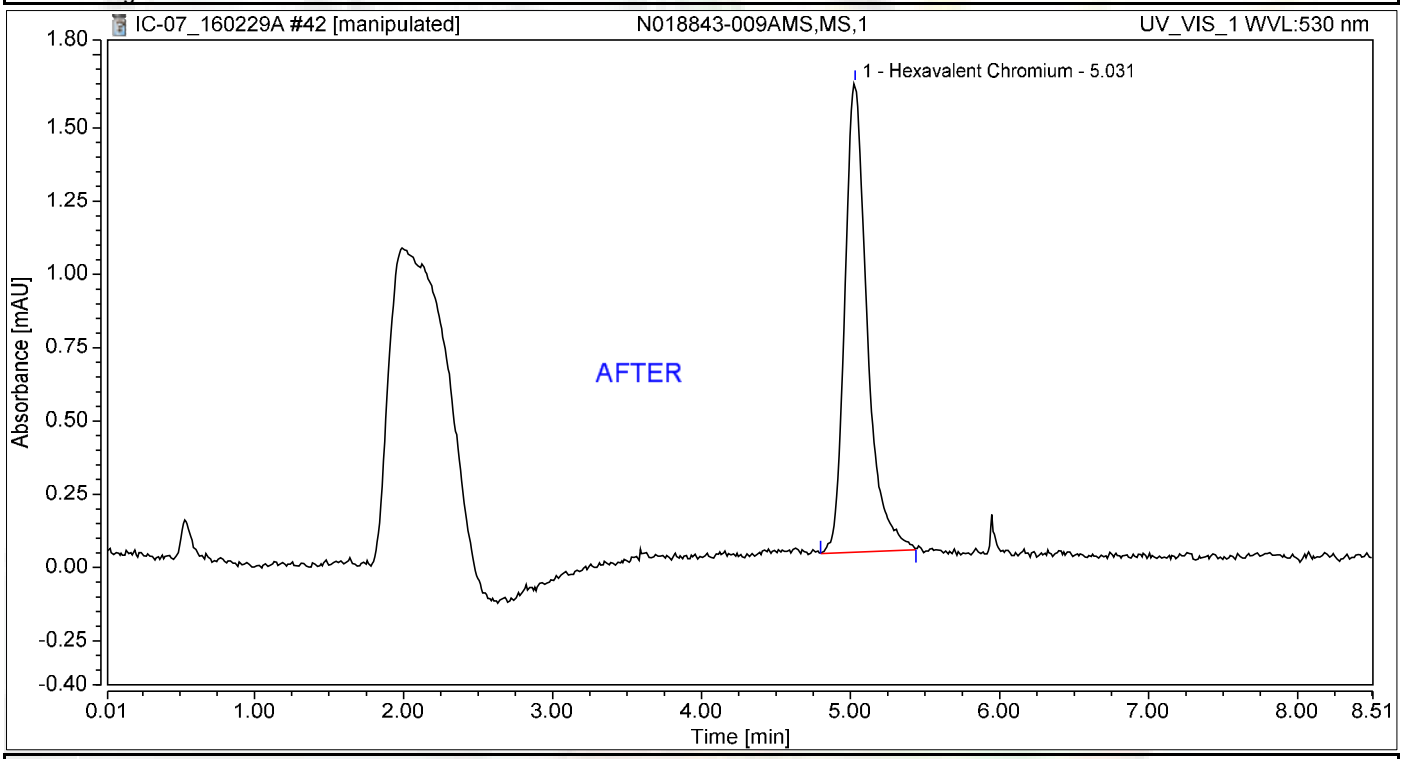
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.012	0.100	100.00	100.00	0.0497
Total:			**0.012**	**0.100**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.277	1.600	100.00	100.00	1.1710
Total:			**0.277**	**1.600**	**100.00**	**100.00**	

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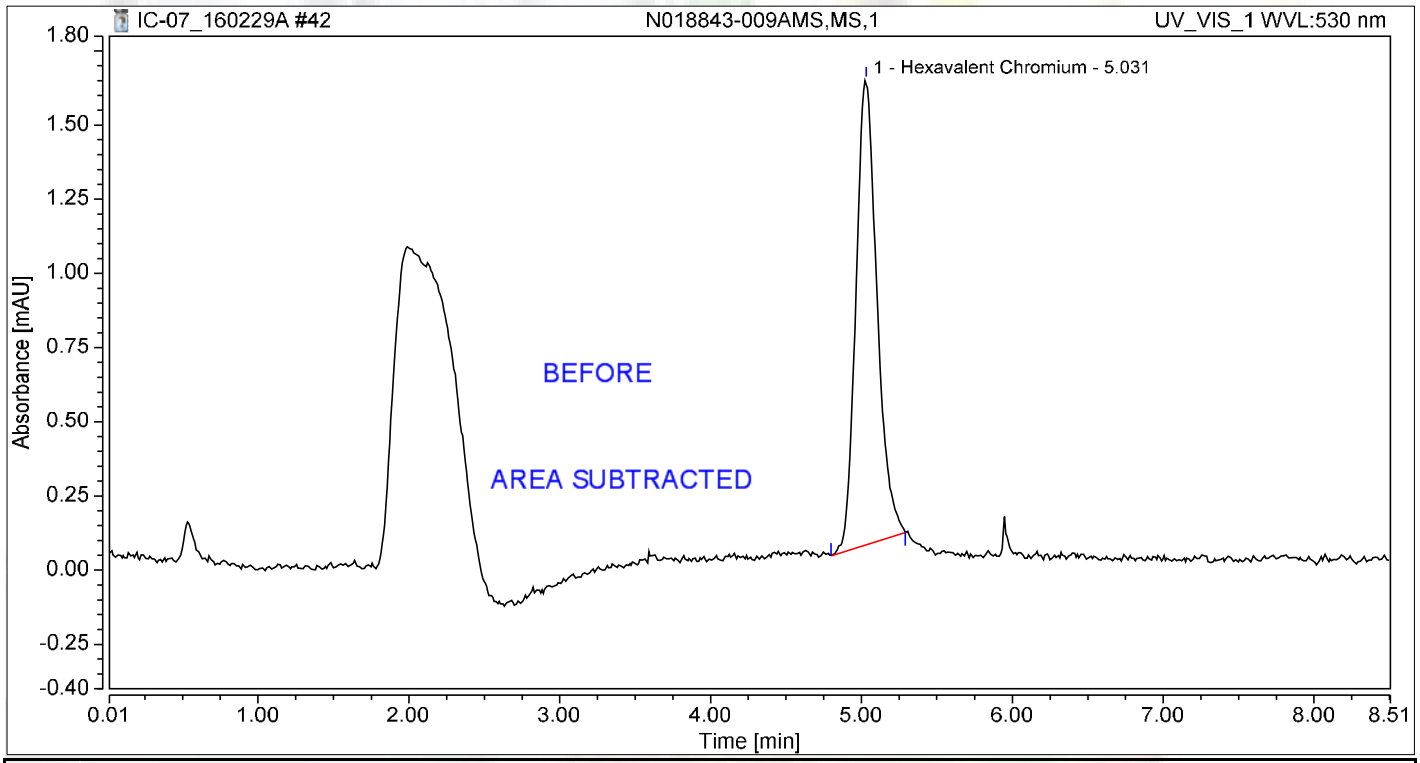
Chromatogram and Results

Injection Details

Injection Name:	**N018843-009AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

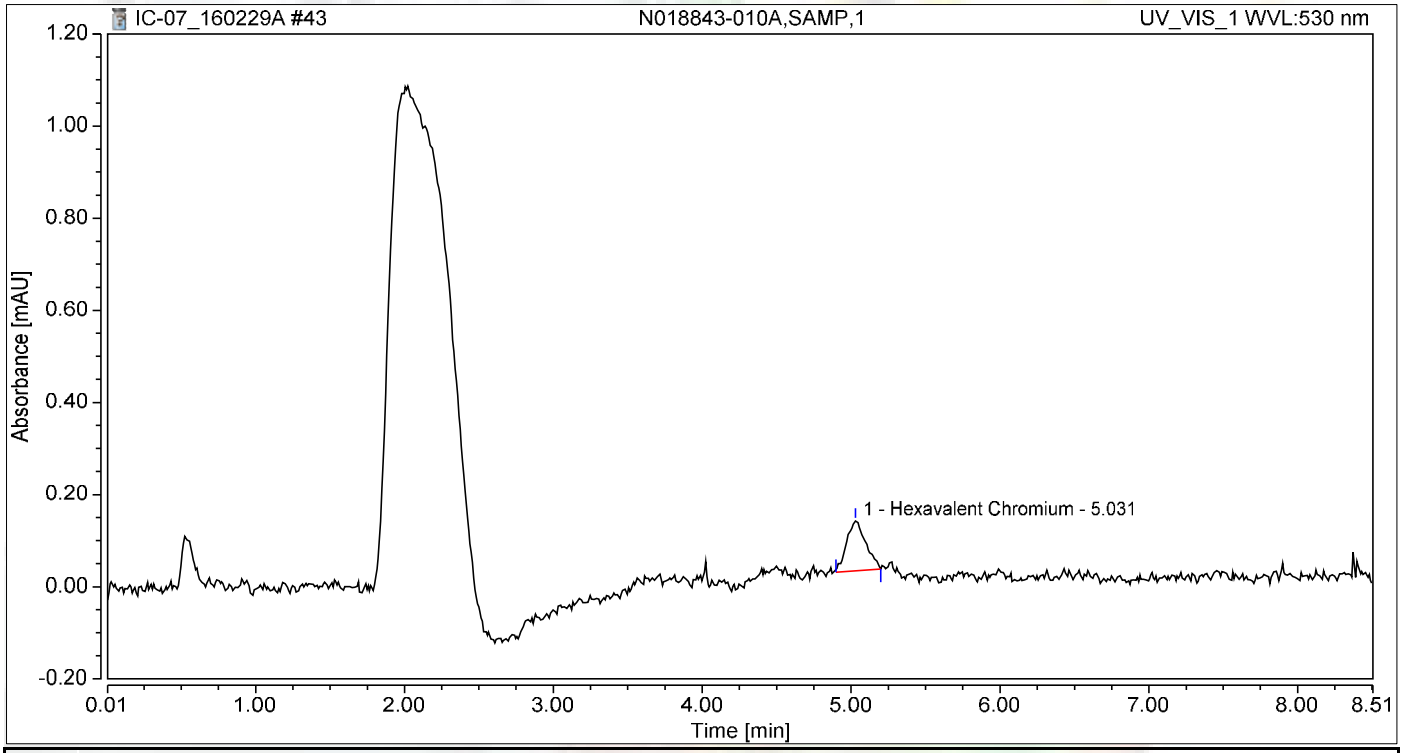
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.255	1.567	100.00	100.00	1.0769
Total:			**0.255**	**1.567**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

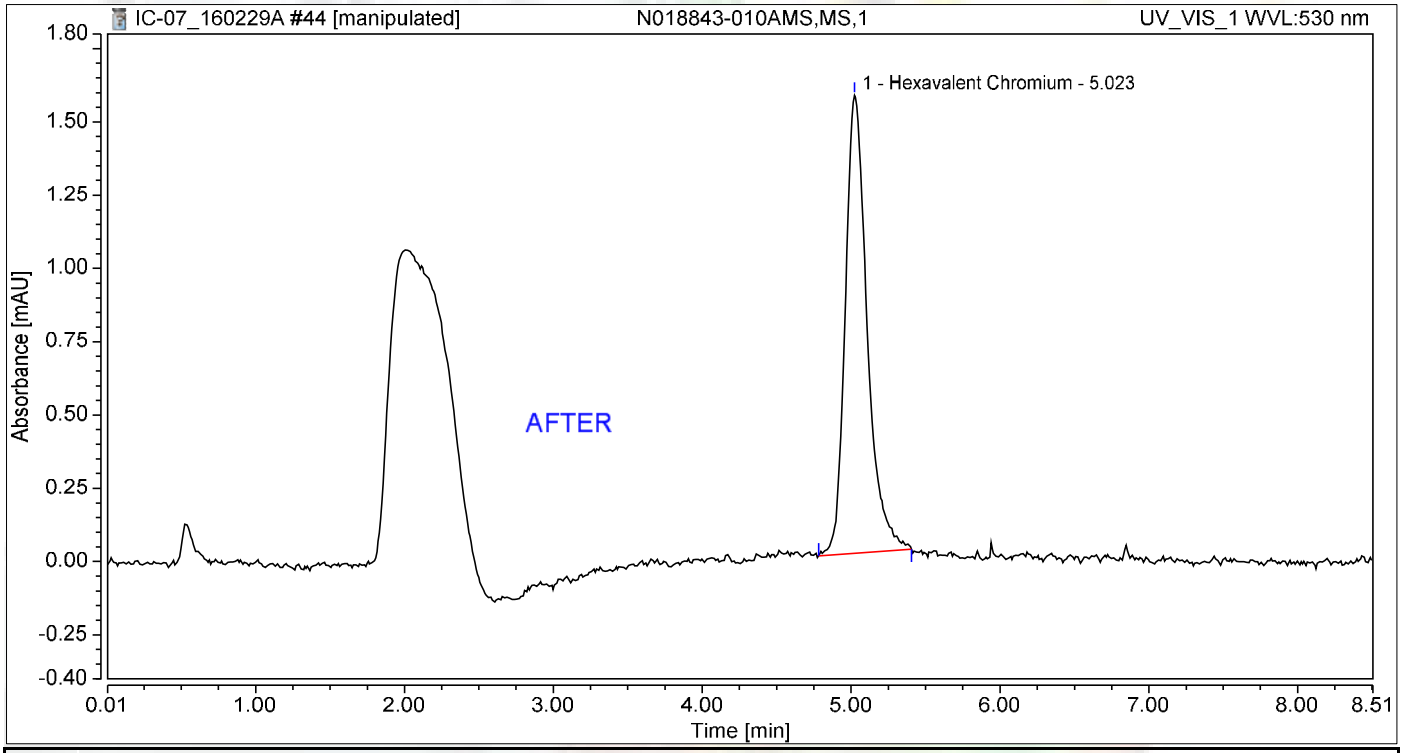
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.109	100.00	100.00	0.0682
Total:			**0.016**	**0.109**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.265	1.563	100.00	100.00	1.1194
Total:			**0.265**	**1.563**	**100.00**	**100.00**	

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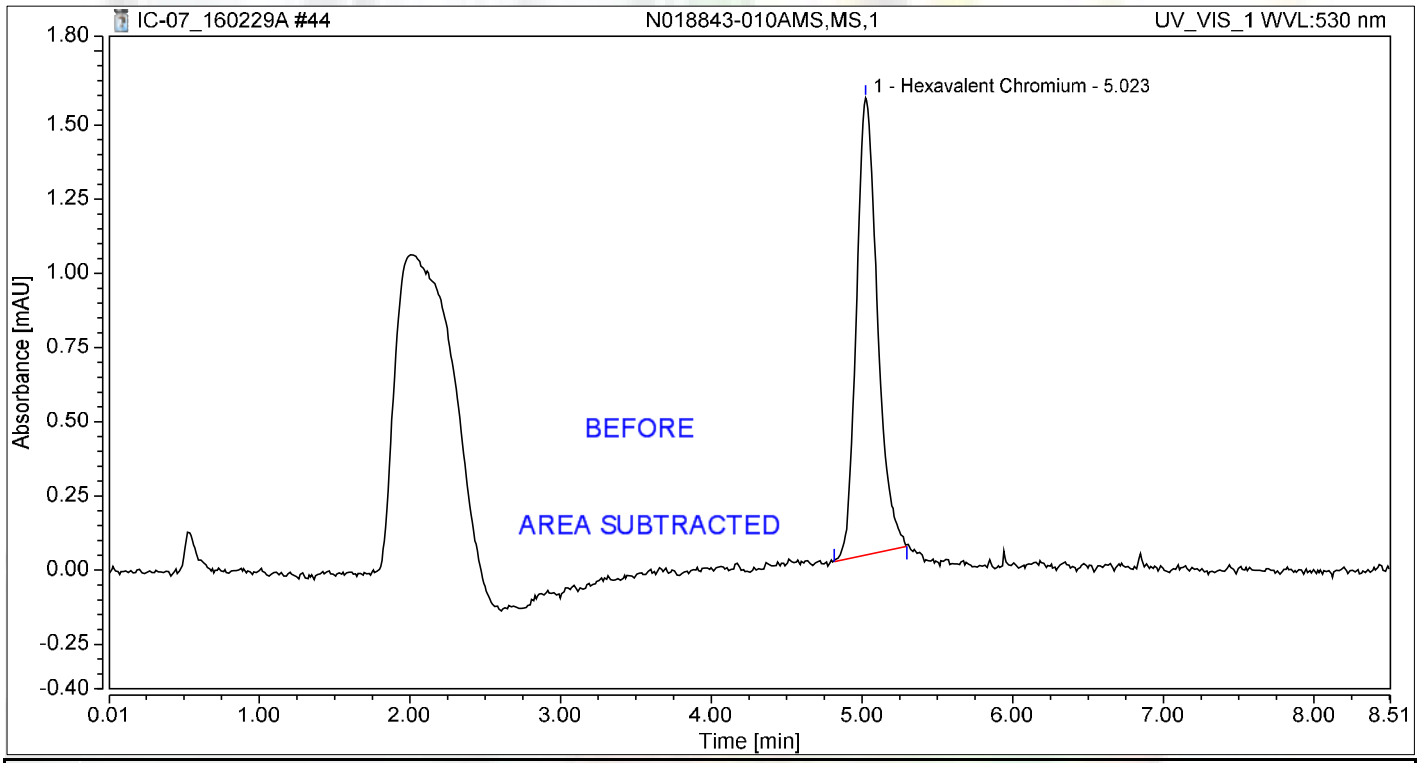
Chromatogram and Results

Injection Details

Injection Name:	**N018843-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

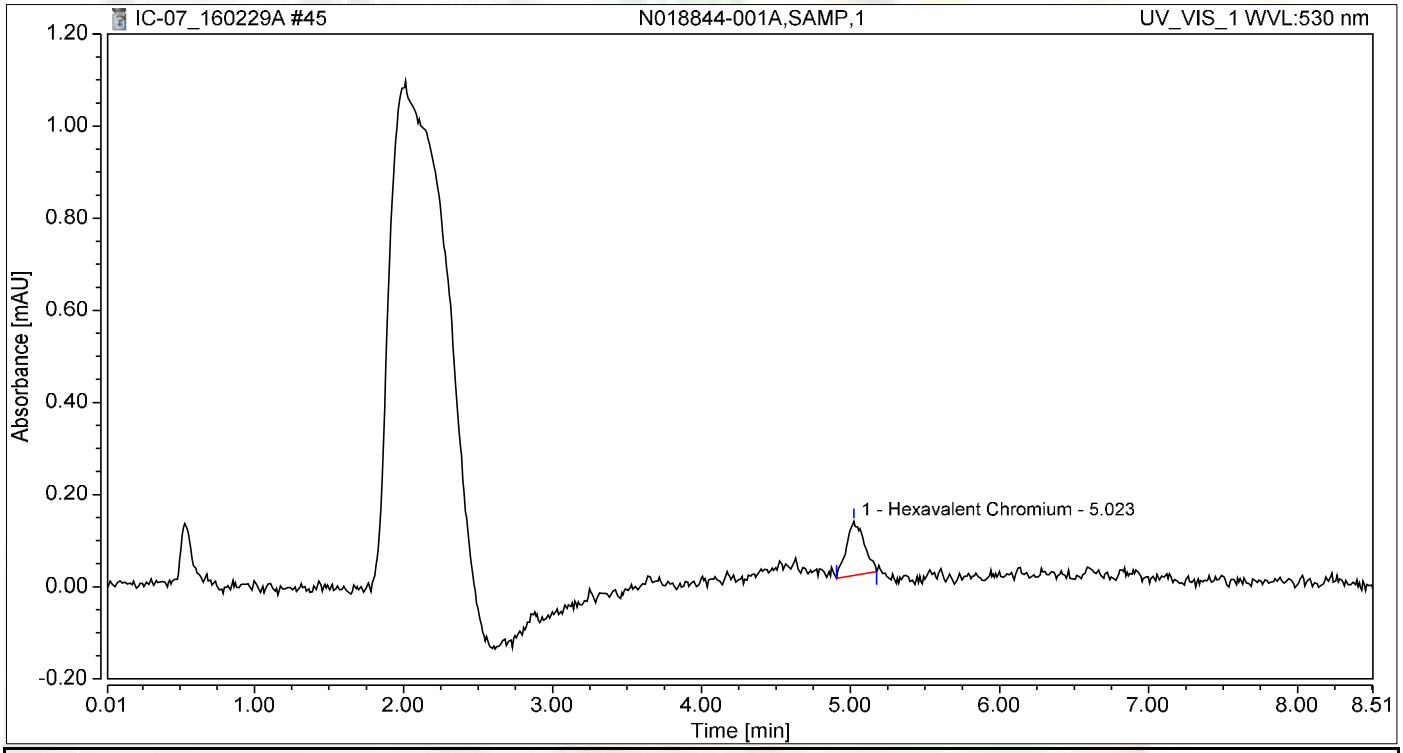
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.250	1.540	100.00	100.00	1.0552
Total:			**0.250**	**1.540**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

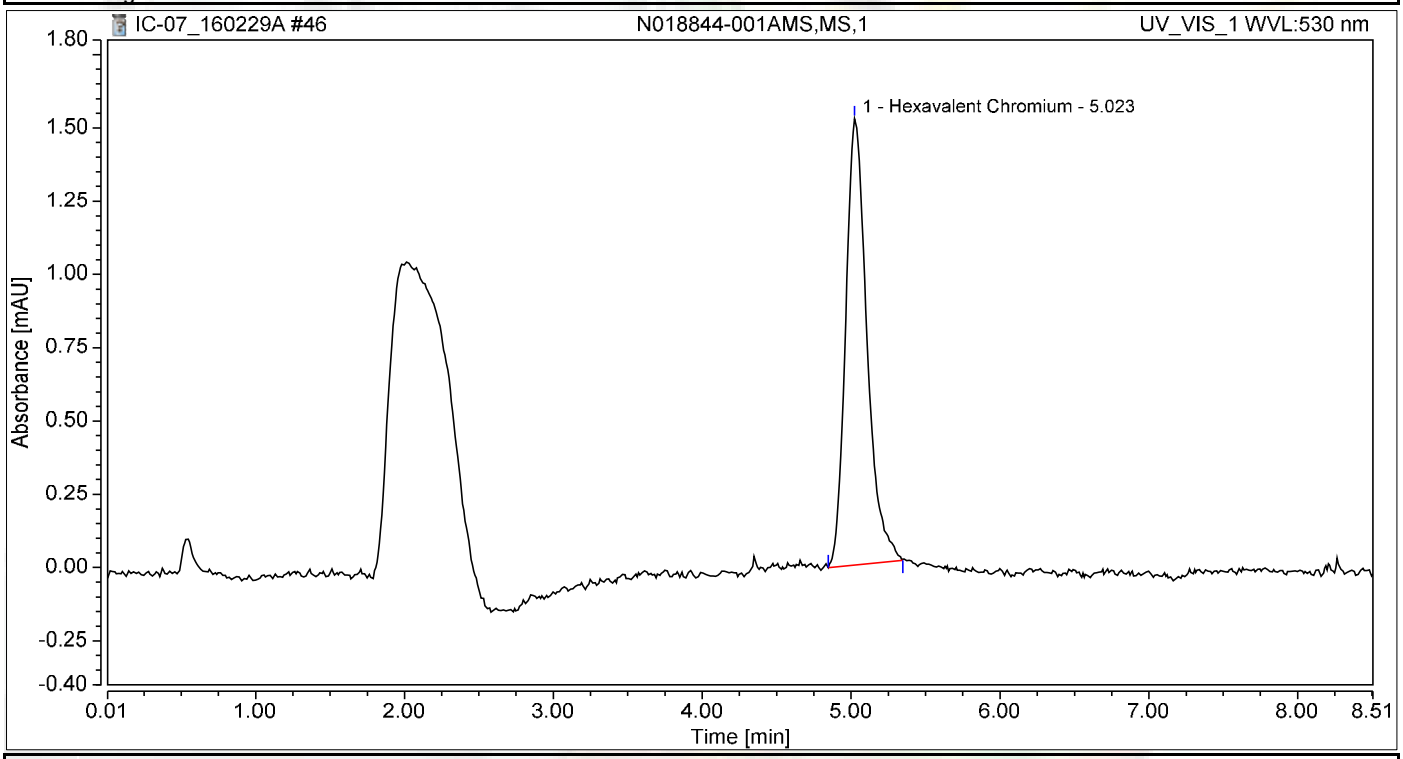
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.016	0.117	100.00	100.00	0.0675
Total:			**0.016**	**0.117**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

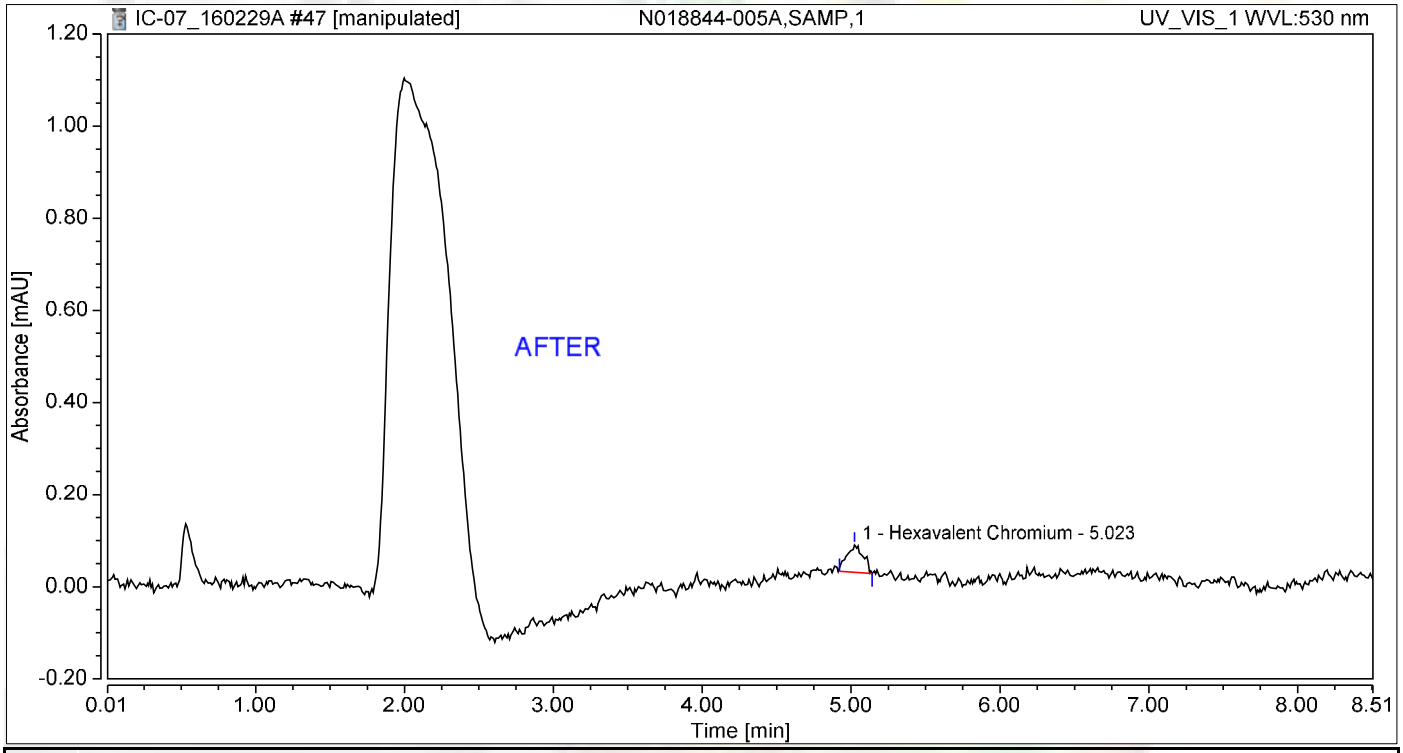
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.251	1.524	100.00	100.00	1.0623
Total:			**0.251**	**1.524**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.007	0.059	100.00	100.00	0.0312
Total:			**0.007**	**0.059**	**100.00**	**100.00**	

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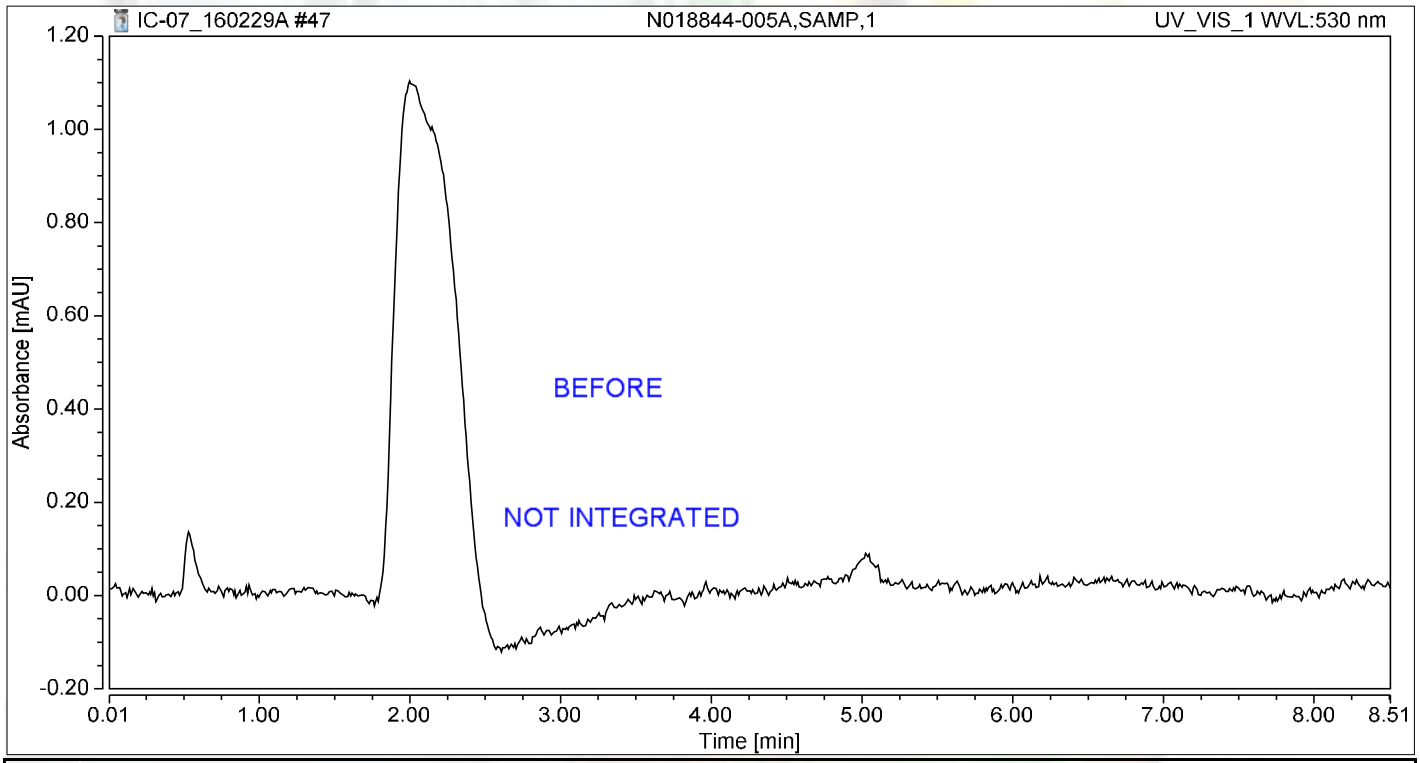
Chromatogram and Results

Injection Details

Injection Name:	**N018844-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

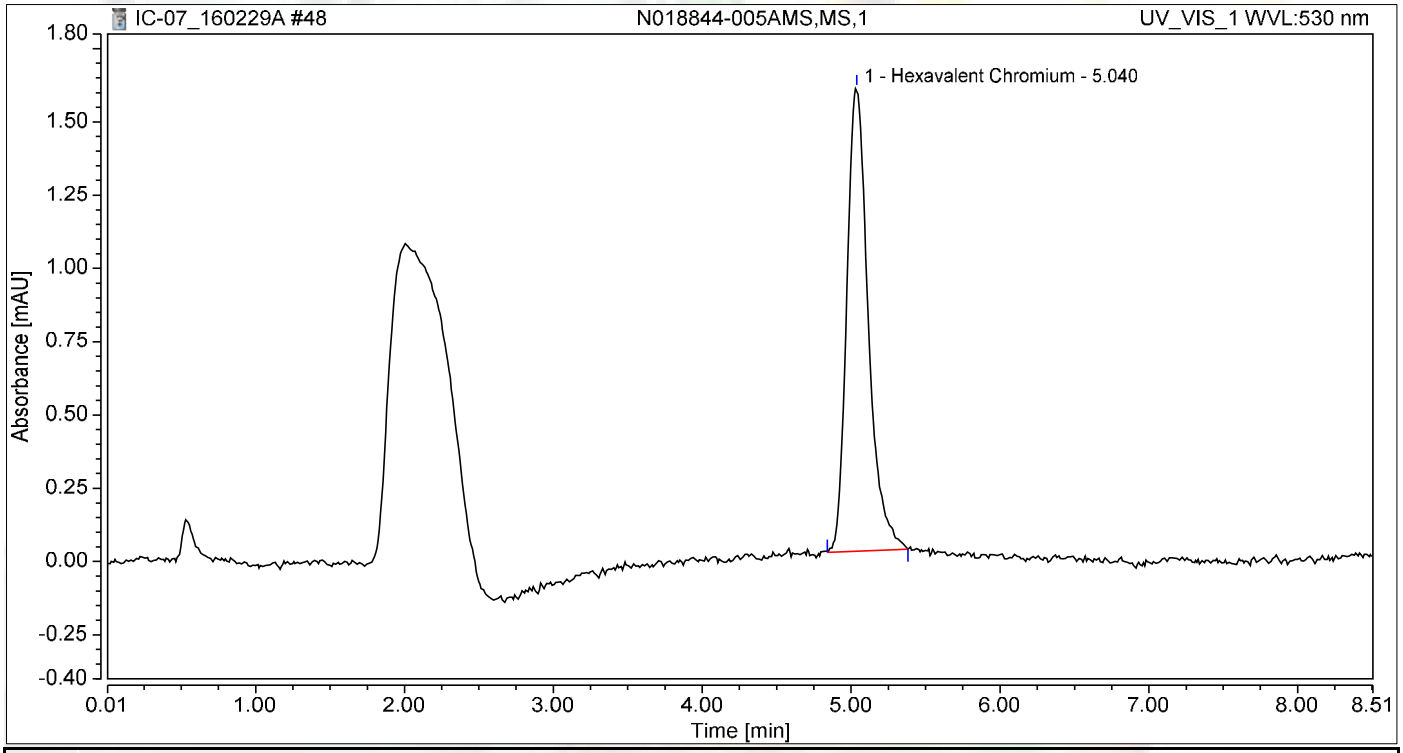
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

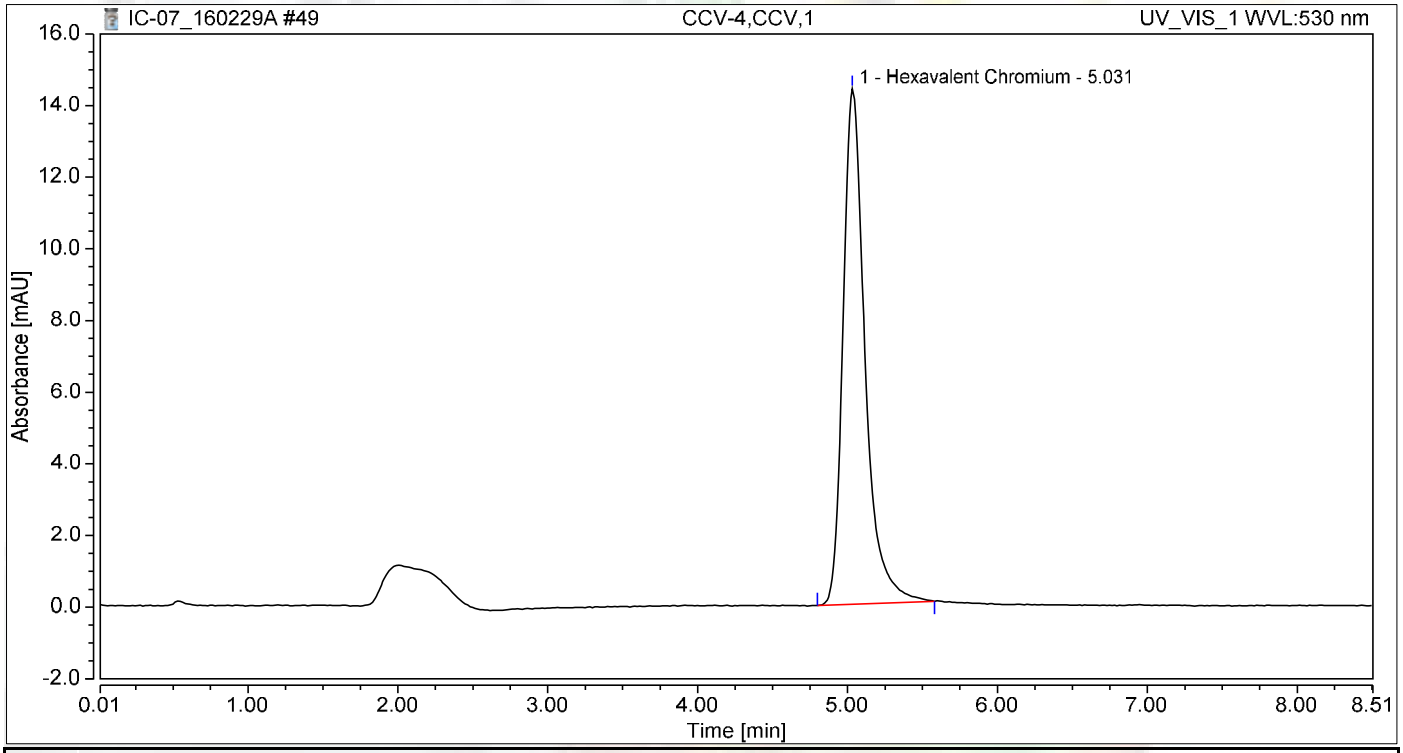
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.262	1.581	100.00	100.00	1.1073
Total:			**0.262**	**1.581**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

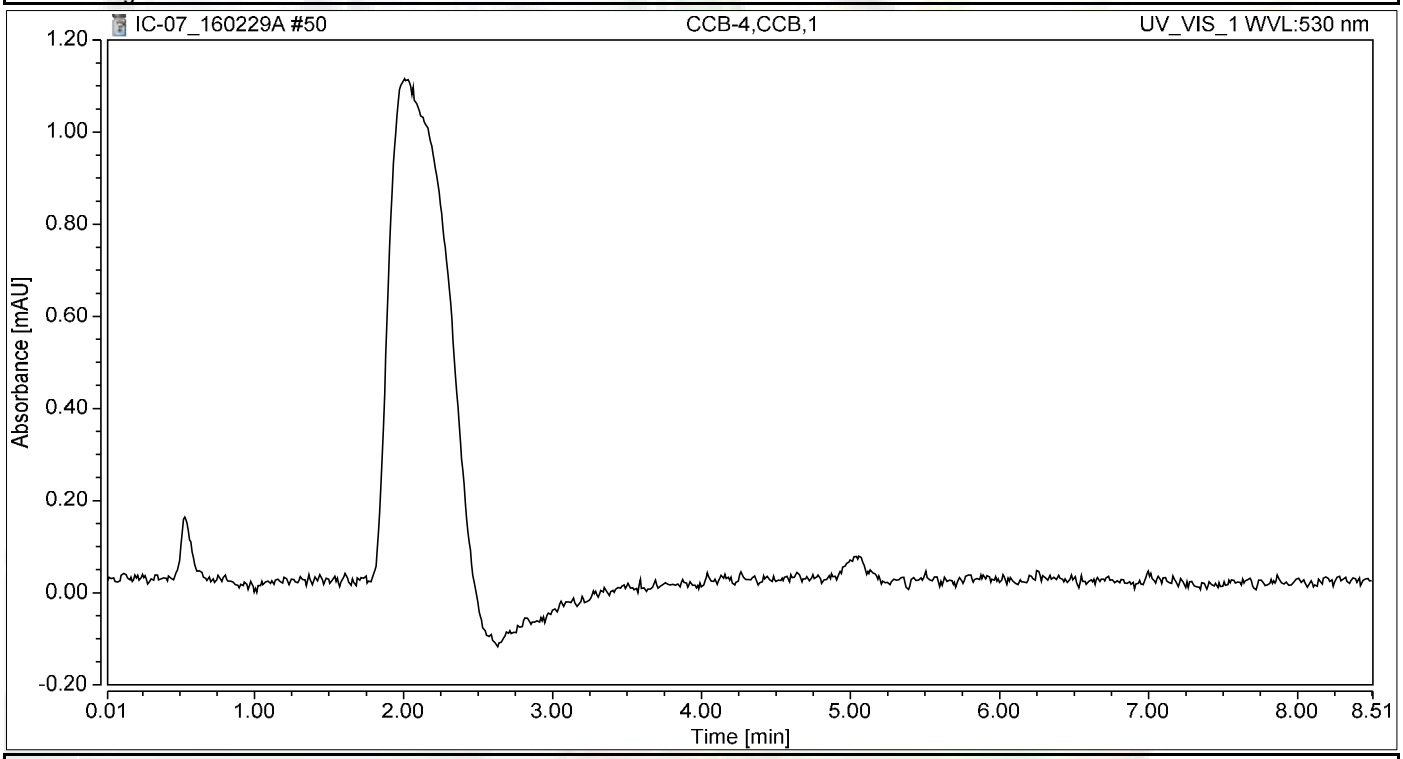
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.431	14.391	100.00	100.00	10.2704
Total:			**2.431**	**14.391**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106334 **Analyst:** REB

ASSET #: N018844 **Date Analyzed:** 3/8/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/10/2016 Date: —

2nd Level Reviewer Nancy 3/10/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018844-001E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.5301*1

= 0.5301 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 0.53

Rab 3/10/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

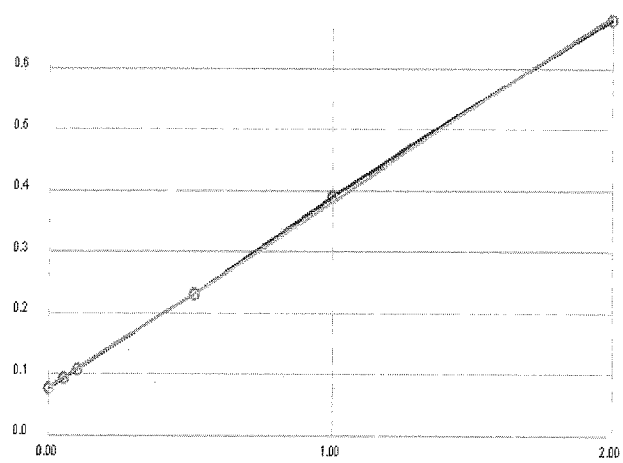
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3018x + 0.0796
Correlation	.999791



Calibrant	Energy	Set	Conc
1	0.0775	0.0000	-0.0069
2	0.0930	0.0500	0.0444
3	0.1083	0.1000	0.0951
4	0.2312	0.5000	0.5023
5	0.3906	1.0000	1.0304
6	0.6786	2.0000	1.9846

Notes:

R1 Buffer - R160217C
R2 COLORING AGT - R160217D
2° CU SO4 - R160217 B
1° STD - 1 SST - 150206D
2° STD - 1 150730E

Reb 3/10/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ICV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.521	0.050	0.5000	0	104	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.530	0.050	0.5000	0	106	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.521	0.050	0.5000	0	104	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.504	0.050	0.5000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ICB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
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Time start: 03-08-2016 15:26
Time end: 03-08-2016 17:57

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	17:22:54	0.0040		0.0808
2	<BLANK>	17:23:49	-0.0033		0.0786
3	<CAL1>	17:24:49	-0.0069	[0]	0.0775
4	<CAL2>	17:25:44	0.0444	[0.05]	0.0930
5	<CAL3>	17:26:46	0.0951	[0.1]	0.1083
6	<CAL4>	17:27:41	0.5023	[0.5]	0.2312
7	<CAL5>	17:28:35	1.0304	[1]	0.3906
8	<CAL6>	17:29:36	1.9846	[2]	0.6786
9	,BLANK,BLANK,1,	17:30:32	0.0348		0.0901
10	,ICV,ICV,1,	17:31:26	0.5209		0.2368
11	,ICB,ICB,1,	17:32:27	-0.0029		0.0787
12	,MB-H2O,MBLK,1,	17:33:23	-0.0106		0.0764
13	,LCS-H2O,LCS,1,	17:34:18	0.5179		0.2359
14	,N018844-001E,SAMP,1,	17:35:18	0.5301		0.2396
15	,N018844-001EDUP,DUP,1,	17:36:14	0.4947		0.2289
16	,N018844-001EMS,MS,1,	17:37:09	1.0732		0.4035
17	,N018844-001EMSD,MSD,1,	17:38:09	1.0904		0.4087
18	,N018845-004C,SAMP,20,	17:39:05	1.0235		0.3885
19	,N018855-001C,SAMP,1,	17:40:01	1.1971		0.4409
20	,N018855-002C,SAMP,1,	17:41:02	0.1332		0.1198
21	,BLANK,BLANK,1	17:41:44	-0.0033		0.0786
22	,CCV-1,CCV,1,	17:42:34	0.5295		0.2394
23	,CCB-1,CCB,1,	17:43:16	-0.0043		0.0783
24	,N018855-003C,SAMP,1,	17:44:05	0.1703		0.1310
25	,N018855-004C,SAMP,1,	17:44:47	0.2015		0.1404
26	,N018918-002D,SAMP,5,	17:45:30	0.6401		0.2728

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
27	,N018919-001C,SAMP,5,	17:46:20	0.2194		0.1458
28	,N018919-002C,SAMP,5,	17:47:02	0.8015		0.3215
29	,N018936-001C,SAMP,1,	17:47:45	0.0110		0.0829
30	,N018936-002D,SAMP,5,	17:48:33	0.7342		0.3012
31	,BLANK,BLANK,1	17:49:16	-0.0033		0.0786
32	,CCV-2,CCV,1,	17:50:04	0.5209		0.2368
33	,CCB-2,CCB,1,	17:50:48	-0.0135		0.0755
34	,N018996-001D,SAMP,1,	17:51:31	0.6600		0.2788
35	,N018996-002D,SAMP,1,	17:52:19	0.4583		0.2179
36	,N018996-003D,SAMP,1,	17:53:03	1.9982		0.6827
37	,BLANK,BLANK,1	17:53:45	0.0067		0.0816
38	,CCV-3,CCV,1,	17:54:34	0.5036		0.2316
39	,CCB-3,CCB,1,	17:55:16	-0.0099		0.0766

Reb 3/10/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/8/2016
Time Analyzed: 03:26 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018844-001E		8.59						
2)	N018855-001C		8.87						
3)	N018855-002C		8.67						
4)	N018855-003C		8.56						
5)	N018855-004C		8.22						
6)	N018918-002D		8.96						
7)	N018919-001C		8.56						
8)	N018919-002C		8.78						
9)	N018936-001C		8.33						
10)	N018936-002D		8.21						
11)	N018996-001D		8.36						
12)	N018996-002D		8.63						
13)	N018996-003D		7.66						
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/10/2016

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56545 **Instrument ID:** ICP-02
ASSET #: N018844 **Analyst:** CEI
Method: **Date Analyzed:** 3/8/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018844-001B only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/14/2016 Date:
2nd Level Reviewer 3/14/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56545 **Instrument ID:** ICP-02
ASSET #: N018844 **Analyst:** CEI
Method: **Date Analyzed:** 3/10/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolvedconcentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits			X			
Raw Data and Miscellaneous Information						
26. AreNon-Conformancesdocumented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For N018843-010B rerun only / used as reference sample for PS/MS/MSD

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer CEI Date: —

2nd Level Reviewer 3/14/2016 CEI / ICP-02 / 3/14/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018844-001B** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.01725 * 1 * (25/25) * 1000

Iron , ug/L = 17.25

Reporting results in two significant figures,

Iron , ug/L = 17

Since PQL of Iron , in ug/L = 20

Iron , ug/L = ND

% RSD SUMMARY

RSD SUMMARY: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	5.38	15	PASS
Standard1	ICAL	1	Fe	0.02	3.52	15	PASS
Standard2	ICAL	1	Fe	0.05	0.46	15	PASS
Standard3	ICAL	1	Fe	2	0.4	15	PASS
Standard4	ICAL	1	Fe	5	0.4	15	PASS
Standard5	ICAL	1	Fe	7.5	0.12	15	PASS
Standard6	ICAL	1	Fe	10	0.1	15	PASS
Standard7	ICAL	1	Fe	20	0.094	15	PASS
ICV	ICV	1	Fe	10.013	0.051	15	PASS
ICB	ICB	1	Fe	0.001	50.32	15	<PQL
LLCCV1	CCV1	1	Fe	0.023	5.15	20	PASS
ICSA1	ICSA	1	Fe	208.61	0.28	15	PASS
ICSAB1	ICSAB	1	Fe	187.55	0.57	15	PASS
MB-56545	MBLK	1	Fe	0.0068	21.78	15	<PQL
LCS1-56545	LCS	1	Fe	0.11	0.7	15	PASS
N018843-009B	SAMP	1	Fe	0.0058	27.73	15	<PQL
N018843-010B	SAMP	1	Fe	-1.009	174.43	15	<PQL
N018844-001B	SAMP	1	Fe	0.017	4.57	15	PASS
N018936-001A	SAMP	1	Fe	-0.074	181.68	15	<PQL
N018936-002B	SAMP	1	Fe	0.0021	125.57	15	<PQL
N018843-010B	SAMP	5	Fe	0.0024	55.51	15	<PQL
N018843-010B-PS	PS	1	Fe	0.11	0.46	15	PASS
N018843-010B-MS1	MS	1	Fe	0.11	0.45	15	PASS
CCV1	CCV	1	Fe	10.15	0.057	15	PASS
CCB1	CCB	1	Fe	0.0016	111.97	15	<PQL
N018843-010B-MSD1	MSD	1	Fe	0.12	0.45	15	PASS
N018936-001A	SAMP	1	Fe	0.0022	32.64	15	<PQL
CCV2	CCV	1	Fe	10.15	0.015	15	PASS
CCB2	CCB	1	Fe	0.00019	197.95	15	<PQL
LLCCV2	CCV2	1	Fe	0.025	10.24	20	PASS
ICSA2	ICSA	1	Fe	6429	167.62	15	NR!
ICSAB2	ICSAB	1	Fe	186.34	0.66	15	PASS
ICSA2	ICSA	1	Fe	207.36	0.22	15	PASS
ICSAB2	ICSAB	1	Fe	187.48	0.24	15	PASS

RSD SUMMARY: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	13.85	15	PASS
Standard1	ICAL	1	Fe	0.02	1.77	15	PASS
Standard2	ICAL	1	Fe	0.05	0.96	15	PASS
Standard3	ICAL	1	Fe	2	0.46	15	PASS
Standard4	ICAL	1	Fe	5	0.18	15	PASS
Standard5	ICAL	1	Fe	7.5	0.012	15	PASS
Standard6	ICAL	1	Fe	10	0.067	15	PASS
Standard7	ICAL	1	Fe	20	0.087	15	PASS
ICV	ICV	1	Fe	10.019	0.23	15	PASS
ICB	ICB	1	Fe	-0.0035	17.95	15	<PQL
LLCCV1	CCV1	1	Fe	0.019	4.21	20	PASS
ICSA1	ICSA	1	Fe	215.3	0.16	15	PASS
ICSAB1	ICSAB	1	Fe	186.78	0.086	15	PASS
N018843-010B	SAMP	1	Fe	0.0086	18.43	15	<PQL
CCV1	CCV	1	Fe	10.011	0.11	15	PASS
CCB1	CCB	1	Fe	-0.0039	8.61	15	PASS
LLCCV2	CCV2	1	Fe	0.019	2.063	20	PASS
ICSA2	ICSA	1	Fe	215.41	0.023	15	PASS
ICSAB2	ICSAB	1	Fe	188.59	1.25	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160308A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/08/2016	01:54:36 PM
2	Standard1	ICAL	1	03/08/2016	01:58:55 PM
3	Standard2	ICAL	1	03/08/2016	02:03:43 PM
4	Standard3	ICAL	1	03/08/2016	02:08:33 PM
5	Standard4	ICAL	1	03/08/2016	02:13:42 PM
6	Standard5	ICAL	1	03/08/2016	02:18:35 PM
7	Standard6	ICAL	1	03/08/2016	02:22:57 PM
8	Standard7	ICAL	1	03/08/2016	02:27:20 PM
9	ICV	ICV	1	03/08/2016	02:34:25 PM
1	ICB	ICB	1	03/08/2016	02:38:49 PM
2	L~~LCCV1~~ **LLICV**	CCV1	1	03/08/2016	02:43:08 PM
10	ICSA1	ICSA	1	03/08/2016	02:47:56 PM
11	ICSAB1	ICSAB	1	03/08/2016	02:53:57 PM
62	MB-56545	MBLK	1	03/08/2016	02:59:29 PM
63	LCS1-56545	LCS	1	03/08/2016	03:03:49 PM
64	N018843-009B	SAMP	1	03/08/2016	03:08:39 PM
65	N018843-010B	SAMP	1	03/08/2016	03:13:31 PM
66	N018844-001B	SAMP	1	03/08/2016	03:18:22 PM
67	N018936-001A	SAMP	1	03/08/2016	03:23:13 PM
68	N018936-002B	SAMP	1	03/08/2016	03:28:05 PM
69	N018843-010B	SAMP	5	03/08/2016	03:33:57 PM
70	N018843-010B-PS	PS	1	03/08/2016	03:38:48 PM
71	N018843-010B-MS1	MS	1	03/08/2016	03:43:39 PM
7	CCV1	CCV	1	03/08/2016	03:48:30 PM
1	CCB1	CCB	1	03/08/2016	03:53:53 PM
72	N018843-010B-MSD1	MSD	1	03/08/2016	03:58:12 PM
67	N018936-001A	SAMP	1	03/08/2016	04:03:03 PM
7	CCV2	CCV	1	03/08/2016	04:08:55 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB2	CCB	1	03/08/2016	04:14:18 PM
2	LLCCV~~2~~ 1	CCV2	1	03/08/2016	04:18:36 PM
10	ICSA2	ICSA	1	03/08/2016	04:23:25 PM
11	ICSAB2	ICSAB	1	03/08/2016	04:29:29 PM
10	ICSA2	ICSA	1	03/08/2016	04:34:12 PM
11	ICSAB2	ICSAB	1	03/08/2016	04:40:16 PM

Nancy 3/14/2016

INJECTION LOG: 160310A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/10/2016	10:51:48 AM
2	Standard1	ICAL	1	03/10/2016	10:56:42 AM
3	Standard2	ICAL	1	03/10/2016	11:01:30 AM
4	Standard3	ICAL	1	03/10/2016	11:06:19 AM
5	Standard4	ICAL	1	03/10/2016	11:11:11 AM
6	Standard5	ICAL	1	03/10/2016	11:16:04 AM
7	Standard6	ICAL	1	03/10/2016	11:20:26 AM
8	Standard7	ICAL	1	03/10/2016	11:24:49 AM
9	ICV	ICV	1	03/10/2016	11:35:46 AM
1	ICB	ICB	1	03/10/2016	11:41:10 AM
2	~~LLCCV1~~ LLICV	CCV1	1	03/10/2016	11:45:59 AM
4	ICSA1	ICSA	1	03/10/2016	11:50:48 AM
5	ICSAB1	ICSAB	1	03/10/2016	11:56:51 AM
38	N018843-010B	SAMP	1	03/10/2016	12:22:59 PM
7	CCV1	CCV	1	03/10/2016	12:27:50 PM
1	CCB1	CCB	1	03/10/2016	12:32:14 PM
2	LLCCV~~2~~ 1	CCV2	1	03/10/2016	12:36:32 PM
4	ICSA2	ICSA	1	03/10/2016	12:41:21 PM
5	ICSAB2	ICSAB	1	03/10/2016	12:47:25 PM

Nancy 3/14/2016

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/8/2016 8:19:19 A**
Prep End Date: **3/8/2016 12:30:00 P**

For:
Initials/ Date: 3/14/2016

Prep Batch **56545** Prep Code: **200.7_PR** Technician: **ADMIN**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-56545	Aqueous		25	☐	0	0	25	1.000		
LCS2-56545	Aqueous		25	☐	0	0	25	1.000		
MB-56545	Aqueous		25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-002B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8296	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/08/2016	01:54:36 PM	Fe	273.953	-219	0.00	mg/L	
Standard1	03/08/2016	01:58:55 PM	Fe	273.953	724	0.0200	mg/L	
Standard2	03/08/2016	02:03:43 PM	Fe	273.953	1838	0.050	mg/L	
Standard3	03/08/2016	02:08:33 PM	Fe	273.953	66371	2.000	mg/L	
Standard4	03/08/2016	02:13:42 PM	Fe	273.953	166623	5.000	mg/L	
Standard5	03/08/2016	02:18:35 PM	Fe	273.953	242004	7.500	mg/L	
Standard6	03/08/2016	02:22:57 PM	Fe	273.953	323449	10.000	mg/L	
Standard7	03/08/2016	02:27:20 PM	Fe	273.953	640779	20.000	mg/L	1.0000

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160310A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/10/2016	10:51:48 AM	Fe	273.953	-43	0.00	mg/L	
Standard1	03/10/2016	10:56:42 AM	Fe	273.953	646	0.0200	mg/L	
Standard2	03/10/2016	11:01:30 AM	Fe	273.953	1728	0.050	mg/L	
Standard3	03/10/2016	11:06:19 AM	Fe	273.953	65870	2.000	mg/L	
Standard4	03/10/2016	11:11:11 AM	Fe	273.953	168486	5.000	mg/L	
Standard5	03/10/2016	11:16:04 AM	Fe	273.953	241656	7.500	mg/L	
Standard6	03/10/2016	11:20:26 AM	Fe	273.953	328730	10.000	mg/L	
Standard7	03/10/2016	11:24:49 AM	Fe	273.953	656893	20.000	mg/L	1.0000

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICV** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255371**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10012.857	20	10000	0	100	90	110				

LLICV

Sample ID ~~LLCCV1~~ SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	23.021	20	20.00	0	115	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **CCV** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255386**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10153.157	20	10000	0	102	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **CCV** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10153.626	20	10000	0	102	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	24.527	20	20.00	0	123	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

3/14/2016
for

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICV** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10018.762	20	10000	0	100	90	110				

LLICV

Sample ID: ~~LLCCV1~~ SampType: **CCV1** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ZZZZZZ** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262025**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	18.981	20	20.00	0	94.9	80	120				

Sample ID: **CCV2** 1 SampType: **CCV** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **CCV** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10010.901	20	10000	0	100	90	110				

Sample ID: **LLCCV2** 1 SampType: **CCV2** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ZZZZZZ** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.158	20	20.00	0	95.8	70	130				

Nancy 3/14/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICB** SampType: **ICB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.032	20									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **CCB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.588	20									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **CCB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.192	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICB** SampType: **ICB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262024**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-3.534463	20									

Sample ID: **CCB~~2~~** 1 SampType: **CCB** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **CCB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-3.898401	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Nancy for 3/14/2016

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSA** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	549585.991	50	500000	0	110	80	120				
Calcium	546260.215	500	500000	0	109	80	120				
Iron	208606.778	20	200000	0	104	80	120				
Magnesium	509001.048	100	500000	0	102	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSAB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	570410.764	50	500000	0	114	80	120				
Calcium	565942.868	500	500000	0	113	80	120				
Iron	187545.573	20	200000	0	93.8	80	120				
Magnesium	528393.065	100	500000	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSA** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533094.075	50	500000	0	107	80	120				
Calcium	546931.225	500	500000	0	109	80	120				
Iron	207359.902	20	200000	0	104	80	120				
Magnesium	507614.918	100	500000	0	102	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ICSAB** Batch ID: **R106302** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	570780.328	50	500000	0	114	80	120				
Calcium	566393.447	500	500000	0	113	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106302
Client ID:	ICSAB	Batch ID:	R106302	TestNo:	EPA 6010B			Analysis Date:	3/8/2016	SeqNo:	2255396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187475.920	20	200000	0	93.7	80	120				
Magnesium	531198.392	100	500000	0	106	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSA** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	550762.772	50	500000	0	110	80	120				
Calcium	562746.914	500	500000	0	113	80	120				
Iron	215298.413	20	200000	0	108	80	120				
Magnesium	521638.964	100	500000	0	104	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	563220.621	50	500000	0	113	80	120				
Calcium	559124.311	500	500000	0	112	80	120				
Iron	186776.894	20	200000	0	93.4	80	120				
Magnesium	520492.827	100	500000	0	104	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSA** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	550140.768	50	500000	0	110	80	120				
Calcium	562777.017	500	500000	0	113	80	120				
Iron	215413.602	20	200000	0	108	80	120				
Magnesium	523741.668	100	500000	0	105	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	563145.329	50	500000	0	113	80	120				
Calcium	558624.476	500	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 6010B** Analysis Date: **3/10/2016** SeqNo: **2262033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	188587.781	20	200000	0	94.3	80	120				
Magnesium	527340.210	100	500000	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	0.99	99.34	65-125	PASS
Standard2	ICAL	1	1.014	101.35	65-125	PASS
Standard3	ICAL	1	1.033	103.34	65-125	PASS
Standard4	ICAL	1	1.013	101.28	65-125	PASS
Standard5	ICAL	1	1.0054	100.54	65-125	PASS
Standard6	ICAL	1	0.98	97.56	65-125	PASS
Standard7	ICAL	1	0.96	96.46	65-125	PASS
ICV	ICV	1	0.98	98.058	65-125	PASS
ICB	ICB	1	0.98	98.26	65-125	PASS
LLCCV1	CCV1	1	0.99	99.31	65-125	PASS
ICSA1	ICSA	1	0.93	93.45	65-125	PASS
ICSAB1	ICSAB	1	0.88	87.66	65-125	PASS
MB-56545	MBLK	1	0.99	98.89	65-125	PASS
LCS1-56545	LCS	1	1.0014	100.14	65-125	PASS
N018843-009B	SAMP	1	0.98	98.45	65-125	PASS
N018843-010B	SAMP	1	0.68	67.53	65-125	PASS
N018844-001B	SAMP	1	1.01	101.02	65-125	PASS
N018936-001A	SAMP	1	0.59	58.74	65-125	NR!
N018936-002B	SAMP	1	0.82	82.21	65-125	PASS
N018843-010B	SAMP	5	0.98	98.47	65-125	PASS
N018843-010B-PS	PS	1	0.98	97.98	65-125	PASS
N018843-010B-MS1	MS	1	0.98	98.37	65-125	PASS
CCV1	CCV	1	0.99	98.52	65-125	PASS
CCB1	CCB	1	1	99.86	65-125	PASS
N018843-010B-MSD1	MSD	1	0.99	98.99	65-125	PASS
N018936-001A	SAMP	1	0.88	87.5	65-125	PASS
CCV2	CCV	1	0.99	98.82	65-125	PASS
CCB2	CCB	1	0.99	99.19	65-125	PASS
LLCCV2	CCV2	1	0.98	98.25	65-125	PASS
ICSA2	ICSA	1	0.62	62.16	65-125	NR!
ICSAB2	ICSAB	1	0.88	88.055	65-125	PASS
ICSA2	ICSA	1	0.95	95.052	65-125	PASS
ICSAB2	ICSAB	1	0.88	88.32	65-125	PASS

INTERNAL STANDARD: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.045	104.5	65-125	PASS
Standard2	ICAL	1	1.054	105.35	65-125	PASS
Standard3	ICAL	1	1.096	109.64	65-125	PASS
Standard4	ICAL	1	1.1	110.01	65-125	PASS
Standard5	ICAL	1	1.052	105.19	65-125	PASS
Standard6	ICAL	1	0.98	98.35	65-125	PASS
Standard7	ICAL	1	0.96	96.36	65-125	PASS
ICV	ICV	1	1.0035	100.35	65-125	PASS
ICB	ICB	1	0.99	98.95	65-125	PASS
LLCCV1	CCV1	1	1.054	105.37	65-125	PASS
ICSA1	ICSA	1	0.95	94.89	65-125	PASS
ICSAB1	ICSAB	1	0.83	83.15	65-125	PASS
N018843-010B	SAMP	1	0.94	93.77	65-125	PASS
CCV1	CCV	1	0.97	96.99	65-125	PASS
CCB1	CCB	1	1.0052	100.52	65-125	PASS
LLCCV2	CCV2	1	1.045	104.49	65-125	PASS
ICSA2	ICSA	1	0.95	95.3	65-125	PASS
ICSAB2	ICSAB	1	0.82	81.79	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018844
Test Method: EPA 6010B
Analysis Date: 03/08/16

Matrix: Groundwater
Batch No.: 56545

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018843-010B-DT 5X	Iron	ug/L	0	NA	0		10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N018843-010B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 6010B** Analysis Date: **3/8/2016** SeqNo: **2255384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.876	20	100.0	0	114	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6010B

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56481 **Instrument ID:** ICP-02
ASSET #: N018844 **Analyst:** CEI
Method: **Date Analyzed:** 3/3/2016

[X] EPA 6010B / 200.7 **Total** [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?		X				
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018844-001C only.
% Rec of Mg in ICSA3 failed. However Mg is not required analyte.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/8/2016 Date: –
2nd Level Reviewer 3/10/2016 Date: –

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Iron concentration, in ug/L , in the original sample as follows:

Iron , ug/L = A * DF * PF *CF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL
CF= Conversion Factor from mg/L to ug/L, 1000

For Sample **N018844-001C** , the concentration in ug/L is calculated as follows:

Iron , ug/L = 0.05488 * 1 * (25/25) * 1000

Iron , ug/L = 54.88

Reporting results in two significant figures,

Iron , ug/L = 55

% RSD SUMMARY

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Fe	0	6.57	15	PASS
Standard1	ICAL	1	Fe	0.02	3.18	15	PASS
Standard2	ICAL	1	Fe	0.05	0.62	15	PASS
Standard3	ICAL	1	Fe	2	0.43	15	PASS
Standard4	ICAL	1	Fe	5	0.24	15	PASS
Standard5	ICAL	1	Fe	7.5	0.05	15	PASS
Standard6	ICAL	1	Fe	10	0.15	15	PASS
Standard7	ICAL	1	Fe	20	0.06	15	PASS
ICV	ICV	1	Fe	10.23	0.015	15	PASS
ICB	ICB	1	Fe	0.00012	44.88	15	<PQL
LLCCV1	CCV1	1	Fe	0.021	1.16	20	PASS
ICSA1	ICSA	1	Fe	179.83	0.075	15	PASS
ICSAB1	ICSAB	1	Fe	183.4	0.4	15	PASS
LLCCV1	CCV1	1	Fe	0.024	1.8	20	PASS
CCV1	CCV	1	Fe	10.27	0.048	15	PASS
CCB1	CCB	1	Fe	0.00007	295.03	15	<PQL
LLCCV2	CCV2	1	Fe	0.019	1.11	20	PASS
ICSA2	ICSA	1	Fe	179.34	0.21	15	PASS
ICSAB2	ICSAB	1	Fe	184.54	0.094	15	PASS
LLCCV2	CCV2	1	Fe	0.02	0.75	20	PASS
CCV2	CCV	1	Fe	10.18	0.078	15	PASS
CCB2	CCB	1	Fe	0.00065	30.65	15	<PQL
CCV3	CCV	1	Fe	10.11	0.079	15	PASS
CCB3	CCB	1	Fe	0.00093	17.67	15	<PQL
CCV4	CCV	1	Fe	10.15	0.06	15	PASS
CCB4	CCB	1	Fe	0.00053	81.45	15	<PQL
CCV5	CCV	1	Fe	10.13	0.11	15	PASS
CCB5	CCB	1	Fe	0.0012	40.017	15	<PQL
LLCCV3	CCV2	1	Fe	0.021	1.75	20	PASS
ICSA3	ICSA	1	Fe	179.21	0.48	15	PASS
ICSAB3	ICSAB	1	Fe	183.47	0.053	15	PASS
CCV6	CCV	1	Fe	10.11	0.06	15	PASS
CCB6	CCB	1	Fe	0.0012	22.25	15	<PQL
CCV7	CCV	1	Fe	10.12	0.063	15	PASS
CCB7	CCB	1	Fe	0.0011	28.42	15	<PQL
MB-56481	MBLK	1	Fe	0.009	8.14	15	PASS
LCS1-56481	LCS	1	Fe	0.11	0.35	15	PASS
N018843-009C	SAMP	1	Fe	0.084	0.66	15	PASS
N018843-009C	SAMP	5	Fe	0.018	3.23	15	PASS
N018843-009C-PS	PS	1	Fe	0.19	0.14	15	PASS
N018843-009C-MS1	MS	1	Fe	0.19	0.51	15	PASS
N018843-009C-MSD1	MSD	1	Fe	0.19	0.19	15	PASS

RSD SUMMARY: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV8	CCV	1	Fe	10.13	0.05	15	PASS
CCB8	CCB	1	Fe	0.00067	76.69	15	<PQL
N018843-010C	SAMP	1	Fe	0.13	0.48	15	PASS
N018844-001C	SAMP	1	Fe	0.055	0.6	15	PASS
CCV9	CCV	1	Fe	10.13	0.037	15	PASS
CCB9	CCB	1	Fe	0.00081	37.34	15	<PQL
LLCCV4	CCV2	1	Fe	0.02	1.82	20	PASS
ICSA4	ICSA	1	Fe	178.14	0.34	15	PASS
ICSAB4	ICSAB	1	Fe	197.5	1.34	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160303C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-151102C
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-151102E/-151201A/-150916D

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/03/2016	04:33:25 PM
2	Standard1	ICAL	1	03/03/2016	04:37:47 PM
3	Standard2	ICAL	1	03/03/2016	04:42:35 PM
4	Standard3	ICAL	1	03/03/2016	04:47:23 PM
5	Standard4	ICAL	1	03/03/2016	04:52:15 PM
6	Standard5	ICAL	1	03/03/2016	04:58:08 PM
7	Standard6	ICAL	1	03/03/2016	05:03:33 PM
8	Standard7	ICAL	1	03/03/2016	05:08:57 PM
9	ICV	ICV	1	03/03/2016	05:15:06 PM
1	ICB	ICB	1	03/03/2016	05:24:22 PM
2	LLCCV1	CCV1	1	03/03/2016	05:32:40 PM
4	ICSA1	ICSA	1	03/03/2016	05:41:32 PM
5	ICSAB1	ICSAB	1	03/03/2016	05:47:36 PM
2	LLCCV1	CCV1	1	03/03/2016	05:54:32 PM
110	MB-56491	MBLK	1	03/03/2016	05:59:37 PM
111	LCS1-56491	LCS	1	03/03/2016	06:03:58 PM
112	N018898-003A	SAMP	1	03/03/2016	06:09:50 PM
113	N018918-002E	SAMP	1	03/03/2016	06:14:42 PM
114	N018919-001B	SAMP	1	03/03/2016	06:20:36 PM
115	N018919-001B	SAMP	5	03/03/2016	06:26:28 PM
119	N018919-002B	SAMP	1	03/03/2016	06:31:20 PM
116	N018919-001B-PS	PS	1	03/03/2016	06:37:13 PM
117	N018919-001B-MS1	MS	1	03/03/2016	06:43:07 PM
118	N018919-001B-MSD1	MSD	1	03/03/2016	06:49:01 PM
7	CCV1	CCV	1	03/03/2016	06:54:27 PM
1	CCB1	CCB	1	03/03/2016	06:59:52 PM
2	LLCCV2	CCV2	1	03/03/2016	07:04:41 PM
4	ICSA2	ICSA	1	03/03/2016	07:09:30 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
5	ICSAB2	ICSAB	1	03/03/2016	07:15:35 PM
2	LLCCV2	CCV2	1	03/03/2016	07:48:48 PM
38	MB-56471	MBLK	1	03/03/2016	07:55:06 PM
39	LCS-56471	LCS	1	03/03/2016	07:59:25 PM
40	N018833-001B	SAMP	1	03/03/2016	08:05:16 PM
41	N018833-001B	SAMP	5	03/03/2016	08:10:07 PM
42	N018833-001B-PS	PS	1	03/03/2016	08:14:56 PM
43	N018833-001B-MS	MS	1	03/03/2016	08:20:49 PM
44	N018833-001B-MSD	MSD	1	03/03/2016	08:26:40 PM
45	N018833-002B	SAMP	1	03/03/2016	08:32:40 PM
46	N018833-003B	SAMP	1	03/03/2016	08:37:31 PM
47	N018833-004B	SAMP	1	03/03/2016	08:42:23 PM
7	CCV2	CCV	1	03/03/2016	08:47:15 PM
1	CCB2	CCB	1	03/03/2016	08:52:39 PM
48	N018833-005B	SAMP	1	03/03/2016	08:57:27 PM
49	N018833-006B	SAMP	1	03/03/2016	09:02:19 PM
50	N018833-007B	SAMP	1	03/03/2016	09:07:11 PM
51	N018833-008B	SAMP	1	03/03/2016	09:12:03 PM
52	N018833-009B	SAMP	1	03/03/2016	09:16:54 PM
53	N018833-010B	SAMP	1	03/03/2016	09:21:45 PM
54	N018834-001B	SAMP	1	03/03/2016	09:26:35 PM
55	N018834-001B-MS	MS	1	03/03/2016	09:31:26 PM
56	N018834-004B	SAMP	1	03/03/2016	09:37:19 PM
57	N018843-001B	SAMP	1	03/03/2016	09:42:09 PM
7	CCV3	CCV	1	03/03/2016	09:47:00 PM
1	CCB3	CCB	1	03/03/2016	09:52:25 PM
58	N018843-002B	SAMP	1	03/03/2016	09:57:13 PM
59	N018843-003B	SAMP	1	03/03/2016	10:02:05 PM
60	N018843-004B	SAMP	1	03/03/2016	10:06:57 PM
61	N018843-005B	SAMP	1	03/03/2016	10:11:49 PM
62	N018843-006B	SAMP	1	03/03/2016	10:16:41 PM
63	N018843-007B	SAMP	1	03/03/2016	10:21:33 PM
64	N018843-008B	SAMP	1	03/03/2016	10:26:26 PM
65	MB-56482	MBLK	1	03/03/2016	10:31:18 PM
66	LCS1-56482	LCS	1	03/03/2016	10:35:38 PM
67	N018843-009B	SAMP	1	03/03/2016	10:41:30 PM
7	CCV4	CCV	1	03/03/2016	10:46:22 PM
1	CCB4	CCB	1	03/03/2016	10:51:46 PM
68	N018843-009B	SAMP	5	03/03/2016	10:56:35 PM
69	N018843-009B-PS	PS	1	03/03/2016	11:01:25 PM
70	N018843-009B-MS1	MS	1	03/03/2016	11:07:18 PM
71	N018843-009B-MSD1	MSD	1	03/03/2016	11:13:11 PM
72	N018843-010B	SAMP	1	03/03/2016	11:19:04 PM
73	N018844-001B	SAMP	1	03/03/2016	11:23:56 PM
74	MB-56472	MBLK	1	03/03/2016	11:28:53 PM
75	LCS-56472	LCS	1	03/03/2016	11:33:44 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
76	N018833-001C	SAMP	1	03/03/2016	11:39:36 PM
77	N018833-001C	SAMP	5	03/03/2016	11:44:28 PM
7	CCV5	CCV	1	03/03/2016	11:49:20 PM
1	CCB5	CCB	1	03/03/2016	11:54:44 PM
2	LLCCV3	CCV2	1	03/03/2016	11:59:33 PM
4	ICSA3	ICSA	1	03/04/2016	12:04:22 AM
5	ICSAB3	ICSAB	1	03/04/2016	12:10:27 AM
78	N018833-001C-PS	PS	1	03/04/2016	12:16:01 AM
79	N018833-001C-MS	MS	1	03/04/2016	12:21:54 AM
80	N018833-001C-MSD	MSD	1	03/04/2016	12:27:47 AM
81	N018833-002C	SAMP	1	03/04/2016	12:33:40 AM
82	N018833-003C	SAMP	1	03/04/2016	12:38:31 AM
83	N018833-004C	SAMP	1	03/04/2016	12:43:23 AM
84	N018833-005C	SAMP	1	03/04/2016	12:48:15 AM
85	N018833-006C	SAMP	1	03/04/2016	12:53:07 AM
86	N018833-007C	SAMP	1	03/04/2016	12:57:59 AM
87	N018833-008C	SAMP	1	03/04/2016	01:02:51 AM
7	CCV6	CCV	1	03/04/2016	01:07:49 AM
1	CCB6	CCB	1	03/04/2016	01:13:13 AM
88	N018833-009C	SAMP	1	03/04/2016	01:18:02 AM
89	N018833-010C	SAMP	1	03/04/2016	01:22:54 AM
90	N018834-001C	SAMP	1	03/04/2016	01:27:46 AM
91	N018834-001C-MS	MS	1	03/04/2016	01:32:39 AM
92	N018834-004C	SAMP	1	03/04/2016	01:38:33 AM
93	N018843-001C	SAMP	1	03/04/2016	01:43:25 AM
94	N018843-002C	SAMP	1	03/04/2016	01:48:17 AM
95	N018843-003C	SAMP	1	03/04/2016	01:53:09 AM
96	N018843-004C	SAMP	1	03/04/2016	01:58:03 AM
97	N018843-005C	SAMP	1	03/04/2016	02:02:57 AM
7	CCV7	CCV	1	03/04/2016	02:07:49 AM
1	CCB7	CCB	1	03/04/2016	02:13:13 AM
98	N018843-006C	SAMP	1	03/04/2016	02:18:02 AM
99	N018843-007C	SAMP	1	03/04/2016	02:22:55 AM
100	N018843-008C	SAMP	1	03/04/2016	02:27:47 AM
101	MB-56481	MBLK	1	03/04/2016	02:32:40 AM
102	LCS1-56481	LCS	1	03/04/2016	02:37:01 AM
103	N018843-009C	SAMP	1	03/04/2016	02:42:54 AM
104	N018843-009C	SAMP	5	03/04/2016	02:48:12 AM
105	N018843-009C-PS	PS	1	03/04/2016	02:53:03 AM
106	N018843-009C-MS1	MS	1	03/04/2016	02:58:57 AM
107	N018843-009C-MSD1	MSD	1	03/04/2016	03:04:50 AM
7	CCV8	CCV	1	03/04/2016	03:10:44 AM
1	CCB8	CCB	1	03/04/2016	03:16:09 AM
108	N018843-010C	SAMP	1	03/04/2016	03:20:57 AM
109	N018844-001C	SAMP	1	03/04/2016	03:25:49 AM
7	CCV9	CCV	1	03/04/2016	03:30:41 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB9	CCB	1	03/04/2016	03:36:05 AM
2	LLCCV4	CCV2	1	03/04/2016	03:40:53 AM
4	ICSA4	ICSA	1	03/04/2016	03:45:42 AM
5	ICSAB4	ICSAB	1	03/04/2016	03:51:47 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/2/2016 3:25:56 P**
Prep End Date: **3/3/2016 8:45:00 A**

Initials/ Date: For: 3/8/2016

Prep Batch **56481** Prep Code: **3010_W** Technician: **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56481	Aqueous		25	☐	0	0	25	1.000		
MB-56481	Aqueous		25	☐	0	0	25	1.000		
N018843-009C	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010C	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8298	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160303C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Iron								
CalBlk	03/03/2016	04:33:25 PM	Fe	273.953	-201	0.00	mg/L	
Standard1	03/03/2016	04:37:47 PM	Fe	273.953	809	0.0200	mg/L	
Standard2	03/03/2016	04:42:35 PM	Fe	273.953	1988	0.050	mg/L	
Standard3	03/03/2016	04:47:23 PM	Fe	273.953	71204	2.000	mg/L	
Standard4	03/03/2016	04:52:15 PM	Fe	273.953	183461	5.000	mg/L	
Standard5	03/03/2016	04:58:08 PM	Fe	273.953	270441	7.500	mg/L	
Standard6	03/03/2016	05:03:33 PM	Fe	273.953	362289	10.000	mg/L	
Standard7	03/03/2016	05:08:57 PM	Fe	273.953	704752	20.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10230.780	20	10000	0	102	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.886	20	20.00	0	104	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10273.326	20	10000	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19.337	20	20.00	0	96.7	70	130				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10183.508	20	10000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCV3** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.889	20	10000	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10152.248	20	10000	0	102	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.030	20	10000	0	101	90	110				

Sample ID **LLCCV3** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.535	20	20.00	0	103	70	130				

Sample ID **CCV6** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.661	20	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCV7** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10116.568	20	10000	0	101	90	110				

Sample ID **CCV8** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10126.325	20	10000	0	101	90	110				

Sample ID **CCV9** SampType: **CCV** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCV** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10130.240	20	10000	0	101	90	110				

Sample ID **LLCCV4** SampType: **CCV2** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20.278	20	20.00	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.119	20									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.066	20									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.649	20									

Sample ID **CCB3** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.935	20									

Sample ID **CCB4** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.526	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **CCB5** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.225	20									

Sample ID **CCB6** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.154	20									

Sample ID **CCB7** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.074	20									

Sample ID **CCB8** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.673	20									

Sample ID **CCB9** SampType: **CCB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **CCB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.812	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	458331.847	50	500000	0	91.7	80	120				
Calcium	459550.669	500	500000	0	91.9	80	120				
Iron	179827.907	20	200000	0	89.9	80	120				
Magnesium	448499.639	100	500000	0	89.7	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558472.513	50	500000	0	112	80	120				
Calcium	550767.227	500	500000	0	110	80	120				
Iron	183399.848	20	200000	0	91.7	80	120				
Magnesium	511387.546	100	500000	0	102	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443953.641	50	500000	0	88.8	80	120				
Calcium	454080.176	500	500000	0	90.8	80	120				
Iron	179343.986	20	200000	0	89.7	80	120				
Magnesium	419960.054	100	500000	0	84.0	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	558385.215	50	500000	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/3/2016** SeqNo: **2251629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	548387.162	500	500000	0	110	80	120				
Iron	184541.107	20	200000	0	92.3	80	120				
Magnesium	514857.375	100	500000	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	421490.061	50	500000	0	84.3	80	120				
Calcium	433832.909	500	500000	0	86.8	80	120				
Iron	179205.597	20	200000	0	89.6	80	120				
Magnesium	397278.674	100	500000	0	79.5	80	120				S

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	555072.897	50	500000	0	111	80	120				
Calcium	546654.338	500	500000	0	109	80	120				
Iron	183471.108	20	200000	0	91.7	80	120				
Magnesium	512869.697	100	500000	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	420668.132	50	500000	0	84.1	80	120				
Calcium	432803.532	500	500000	0	86.6	80	120				
Iron	178138.487	20	200000	0	89.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mg on ICSA3 is biased low, however, it is a non-target analyte.

Nancy 3/10/2016

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSA** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	400213.213	100	500000	0	80.0	80	120				

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ICSAB** Batch ID: **R106236** TestNo: **EPA 6010B** Analysis Date: **3/4/2016** SeqNo: **2251724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	566319.054	50	500000	0	113	80	120				
Calcium	538810.806	500	500000	0	108	80	120				
Iron	197495.935	20	200000	0	98.7	80	120				
Magnesium	573014.823	100	500000	0	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	99.55	65-125	PASS
Standard2	ICAL	1	1.046	104.65	65-125	PASS
Standard3	ICAL	1	1.16	116.23	65-125	PASS
Standard4	ICAL	1	1.013	101.33	65-125	PASS
Standard5	ICAL	1	1.0023	100.23	65-125	PASS
Standard6	ICAL	1	0.99	99.072	65-125	PASS
Standard7	ICAL	1	0.97	97.33	65-125	PASS
ICV	ICV	1	0.99	99.46	65-125	PASS
ICB	ICB	1	1.0009	100.09	65-125	PASS
LLCCV1	CCV1	1	1.0012	100.12	65-125	PASS
ICSA1	ICSA	1	1.18	118.13	65-125	PASS
ICSAB1	ICSAB	1	0.8	80.19	65-125	PASS
LLCCV1	CCV1	1	1	99.87	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	1.026	102.56	65-125	PASS
LLCCV2	CCV2	1	1.02	101.95	65-125	PASS
ICSA2	ICSA	1	1.2	120.3	65-125	PASS
ICSAB2	ICSAB	1	0.81	80.89	65-125	PASS
LLCCV2	CCV2	1	1.02	102.01	65-125	PASS
CCV2	CCV	1	1.039	103.9	65-125	PASS
CCB2	CCB	1	1.042	104.19	65-125	PASS
CCV3	CCV	1	1.018	101.81	65-125	PASS
CCB3	CCB	1	1.017	101.66	65-125	PASS
CCV4	CCV	1	1.03	102.99	65-125	PASS
CCB4	CCB	1	1.035	103.48	65-125	PASS
CCV5	CCV	1	1.011	101.08	65-125	PASS
CCB5	CCB	1	1.015	101.48	65-125	PASS
LLCCV3	CCV2	1	1.014	101.37	65-125	PASS
ICSA3	ICSA	1	1.22	121.52	65-125	PASS
ICSAB3	ICSAB	1	0.81	81.14	65-125	PASS
CCV6	CCV	1	1.02	102.03	65-125	PASS
CCB6	CCB	1	1.024	102.45	65-125	PASS
CCV7	CCV	1	1.02	102.01	65-125	PASS
CCB7	CCB	1	1.026	102.62	65-125	PASS
MB-56481	MBLK	1	1.068	106.76	65-125	PASS
LCS1-56481	LCS	1	1.026	102.63	65-125	PASS
N018843-009C	SAMP	1	0.98	97.58	65-125	PASS
N018843-009C	SAMP	5	0.99	99.17	65-125	PASS
N018843-009C-PS	PS	1	0.98	97.59	65-125	PASS
N018843-009C-MS1	MS	1	0.97	96.84	65-125	PASS

INTERNAL STANDARD: 160303C

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N018843-009C-MSD1	MSD	1	0.97	97.28	65-125	PASS
CCV8	CCV	1	1.019	101.86	65-125	PASS
CCB8	CCB	1	1.026	102.61	65-125	PASS
N018843-010C	SAMP	1	1	99.97	65-125	PASS
N018844-001C	SAMP	1	0.99	98.64	65-125	PASS
CCV9	CCV	1	1.024	102.4	65-125	PASS
CCB9	CCB	1	1.028	102.75	65-125	PASS
LLCCV4	CCV2	1	1.024	102.39	65-125	PASS
ICSA4	ICSA	1	1.24	123.66	65-125	PASS
ICSAB4	ICSAB	1	0.79	79.22	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018844
Test Method: EPA 6010B
Analysis Date: 03/03/16

Matrix: Groundwater
Batch No.: 56481

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018843-009C-DT 5X	Iron	ug/L	91.4182	NA	83.6912	9.23%	10

Note: NA - Not Applicable

ASSET Laboratories

Date: *06-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID **N018843-009C-PS** SampType: **PS** TestCode: **6010_WPGE** Units: **ug/L** Prep Date: RunNo: **106236**
Client ID: **ZZZZZZ** Batch ID: **56481** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/4/2016** SeqNo: **2251713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	190.873	20	100.0	~~105.2~~ 83.69	~~85.7~~ 107.2%	80	120				

Nancy 3/10/2016
for

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018844

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)		X				
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Cr in LLCCV2 failed, high bias. Cr in N018844-001B for rerun.
%Rec of IS in N018861-007B, PS/MS/MSD is failing. For rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date:

2nd Level Reviewer 3/11/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018844

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Cr in N018844-001B rerun only.
%Rec of Rh [2] IS in N018861-007B, PS/MS/MSD failed. For further dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/11/2016 Date: _____

2nd Level Reviewer _____ 3/11/2016 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018844
Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/8/2016

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X				
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Mo in N018861-007B, PS/MS/MSD rerun only.
%Rec of Mo in N018861-007B PS/MSD & Cr in N018861-007B PS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/11/2016 Date: _____

2nd Level Reviewer _____ 3/11/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018844-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 0.12568 * 1 * (25/25)

Chromium , ug/L = 0.125680

Reporting results in two significant figures,

Chromium , ug/L = 0.13

Since PQL of Chromium ,in ug/L = 1.0

Chromium , ug/L = ND

% RSD SUMMARY

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.055	4.43	15	PASS	0.098	8.75	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	2.18	15	PASS	0.5	1.81	15	PASS
Std3-5/50 ppb	ICAL	1	5.24	0.95	15	PASS	5	0.72	15	PASS
Std4-10/100 ppb	ICAL	1	10.58	0.64	15	PASS	10.098	0.3	15	PASS
Std5-20/200 ppb	ICAL	1	20.78	0.6	15	PASS	19.95	0.4	15	PASS
Std6-40/400 ppb	ICAL	1	41.3	0.21	15	PASS	39.77	0.53	15	PASS
Std7-100/1000 ppb	ICAL	1	101	0.92	15	PASS	100.69	1.42	15	PASS
Std8-200/2000 ppb	ICAL	1	199.13	0.59	15	PASS	199.7	0.68	15	PASS
ICV	ICV	1	91.96	0.7	15	PASS	10.34	0.46	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.024	1.33	20	PASS	1.045	0.58	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.17	3.069	15	PASS
ICSAB1	ICSAB	1	20.49	0.46	15	PASS	20.12	0.63	15	PASS
CCV1	CCV	1	21.0079	0.94	15	PASS	20.24	0.99	15	PASS
CCB1	CCB	1	0.0049	123.099	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.88	0.72	15	PASS	20.38	1.42	15	PASS
CCB2	CCB	1	0.0079	27.49	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.01	79.39	15	<PQL
LCS-56419	LCS	1	100.85	0.58	15	PASS	9.63	0.64	15	PASS
N018861-007B	SAMP	1	40.8	0.29	15	PASS	5.58	1.46	15	PASS
CCV3	CCV	1	21.53	0.31	15	PASS	20.16	0.062	15	PASS
CCB3	CCB	1	0.046	183.78	15	<PQL	0.0025	310.52	15	<PQL
N018861-007B	SAMP	5	8.32	0.46	15	PASS	1.11	2.23	15	PASS
N018861-007B-PS	PS	1	133.7	0.43	15	PASS	13.57	0.18	15	PASS
N018861-007B-MS	MS	1	136.38	0.56	15	PASS	13.9	0.39	15	PASS
N018861-007B-MSD	MSD	1	135.87	0.87	15	PASS	13.71	1.017	15	PASS
N018843-001B	SAMP	1	136.6	0.24	15	PASS	0.058	15.33	15	<PQL
N018843-002B	SAMP	1	143.082	0.59	15	PASS	0.014	31.64	15	<PQL
N018843-003B	SAMP	1	136.65	0.56	15	PASS	0.058	9.39	15	PASS
N018843-004B	SAMP	1	137.17	0.93	15	PASS	0.028	24.28	15	<PQL
N018843-005B	SAMP	1	147.87	0.6	15	PASS	0.096	6.52	15	PASS
N018843-006B	SAMP	1	133.75	0.87	15	PASS	0.017	37.37	15	<PQL
CCV4	CCV	1	21.43	0.6	15	PASS	20.098	1.071	15	PASS
CCB4	CCB	1	0.0083	108.52	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.039	0.58	20	PASS	1.014	2.92	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.16	5.75	15	PASS
ICSAB2	ICSAB	1	20.88	0.34	15	PASS	19.74	0.54	15	PASS
N018843-007B	SAMP	1	136.25	0.16	15	PASS	<0.000	N/A	15	<PQL
N018843-008B	SAMP	1	140.093	0.091	15	PASS	0.023	17.34	15	<PQL
N018843-009B	SAMP	1	138.1	0.69	15	PASS	0.0069	81.59	15	<PQL

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	133.23	0.92	15	PASS	0.037	25.97	15	<PQL
N018843-010B-MS	MS	1	236.56	0.57	15	PASS	9.22	0.74	15	PASS
N018844-001B	SAMP	1	136.69	0.68	15	PASS	0.027	18.2	15	<PQL
N018845-001B	SAMP	1	54.1	0.31	15	PASS	7.2	0.92	15	PASS
N018845-002B	SAMP	1	46.062	0.58	15	PASS	0.4	2.97	15	PASS
N018845-003B	SAMP	1	22.93	0.77	15	PASS	625.83	1.16	15	PASS
N018845-004B	SAMP	1	23.3	0.2	15	PASS	625.71	0.67	15	PASS
CCV5	CCV	1	21.55	0.64	15	PASS	20.09	0.9	15	PASS
CCB5	CCB	1	0.0036	118.025	15	<PQL	0.032	17.27	15	<PQL
N018845-006B	SAMP	1	46.059	0.28	15	PASS	146.96	1.27	15	PASS
N018845-007B	SAMP	1	39.76	1.12	15	PASS	475.68	1.025	15	PASS
N018845-008B	SAMP	1	34.76	0.7	15	PASS	0.27	4.6	15	PASS
N018845-005B	SAMP	1	36.61	0.88	15	PASS	36331.98	0.5	15	PASS
CCV6	CCV	1	21.64	0.65	15	PASS	27.92	1.98	15	PASS
CCB6	CCB	1	0.0065	33.46	15	<PQL	4.053	14.037	15	PASS
LLCCV2	CCV2	1	1.07	1.63	20	PASS	3.027	7.16	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	1.58	10.41	15	PASS
ICSAB3	ICSAB	1	21.14	0.7	15	PASS	20.66	1.27	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.064	6.65	15	PASS	0.095	19.59	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.46	1.93	15	PASS	0.48	5.026	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.49	15	PASS	5.053	0.78	15	PASS
Std4-10/100 ppb	ICAL	1	10.0032	0.91	15	PASS	10.25	1.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.68	0.44	15	PASS	20.27	0.95	15	PASS
Std6-40/400 ppb	ICAL	1	39.12	0.31	15	PASS	40.24	1.38	15	PASS
Std7-100/1000 ppb	ICAL	1	98.18	0.5	15	PASS	100.75	0.86	15	PASS
Std8-200/2000 ppb	ICAL	1	201.12	0.47	15	PASS	199.53	0.85	15	PASS
ICV	ICV	1	97.95	0.43	15	PASS	9.96	3.61	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	0.49	4.81	20	PASS	0.11	9.71	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	16.46	1.38	15	PASS	20.2	0.5	15	PASS
CCV1	CCV	1	20.07	0.56	15	PASS	20.27	1.71	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0063	21.16	15	<PQL
CCV2	CCV	1	20.43	1.43	15	PASS	20.1	0.93	15	PASS
CCB2	CCB	1	0.015	16.52	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.0039	201.76	15	<PQL
LCS-56419	LCS	1	94.67	0.79	15	PASS	9.18	0.63	15	PASS
N018861-007B	SAMP	1	18.34	0.17	15	PASS	14.59	0.43	15	PASS
CCV3	CCV	1	20.0093	0.26	15	PASS	20.31	1.19	15	PASS
CCB3	CCB	1	0.00054	829.95	15	<PQL	0.0024	199.86	15	<PQL
N018861-007B	SAMP	5	4.76	0.67	15	PASS	3.2	0.74	15	PASS
N018861-007B-PS	PS	1	96.32	0.16	15	PASS	23.057	0.57	15	PASS
N018861-007B-MS	MS	1	97.24	0.51	15	PASS	23.25	0.29	15	PASS
N018861-007B-MSD	MSD	1	97.13	0.83	15	PASS	23.44	0.35	15	PASS
N018843-001B	SAMP	1	<0.000	N/A	15	<PQL	2.3	1.24	15	PASS
N018843-002B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.94	15	PASS
N018843-003B	SAMP	1	<0.000	N/A	15	<PQL	2.29	3.16	15	PASS
N018843-004B	SAMP	1	<0.000	N/A	15	<PQL	2.28	1.83	15	PASS
N018843-005B	SAMP	1	<0.000	N/A	15	<PQL	2.52	3.28	15	PASS
N018843-006B	SAMP	1	<0.000	N/A	15	<PQL	2.27	2	15	PASS
CCV4	CCV	1	20.005	0.87	15	PASS	20.37	0.54	15	PASS
CCB4	CCB	1	0.013	45.073	15	<PQL	0.0012	56.32	15	<PQL
LLCCV1	CCV2	1	0.49	5.23	20	PASS	0.098	16.56	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	16.35	1.29	15	PASS	20.37	0.37	15	PASS
N018843-007B	SAMP	1	<0.000	N/A	15	<PQL	2.32	1.26	15	PASS
N018843-008B	SAMP	1	<0.000	N/A	15	<PQL	2.41	2.52	15	PASS
N018843-009B	SAMP	1	<0.000	N/A	15	<PQL	2.31	3	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	<0.000	N/A	15	<PQL	2.21	1.89	15	PASS
N018843-010B-MS	MS	1	90.38	1.059	15	PASS	12.0013	0.62	15	PASS
N018844-001B	SAMP	1	0.4	5.47	15	PASS	2.33	2.17	15	PASS
N018845-001B	SAMP	1	9.44	1.29	15	PASS	5.86	0.31	15	PASS
N018845-002B	SAMP	1	73.69	0.55	15	PASS	5.0056	2.062	15	PASS
N018845-003B	SAMP	1	2.038	2.39	15	PASS	2.38	1.91	15	PASS
N018845-004B	SAMP	1	1.98	1.46	15	PASS	2.34	1.31	15	PASS
CCV5	CCV	1	19.89	0.53	15	PASS	20.62	1.48	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.00014	4234.47	15	<PQL
N018845-006B	SAMP	1	8.029	1.41	15	PASS	0.55	4.9	15	PASS
N018845-007B	SAMP	1	26.67	1.064	15	PASS	2.094	5.48	15	PASS
N018845-008B	SAMP	1	210.86	0.24	15	PASS	14.2	1.47	15	PASS
N018845-005B	SAMP	1	<0.000	N/A	15	<PQL	2.74	1.76	15	PASS
CCV6	CCV	1	20.085	1.63	15	PASS	20.39	0.54	15	PASS
CCB6	CCB	1	0.0032	114.36	15	<PQL	0.0051	292.0053	15	<PQL
LLCCV2	CCV2	1	0.48	4.33	20	PASS	0.083	24.88	20	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	16.51	1.12	15	PASS	20.35	0.75	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	26.28	15	<PQL	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	8.85	15	PASS	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	4.98	3.95	15	PASS	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	2.89	15	PASS	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	20.73	1.38	15	PASS	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	40.54	0.69	15	PASS	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.44	1.19	15	PASS	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	199.59	0.88	15	PASS	200.0022	1.13	15	PASS
ICV	ICV	1	10.16	3.87	15	PASS	9.54	0.89	15	PASS
ICB	ICB	1	0.025	68.0016	15	<PQL	0.27	4.45	15	PASS
LLICV	CCV1	1	0.49	11.65	20	PASS	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.028	26.29	15	<PQL	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	19.28	1.34	15	PASS	23.2	0.96	15	PASS
CCV1	CCV	1	20.13	1.29	15	PASS	19.89	1.67	15	PASS
CCB1	CCB	1	0.019	48.038	15	<PQL	0.11	5.59	15	PASS
CCV2	CCV	1	20.039	1.27	15	PASS	19.97	1.33	15	PASS
CCB2	CCB	1	0.0073	195.95	15	<PQL	0.11	12.11	15	PASS
MB-56419	MBLK	1	0.0034	356.98	15	<PQL	0.23	6.7	15	PASS
LCS-56419	LCS	1	8.65	3.94	15	PASS	9.93	0.7	15	PASS
N018861-007B	SAMP	1	0.25	18.33	15	<PQL	86.49	0.81	15	PASS
CCV3	CCV	1	20.2	3	15	PASS	20.37	0.56	15	PASS
CCB3	CCB	1	0.0051	287.87	15	<PQL	0.17	16.46	15	<PQL
N018861-007B	SAMP	5	0.078	20.65	15	<PQL	16.16	0.96	15	PASS
N018861-007B-PS	PS	1	8.47	3.74	15	PASS	93.56	0.25	15	PASS
N018861-007B-MS	MS	1	8.56	4.42	15	PASS	96.13	1.43	15	PASS
N018861-007B-MSD	MSD	1	8.25	5.17	15	PASS	95.14	1.54	15	PASS
N018843-001B	SAMP	1	1.69	9.9	15	PASS	5.81	1.68	15	PASS
N018843-002B	SAMP	1	1.83	3.35	15	PASS	5.63	1.47	15	PASS
N018843-003B	SAMP	1	1.58	4.26	15	PASS	5.4	0.53	15	PASS
N018843-004B	SAMP	1	1.72	9.73	15	PASS	5.26	2.46	15	PASS
N018843-005B	SAMP	1	1.86	4.15	15	PASS	5.84	1.49	15	PASS
N018843-006B	SAMP	1	1.69	6.77	15	PASS	5.13	1.097	15	PASS
CCV4	CCV	1	20.8	2.25	15	PASS	20.039	1.18	15	PASS
CCB4	CCB	1	0.006	179.56	15	<PQL	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	13.31	20	PASS	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.023	80	15	<PQL	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	19.51	1.44	15	PASS	23.23	0.89	15	PASS
N018843-007B	SAMP	1	1.74	5.65	15	PASS	5.33	1.65	15	PASS
N018843-008B	SAMP	1	1.68	6.45	15	PASS	5.53	2.91	15	PASS
N018843-009B	SAMP	1	1.61	7.92	15	PASS	5.45	0.54	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	1.58	9.043	15	PASS	5.25	0.92	15	PASS
N018843-010B-MS	MS	1	10.7	1.47	15	PASS	16.093	0.54	15	PASS
N018844-001B	SAMP	1	1.59	5.075	15	PASS	5.35	1.037	15	PASS
N018845-001B	SAMP	1	0.46	13.82	15	PASS	61.99	1.061	15	PASS
N018845-002B	SAMP	1	0.66	16.86	15	NR!	82.24	0.6	15	PASS
N018845-003B	SAMP	1	12.26	3.033	15	PASS	90.83	1.63	15	PASS
N018845-004B	SAMP	1	11.79	1.35	15	PASS	92.85	0.49	15	PASS
CCV5	CCV	1	20.45	2.34	15	PASS	20.19	0.37	15	PASS
CCB5	CCB	1	0.0051	290.48	15	<PQL	0.12	1.077	15	PASS
N018845-006B	SAMP	1	7.11	5.76	15	PASS	32.58	0.79	15	PASS
N018845-007B	SAMP	1	4.42	4.028	15	PASS	38.82	0.97	15	PASS
N018845-008B	SAMP	1	0.076	34.29	15	<PQL	41.68	1.16	15	PASS
N018845-005B	SAMP	1	17.31	2.37	15	PASS	56.78	0.94	15	PASS
CCV6	CCV	1	20.61	0.84	15	PASS	20.16	0.61	15	PASS
CCB6	CCB	1	0.024	63.98	15	<PQL	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.5	3.6	20	PASS	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.024	100.78	15	<PQL	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	19.19	1.78	15	PASS	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.14	2.88	15	PASS	0.091	12.56	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	2.16	15	PASS	0.47	3.7	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	0.92	15	PASS	4.77	0.77	15	PASS
Std4-10/100 ppb	ICAL	1	9.73	0.32	15	PASS	9.67	0.96	15	PASS
Std5-20/200 ppb	ICAL	1	19.66	0.31	15	PASS	19.43	0.53	15	PASS
Std6-40/400 ppb	ICAL	1	39.4	0.39	15	PASS	39.61	0.32	15	PASS
Std7-100/1000 ppb	ICAL	1	98.86	0.29	15	PASS	98.96	1.42	15	PASS
Std8-200/2000 ppb	ICAL	1	200.74	0.64	15	PASS	200.68	1.059	15	PASS
ICV	ICV	1	104.058	0.53	15	PASS	10.3	1.34	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.09	1.77	20	PASS	0.98	2.35	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.18	11.48	15	PASS
ICSAB1	ICSAB	1	20.72	0.17	15	PASS	21.11	0.63	15	PASS
LLICV	CCV1	1	1.074	0.71	20	PASS	0.95	2.68	20	PASS
CCV1	CCV	1	19.87	0.82	15	PASS	19.35	1.66	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.67	0.61	15	PASS	19.46	0.25	15	PASS
CCB2	CCB	1	0.0011	366.62	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	1.092	2	20	PASS	0.97	0.43	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.18	2.73	15	PASS
ICSAB	ICSAB	1	18.84	0.67	15	PASS	22.97	0.87	15	PASS
CCV3	CCV	1	19.9	0.33	15	PASS	19.55	0.94	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0.017	24.72	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.0063	23.58	15	<PQL
LCS-56419	LCS	1	106.41	0.41	15	PASS	10.25	0.95	15	PASS
N018861-007B	SAMP	1	40.44	0.4	15	PASS	5.49	0.67	15	PASS
N018861-007B	SAMP	5	8.17	1.21	15	PASS	1.13	1.84	15	PASS
N018861-007B	SAMP	25	1.68	3.37	15	PASS	0.23	2.11	15	PASS
N018861-007B-PS	PS	1	135.74	0.42	15	PASS	14.15	1.33	15	PASS
N018861-007B-PS	PS	5	28.75	0.96	15	PASS	3.089	0.48	15	PASS
CCV4	CCV	1	19.8	0.74	15	PASS	19.26	1.36	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.0049	48.31	15	<PQL
N018861-007B-MS	MS	1	136.25	0.59	15	PASS	14.29	1.38	15	PASS
N018861-007B-MS	MS	5	29.67	0.54	15	PASS	3.15	1.33	15	PASS
N018861-007B-MSD	MSD	1	135.25	0.29	15	PASS	14.088	0.52	15	PASS
N018861-007B-MSD	MSD	5	29.69	0.88	15	PASS	3.17	0.85	15	PASS
N018843-001B	SAMP	1	137.32	0.51	15	PASS	0.1	6.11	15	PASS
N018843-002B	SAMP	1	143.51	0.24	15	PASS	0.026	9.66	15	PASS
N018843-003B	SAMP	1	137.83	0.16	15	PASS	0.086	5.48	15	PASS
N018843-004B	SAMP	1	134.1	0.75	15	PASS	0.057	11.56	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	137 Ba [3]				52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	149.53	0.47	15	PASS	0.12	9.069	15	PASS
N018843-006B	SAMP	1	132.77	0.78	15	PASS	0.033	14.029	15	PASS
CCV5	CCV	1	19.7	0.93	15	PASS	19.32	0.61	15	PASS
CCB5	CCB	1	0.0042	31.095	15	<PQL	0.00096	269.0022	15	<PQL
N018843-007B	SAMP	1	134.091	0.33	15	PASS	0.021	15.0079	15	<PQL
N018843-008B	SAMP	1	137.54	0.71	15	PASS	0.042	25.72	15	<PQL
N018843-009B	SAMP	1	136.37	0.35	15	PASS	0.065	7.48	15	PASS
N018843-010B	SAMP	1	133.17	0.88	15	PASS	0.074	8.6	15	PASS
N018843-010B	SAMP	5	28.26	0.45	15	PASS	0.011	50.94	15	<PQL
N018843-010B-MS	MS	1	234.62	1.074	15	PASS	10.089	0.52	15	PASS
N018843-010B-MS	MSD	5	50.01	0.38	15	PASS	2.1	4.18	15	PASS
N018844-001B	SAMP	1	134.0096	0.37	15	PASS	0.13	15.034	15	<PQL
N018845-001B	SAMP	1	53.035	0.5	15	PASS	7.93	0.9	15	PASS
N018845-001B	SAMP	5	10.78	0.41	15	PASS	1.61	0.41	15	PASS
CCV6	CCV	1	19.6	0.62	15	PASS	19.29	0.92	15	PASS
CCB6	CCB	1	0.0021	237.91	15	<PQL	0.001	157.92	15	<PQL
LLCCV2	CCV2	1	1.098	1.46	20	PASS	0.98	2.22	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.17	3.89	15	PASS
ICSAB3	ICSAB	1	19.0072	0.5	15	PASS	22.31	0.34	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	11.33	15	PASS	0.09	7.61	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	5.13	15	PASS	0.46	5.78	15	PASS
Std3-5/50 ppb	ICAL	1	4.83	2.7	15	PASS	4.61	0.53	15	PASS
Std4-10/100 ppb	ICAL	1	9.85	1.16	15	PASS	9.34	0.24	15	PASS
Std5-20/200 ppb	ICAL	1	19.44	0.57	15	PASS	19.074	0.36	15	PASS
Std6-40/400 ppb	ICAL	1	39.61	0.77	15	PASS	38.77	1.44	15	PASS
Std7-100/1000 ppb	ICAL	1	99.78	0.59	15	PASS	98.11	0.15	15	PASS
Std8-200/2000 ppb	ICAL	1	200.26	0.45	15	PASS	201.33	0.41	15	PASS
ICV	ICV	1	100.89	0.77	15	PASS	10.19	0.55	15	PASS
ICB	ICB	1	0.0012	473.087	15	<PQL	0.013	36.76	15	<PQL
LLICV	CCV1	1	0.51	2.72	20	PASS	0.11	9.27	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	17.82	1.49	15	PASS	20.82	0.43	15	PASS
LLICV	CCV1	1	0.51	1.89	20	PASS	0.12	13.99	20	PASS
CCV1	CCV	1	19.16	0.86	15	PASS	18.95	0.74	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.16	0.67	15	PASS	19.3	0.33	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.0018	492.88	15	<PQL
LLCCV1	CCV2	1	0.52	4.17	20	PASS	0.1	16.55	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB	ICSAB	1	19.58	0.58	15	PASS	21.49	0.75	15	PASS
CCV3	CCV	1	19.16	1.54	15	PASS	19.25	1.74	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	100.056	0.76	15	PASS	10.35	0.37	15	PASS
N018861-007B	SAMP	1	23.46	1.13	15	PASS	14.7	2	15	PASS
N018861-007B	SAMP	5	4.9	0.98	15	PASS	3.26	1.096	15	PASS
N018861-007B	SAMP	25	1.026	3.53	15	PASS	0.64	4.75	15	PASS
N018861-007B-PS	PS	1	106.088	1.78	15	PASS	22.53	1.34	15	PASS
N018861-007B-PS	PS	5	23.29	0.8	15	PASS	5.047	2.45	15	PASS
CCV4	CCV	1	19.17	1.43	15	PASS	18.97	1.4	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.0028	105.69	15	<PQL
N018861-007B-MS	MS	1	108.48	0.35	15	PASS	22.81	1.12	15	PASS
N018861-007B-MS	MS	5	24.057	0.74	15	PASS	5.21	2.18	15	PASS
N018861-007B-MSD	MSD	1	106.24	0.17	15	PASS	22.46	2.25	15	PASS
N018861-007B-MSD	MSD	5	24.1	0.45	15	PASS	5.25	1.82	15	PASS
N018843-001B	SAMP	1	0.037	161.79	15	<PQL	2.26	3.92	15	PASS
N018843-002B	SAMP	1	<0.000	N/A	15	<PQL	2.37	0.7	15	PASS
N018843-003B	SAMP	1	<0.000	N/A	15	<PQL	2.36	1.2	15	PASS
N018843-004B	SAMP	1	<0.000	N/A	15	<PQL	2.26	2.66	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	<0.000	N/A	15	<PQL	2.5	1.82	15	PASS
N018843-006B	SAMP	1	<0.000	N/A	15	<PQL	2.26	5.15	15	PASS
CCV5	CCV	1	19.019	0.95	15	PASS	19.11	0.99	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.0041	47.71	15	<PQL
N018843-007B	SAMP	1	<0.000	N/A	15	<PQL	2.22	2.73	15	PASS
N018843-008B	SAMP	1	<0.000	N/A	15	<PQL	2.34	2.12	15	PASS
N018843-009B	SAMP	1	<0.000	N/A	15	<PQL	2.27	1.52	15	PASS
N018843-010B	SAMP	1	0.064	39.21	15	<PQL	2.3	1.94	15	PASS
N018843-010B	SAMP	5	0.037	40.29	15	<PQL	0.51	2.34	15	PASS
N018843-010B-MS	MS	1	96.83	0.75	15	PASS	12.29	1.82	15	PASS
N018843-010B-MS	MSD	5	20.29	2.085	15	PASS	2.56	3.12	15	PASS
N018844-001B	SAMP	1	0.54	5.93	15	PASS	2.34	3.4	15	PASS
N018845-001B	SAMP	1	10.17	1.46	15	PASS	5.69	0.18	15	PASS
N018845-001B	SAMP	5	2.078	1.63	15	PASS	1.28	0.92	15	PASS
CCV6	CCV	1	19.16	0.48	15	PASS	19.086	0.83	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL	0.0029	151.5	15	<PQL
LLCCV2	CCV2	1	0.5	2.83	20	PASS	0.1	6.54	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	19.56	1.073	15	PASS	21.53	1.7	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	14.54	15	PASS	0.084	7.039	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.45	21.93	15	<PQL	0.44	2.87	15	PASS
Std3-5/50 ppb	ICAL	1	4.89	5.2	15	PASS	4.73	0.66	15	PASS
Std4-10/100 ppb	ICAL	1	9.39	1.53	15	PASS	9.51	1.54	15	PASS
Std5-20/200 ppb	ICAL	1	18.96	1.43	15	PASS	18.97	0.25	15	PASS
Std6-40/400 ppb	ICAL	1	38.14	1.73	15	PASS	38.98	0.19	15	PASS
Std7-100/1000 ppb	ICAL	1	99.74	1.33	15	PASS	98.95	0.32	15	PASS
Std8-200/2000 ppb	ICAL	1	200.64	0.52	15	PASS	200.86	0.078	15	PASS
ICV	ICV	1	10.16	0.99	15	PASS	10.97	2.027	15	PASS
ICB	ICB	1	0.0022	513.46	15	<PQL	0.23	5.02	15	PASS
LLICV	CCV1	1	0.47	3.67	20	PASS	0.55	3.11	20	PASS
ICSA1	ICSA	1	0.012	69.51	15	<PQL	0.085	13.41	15	PASS
ICSAB1	ICSAB	1	19.099	0.85	15	PASS	23.94	1.37	15	PASS
LLICV	CCV1	1	0.53	9.27	20	PASS	0.55	3.24	20	PASS
CCV1	CCV	1	19.014	0.87	15	PASS	19.83	0.38	15	PASS
CCB1	CCB	1	0.0023	134.48	15	<PQL	0.19	4.59	15	PASS
CCV2	CCV	1	18.79	2.039	15	PASS	18.93	0.68	15	PASS
CCB2	CCB	1	0.0008	1086.091	15	<PQL	0.072	6.68	15	PASS
LLCCV1	CCV2	1	0.53	10.86	20	PASS	0.5	3.56	20	PASS
ICSA2	ICSA	1	0.0071	125.66	15	<PQL	0.039	21.64	15	<PQL
ICSAB	ICSAB	1	21.1	2.79	15	PASS	23.54	0.75	15	PASS
CCV3	CCV	1	18.86	1.96	15	PASS	19.28	1.089	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0.093	19.67	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	0.071	19.35	15	<PQL
LCS-56419	LCS	1	10.17	2.96	15	PASS	10.31	0.85	15	PASS
N018861-007B	SAMP	1	0.27	6.36	15	PASS	89.46	1.76	15	PASS
N018861-007B	SAMP	5	0.031	34.69	15	<PQL	16.65	1.18	15	PASS
N018861-007B	SAMP	25	0.0077	123.52	15	<PQL	3.25	3.27	15	PASS
N018861-007B-PS	PS	1	7.98	2.12	15	PASS	96.3	1.096	15	PASS
N018861-007B-PS	PS	5	1.7	4.78	15	PASS	18.5	1.044	15	PASS
CCV4	CCV	1	19.14	0.83	15	PASS	18.99	1.21	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.097	7.72	15	PASS
N018861-007B-MS	MS	1	7.95	6.053	15	PASS	97.85	0.66	15	PASS
N018861-007B-MS	MS	5	1.89	14.94	15	PASS	19.4	0.76	15	PASS
N018861-007B-MSD	MSD	1	8.24	4.59	15	PASS	96.4	0.63	15	PASS
N018861-007B-MSD	MSD	5	1.91	11.65	15	PASS	19.46	1.74	15	PASS
N018843-001B	SAMP	1	1.61	4.12	15	PASS	5.57	0.69	15	PASS
N018843-002B	SAMP	1	1.71	3.48	15	PASS	5.63	1.15	15	PASS
N018843-003B	SAMP	1	1.5	7.39	15	PASS	5.44	2.73	15	PASS
N018843-004B	SAMP	1	1.62	10.8	15	PASS	5.35	0.44	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	1.72	1.79	15	PASS	5.86	0.91	15	PASS
N018843-006B	SAMP	1	1.71	8.57	15	PASS	5.32	3.091	15	PASS
CCV5	CCV	1	18.72	4.0011	15	PASS	18.98	0.62	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.067	5.9	15	PASS
N018843-007B	SAMP	1	1.72	2.45	15	PASS	5.38	2.41	15	PASS
N018843-008B	SAMP	1	1.84	1.94	15	PASS	5.56	2.93	15	PASS
N018843-009B	SAMP	1	1.63	10.49	15	PASS	5.45	1.16	15	PASS
N018843-010B	SAMP	1	1.73	6.67	15	PASS	5.29	0.99	15	PASS
N018843-010B	SAMP	5	0.39	14.74	15	PASS	1.037	3.99	15	PASS
N018843-010B-MS	MS	1	10.41	0.16	15	PASS	16.46	0.89	15	PASS
N018843-010B-MS	MSD	5	2.45	4.18	15	PASS	3.28	2.65	15	PASS
N018844-001B	SAMP	1	1.67	15.55	15	NR!	5.38	1.16	15	PASS
N018845-001B	SAMP	1	0.42	5.94	15	PASS	62.87	1.23	15	PASS
N018845-001B	SAMP	5	0.078	23.41	15	<PQL	11.89	1.49	15	PASS
CCV6	CCV	1	18.87	1.59	15	PASS	18.83	0.85	15	PASS
CCB6	CCB	1	0.011	93.92	15	<PQL	0.077	11.44	15	PASS
LLCCV2	CCV2	1	0.53	13.83	20	PASS	0.5	2.19	20	PASS
ICSA3	ICSA	1	0.021	86.68	15	<PQL	0.043	22.7	15	<PQL
ICSAB3	ICSAB	1	20.039	1.043	15	PASS	23.54	1.61	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.087	8.46	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	6.027	15	PASS
Std3-5/50 ppb	ICAL	1	4.64	1.78	15	PASS
Std4-10/100 ppb	ICAL	1	9.24	1.96	15	PASS
Std5-20/200 ppb	ICAL	1	18.74	1.26	15	PASS
Std6-40/400 ppb	ICAL	1	38.94	1.16	15	PASS
Std7-100/1000 ppb	ICAL	1	98.015	0.51	15	PASS
Std8-200/2000 ppb	ICAL	1	201.38	0.75	15	PASS
ICV	ICV	1	10.99	1.08	15	PASS
ICB	ICB	1	0.22	3.93	15	PASS
LLICV	CCV1	1	0.56	4.078	20	PASS
ICSA1	ICSA	1	0.089	5.14	15	PASS
ICSAB1	ICSAB	1	23.7	1.2	15	PASS
LLICV	CCV1	1	0.65	2.33	20	PASS
N018845-002B	SAMP	1	84.65	1.64	15	PASS
N018845-002B	SAMP	5	15.45	0.76	15	PASS
N018845-003B	SAMP	1	92.12	0.22	15	PASS
N018845-003B	SAMP	5	17.9	0.89	15	PASS
N018845-004B	SAMP	1	94.15	1.026	15	PASS
N018845-004B	SAMP	5	17.66	0.5	15	PASS
N018845-006B	SAMP	1	33.61	0.13	15	PASS
N018845-006B	SAMP	5	6.44	0.98	15	PASS
N018845-007B	SAMP	1	39.46	1.091	15	PASS
N018845-007B	SAMP	5	7.19	2.18	15	PASS
CCV1	CCV	1	19.24	1.12	15	PASS
CCB1	CCB	1	0.087	20.8	15	<PQL
N018845-008B	SAMP	1	43.75	0.77	15	PASS
N018845-008B	SAMP	5	8.35	1.049	15	PASS
N018845-005B	SAMP	1	58.29	1	15	PASS
N018845-005B	SAMP	5	10.99	0.82	15	PASS
N018845-005B	SAMP	500	0.17	3.44	15	PASS
CCV2	CCV	1	19.52	0.63	15	PASS
CCB2	CCB	1	0.082	7.32	15	PASS
CCV3	CCV	1	19.31	0.54	15	PASS
CCB3	CCB	1	0.08	6.0063	15	PASS
N018861-007B	SAMP	125	0.61	6.99	15	PASS
N018861-007B-PS	PS	25	3.54	2.96	15	PASS
N018861-007B-MS	MS	25	3.55	1.44	15	PASS
N018861-007B-MSD	MSD	25	3.5	1.77	15	PASS
CCV4	CCV	1	19.089	0.86	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCB4	CCB	1	0.079	5.57	15	PASS
LLCCV1	CCV2	1	0.52	2.49	20	PASS
ICSA2	ICSA	1	0.047	11.22	15	PASS
ICSAB2	ICSAB	1	23.73	1.53	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB2	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MS	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM
A0308062.D	MB-56504	MBLK	1	03/08/16 6:45 PM
A0308063.D	LCS-56504	LCS	1	03/08/16 6:51 PM
A0308064.D	N018898-003A	SAMP	1	03/08/16 7:02 PM
A0308065.D	N018910-001B	SAMP	1	03/08/16 7:08 PM
A0308066.D	N018910-002B	SAMP	1	03/08/16 7:13 PM
A0308067.D	N018910-003B	SAMP	1	03/08/16 7:19 PM
A0308068.D	N018918-001C	SAMP	1	03/08/16 7:24 PM
A0308069.D	N018918-002E	SAMP	1	03/08/16 7:30 PM
A0308070.D	N018918-003C	SAMP	1	03/08/16 7:35 PM
A0308071.D	N018918-003C	SAMP	5	03/08/16 7:41 PM
A0308072.D	CCV5	CCV	1	03/08/16 7:47 PM
A0308073.D	CCB5	CCB	1	03/08/16 7:52 PM
A0308074.D	N018919-001B	SAMP	1	03/08/16 7:58 PM
A0308075.D	N018919-002B	SAMP	1	03/08/16 8:03 PM
A0308076.D	N018935-001B	SAMP	1	03/08/16 8:09 PM
A0308077.D	N018936-001A	SAMP	1	03/08/16 8:14 PM
A0308078.D	N018936-002B	SAMP	1	03/08/16 8:20 PM
A0308079.D	N018910-003B	SAMP	1	03/08/16 8:26 PM
A0308080.D	N018910-002B	SAMP	25	03/08/16 8:39 PM
A0308081.D	N018910-003B	SAMP	25	03/08/16 8:45 PM
A0308082.D	N018918-001C	SAMP	5	03/08/16 8:53 PM
A0308083.D	N018918-002E	SAMP	1	03/08/16 8:59 PM
A0308084.D	CCV6	CCV	1	03/08/16 9:05 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308085.D	CCB6	CCB	1	03/08/16 9:10 PM
A0308086.D	N018918-002E	SAMP	5	03/08/16 9:16 PM
A0308087.D	N018918-002E	SAMP	25	03/08/16 9:21 PM
A0308088.D	N018918-003C	SAMP	25	03/08/16 9:41 PM
A0308089.D	N018918-003C	SAMP	125	03/08/16 9:47 PM
A0308090.D	N018918-003C-PS	PS	1	03/08/16 9:53 PM
A0308091.D	N018918-003C-PS	PS	5	03/08/16 9:59 PM
A0308092.D	N018918-003C-PS	PS	25	03/08/16 10:04 PM
A0308093.D	N018918-003C-MS	MS	1	03/08/16 10:10 PM
A0308094.D	N018918-003C-MS	MS	5	03/08/16 10:15 PM
A0308095.D	N018918-003C-MS	MS	25	03/08/16 10:21 PM
A0308096.D	CCV7	CCV	1	03/08/16 10:27 PM
A0308097.D	CCB7	CCB	1	03/08/16 10:32 PM
A0308098.D	N018918-003C-MSD	MSD	1	03/08/16 10:38 PM
A0308099.D	N018918-003C-MSD	MSD	5	03/08/16 10:43 PM
A0308100.D	N018918-003C-MSD	MSD	25	03/08/16 10:49 PM
A0308101.D	N018919-002B	SAMP	5	03/08/16 10:55 PM
A0308102.D	N018919-002B-MS	MS	1	03/08/16 11:00 PM
A0308103.D	N018919-002B-MSD	MSD	1	03/08/16 11:06 PM
A0308104.D	N018935-001A	SAMP	25	03/08/16 11:11 PM
A0308105.D	N018936-002A	SAMP	5	03/08/16 11:17 PM
A0308106.D	CCV8	CCV	1	03/08/16 11:22 PM
A0308107.D	CCB8	CCB	1	03/08/16 11:28 PM
A0308108.D	LLCCV2	CCV2	1	03/08/16 11:33 PM
A0308109.D	ICSA3	ICSA	1	03/08/16 11:39 PM
A0308110.D	ICSAB3	ICSAB	1	03/08/16 11:45 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/11/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56419	Aqueous		25	☐	0	0	25	1.000		
MB-56419	Aqueous		25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/11/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018845-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 26 Feb 2016 01:09:35 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	86884.50	0.00	
24 Mg	368440.00	0.00	
25 Mg	49147.30	0.00	
26 Mg	58400.50	0.00	
59 Co	712632.00	0.00	
115 In	1577600.00	0.00	
206 Pb	461718.00	0.00	
207 Pb	404323.00	0.00	
208 Pb	985724.00	0.00	

RSD (%)

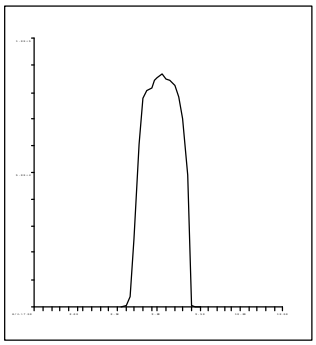
Element	Actual	Required	Flag
9 Be	0.78	5.00	
24 Mg	1.13	5.00	
25 Mg	1.29	5.00	
26 Mg	0.76	5.00	
59 Co	0.84	5.00	
115 In	0.38	5.00	
206 Pb	1.01	5.00	
207 Pb	0.85	5.00	
208 Pb	1.94	5.00	

Ion Ratio

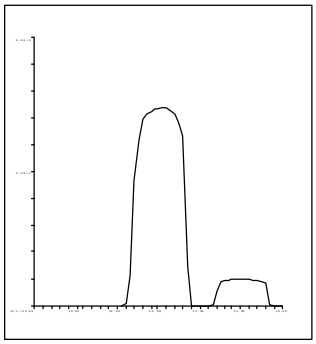
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

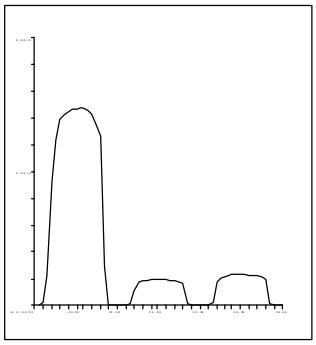
Element	Actual	Required	Flag



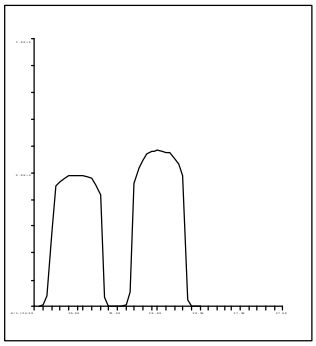
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



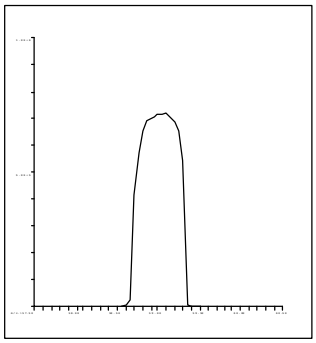
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



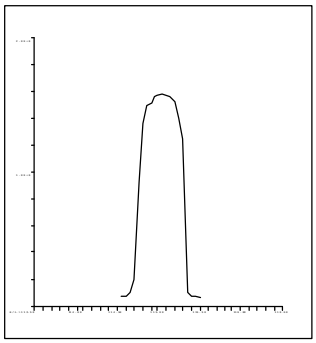
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



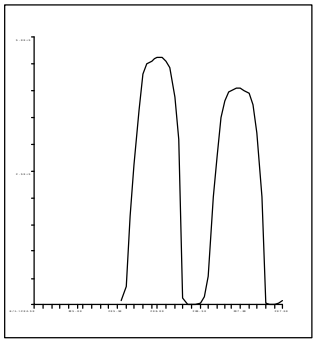
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



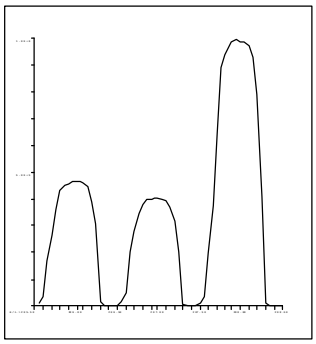
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

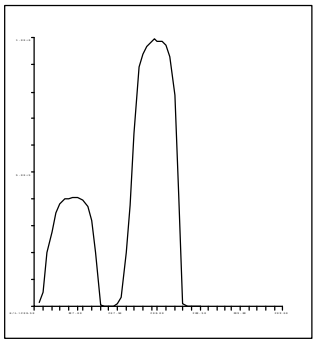


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

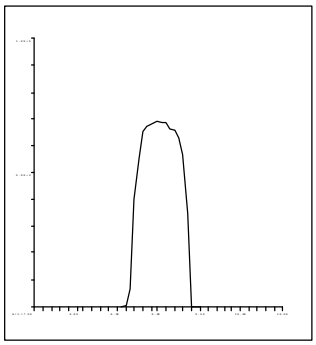
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

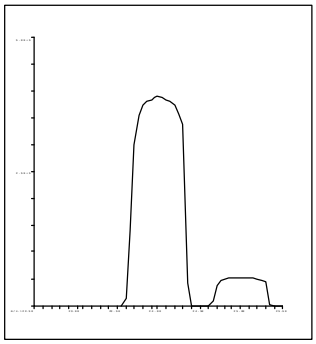
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

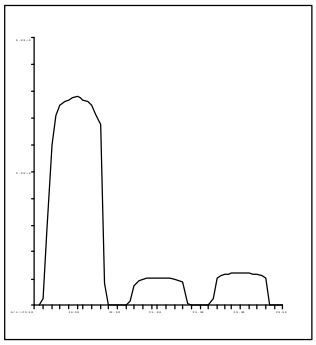
Element	Actual	Required	Flag



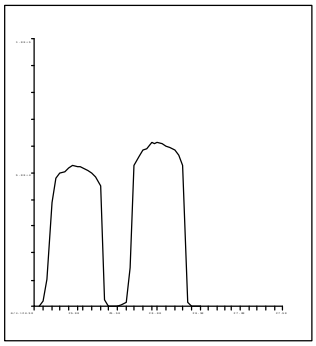
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



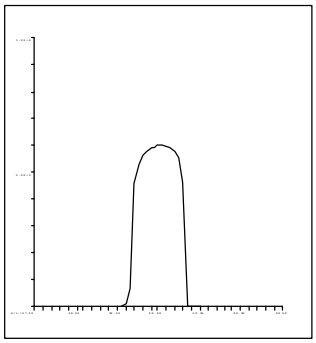
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



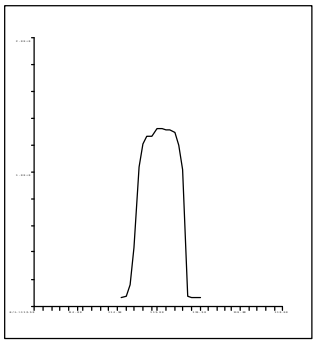
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



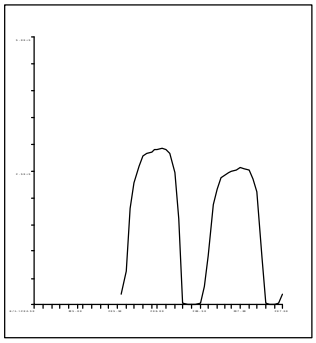
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



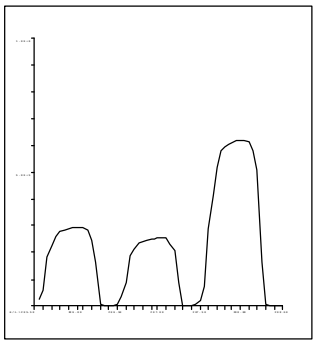
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

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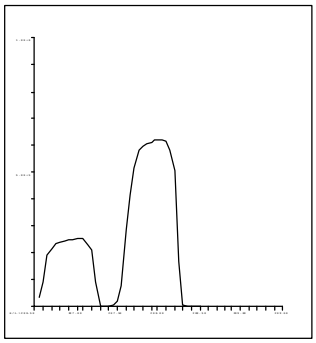


208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Mar 2016 10:50:36 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	64030.00	0.00	
24 Mg	356184.00	0.00	
25 Mg	47474.40	0.00	
26 Mg	55352.20	0.00	
59 Co	548784.00	0.00	
115 In	1237250.00	0.00	
206 Pb	284929.00	0.00	
207 Pb	248633.00	0.00	
208 Pb	604949.00	0.00	

RSD (%)

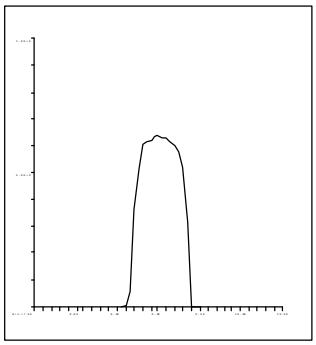
Element	Actual	Required	Flag
9 Be	1.43	5.00	
24 Mg	0.31	5.00	
25 Mg	0.61	5.00	
26 Mg	0.52	5.00	
59 Co	0.99	5.00	
115 In	0.45	5.00	
206 Pb	1.12	5.00	
207 Pb	1.38	5.00	
208 Pb	1.51	5.00	

Ion Ratio

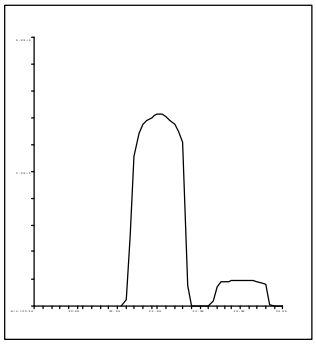
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

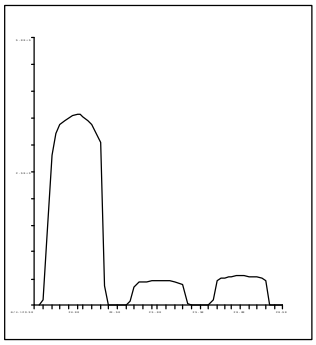
Element	Actual	Required	Flag



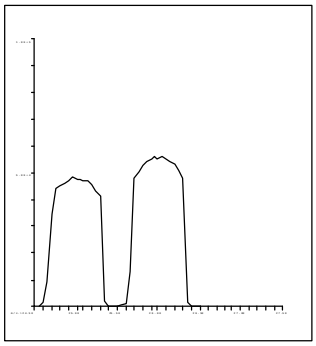
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



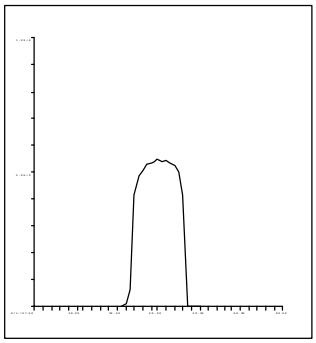
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



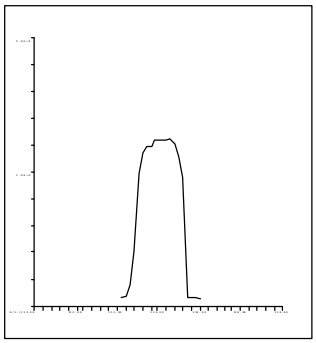
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



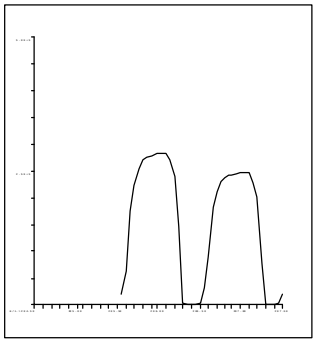
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



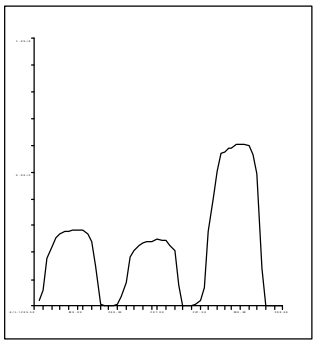
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

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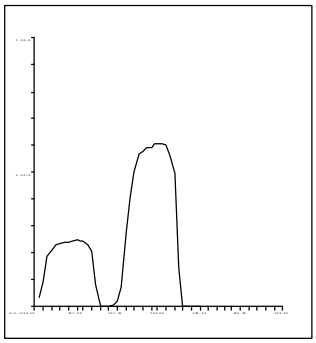

208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160226A1

Instrument ID: ICPMS-02

Analyte	Data File	A0226002.D	A0226003.D	A0226004.D	A0226005.D	A0226006.D	A0226007.D	A0226008.D	A0226009.D	A0226010.D	
	Acq. Date-Time	02/26/2016 07:35 PM	02/26/2016 07:41 PM	02/26/2016 07:47 PM	02/26/2016 07:52 PM	02/26/2016 07:58 PM	02/26/2016 08:03 PM	02/26/2016 08:09 PM	02/26/2016 08:14 PM	02/26/2016 08:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	203921.1		219372.2	216758.8	213499.5	209337.4	209526.9	202738.2	200626.5	
55 Mn [2]	CPS	419.2		4510.6	44194.4	86721.2	166868.5	331604.7	804556.2	1630499.1	0.9999
52 Cr [2]	CPS	430		8290.4	78095.1	155015.8	299802.9	597867.8	1463807.5	2872645.4	1.0000
72 Ge (ISTD) [1]	CPS	164771.4		176991.3	176108.1	171058.3	168702.9	170189.2	166024.5	164349.5	
78 Se [1]	CPS	5.6		363.4	3783.9	7555.4	15064.2	29720.4	71825.8	141288.1	1.0000
72 Ge (ISTD) [2]	CPS	135207	147912.9	146598.5	145259.7	142616.2	139991.3	141092.9	136435.5	135652.3	
75 As [2]	CPS	42.7	212.9	886.3	8740.6	17366.7	33656.5	67293.5	162863.1	320668.9	1.0000
103 Rh (ISTD) [2]	CPS	3649054.4		3919515.8	3891447.1	3870199.5	3833322.2	3850266.1	3726860.3	3690356.2	
95 Mo [2]	CPS	535.6		5023.2	47934.9	93869.6	185151.6	372272.6	909396.3	1797219.2	1.0000
159 Tb (ISTD) [3]	CPS	12406544		13552421.6	13598866	13450887.6	13309725.2	13478300.6	13223698.7	13284122.3	
137 Ba [3]	CPS	1401.6		12608.2	122186.7	242377.5	469729.3	943719.1	2262164.3	4479034.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307003.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:48 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	171872.1		164481.1	162231.7	158833.7	159849.4	158058.1	154833.5	152727.7	
55 Mn [2]	CPS	160.1		3182.6	30919.3	61545	122150.4	245945.4	606643.3	1200838.7	1.0000
52 Cr [2]	CPS	240.5		5391.7	51963.5	102895.9	207876.3	418756.5	1024609.3	2049143.5	1.0000
72 Ge (ISTD) [1]	CPS	151772		146301.7	143870.9	142366.7	141838.4	138142	136219.5	132719.9	
78 Se [1]	CPS	4.4		294.5	3074.9	5838	11748	23003.7	59319.3	116263.3	1.0000
72 Ge (ISTD) [2]	CPS	114739.3	113154.9	110851.4	109870.7	107891	107005.2	106125.1	103960.2	101544.3	
75 As [2]	CPS	24.4	144	626.2	6010.1	11933.8	24136.6	48628	120525.2	241541.1	0.9999
103 Rh (ISTD) [2]	CPS	3065661.7		2997102.7	2941755.2	2921619.2	2927018.5	2892832.2	2857868.5	2799519.5	
95 Mo [2]	CPS	136.7		3299.4	33462.5	66703.6	133184	270430.5	677899.6	1347873.1	1.0000
159 Tb (ISTD) [3]	CPS	10274792.6		10060154.8	9947741.5	9909177.6	9833876.5	9881767.6	9830372.8	9680702.6	
137 Ba [3]	CPS	290.8		9176.2	85385.8	169393.2	339221.5	683027.9	1704303.2	3407686.3	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICPMS-02

Analyte	Data File	A0308002.D	A0308004.D	A0308005.D	A0308006.D	A0308007.D	A0308008.D	A0308009.D	A0308010.D	
	Acq. Date-Time	03/08/2016 11:24 AM	03/08/2016 11:35 AM	03/08/2016 11:41 AM	03/08/2016 11:46 AM	03/08/2016 11:52 AM	03/08/2016 11:57 AM	03/08/2016 12:03 PM	03/08/2016 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
103 Rh (ISTD) [2]	CPS	2123839.9	2046142.4	2046093.3	2033311.7	2029111.6	2021066.6	1990908.3	1961243.2	
95 Mo [2]	CPS	27.8	2190.2	21892.3	43302.7	87618.8	181283.3	449483	909695.9	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.958	0.10	10.00	0	99.6	90	110				
Barium	91.960	1.0	100.0	0	92.0	90	110				
Manganese	97.945	0.50	100.0	0	97.9	90	110				
Molybdenum	9.539	0.50	10.00	0	95.4	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.109	0.10	0.1000	0	109	80	120				
Barium	1.024	1.0	1.000	0	102	80	120				
Manganese	0.490	0.50	0.5000	0	98.0	80	120				
Molybdenum	0.590	0.50	0.5000	0	118	80	120				
Selenium	0.489	0.50	0.5000	0	97.8	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.269	0.10	20.00	0	101	90	110				
Barium	21.008	1.0	20.00	0	105	90	110				
Manganese	20.070	0.50	20.00	0	100	90	110				
Molybdenum	19.888	0.50	20.00	0	99.4	90	110				
Selenium	20.131	0.50	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.100	0.10	20.00	0	101	90	110				
Barium	20.882	1.0	20.00	0	104	90	110				
Manganese	20.430	0.50	20.00	0	102	90	110				
Molybdenum	19.971	0.50	20.00	0	99.9	90	110				
Selenium	20.039	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.307	0.10	20.00	0	102	90	110				
Barium	21.533	1.0	20.00	0	108	90	110				
Manganese	20.009	0.50	20.00	0	100	90	110				
Molybdenum	20.366	0.50	20.00	0	102	90	110				
Selenium	20.198	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	90	110				
Barium	21.433	1.0	20.00	0	107	90	110				
Manganese	20.005	0.50	20.00	0	100	90	110				
Molybdenum	20.039	0.50	20.00	0	100	90	110				
Selenium	20.800	0.50	20.00	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10	0.1000	0	97.5	70	130				
Barium	1.039	1.0	1.000	0	104	70	130				
Manganese	0.492	0.50	0.5000	0	98.4	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.7	70	130				
Selenium	0.495	0.50	0.5000	0	99.0	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.621	0.10	20.00	0	103	90	110				
Barium	21.550	1.0	20.00	0	108	90	110				
Manganese	19.891	0.50	20.00	0	99.5	90	110				
Molybdenum	20.187	0.50	20.00	0	101	90	110				
Selenium	20.453	0.50	20.00	0	102	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Barium	21.639	1.0	20.00	0	108	90	110				
Manganese	20.085	0.50	20.00	0	100	90	110				
Molybdenum	20.162	0.50	20.00	0	101	90	110				
Selenium	20.607	0.50	20.00	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	ZZZZZZ	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.083	0.10	0.1000	0	82.9	70	130				
Barium	1.070	1.0	1.000	0	107	70	130				
Manganese	0.481	0.50	0.5000	0	96.2	70	130				
Molybdenum	0.524	0.50	0.5000	0	105	70	130				
Selenium	0.504	0.50	0.5000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0	102	90	110				
Barium	104.058	1.0	100.0	0	104	90	110				
Manganese	100.893	0.50	100.0	0	101	90	110				
Molybdenum	10.973	0.50	10.00	0	110	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.118	0.10	0.1000	0	118	80	120				
Barium	1.074	1.0	1.000	0	107	80	120				
Manganese	0.510	0.50	0.5000	0	102	80	120				
Molybdenum	0.555	0.50	0.5000	0	111	80	120				
Selenium	0.528	0.50	0.5000	0	106	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.950	0.10	20.00	0	94.8	90	110				
Barium	19.874	1.0	20.00	0	99.4	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	19.830	0.50	20.00	0	99.1	90	110				
Selenium	19.014	0.50	20.00	0	95.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.304	0.10	20.00	0	96.5	90	110				
Barium	19.668	1.0	20.00	0	98.3	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	18.928	0.50	20.00	0	94.6	90	110				
Selenium	18.795	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Barium	1.092	1.0	1.000	0	109	70	130				
Manganese	0.520	0.50	0.5000	0	104	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.5	70	130				
Selenium	0.529	0.50	0.5000	0	106	70	130				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.252	0.10	20.00	0	96.3	90	110				
Barium	19.902	1.0	20.00	0	99.5	90	110				
Manganese	19.159	0.50	20.00	0	95.8	90	110				
Molybdenum	19.275	0.50	20.00	0	96.4	90	110				
Selenium	18.855	0.50	20.00	0	94.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.971	0.10	20.00	0	94.9	90	110				
Barium	19.798	1.0	20.00	0	99.0	90	110				
Manganese	19.171	0.50	20.00	0	95.9	90	110				
Molybdenum	18.990	0.50	20.00	0	94.9	90	110				
Selenium	19.138	0.50	20.00	0	95.7	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.105	0.10	20.00	0	95.5	90	110				
Barium	19.696	1.0	20.00	0	98.5	90	110				
Manganese	19.019	0.50	20.00	0	95.1	90	110				
Molybdenum	18.977	0.50	20.00	0	94.9	90	110				
Selenium	18.725	0.50	20.00	0	93.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.086	0.10	20.00	0	95.4	90	110				
Barium	19.599	1.0	20.00	0	98.0	90	110				
Manganese	19.161	0.50	20.00	0	95.8	90	110				
Molybdenum	18.828	0.50	20.00	0	94.1	90	110				
Selenium	18.873	0.50	20.00	0	94.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Barium	1.098	1.0	1.000	0	110	70	130				
Manganese	0.504	0.50	0.5000	0	101	70	130				
Molybdenum	0.503	0.50	0.5000	0	101	70	130				
Selenium	0.530	0.50	0.5000	0	106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.992	0.50	10.00	0	110	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.563	0.50	0.5000	0	113	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.235	0.50	20.00	0	96.2	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.520	0.50	20.00	0	97.6	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.306	0.50	20.00	0	96.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV4	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCV	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255293

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.089	0.50	20.00	0	95.4	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255295

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.517	0.50	0.5000	0	103	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.336	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.045	1.0	1.000	0	105	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.382	1.0	20.00	0	102	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.164	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	CCV	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.098	1.0	20.00	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.014	1.0	1.000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.303	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.945	1.0	1.000	0	94.5	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.346	1.0	20.00	0	96.7	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.460	1.0	20.00	0	97.3	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.972	1.0	1.000	0	97.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.547	1.0	20.00	0	97.7	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.257	1.0	20.00	0	96.3	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.318	1.0	20.00	0	96.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.294	1.0	20.00	0	96.5	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.981	1.0	1.000	0	98.1	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.267	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.108	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247033

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.167	0.50									
Selenium	ND	0.50									

Sample ID	CCB4	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID	CCB5	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247060

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.124	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.142	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.234	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.190	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.072	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.093	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.097	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.067	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.077	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.219	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.087	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.082	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.080	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.079	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.057	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	80	120				
Barium	20.485	1.0	20.00	0	102	80	120				
Manganese	16.459	0.50	20.00	0	82.3	80	120				
Molybdenum	23.196	0.50	20.00	0	116	80	120				
Selenium	19.281	0.50	20.00	0	96.4	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	80	120				
Barium	20.879	1.0	20.00	0	104	80	120				
Manganese	16.347	0.50	20.00	0	81.7	80	120				
Molybdenum	23.232	0.50	20.00	0	116	80	120				
Selenium	19.506	0.50	20.00	0	97.5	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.348	0.10	20.00	0	102	80	120				
Barium	21.142	1.0	20.00	0	106	80	120				
Manganese	16.506	0.50	20.00	0	82.5	80	120				
Molybdenum	23.406	0.50	20.00	0	117	80	120				
Selenium	19.192	0.50	20.00	0	96.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.085	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.824	0.10	20.00	0	104	80	120				
Barium	20.721	1.0	20.00	0	104	80	120				
Manganese	17.818	0.50	20.00	0	89.1	80	120				
Molybdenum	23.941	0.50	20.00	0	120	80	120				
Selenium	19.099	0.50	20.00	0	95.5	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.039	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.494	0.10	20.00	0	107	80	120				
Barium	18.841	1.0	20.00	0	94.2	80	120				
Manganese	19.579	0.50	20.00	0	97.9	80	120				
Molybdenum	23.538	0.50	20.00	0	118	80	120				
Selenium	21.101	0.50	20.00	0	106	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	0.043	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.531	0.10	20.00	0	108	80	120				
Barium	19.007	1.0	20.00	0	95.0	80	120				
Manganese	19.559	0.50	20.00	0	97.8	80	120				
Molybdenum	23.541	0.50	20.00	0	118	80	120				
Selenium	20.039	0.50	20.00	0	100	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.089	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.702	0.50	20.00	0	119	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.047	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.732	0.50	20.00	0	119	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.172	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.118	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.163	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.744	1.0	20.00	0	98.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.177	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.112	1.0	20.00	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.967	1.0	20.00	0	115	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.175	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.308	1.0	20.00	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	12406544	12406544	100	PASS	70-130	203921.1	203921.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	13541261.7	12406544	109.15	PASS	70-130	220681.7	203921.1	108.22	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	13552421.6	12406544	109.24	PASS	70-130	219372.2	203921.1	107.58	PASS	70-130
Std3-5/50 ppb	ICAL	1	13598866	12406544	109.61	PASS	70-130	216758.8	203921.1	106.3	PASS	70-130
Std4-10/100 ppb	ICAL	1	13450887.6	12406544	108.42	PASS	70-130	213499.5	203921.1	104.7	PASS	70-130
Std5-20/200 ppb	ICAL	1	13309725.2	12406544	107.28	PASS	70-130	209337.4	203921.1	102.66	PASS	70-130
Std6-40/400 ppb	ICAL	1	13478300.6	12406544	108.64	PASS	70-130	209526.9	203921.1	102.75	PASS	70-130
Std7-100/1000 ppb	ICAL	1	13223698.7	12406544	106.59	PASS	70-130	202738.2	203921.1	99.42	PASS	70-130
Std8-200/2000 ppb	ICAL	1	13284122.3	12406544	107.07	PASS	70-130	200626.5	203921.1	98.38	PASS	70-130
ICV	ICV	1	11249142.3	12406544	90.67	PASS	70-130	147643.7	203921.1	72.4	PASS	70-130
ICB	ICB	1	12061233.6	12406544	97.22	PASS	70-130	185314	203921.1	90.88	PASS	70-130
LLICV	CCV1	1	12742367.4	12406544	102.71	PASS	70-130	191313.1	203921.1	93.82	PASS	70-130
ICSA1	ICSA	1	12516305.4	12406544	100.88	PASS	70-130	213396.6	203921.1	104.65	PASS	70-130
ICSAB1	ICSAB	1	12408632.5	12406544	100.02	PASS	70-130	221245.2	203921.1	108.5	PASS	70-130
CCV1	CCV	1	12663523.1	12406544	102.07	PASS	70-130	195379.1	203921.1	95.81	PASS	70-130
CCB1	CCB	1	11697980	12406544	94.29	PASS	70-130	174751.1	203921.1	85.7	PASS	70-130
CCV2	CCV	1	12289033.2	12406544	99.053	PASS	70-130	179607.1	203921.1	88.077	PASS	70-130
CCB2	CCB	1	11252748.3	12406544	90.7	PASS	70-130	160161.7	203921.1	78.54	PASS	70-130
MB-56419	MBLK	1	12140690.9	12406544	97.86	PASS	70-130	195746.7	203921.1	95.99	PASS	70-130
LCS-56419	LCS	1	12763121.8	12406544	102.87	PASS	70-130	198779.1	203921.1	97.48	PASS	70-130
N018861-007B	SAMP	1	7217174	12406544	58.17	NR!	70-130	145037.4	203921.1	71.12	PASS	70-130
CCV3	CCV	1	13496201.2	12406544	108.78	PASS	70-130	218523.1	203921.1	107.16	PASS	70-130
CCB3	CCB	1	12186571.5	12406544	98.23	PASS	70-130	194355	203921.1	95.31	PASS	70-130
N018861-007B	SAMP	5	10119104.9	12406544	81.56	PASS	70-130	169755.1	203921.1	83.25	PASS	70-130
N018861-007B-PS	PS	1	7611565.4	12406544	61.35	NR!	70-130	152670	203921.1	74.87	PASS	70-130
N018861-007B-MS	MS	1	7630944.5	12406544	61.51	NR!	70-130	154727.3	203921.1	75.88	PASS	70-130
N018861-007B-MSD	MSD	1	7658131.9	12406544	61.73	NR!	70-130	156559.8	203921.1	76.77	PASS	70-130
N018843-001B	SAMP	1	12113796.8	12406544	97.64	PASS	70-130	198008.6	203921.1	97.1	PASS	70-130
N018843-002B	SAMP	1	11582577.2	12406544	93.36	PASS	70-130	192973	203921.1	94.63	PASS	70-130
N018843-003B	SAMP	1	11749852.2	12406544	94.71	PASS	70-130	191316.2	203921.1	93.82	PASS	70-130
N018843-004B	SAMP	1	11419882.2	12406544	92.047	PASS	70-130	186670	203921.1	91.54	PASS	70-130
N018843-005B	SAMP	1	11509084.8	12406544	92.77	PASS	70-130	187770.6	203921.1	92.08	PASS	70-130
N018843-006B	SAMP	1	11383850.8	12406544	91.76	PASS	70-130	185135.4	203921.1	90.79	PASS	70-130
CCV4	CCV	1	12644594.3	12406544	101.92	PASS	70-130	202073.9	203921.1	99.094	PASS	70-130
CCB4	CCB	1	11591555.9	12406544	93.43	PASS	70-130	180430.1	203921.1	88.48	PASS	70-130
LLCCV1	CCV2	1	12162976.6	12406544	98.037	PASS	70-130	189392	203921.1	92.88	PASS	70-130
ICSA2	ICSA	1	12058001.9	12406544	97.19	PASS	70-130	207757.1	203921.1	101.88	PASS	70-130
ICSAB2	ICSAB	1	11982098.4	12406544	96.58	PASS	70-130	212702.2	203921.1	104.31	PASS	70-130
N018843-007B	SAMP	1	11358387.3	12406544	91.55	PASS	70-130	182536.8	203921.1	89.51	PASS	70-130
N018843-008B	SAMP	1	11105175.4	12406544	89.51	PASS	70-130	176908.8	203921.1	86.75	PASS	70-130
N018843-009B	SAMP	1	11229135	12406544	90.51	PASS	70-130	178067.7	203921.1	87.32	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	11359082.3	12406544	91.56	PASS	70-130	178547.2	203921.1	87.56	PASS	70-130
N018843-010B-MS	MS	1	11239051.8	12406544	90.59	PASS	70-130	179079	203921.1	87.82	PASS	70-130
N018844-001B	SAMP	1	11057081.5	12406544	89.12	PASS	70-130	172947.3	203921.1	84.81	PASS	70-130
N018845-001B	SAMP	1	8475282.6	12406544	68.31	NR!	70-130	151931.7	203921.1	74.51	PASS	70-130
N018845-002B	SAMP	1	7679156.7	12406544	61.9	NR!	70-130	141662.4	203921.1	69.47	NR!	70-130
N018845-003B	SAMP	1	10365132.1	12406544	83.55	PASS	70-130	176500.7	203921.1	86.55	PASS	70-130
N018845-004B	SAMP	1	9916790.9	12406544	79.93	PASS	70-130	171517.6	203921.1	84.11	PASS	70-130
CCV5	CCV	1	12956269	12406544	104.43	PASS	70-130	213508.1	203921.1	104.7	PASS	70-130
CCB5	CCB	1	11661632.2	12406544	94	PASS	70-130	190287	203921.1	93.31	PASS	70-130
N018845-006B	SAMP	1	10055342.8	12406544	81.049	PASS	70-130	170328	203921.1	83.53	PASS	70-130
N018845-007B	SAMP	1	7687577	12406544	61.96	NR!	70-130	142169.3	203921.1	69.72	NR!	70-130
N018845-008B	SAMP	1	10856750.4	12406544	87.51	PASS	70-130	176078.2	203921.1	86.35	PASS	70-130
N018845-005B	SAMP	1	9332018.4	12406544	75.22	PASS	70-130	159059.1	203921.1	78	PASS	70-130
CCV6	CCV	1	12248258.2	12406544	98.72	PASS	70-130	190726	203921.1	93.53	PASS	70-130
CCB6	CCB	1	11214394	12406544	90.39	PASS	70-130	175643	203921.1	86.13	PASS	70-130
LLCCV2	CCV2	1	11845429.5	12406544	95.48	PASS	70-130	186336.9	203921.1	91.38	PASS	70-130
ICSA3	ICSA	1	11441629.6	12406544	92.22	PASS	70-130	193457.1	203921.1	94.87	PASS	70-130
ICSAB3	ICSAB	1	11422788	12406544	92.071	PASS	70-130	197474.6	203921.1	96.84	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	135207	135207	100	PASS	70-130	164771.4	164771.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	147912.9	135207	109.4	PASS	70-130	178524.1	164771.4	108.35	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146598.5	135207	108.43	PASS	70-130	176991.3	164771.4	107.42	PASS	70-130
Std3-5/50 ppb	ICAL	1	145259.7	135207	107.44	PASS	70-130	176108.1	164771.4	106.88	PASS	70-130
Std4-10/100 ppb	ICAL	1	142616.2	135207	105.48	PASS	70-130	171058.3	164771.4	103.82	PASS	70-130
Std5-20/200 ppb	ICAL	1	139991.3	135207	103.54	PASS	70-130	168702.9	164771.4	102.39	PASS	70-130
Std6-40/400 ppb	ICAL	1	141092.9	135207	104.35	PASS	70-130	170189.2	164771.4	103.29	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136435.5	135207	100.91	PASS	70-130	166024.5	164771.4	100.76	PASS	70-130
Std8-200/2000 ppb	ICAL	1	135652.3	135207	100.33	PASS	70-130	164349.5	164771.4	99.74	PASS	70-130
ICV	ICV	1	98316.8	135207	72.72	PASS	70-130	116781.5	164771.4	70.87	PASS	70-130
ICB	ICB	1	126582.2	135207	93.62	PASS	70-130	149925.6	164771.4	90.99	PASS	70-130
LLICV	CCV1	1	133211.4	135207	98.52	PASS	70-130	159338.6	164771.4	96.7	PASS	70-130
ICSA1	ICSA	1	135652.7	135207	100.33	PASS	70-130	156599	164771.4	95.04	PASS	70-130
ICSAB1	ICSAB	1	137509.6	135207	101.7	PASS	70-130	162406	164771.4	98.56	PASS	70-130
CCV1	CCV	1	134446.3	135207	99.44	PASS	70-130	166758.6	164771.4	101.21	PASS	70-130
CCB1	CCB	1	120968.8	135207	89.47	PASS	70-130	144543.2	164771.4	87.72	PASS	70-130
CCV2	CCV	1	126298.5	135207	93.41	PASS	70-130	156637.1	164771.4	95.063	PASS	70-130
CCB2	CCB	1	113420.9	135207	83.89	PASS	70-130	136446.8	164771.4	82.81	PASS	70-130
MB-56419	MBLK	1	133237.9	135207	98.54	PASS	70-130	160968.4	164771.4	97.69	PASS	70-130
LCS-56419	LCS	1	132942.6	135207	98.33	PASS	70-130	163545.2	164771.4	99.26	PASS	70-130
N018861-007B	SAMP	1	81790.3	135207	60.49	NR!	70-130	92172.8	164771.4	55.94	NR!	70-130
CCV3	CCV	1	147319.6	135207	108.96	PASS	70-130	180298.9	164771.4	109.42	PASS	70-130
CCB3	CCB	1	131180.5	135207	97.022	PASS	70-130	158917.8	164771.4	96.45	PASS	70-130
N018861-007B	SAMP	5	106697.1	135207	78.91	PASS	70-130	126139	164771.4	76.55	PASS	70-130
N018861-007B-PS	PS	1	84520.7	135207	62.51	NR!	70-130	97455.4	164771.4	59.15	NR!	70-130
N018861-007B-MS	MS	1	86130.2	135207	63.7	NR!	70-130	97479.9	164771.4	59.16	NR!	70-130
N018861-007B-MSD	MSD	1	85834.3	135207	63.48	NR!	70-130	97669.1	164771.4	59.28	NR!	70-130
N018843-001B	SAMP	1	127497.8	135207	94.3	PASS	70-130	154505	164771.4	93.77	PASS	70-130
N018843-002B	SAMP	1	125360.2	135207	92.72	PASS	70-130	153001.9	164771.4	92.86	PASS	70-130
N018843-003B	SAMP	1	125853.5	135207	93.082	PASS	70-130	152606.6	164771.4	92.62	PASS	70-130
N018843-004B	SAMP	1	122724.5	135207	90.77	PASS	70-130	148205.7	164771.4	89.95	PASS	70-130
N018843-005B	SAMP	1	121427.1	135207	89.81	PASS	70-130	149713.4	164771.4	90.86	PASS	70-130
N018843-006B	SAMP	1	120717.9	135207	89.28	PASS	70-130	146394.4	164771.4	88.85	PASS	70-130
CCV4	CCV	1	137979.7	135207	102.05	PASS	70-130	173239.7	164771.4	105.14	PASS	70-130
CCB4	CCB	1	123115.4	135207	91.057	PASS	70-130	148965.3	164771.4	90.41	PASS	70-130
LLCCV1	CCV2	1	129440.7	135207	95.74	PASS	70-130	155869.7	164771.4	94.6	PASS	70-130
ICSA2	ICSA	1	130512.1	135207	96.53	PASS	70-130	150867.6	164771.4	91.56	PASS	70-130
ICSAB2	ICSAB	1	132273.4	135207	97.83	PASS	70-130	158271.8	164771.4	96.055	PASS	70-130
N018843-007B	SAMP	1	118808.5	135207	87.87	PASS	70-130	142975.8	164771.4	86.77	PASS	70-130
N018843-008B	SAMP	1	115177.1	135207	85.19	PASS	70-130	141168.5	164771.4	85.68	PASS	70-130
N018843-009B	SAMP	1	116983.2	135207	86.52	PASS	70-130	141702.9	164771.4	86	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	118426.2	135207	87.59	PASS	70-130	142570.5	164771.4	86.53	PASS	70-130
N018843-010B-MS	MS	1	117237.4	135207	86.71	PASS	70-130	142060.1	164771.4	86.22	PASS	70-130
N018844-001B	SAMP	1	114601.5	135207	84.76	PASS	70-130	139722.8	164771.4	84.8	PASS	70-130
N018845-001B	SAMP	1	91318.1	135207	67.54	NR!	70-130	108610.4	164771.4	65.92	NR!	70-130
N018845-002B	SAMP	1	82787.6	135207	61.23	NR!	70-130	95869.5	164771.4	58.18	NR!	70-130
N018845-003B	SAMP	1	110473.1	135207	81.71	PASS	70-130	128511.8	164771.4	77.99	PASS	70-130
N018845-004B	SAMP	1	105804.5	135207	78.25	PASS	70-130	125067.9	164771.4	75.9	PASS	70-130
CCV5	CCV	1	143851.3	135207	106.39	PASS	70-130	179680.3	164771.4	109.05	PASS	70-130
CCB5	CCB	1	128120.7	135207	94.76	PASS	70-130	159505.7	164771.4	96.8	PASS	70-130
N018845-006B	SAMP	1	107112.9	135207	79.22	PASS	70-130	125078.4	164771.4	75.91	PASS	70-130
N018845-007B	SAMP	1	82802.3	135207	61.24	NR!	70-130	96905.6	164771.4	58.81	NR!	70-130
N018845-008B	SAMP	1	113615.6	135207	84.031	PASS	70-130	135908.1	164771.4	82.48	PASS	70-130
N018845-005B	SAMP	1	98587.6	135207	72.92	PASS	70-130	117850.1	164771.4	71.52	PASS	70-130
CCV6	CCV	1	130106.5	135207	96.23	PASS	70-130	161230.3	164771.4	97.85	PASS	70-130
CCB6	CCB	1	119420.7	135207	88.32	PASS	70-130	146286.4	164771.4	88.78	PASS	70-130
LLCCV2	CCV2	1	127750.8	135207	94.49	PASS	70-130	154368	164771.4	93.69	PASS	70-130
ICSA3	ICSA	1	123555.9	135207	91.38	PASS	70-130	146304.2	164771.4	88.79	PASS	70-130
ICSAB3	ICSAB	1	124020.1	135207	91.73	PASS	70-130	148570.5	164771.4	90.17	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	3649054.4	3649054.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	3936389.5	3649054.4	107.87	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	3919515.8	3649054.4	107.41	PASS	70-130
Std3-5/50 ppb	ICAL	1	3891447.1	3649054.4	106.64	PASS	70-130
Std4-10/100 ppb	ICAL	1	3870199.5	3649054.4	106.06	PASS	70-130
Std5-20/200 ppb	ICAL	1	3833322.2	3649054.4	105.05	PASS	70-130
Std6-40/400 ppb	ICAL	1	3850266.1	3649054.4	105.51	PASS	70-130
Std7-100/1000 ppb	ICAL	1	3726860.3	3649054.4	102.13	PASS	70-130
Std8-200/2000 ppb	ICAL	1	3690356.2	3649054.4	101.13	PASS	70-130
ICV	ICV	1	3036599.5	3649054.4	83.22	PASS	70-130
ICB	ICB	1	3466105.7	3649054.4	94.99	PASS	70-130
LLICV	CCV1	1	3608489	3649054.4	98.89	PASS	70-130
ICSA1	ICSA	1	3377494.3	3649054.4	92.56	PASS	70-130
ICSAB1	ICSAB	1	3395422	3649054.4	93.049	PASS	70-130
CCV1	CCV	1	3637663.8	3649054.4	99.69	PASS	70-130
CCB1	CCB	1	3292290.8	3649054.4	90.22	PASS	70-130
CCV2	CCV	1	3429982.5	3649054.4	94	PASS	70-130
CCB2	CCB	1	3110562	3649054.4	85.24	PASS	70-130
MB-56419	MBLK	1	3536710.9	3649054.4	96.92	PASS	70-130
LCS-56419	LCS	1	3578821.9	3649054.4	98.075	PASS	70-130
N018861-007B	SAMP	1	1849419.4	3649054.4	50.68	NR!	70-130
CCV3	CCV	1	3895709.1	3649054.4	106.76	PASS	70-130
CCB3	CCB	1	3505563	3649054.4	96.068	PASS	70-130
N018861-007B	SAMP	5	2630783.5	3649054.4	72.095	PASS	70-130
N018861-007B-PS	PS	1	1922403.9	3649054.4	52.68	NR!	70-130
N018861-007B-MS	MS	1	1950060	3649054.4	53.44	NR!	70-130
N018861-007B-MSD	MSD	1	1960540.1	3649054.4	53.73	NR!	70-130
N018843-001B	SAMP	1	3201090.1	3649054.4	87.72	PASS	70-130
N018843-002B	SAMP	1	3082537.6	3649054.4	84.47	PASS	70-130
N018843-003B	SAMP	1	3088205.7	3649054.4	84.63	PASS	70-130
N018843-004B	SAMP	1	3041807.1	3649054.4	83.36	PASS	70-130
N018843-005B	SAMP	1	3027730.7	3649054.4	82.97	PASS	70-130
N018843-006B	SAMP	1	3000338.5	3649054.4	82.22	PASS	70-130
CCV4	CCV	1	3640849	3649054.4	99.78	PASS	70-130
CCB4	CCB	1	3275233.4	3649054.4	89.76	PASS	70-130
LLCCV1	CCV2	1	3446043.8	3649054.4	94.44	PASS	70-130
ICSA2	ICSA	1	3213929.4	3649054.4	88.076	PASS	70-130
ICSAB2	ICSAB	1	3224762.2	3649054.4	88.37	PASS	70-130
N018843-007B	SAMP	1	2995327.3	3649054.4	82.085	PASS	70-130
N018843-008B	SAMP	1	2872974.6	3649054.4	78.73	PASS	70-130
N018843-009B	SAMP	1	2919941.9	3649054.4	80.019	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	2942353.9	3649054.4	80.63	PASS	70-130
N018843-010B-MS	MS	1	2932205.3	3649054.4	80.36	PASS	70-130
N018844-001B	SAMP	1	2876373.1	3649054.4	78.83	PASS	70-130
N018845-001B	SAMP	1	2128330.6	3649054.4	58.33	NR!	70-130
N018845-002B	SAMP	1	1942286.2	3649054.4	53.23	NR!	70-130
N018845-003B	SAMP	1	2649370.4	3649054.4	72.6	PASS	70-130
N018845-004B	SAMP	1	2557456.8	3649054.4	70.085	PASS	70-130
CCV5	CCV	1	3748949.6	3649054.4	102.74	PASS	70-130
CCB5	CCB	1	3364377.4	3649054.4	92.2	PASS	70-130
N018845-006B	SAMP	1	2575526.2	3649054.4	70.58	PASS	70-130
N018845-007B	SAMP	1	1907283.2	3649054.4	52.27	NR!	70-130
N018845-008B	SAMP	1	2804713.8	3649054.4	76.86	PASS	70-130
N018845-005B	SAMP	1	2381565	3649054.4	65.27	NR!	70-130
CCV6	CCV	1	3441226.2	3649054.4	94.3	PASS	70-130
CCB6	CCB	1	3180107.3	3649054.4	87.15	PASS	70-130
LLCCV2	CCV2	1	3364032	3649054.4	92.19	PASS	70-130
ICSA3	ICSA	1	3007549.2	3649054.4	82.42	PASS	70-130
ICSAB3	ICSAB	1	3002123.9	3649054.4	82.27	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	10274792.6	10274792.6	100	PASS	70-130	171872.1	171872.1	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	10013811.8	10274792.6	97.46	PASS	70-130	166885.6	171872.1	97.099	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	10060154.8	10274792.6	97.91	PASS	70-130	164481.1	171872.1	95.7	PASS	70-130
Std3-5/50 ppb	ICAL	1	9947741.5	10274792.6	96.82	PASS	70-130	162231.7	171872.1	94.39	PASS	70-130
Std4-10/100 ppb	ICAL	1	9909177.6	10274792.6	96.44	PASS	70-130	158833.7	171872.1	92.41	PASS	70-130
Std5-20/200 ppb	ICAL	1	9833876.5	10274792.6	95.71	PASS	70-130	159849.4	171872.1	93.005	PASS	70-130
Std6-40/400 ppb	ICAL	1	9881767.6	10274792.6	96.17	PASS	70-130	158058.1	171872.1	91.96	PASS	70-130
Std7-100/1000 ppb	ICAL	1	9830372.8	10274792.6	95.67	PASS	70-130	154833.5	171872.1	90.086	PASS	70-130
Std8-200/2000 ppb	ICAL	1	9680702.6	10274792.6	94.22	PASS	70-130	152727.7	171872.1	88.86	PASS	70-130
ICV	ICV	1	10685283.7	10274792.6	104	PASS	70-130	169671.3	171872.1	98.72	PASS	70-130
ICB	ICB	1	10017451.5	10274792.6	97.5	PASS	70-130	161352	171872.1	93.88	PASS	70-130
LLICV	CCV1	1	10255095.8	10274792.6	99.81	PASS	70-130	162638.9	171872.1	94.63	PASS	70-130
ICSA1	ICSA	1	9560743.2	10274792.6	93.05	PASS	70-130	165823.9	171872.1	96.48	PASS	70-130
ICSAB1	ICSAB	1	8558570.6	10274792.6	83.3	PASS	70-130	155734.6	171872.1	90.61	PASS	70-130
LLICV	CCV1	1	10361934.5	10274792.6	100.85	PASS	70-130	177090.1	171872.1	103.04	PASS	70-130
CCV1	CCV	1	9809066	10274792.6	95.47	PASS	70-130	165901.8	171872.1	96.53	PASS	70-130
CCB1	CCB	1	9801052.9	10274792.6	95.39	PASS	70-130	163804.8	171872.1	95.31	PASS	70-130
CCV2	CCV	1	9581000.7	10274792.6	93.25	PASS	70-130	155556.3	171872.1	90.51	PASS	70-130
CCB2	CCB	1	9738744	10274792.6	94.78	PASS	70-130	157102.8	171872.1	91.41	PASS	70-130
LLCCV1	CCV2	1	9901281.2	10274792.6	96.36	PASS	70-130	157849.7	171872.1	91.84	PASS	70-130
ICSA2	ICSA	1	9501460.7	10274792.6	92.47	PASS	70-130	169212.6	171872.1	98.45	PASS	70-130
ICSAB	ICSAB	1	11152296.4	10274792.6	108.54	PASS	70-130	152714.6	171872.1	88.85	PASS	70-130
CCV3	CCV	1	9220588	10274792.6	89.74	PASS	70-130	153037.7	171872.1	89.042	PASS	70-130
CCB3	CCB	1	9128620.1	10274792.6	88.84	PASS	70-130	148270.4	171872.1	86.27	PASS	70-130
MB-56419	MBLK	1	9358593.8	10274792.6	91.083	PASS	70-130	153280.5	171872.1	89.18	PASS	70-130
LCS-56419	LCS	1	9919698	10274792.6	96.54	PASS	70-130	161470.8	171872.1	93.95	PASS	70-130
N018861-007B	SAMP	1	5794513.2	10274792.6	56.4	NR!	70-130	107626.7	171872.1	62.62	NR!	70-130
N018861-007B	SAMP	5	7987047	10274792.6	77.73	PASS	70-130	139931.1	171872.1	81.42	PASS	70-130
N018861-007B	SAMP	25	8960981.3	10274792.6	87.21	PASS	70-130	147151.9	171872.1	85.62	PASS	70-130
N018861-007B-PS	PS	1	6126298.9	10274792.6	59.62	NR!	70-130	115884.6	171872.1	67.42	NR!	70-130
N018861-007B-PS	PS	5	8336845	10274792.6	81.14	PASS	70-130	143156.6	171872.1	83.29	PASS	70-130
CCV4	CCV	1	9498284.5	10274792.6	92.44	PASS	70-130	153911.3	171872.1	89.55	PASS	70-130
CCB4	CCB	1	9389099.9	10274792.6	91.38	PASS	70-130	149834.3	171872.1	87.18	PASS	70-130
N018861-007B-MS	MS	1	6213535.5	10274792.6	60.47	NR!	70-130	116288.3	171872.1	67.66	NR!	70-130
N018861-007B-MS	MS	5	8251851.2	10274792.6	80.31	PASS	70-130	142234.7	171872.1	82.76	PASS	70-130
N018861-007B-MSD	MSD	1	6180744.3	10274792.6	60.15	NR!	70-130	120049.1	171872.1	69.85	NR!	70-130
N018861-007B-MSD	MSD	5	8293961.1	10274792.6	80.72	PASS	70-130	143043.2	171872.1	83.23	PASS	70-130
N018843-001B	SAMP	1	8867293.6	10274792.6	86.3	PASS	70-130	143101.4	171872.1	83.26	PASS	70-130
N018843-002B	SAMP	1	8637908.1	10274792.6	84.069	PASS	70-130	138294.9	171872.1	80.46	PASS	70-130
N018843-003B	SAMP	1	8640662.9	10274792.6	84.096	PASS	70-130	133971.5	171872.1	77.95	PASS	70-130
N018843-004B	SAMP	1	8609849.5	10274792.6	83.8	PASS	70-130	131403.8	171872.1	76.45	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	159 Tb (ISTD) [3]					45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	8559934.7	10274792.6	83.31	PASS	70-130	133001.7	171872.1	77.38	PASS	70-130
N018843-006B	SAMP	1	8394207.9	10274792.6	81.7	PASS	70-130	130116.3	171872.1	75.71	PASS	70-130
CCV5	CCV	1	8726002.5	10274792.6	84.93	PASS	70-130	138521.4	171872.1	80.6	PASS	70-130
CCB5	CCB	1	8980966.5	10274792.6	87.41	PASS	70-130	138681.8	171872.1	80.69	PASS	70-130
N018843-007B	SAMP	1	8541865.2	10274792.6	83.13	PASS	70-130	128697.6	171872.1	74.88	PASS	70-130
N018843-008B	SAMP	1	8294128.8	10274792.6	80.72	PASS	70-130	124792.6	171872.1	72.61	PASS	70-130
N018843-009B	SAMP	1	8443951.3	10274792.6	82.18	PASS	70-130	125473.5	171872.1	73.004	PASS	70-130
N018843-010B	SAMP	1	8434559.2	10274792.6	82.09	PASS	70-130	125801	171872.1	73.19	PASS	70-130
N018843-010B	SAMP	5	8540987.7	10274792.6	83.13	PASS	70-130	130323.7	171872.1	75.83	PASS	70-130
N018843-010B-MS	MS	1	8534608.7	10274792.6	83.064	PASS	70-130	127364.2	171872.1	74.1	PASS	70-130
N018843-010B-MS	MSD	5	8554805.5	10274792.6	83.26	PASS	70-130	132060.2	171872.1	76.84	PASS	70-130
N018844-001B	SAMP	1	8395907.4	10274792.6	81.71	PASS	70-130	121935.3	171872.1	70.95	PASS	70-130
N018845-001B	SAMP	1	6363420.2	10274792.6	61.93	NR!	70-130	107644.1	171872.1	62.63	NR!	70-130
N018845-001B	SAMP	5	8170313.6	10274792.6	79.52	PASS	70-130	130910.2	171872.1	76.17	PASS	70-130
CCV6	CCV	1	8787476.5	10274792.6	85.52	PASS	70-130	140105.1	171872.1	81.52	PASS	70-130
CCB6	CCB	1	8822683.1	10274792.6	85.87	PASS	70-130	137384.6	171872.1	79.93	PASS	70-130
LLCCV2	CCV2	1	8899868.9	10274792.6	86.62	PASS	70-130	136439.8	171872.1	79.38	PASS	70-130
ICSA3	ICSA	1	8341254.7	10274792.6	81.18	PASS	70-130	139750.5	171872.1	81.31	PASS	70-130
ICSAB3	ICSAB	1	11419229.3	10274792.6	111.14	PASS	70-130	162057	171872.1	94.29	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	114739.3	114739.3	100	PASS	70-130	151772	151772	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	113154.9	114739.3	98.62	PASS	70-130	146962.5	151772	96.83	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	110851.4	114739.3	96.61	PASS	70-130	146301.7	151772	96.4	PASS	70-130
Std3-5/50 ppb	ICAL	1	109870.7	114739.3	95.76	PASS	70-130	143870.9	151772	94.79	PASS	70-130
Std4-10/100 ppb	ICAL	1	107891	114739.3	94.031	PASS	70-130	142366.7	151772	93.8	PASS	70-130
Std5-20/200 ppb	ICAL	1	107005.2	114739.3	93.26	PASS	70-130	141838.4	151772	93.45	PASS	70-130
Std6-40/400 ppb	ICAL	1	106125.1	114739.3	92.49	PASS	70-130	138142	151772	91.019	PASS	70-130
Std7-100/1000 ppb	ICAL	1	103960.2	114739.3	90.61	PASS	70-130	136219.5	151772	89.75	PASS	70-130
Std8-200/2000 ppb	ICAL	1	101544.3	114739.3	88.5	PASS	70-130	132719.9	151772	87.45	PASS	70-130
ICV	ICV	1	113930.8	114739.3	99.3	PASS	70-130	145029.5	151772	95.56	PASS	70-130
ICB	ICB	1	109872.1	114739.3	95.76	PASS	70-130	142122.4	151772	93.64	PASS	70-130
LLICV	CCV1	1	106883.6	114739.3	93.15	PASS	70-130	138927.8	151772	91.54	PASS	70-130
ICSA1	ICSA	1	104594.7	114739.3	91.16	PASS	70-130	132052.7	151772	87.007	PASS	70-130
ICSAB1	ICSAB	1	97742.6	114739.3	85.19	PASS	70-130	124666.6	151772	82.14	PASS	70-130
LLICV	CCV1	1	114372.4	114739.3	99.68	PASS	70-130	150707.1	151772	99.3	PASS	70-130
CCV1	CCV	1	109469.2	114739.3	95.41	PASS	70-130	143042.9	151772	94.25	PASS	70-130
CCB1	CCB	1	109342.2	114739.3	95.3	PASS	70-130	140510.1	151772	92.58	PASS	70-130
CCV2	CCV	1	102231.9	114739.3	89.099	PASS	70-130	128575.5	151772	84.72	PASS	70-130
CCB2	CCB	1	104574.2	114739.3	91.14	PASS	70-130	134516.8	151772	88.63	PASS	70-130
LLCCV1	CCV2	1	102750.8	114739.3	89.55	PASS	70-130	133473.7	151772	87.94	PASS	70-130
ICSA2	ICSA	1	106011.6	114739.3	92.39	PASS	70-130	127789.1	151772	84.2	PASS	70-130
ICSAB	ICSAB	1	98577.6	114739.3	85.91	PASS	70-130	114090.2	151772	75.17	PASS	70-130
CCV3	CCV	1	100796.8	114739.3	87.85	PASS	70-130	131560.2	151772	86.68	PASS	70-130
CCB3	CCB	1	98954.3	114739.3	86.24	PASS	70-130	126508.4	151772	83.35	PASS	70-130
MB-56419	MBLK	1	102190.6	114739.3	89.063	PASS	70-130	133126	151772	87.71	PASS	70-130
LCS-56419	LCS	1	105443.2	114739.3	91.9	PASS	70-130	134847.4	151772	88.85	PASS	70-130
N018861-007B	SAMP	1	61963.8	114739.3	54.004	NR!	70-130	73439.7	151772	48.39	NR!	70-130
N018861-007B	SAMP	5	85832.7	114739.3	74.81	PASS	70-130	107925.6	151772	71.11	PASS	70-130
N018861-007B	SAMP	25	96711	114739.3	84.29	PASS	70-130	123461	151772	81.35	PASS	70-130
N018861-007B-PS	PS	1	65106.7	114739.3	56.74	NR!	70-130	77612.5	151772	51.14	NR!	70-130
N018861-007B-PS	PS	5	88045.5	114739.3	76.74	PASS	70-130	111354.5	151772	73.37	PASS	70-130
CCV4	CCV	1	101146.1	114739.3	88.15	PASS	70-130	130942.4	151772	86.28	PASS	70-130
CCB4	CCB	1	101093.8	114739.3	88.11	PASS	70-130	127959.2	151772	84.31	PASS	70-130
N018861-007B-MS	MS	1	66165.7	114739.3	57.67	NR!	70-130	77888.9	151772	51.32	NR!	70-130
N018861-007B-MS	MS	5	86770.1	114739.3	75.62	PASS	70-130	111806.9	151772	73.67	PASS	70-130
N018861-007B-MSD	MSD	1	67568.3	114739.3	58.89	NR!	70-130	81696.3	151772	53.83	NR!	70-130
N018861-007B-MSD	MSD	5	87883.8	114739.3	76.59	PASS	70-130	110005.7	151772	72.48	PASS	70-130
N018843-001B	SAMP	1	93414	114739.3	81.41	PASS	70-130	118695.3	151772	78.21	PASS	70-130
N018843-002B	SAMP	1	90858.4	114739.3	79.19	PASS	70-130	116264	151772	76.6	PASS	70-130
N018843-003B	SAMP	1	90197.3	114739.3	78.61	PASS	70-130	113949.5	151772	75.079	PASS	70-130
N018843-004B	SAMP	1	88164	114739.3	76.84	PASS	70-130	113486	151772	74.77	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	88120.4	114739.3	76.8	PASS	70-130	111466.7	151772	73.44	PASS	70-130
N018843-006B	SAMP	1	86799	114739.3	75.65	PASS	70-130	112715.4	151772	74.27	PASS	70-130
CCV5	CCV	1	91764.9	114739.3	79.98	PASS	70-130	119334.6	151772	78.63	PASS	70-130
CCB5	CCB	1	91960	114739.3	80.15	PASS	70-130	117380.6	151772	77.34	PASS	70-130
N018843-007B	SAMP	1	85767.1	114739.3	74.75	PASS	70-130	107922.4	151772	71.11	PASS	70-130
N018843-008B	SAMP	1	82876.8	114739.3	72.23	PASS	70-130	105241.6	151772	69.34	NR!	70-130
N018843-009B	SAMP	1	83642.8	114739.3	72.9	PASS	70-130	106605.2	151772	70.24	PASS	70-130
N018843-010B	SAMP	1	84701.6	114739.3	73.82	PASS	70-130	107896.7	151772	71.091	PASS	70-130
N018843-010B	SAMP	5	89559.4	114739.3	78.055	PASS	70-130	113032.1	151772	74.47	PASS	70-130
N018843-010B-MS	MS	1	85640.9	114739.3	74.64	PASS	70-130	106355.2	151772	70.076	PASS	70-130
N018843-010B-MS	MSD	5	89504.6	114739.3	78.007	PASS	70-130	116575.5	151772	76.81	PASS	70-130
N018844-001B	SAMP	1	83423.8	114739.3	72.71	PASS	70-130	105792.8	151772	69.71	NR!	70-130
N018845-001B	SAMP	1	67051.2	114739.3	58.44	NR!	70-130	82526.2	151772	54.38	NR!	70-130
N018845-001B	SAMP	5	83409.2	114739.3	72.69	PASS	70-130	105388.5	151772	69.44	NR!	70-130
CCV6	CCV	1	92720.3	114739.3	80.81	PASS	70-130	119369.2	151772	78.65	PASS	70-130
CCB6	CCB	1	91840.9	114739.3	80.043	PASS	70-130	117770.8	151772	77.6	PASS	70-130
LLCCV2	CCV2	1	89468.7	114739.3	77.98	PASS	70-130	114732.8	151772	75.6	PASS	70-130
ICSA3	ICSA	1	88581.9	114739.3	77.2	PASS	70-130	108470.5	151772	71.47	PASS	70-130
ICSAB3	ICSAB	1	103010.5	114739.3	89.78	PASS	70-130	122164.3	151772	80.49	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	3065661.7	3065661.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	3012633.5	3065661.7	98.27	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	2997102.7	3065661.7	97.76	PASS	70-130
Std3-5/50 ppb	ICAL	1	2941755.2	3065661.7	95.96	PASS	70-130
Std4-10/100 ppb	ICAL	1	2921619.2	3065661.7	95.3	PASS	70-130
Std5-20/200 ppb	ICAL	1	2927018.5	3065661.7	95.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	2892832.2	3065661.7	94.36	PASS	70-130
Std7-100/1000 ppb	ICAL	1	2857868.5	3065661.7	93.22	PASS	70-130
Std8-200/2000 ppb	ICAL	1	2799519.5	3065661.7	91.32	PASS	70-130
ICV	ICV	1	3118126.4	3065661.7	101.71	PASS	70-130
ICB	ICB	1	3000190.3	3065661.7	97.86	PASS	70-130
LLICV	CCV1	1	3013514.1	3065661.7	98.3	PASS	70-130
ICSA1	ICSA	1	2625999.5	3065661.7	85.66	PASS	70-130
ICSAB1	ICSAB	1	2429414.3	3065661.7	79.25	PASS	70-130
LLICV	CCV1	1	3143402.4	3065661.7	102.54	PASS	70-130
CCV1	CCV	1	2914783.7	3065661.7	95.078	PASS	70-130
CCB1	CCB	1	2897607	3065661.7	94.52	PASS	70-130
CCV2	CCV	1	2805985.1	3065661.7	91.53	PASS	70-130
CCB2	CCB	1	2846550.3	3065661.7	92.85	PASS	70-130
LLCCV1	CCV2	1	2835229	3065661.7	92.48	PASS	70-130
ICSA2	ICSA	1	2600319.2	3065661.7	84.82	PASS	70-130
ICSAB	ICSAB	1	2667953.6	3065661.7	87.027	PASS	70-130
CCV3	CCV	1	2686495.3	3065661.7	87.63	PASS	70-130
CCB3	CCB	1	2634925.7	3065661.7	85.95	PASS	70-130
MB-56419	MBLK	1	2704909.5	3065661.7	88.23	PASS	70-130
LCS-56419	LCS	1	2823509	3065661.7	92.1	PASS	70-130
N018861-007B	SAMP	1	1399640.5	3065661.7	45.66	NR!	70-130
N018861-007B	SAMP	5	2106210.7	3065661.7	68.7	NR!	70-130
N018861-007B	SAMP	25	2427565.5	3065661.7	79.19	PASS	70-130
N018861-007B-PS	PS	1	1493594.9	3065661.7	48.72	NR!	70-130
N018861-007B-PS	PS	5	2182119.3	3065661.7	71.18	PASS	70-130
CCV4	CCV	1	2716989.8	3065661.7	88.63	PASS	70-130
CCB4	CCB	1	2699916.1	3065661.7	88.07	PASS	70-130
N018861-007B-MS	MS	1	1503820.5	3065661.7	49.054	NR!	70-130
N018861-007B-MS	MS	5	2128237.7	3065661.7	69.42	NR!	70-130
N018861-007B-MSD	MSD	1	1522774.8	3065661.7	49.67	NR!	70-130
N018861-007B-MSD	MSD	5	2153217.9	3065661.7	70.24	PASS	70-130
N018843-001B	SAMP	1	2374852.8	3065661.7	77.47	PASS	70-130
N018843-002B	SAMP	1	2309486.9	3065661.7	75.33	PASS	70-130
N018843-003B	SAMP	1	2285971.3	3065661.7	74.57	PASS	70-130
N018843-004B	SAMP	1	2258287.9	3065661.7	73.66	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	2225034	3065661.7	72.58	PASS	70-130
N018843-006B	SAMP	1	2204002.7	3065661.7	71.89	PASS	70-130
CCV5	CCV	1	2489512.8	3065661.7	81.21	PASS	70-130
CCB5	CCB	1	2533105.9	3065661.7	82.63	PASS	70-130
N018843-007B	SAMP	1	2193481.6	3065661.7	71.55	PASS	70-130
N018843-008B	SAMP	1	2143677.1	3065661.7	69.93	NR!	70-130
N018843-009B	SAMP	1	2174854.7	3065661.7	70.94	PASS	70-130
N018843-010B	SAMP	1	2182438.9	3065661.7	71.19	PASS	70-130
N018843-010B	SAMP	5	2319156.9	3065661.7	75.65	PASS	70-130
N018843-010B-MS	MS	1	2202663.6	3065661.7	71.85	PASS	70-130
N018843-010B-MS	MSD	5	2330678.3	3065661.7	76.025	PASS	70-130
N018844-001B	SAMP	1	2168983.8	3065661.7	70.75	PASS	70-130
N018845-001B	SAMP	1	1574607.9	3065661.7	51.36	NR!	70-130
N018845-001B	SAMP	5	2105662.7	3065661.7	68.69	NR!	70-130
CCV6	CCV	1	2504572.7	3065661.7	81.7	PASS	70-130
CCB6	CCB	1	2514564.6	3065661.7	82.024	PASS	70-130
LLCCV2	CCV2	1	2486822.8	3065661.7	81.12	PASS	70-130
ICSA3	ICSA	1	2195659.5	3065661.7	71.62	PASS	70-130
ICSAB3	ICSAB	1	2767708.7	3065661.7	90.28	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	2123839.9	2123839.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	2056633.4	2123839.9	96.84	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	2046142.4	2123839.9	96.34	PASS	70-130
Std3-5/50 ppb	ICAL	1	2046093.3	2123839.9	96.34	PASS	70-130
Std4-10/100 ppb	ICAL	1	2033311.7	2123839.9	95.74	PASS	70-130
Std5-20/200 ppb	ICAL	1	2029111.6	2123839.9	95.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	2021066.6	2123839.9	95.16	PASS	70-130
Std7-100/1000 ppb	ICAL	1	1990908.3	2123839.9	93.74	PASS	70-130
Std8-200/2000 ppb	ICAL	1	1961243.2	2123839.9	92.34	PASS	70-130
ICV	ICV	1	2161188.7	2123839.9	101.76	PASS	70-130
ICB	ICB	1	2151314	2123839.9	101.29	PASS	70-130
LLICV	CCV1	1	2165445.2	2123839.9	101.96	PASS	70-130
ICSA1	ICSA	1	1809989.7	2123839.9	85.22	PASS	70-130
ICSAB1	ICSAB	1	1683332.9	2123839.9	79.26	PASS	70-130
LLICV	CCV1	1	2159885.6	2123839.9	101.7	PASS	70-130
N018845-002B	SAMP	1	1219141.1	2123839.9	57.4	NR!	70-130
N018845-002B	SAMP	5	1675927	2123839.9	78.91	PASS	70-130
N018845-003B	SAMP	1	1644574.9	2123839.9	77.43	PASS	70-130
N018845-003B	SAMP	5	1891392.1	2123839.9	89.055	PASS	70-130
N018845-004B	SAMP	1	1568671.6	2123839.9	73.86	PASS	70-130
N018845-004B	SAMP	5	1921365.8	2123839.9	90.47	PASS	70-130
N018845-006B	SAMP	1	1632791.1	2123839.9	76.88	PASS	70-130
N018845-006B	SAMP	5	1888023.3	2123839.9	88.9	PASS	70-130
N018845-007B	SAMP	1	1253635.9	2123839.9	59.027	NR!	70-130
N018845-007B	SAMP	5	1793237.5	2123839.9	84.43	PASS	70-130
CCV1	CCV	1	2169330.9	2123839.9	102.14	PASS	70-130
CCB1	CCB	1	2196696	2123839.9	103.43	PASS	70-130
N018845-008B	SAMP	1	1817139.7	2123839.9	85.56	PASS	70-130
N018845-008B	SAMP	5	2009551.1	2123839.9	94.62	PASS	70-130
N018845-005B	SAMP	1	1520787.8	2123839.9	71.61	PASS	70-130
N018845-005B	SAMP	5	1808357	2123839.9	85.15	PASS	70-130
N018845-005B	SAMP	500	2177798.4	2123839.9	102.54	PASS	70-130
CCV2	CCV	1	2009935.1	2123839.9	94.64	PASS	70-130
CCB2	CCB	1	2025804.1	2123839.9	95.38	PASS	70-130
CCV3	CCV	1	1944448.1	2123839.9	91.55	PASS	70-130
CCB3	CCB	1	1998227.2	2123839.9	94.086	PASS	70-130
N018861-007B	SAMP	125	1862943.8	2123839.9	87.72	PASS	70-130
N018861-007B-PS	PS	25	1714053.7	2123839.9	80.71	PASS	70-130
N018861-007B-MS	MS	25	1727986.3	2123839.9	81.36	PASS	70-130
N018861-007B-MSD	MSD	25	1754014.7	2123839.9	82.59	PASS	70-130
CCV4	CCV	1	1947126.3	2123839.9	91.68	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
CCB4	CCB	1	1975849.4	2123839.9	93.032	PASS	70-130
LLCCV1	CCV2	1	1996379.3	2123839.9	94	PASS	70-130
ICSA2	ICSA	1	1721848.6	2123839.9	81.072	PASS	70-130
ICSAB2	ICSAB	1	1678560.7	2123839.9	79.034	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018844
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 5X	Chromium	ug/L	5.551185	NA	5.575755	0.44%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018844
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 25X	Arsenic	ug/L	15.99961	PASS	16.30795	1.89%	10
N018861-007B DT 25X	Barium	ug/L	41.89108	PASS	40.87206	2.49%	10
N018861-007B DT 25X	Manganese	ug/L	25.65824	PASS	24.48796	4.78%	10
N018861-007B DT 25X	Selenium	ug/L	~~1.961576~~ 0	NA	0		10

Note: NA - Not applicable

Mary 3/11/2016
for

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018844
Test Method: EPA 6020
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 125X	Molybdenum	ug/L	75.84905	PASS	81.14314	6.52%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	N018861-007B-PS	SampType:	PS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/8/2016	SeqNo:	2254605

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.233	0.50	10.00	16.31	89.2	80	120				
Barium	143.757	5.0	100.0	40.87	103	80	120				
Manganese	116.471	2.5	100.0	24.49	92.0	80	120				
Selenium	8.502	2.5	10.00	0	85.0	80	120				

Sample ID	N018861-007B-PS	SampType:	PS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/8/2016	SeqNo:	2255290

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.498	12	10.00	81.14	73.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018844
Project: PG&E Topock - RMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246851**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.566	1.0	10.00	5.576	79.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

ARCADIS

Project: PG&E Topock – GMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018845

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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March 14, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018845

RE: PG&E Topock - GMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 24, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N018845-002 due to matrix spike not meeting peak retention time criteria possibly due to matrix interference. Matrix spike was analyzed with dilution and retention time met method criteria. Sample was reported at dilution that meet matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary on some analytes for samples N018845-001, N018845-002, N018845-007 and N018845-009 due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meet internal standard recovery limit.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum on QC sample N018861-007B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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11060 Artesia Blvd., Ste C, Cerritos, CA 90703
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P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *14-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.0801
Lab Order: N018845
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018845-001A	MW-55-120-Q116	Groundwater	2/24/2016 1:08:00 PM	2/24/2016	3/14/2016
N018845-001B	MW-55-120-Q116	Groundwater	2/24/2016 1:08:00 PM	2/24/2016	3/14/2016
N018845-001C	MW-55-120-Q116	Groundwater	2/24/2016 1:08:00 PM	2/24/2016	3/14/2016
N018845-002A	MW-62-110-Q116	Groundwater	2/24/2016 8:00:00 AM	2/24/2016	3/14/2016
N018845-002B	MW-62-110-Q116	Groundwater	2/24/2016 8:00:00 AM	2/24/2016	3/14/2016
N018845-002C	MW-62-110-Q116	Groundwater	2/24/2016 8:00:00 AM	2/24/2016	3/14/2016
N018845-003A	MW-69-195-Q116	Groundwater	2/24/2016 8:47:00 AM	2/24/2016	3/14/2016
N018845-003B	MW-69-195-Q116	Groundwater	2/24/2016 8:47:00 AM	2/24/2016	3/14/2016
N018845-003C	MW-69-195-Q116	Groundwater	2/24/2016 8:47:00 AM	2/24/2016	3/14/2016
N018845-004A	MW-121-Q116	Groundwater	2/24/2016 8:57:00 AM	2/24/2016	3/14/2016
N018845-004B	MW-121-Q116	Groundwater	2/24/2016 8:57:00 AM	2/24/2016	3/14/2016
N018845-004C	MW-121-Q116	Groundwater	2/24/2016 8:57:00 AM	2/24/2016	3/14/2016
N018845-005A	MW-68-180-Q116	Groundwater	2/24/2016 11:25:00 AM	2/24/2016	3/14/2016
N018845-005B	MW-68-180-Q116	Groundwater	2/24/2016 11:25:00 AM	2/24/2016	3/14/2016
N018845-005C	MW-68-180-Q116	Groundwater	2/24/2016 11:25:00 AM	2/24/2016	3/14/2016
N018845-006A	MW-65-160-Q116	Groundwater	2/24/2016 9:51:00 AM	2/24/2016	3/14/2016
N018845-006B	MW-65-160-Q116	Groundwater	2/24/2016 9:51:00 AM	2/24/2016	3/14/2016
N018845-006C	MW-65-160-Q116	Groundwater	2/24/2016 9:51:00 AM	2/24/2016	3/14/2016
N018845-007A	MW-65-225-Q116	Groundwater	2/24/2016 10:15:00 AM	2/24/2016	3/14/2016
N018845-007B	MW-65-225-Q116	Groundwater	2/24/2016 10:15:00 AM	2/24/2016	3/14/2016
N018845-007C	MW-65-225-Q116	Groundwater	2/24/2016 10:15:00 AM	2/24/2016	3/14/2016
N018845-008A	MW-38S-Q116	Groundwater	2/24/2016 2:04:00 PM	2/24/2016	3/14/2016
N018845-008B	MW-38S-Q116	Groundwater	2/24/2016 2:04:00 PM	2/24/2016	3/14/2016
N018845-008C	MW-38S-Q116	Groundwater	2/24/2016 2:04:00 PM	2/24/2016	3/14/2016
N018845-009A	MW-58BR-Q116	Groundwater	2/24/2016 2:10:00 PM	2/24/2016	3/14/2016
N018845-009B	MW-58BR-Q116	Groundwater	2/24/2016 2:10:00 PM	2/24/2016	3/14/2016
N018845-009C	MW-58BR-Q116	Groundwater	2/24/2016 2:10:00 PM	2/24/2016	3/14/2016
N018845-010A	MW-38S-SMT-Q116	Groundwater	2/24/2016 2:26:00 PM	2/24/2016	3/14/2016
N018845-010B	MW-38S-SMT-Q116	Groundwater	2/24/2016 2:26:00 PM	2/24/2016	3/14/2016

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
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NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.0801
Lab Order: N018845
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018845-010C	MW-38S-SMT-Q116	Groundwater	2/24/2016 2:26:00 PM	2/24/2016	3/14/2016

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-55-120-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 1:08:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160301A** QC Batch: **R106219**				PrepDate			Analyst: **RB**
Hexavalent Chromium	7.6	0.015	0.20		µg/L	1	3/1/2016 02:09 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160307A** QC Batch: **56419**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	8.1	0.43	5.0		µg/L	5	3/8/2016 03:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:00:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B**	QC Batch: **R106240**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.075	1.0		µg/L	5	3/2/2016 02:14 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 12:47 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM							
			SM 3500-CR B				
RunID: **WETCHEM_160310E**	QC Batch: **R106391**			PrepDate			Analyst: **QBM**
Chromium, Hexavalent	620	1.4	10		µg/L	1	3/10/2016
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	670	0.43	5.0		µg/L	5	3/8/2016 01:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-121-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:57:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM							
			SM 3500-CR B				
RunID: **WETCHEM_160310E**	QC Batch: **R106391**			PrepDate			Analyst: **QBM**
Chromium, Hexavalent	610	1.4	10		µg/L	1	3/10/2016
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	660	0.43	5.0		µg/L	5	3/8/2016 01:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 11:25:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM							
			SM 3500-CR B				
RunID: **WETCHEM_160310E**	QC Batch: **R106391**			PrepDate			Analyst: **QBM**
Chromium, Hexavalent	37000	140	1000		µg/L	100	3/10/2016
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	42000	43	500		µg/L	500	3/8/2016 02:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B**	QC Batch: **R106240**			PrepDate			Analyst: **RB**
Hexavalent Chromium	140	0.30	4.0		µg/L	20	3/2/2016 02:52 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	150	0.086	1.0		µg/L	1	3/8/2016 01:20 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 10:15:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B**	QC Batch: **R106240**			PrepDate			Analyst: **RB**
Hexavalent Chromium	510	0.75	10		µg/L	50	3/2/2016 03:11 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	490	0.43	5.0		µg/L	5	3/8/2016 01:37 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:04:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160302B** QC Batch: **R106240**				PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	3/2/2016 03:30 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_160308A** QC Batch: **56419**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 01:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160302B** QC Batch: **R106240** PrepDate							Analyst: **RB**
Hexavalent Chromium	4.1	0.015	0.20		µg/L	1	3/2/2016 03:49 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **ICP7_160307A** QC Batch: **56426** PrepDate **2/26/2016**							Analyst: **CEI**
Chromium	4.5	0.086	1.0		µg/L	1	3/7/2016 09:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-SMT-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:26:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B**	QC Batch: **R106240**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	3/2/2016 04:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56426**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/7/2016 09:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R106219** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **PBW** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106219** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **LCSW** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.003	0.20	5.000	0	100	90	110				

Sample ID **N018867-005ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ZZZZZZ** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.804	0.20						0.8505	5.58	20	

Sample ID **N018867-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ZZZZZZ** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.779	0.20	5.000	0.8505	98.6	90	110				

Sample ID **N018867-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ZZZZZZ** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.862	0.20	5.000	0.8505	100	90	110	5.779	1.43	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018845-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ZZZZZZ** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.787	0.20	5.000	7.632	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **LCS-R106240** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **LCSW** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.841	0.20	5.000	0	96.8	90	110				

Sample ID **MB-R106240** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **PBW** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **N018857-019CDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.673	1.0						32.75	0.234	20	

Sample ID **N018857-019CMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.704	1.0	25.00	32.75	99.8	90	110				

Sample ID **N018857-019CMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.627	1.0	25.00	32.75	99.5	90	110	57.70	0.134	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018845-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.074	1.0	5.000	0	101	90	110				

Sample ID **N018845-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	242.412	4.0	100.0	143.6	98.8	90	110				

Sample ID **N018845-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	752.830	10	250.0	510.8	96.8	90	110				

Sample ID **N018845-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.043	0.20	1.000	0.03930	100	90	110				

Sample ID **N018845-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.018	0.20	5.000	4.115	98.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018845-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.137	0.20	1.000	0.07200	106	90	110				

Sample ID **N018855-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.736	1.0	25.00	18.37	97.5	90	110				

Sample ID **N018855-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.795	1.0	25.00	29.80	96.0	90	110				

Sample ID **N018855-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID **N018855-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.044	0.20	1.000	0.05610	98.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018855-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106240
Client ID:	ZZZZZZ	Batch ID:	R106240	TestNo:	EPA 218.6			Analysis Date:	3/2/2016	SeqNo:	2251921

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.803	1.0	25.00	40.78	100	90	110				

Sample ID	N018855-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106240
Client ID:	ZZZZZZ	Batch ID:	R106240	TestNo:	EPA 218.6			Analysis Date:	3/2/2016	SeqNo:	2251923

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.720	1.0	25.00	29.36	97.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID **LCS-R106391** SampType: **LCS** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **LCSW** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	97.934	10	100.0	0	97.9	85	115				

Sample ID **MB-R106391** SampType: **MBLK** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **PBW** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	10									

Sample ID **N018845-005AMS** SampType: **MS** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **ZZZZZZ** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	62271.200	1000	25000	37090	101	85	115				

Sample ID **N018845-005AMSD** SampType: **MSD** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **ZZZZZZ** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	62363.700	1000	25000	37090	101	85	115	62270	0.148	20	

Sample ID **N018919-002DDUP** SampType: **DUP** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **ZZZZZZ** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	822.922	20						824.6	0.207	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-56419	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106153
Client ID:	PBW	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/26/2016	SeqNo:	2246845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-56419	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106153
Client ID:	LCSW	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/26/2016	SeqNo:	2246846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.628	1.0	10.00	0	96.3	85	115				

Sample ID	N018861-007B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/27/2016	SeqNo:	2246852

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.902	1.0	10.00	5.576	83.3	75	125				

Sample ID	N018861-007B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	2/27/2016	SeqNo:	2246853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.707	1.0	10.00	5.576	81.3	75	125	13.90	1.41	20	

Sample ID	N018843-010B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	56419	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/8/2016	SeqNo:	2255211

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.089	1.0	10.00	0	101	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-56426	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	PBW	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255144

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-56426	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	LCSW	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255145

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.370	1.0	10.00	0	104	85	115				

Sample ID	N018845-009B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255149

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	14.761	1.0	10.00	4.465	103	75	125				

Sample ID	N018845-009B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255150

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	14.745	1.0	10.00	4.465	103	75	125	14.76	0.113	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-55-120-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 1:08:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	1.5	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:00:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.10	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	20	0.44	1.0		mg/L	20	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-121-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:57:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	19	0.22	0.50		mg/L	10	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 11:25:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	31	1.1	2.5		mg/L	50	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	11	0.44	1.0		mg/L	20	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 10:15:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	6.8	0.11	0.25		mg/L	5	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:04:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.16	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-SMT-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:26:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160307H** QC Batch: **R106333** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	3/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106333** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **PBW** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106333** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **LCSW** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.500	0.050	0.5000	0	100	85	115				

Sample ID **N018843-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ZZZZZZ** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.539	0.050						0.5604	3.87	20	

Sample ID **N018843-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ZZZZZZ** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.076	0.050	0.5000	0.5604	103	75	125				

Sample ID **N018843-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ZZZZZZ** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.075	0.050	0.5000	0.5604	103	75	125	1.076	0.0929	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-55-120-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 1:08:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	6.4	0.079	0.50		µg/L	5	3/8/2016 03:44 AM
Manganese	10	0.11	2.5		µg/L	5	3/8/2016 03:44 AM
Molybdenum	51	0.73	12		µg/L	25	3/9/2016 10:59 AM
Selenium	ND	1.7	12		µg/L	25	3/9/2016 10:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:00:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	4.9	0.079	0.50		µg/L	5	3/8/2016 12:53 PM
Manganese	81	0.023	0.50		µg/L	1	3/8/2016 12:47 PM
Molybdenum	77	0.15	2.5		µg/L	5	3/8/2016 12:53 PM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 12:53 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:47:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.4	0.016	0.10		µg/L	1	3/8/2016 12:58 PM
Manganese	2.2	0.023	0.50		µg/L	1	3/8/2016 12:58 PM
Molybdenum	92	0.029	0.50		µg/L	1	3/8/2016 12:58 PM
Selenium	12	0.070	0.50		µg/L	1	3/8/2016 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-121-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 8:57:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.3	0.016	0.10		µg/L	1	3/8/2016 01:09 PM
Manganese	2.1	0.023	0.50		µg/L	1	3/8/2016 01:09 PM
Molybdenum	94	0.029	0.50		µg/L	1	3/8/2016 01:09 PM
Selenium	12	0.070	0.50		µg/L	1	3/8/2016 01:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 11:25:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.7	0.016	0.10		µg/L	1	3/8/2016 02:05 PM
Manganese	ND	0.023	0.50		µg/L	1	3/8/2016 02:05 PM
Molybdenum	58	0.029	0.50		µg/L	1	3/8/2016 02:05 PM
Selenium	16	0.070	0.50		µg/L	1	3/8/2016 02:05 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 9:51:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	0.54	0.016	0.10		µg/L	1	3/8/2016 01:20 PM
Manganese	8.8	0.023	0.50		µg/L	1	3/8/2016 01:20 PM
Molybdenum	34	0.029	0.50		µg/L	1	3/8/2016 01:20 PM
Selenium	7.2	0.070	0.50		µg/L	1	3/8/2016 01:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 10:15:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	2.2	0.079	0.50		µg/L	5	3/8/2016 01:37 PM
Manganese	28	0.023	0.50		µg/L	1	3/8/2016 01:32 PM
Molybdenum	36	0.15	2.5		µg/L	5	3/8/2016 01:37 PM
Selenium	4.9	0.35	2.5		µg/L	5	3/8/2016 01:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:04:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56419**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	14	0.016	0.10		µg/L	1	3/8/2016 01:54 PM
Manganese	220	0.11	2.5		µg/L	5	3/8/2016 02:00 PM
Molybdenum	44	0.029	0.50		µg/L	1	3/8/2016 01:54 PM
Selenium	ND	0.070	0.50		µg/L	1	3/8/2016 01:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:10:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56426**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	1.5	0.079	0.50		µg/L	5	3/7/2016 09:28 PM
Manganese	390	0.11	2.5		µg/L	5	3/7/2016 09:28 PM
Molybdenum	27	0.15	2.5		µg/L	5	3/7/2016 09:28 PM
Selenium	ND	0.35	2.5		µg/L	5	3/7/2016 09:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-SMT-Q116
Lab Order:	N018845	**Collection Date:**	2/24/2016 2:26:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018845-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56426**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	14	0.016	0.10		µg/L	1	3/7/2016 09:50 PM
Manganese	230	0.11	2.5		µg/L	5	3/8/2016 03:20 PM
Molybdenum	43	0.029	0.50		µg/L	1	3/7/2016 09:50 PM
Selenium	ND	0.070	0.50		µg/L	1	3/7/2016 09:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

Date: *14-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.231	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.181	0.10	10.00	0	91.8	85	115				
Manganese	94.670	0.50	100.0	0	94.7	85	115				
Molybdenum	9.932	0.50	10.00	0	99.3	85	115				
Selenium	8.651	0.50	10.00	0	86.5	85	115				

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2247053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.001	0.10	10.00	2.210	97.9	75	125				
Manganese	90.378	0.50	100.0	0	90.4	75	125				
Molybdenum	16.093	0.50	10.00	5.252	108	75	125				
Selenium	10.696	0.50	10.00	1.585	91.1	75	125				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.046	0.50	10.00	16.31	97.4	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	120.283	2.5	100.0	24.49	95.8	75	125				
Selenium	9.448	2.5	10.00	0	94.5	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.237	0.50	10.00	16.31	99.3	75	125	26.05	0.729	20	
Manganese	120.509	2.5	100.0	24.49	96.0	75	125	120.3	0.187	20	
Selenium	9.553	2.5	10.00	0	95.5	75	125	9.448	1.10	20	

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.797	12	10.00	81.14	76.5	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	87.519	12	10.00	81.14	63.8	75	125	88.80	1.45	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56426** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **PBW** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56426** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **LCSW** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.266	0.10	10.00	0	103	85	115				
Manganese	100.802	0.50	100.0	0	101	85	115				
Molybdenum	10.293	0.50	10.00	0	103	85	115				
Selenium	10.099	0.50	10.00	0	101	85	115				

Sample ID **N018845-009B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.464	0.50	10.00	1.531	99.3	75	125				
Manganese	488.520	2.5	100.0	385.8	103	75	125				
Molybdenum	38.617	2.5	10.00	26.68	119	75	125				
Selenium	10.947	2.5	10.00	1.365	95.8	75	125				

Sample ID **N018845-009B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.557	0.50	10.00	1.531	100	75	125	11.46	0.808	20	
Manganese	483.808	2.5	100.0	385.8	98.0	75	125	488.5	0.969	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018845-009B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	37.964	2.5	10.00	26.68	113	75	125	38.62	1.71	20	
Selenium	10.110	2.5	10.00	1.365	87.5	75	125	10.95	7.95	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Gary Clift		Phone: 949-727-1400, ext 200	Fax:
Title: SR. Technician	Phone: 916-786-3302 / Fax:		
Signature: Date: 2-24-16	Sampled By: Jovin Towne		
I hereby authorize ASSET Labs to perform the tests indicated below	I attest to the Validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - GMP	Signature: / Date: 2/24/16		
Project Number: RC000753.0801			

Matrix		
Ground	x	Sediment
Potable		Soil
NPDES		Other Solid
Surface		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	/	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	/	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number 2		
		Regulatory		6. Method of Cooling: ICE		
Global ID:		Specify State:		Sample Temp: 3.1, 4.0, 5.2, 2.8°C		

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Dissolved (6020AFF) As; HNO3 (500 mL poly)	Metals Dissolved (6020AFF) Cr; HNO3 (500 mL poly)	Dissolved ICP metals (SW6010B/SW6020A) FF (Mo, Se); HNO3 (500 mL poly)	Dissolved ICP metals (SW6010B/SW6020A) FF (Mo, Se, Mn); HNO3 (500 mL poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N018845 - 1	MW-55-120-Q116	2/24/2016	1308		X		X	X		X	X	E	3	P	BN	
2	- 2	MW-62-110--Q116	2/24/2016	800		X		X	X		X	X	E	3	P	BN	
3	- 3	MW-69-195-Q116	2/24/2016	847			X	X	X		X	X	E	3	P	BN	
4	- 4	MW-121-Q116	2/24/2016	857			X	X	X		X	X	E	3	P	BN	
5	- 5	MW-68-180-Q116	2/24/2016	1125			X	X	X		X	X	E	3	P	BN	
6	- 6	MW-65-160-Q116	2/24/2016	951		X		X	X		X	X	E	3	P	BN	
7	- 7	MW-65-225-Q116	2/24/2016	1015		X		X	X		X	X	E	3	P	BN	
8	- 8	MW-38S-Q116	2/24/2016	1404		X		X	X		X	X	E	3	P	BN	
9	- 9	MW-58BR-Q116	2/24/2016	1410		X		X	X		X	X	E	3	P	BN	
10	- 10	MW-38S-SMT-Q116	2/24/2016	1426		X		X	X		X	X	E	3	P	BN	

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
Jovin Towne	2/24/16 1500	REC:	2/24/16 @1515
	2/24/16 @1500		2/24/16 @1800

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/24/2016	Workorder:	N018845
Rep sample Temp (Deg C):	3.1/4.0/5.2/2.8	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: MBC For: 2/26/2016

Reviewed By: 03/07/16

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018845

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018845-001A	MW-55-120-Q116	2/24/2016 1:08:00 PM	3/9/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-001B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-001C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-002A	MW-62-110-Q116	2/24/2016 8:00:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-002B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-002C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-003A	MW-69-195-Q116	2/24/2016 8:47:00 AM	3/9/2016		SM 3500-Cr B	HEXAVALENT CHROMIUM	☐	☐	☐	WW
N018845-003B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-003C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-004A	MW-121-Q116	2/24/2016 8:57:00 AM	3/9/2016		SM 3500-Cr B	HEXAVALENT CHROMIUM	☐	☐	☐	WW
N018845-004B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-004C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-005A	MW-68-180-Q116	2/24/2016 11:25:00 AM	3/9/2016		SM 3500-Cr B	HEXAVALENT CHROMIUM	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018845

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018845-005B	MW-68-180-Q116	2/24/2016 11:25:00 AM	3/9/2016	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-005C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-006A	MW-65-160-Q116	2/24/2016 9:51:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-006B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-006C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-007A	MW-65-225-Q116	2/24/2016 10:15:00 AM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-007B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-007C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-008A	MW-38S-Q116	2/24/2016 2:04:00 PM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-008B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-008C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-009A	MW-58BR-Q116	2/24/2016 2:10:00 PM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-009B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Feb-16

WorkOrder: N018845

Client ID: ARCUS02

Project: PG&E Topock - RMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/24/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018845-009B	MW-58BR-Q116	2/24/2016 2:10:00 PM	3/9/2016	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-009C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-010A	MW-38S-SMT-Q116	2/24/2016 2:26:00 PM	3/9/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018845-010B			3/9/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/9/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018845-010C			3/9/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018845-011A	FOLDER		3/9/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/9/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018845**

NAME	TEST METHOD
Quennie Manimtim	EPA 3500-CR B
Claire Ignacio	EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106219
ASSET #: N018845

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 3/1/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/9/2016 Date: ____

2nd Level Reviewer Nancy 3/10/2016 Date: ____

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106240
ASSET #: N018845

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 3/2/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

For N018845-002A to 010A run only.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/9/2016 Date: —

2nd Level Reviewer Nancy 3/10/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018845-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 7.6322* 1

= 7.6322

Reporting result in two significant figures,

Cr^{+6}, µg/L = 7.6

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160301A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	03/01/16 10:36 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	03/01/16 10:47 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/01/16 10:56 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	03/01/16 11:06 AM	Reported
14	MB-R106219	MBLK	1	Hexavalent Chromium	03/01/16 11:15 AM	Reported
15	LCS-R106219	LCS	1	Hexavalent Chromium	03/01/16 11:25 AM	Reported
16	N018867-001A	SAMP	1	Hexavalent Chromium	03/01/16 11:37 AM	Reported
17	N018867-002A	SAMP	1	Hexavalent Chromium	03/01/16 11:48 AM	Reported
18	N018867-003A	SAMP	1	Hexavalent Chromium	03/01/16 11:57 AM	Reported
19	N018867-004A	SAMP	1	Hexavalent Chromium	03/01/16 12:06 PM	Reported
20	N018867-005A	SAMP	1	Hexavalent Chromium	03/01/16 12:16 PM	Reported
21	N018867-006A	SAMP	1	Hexavalent Chromium	03/01/16 12:25 PM	Reported
22	N018867-007A	SAMP	1	Hexavalent Chromium	03/01/16 12:35 PM	Reported
23	N018867-008A	SAMP	1	Hexavalent Chromium	03/01/16 12:44 PM	Reported
24	CCV-2	CCV	1	Hexavalent Chromium	03/01/16 12:54 PM	Reported
25	CCB-2	CCB	1	Hexavalent Chromium	03/01/16 1:03 PM	Reported
26	N018867-009A	SAMP	1	Hexavalent Chromium	03/01/16 1:13 PM	Reported
27	N018867-010A	SAMP	100	Hexavalent Chromium	03/01/16 1:22 PM	Not Reported
28	N018867-005A	SAMP	1	Hexavalent Chromium	03/01/16 1:32 PM	Reported
29	N018867-005ADUP	DUP	1	Hexavalent Chromium	03/01/16 1:41 PM	Reported
30	N018867-005AMS	MS	1	Hexavalent Chromium	03/01/16 1:51 PM	Reported
31	N018867-005AMSD	MSD	1	Hexavalent Chromium	03/01/16 2:00 PM	Reported
32	N018845-001A	SAMP	1	Hexavalent Chromium	03/01/16 2:09 PM	Reported
33	N018845-001AMS	MS	1	Hexavalent Chromium	03/01/16 2:19 PM	Reported
34	N018845-002A	SAMP	1	Hexavalent Chromium	03/01/16 2:28 PM	Not Reported
35	N018845-002AMS	MS	1	Hexavalent Chromium	03/01/16 2:38 PM	Not Reported
36	CCV-3	CCV	1	Hexavalent Chromium	03/01/16 2:47 PM	Reported
37	CCB-3	CCB	1	Hexavalent Chromium	03/01/16 2:57 PM	Reported
38	N018867-010A	SAMP	1	Hexavalent Chromium	03/01/16 3:06 PM	Reported
39	N018867-019C	SAMP	1	Hexavalent Chromium	03/01/16 3:16 PM	Not Reported
40	CCV-4	CCV	1	Hexavalent Chromium	03/01/16 3:25 PM	Reported
41	CCB-4	CCB	1	Hexavalent Chromium	03/01/16 3:35 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160301A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**04/Mar/16 09:17:32**
No. of Injections:	**44**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		03/01/2016 10:36	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		03/01/2016 10:47	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		03/01/2016 10:56	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		03/01/2016 11:06	Finished	CCB R160209C
14	MB-H2O,MBLK,1	5	1000	Unknown		03/01/2016 11:15	Finished	MB
15	LCS-H2O,LCS,1	6	1000	Unknown		03/01/2016 11:25	Finished	LCS @ 5ppb, IWST-160202B
16	N018867-001A,SAMP	7	1000	Unknown		03/01/2016 11:37	Finished	SAMP, 10mL
17	N018867-002A,SAMP	8	1000	Unknown		03/01/2016 11:48	Finished	SAMP, 10mL
18	N018867-003A,SAMP	9	1000	Unknown		03/01/2016 11:57	Finished	SAMP, 10mL
19	N018867-004A,SAMP	10	1000	Unknown		03/01/2016 12:06	Finished	SAMP, 10mL
20	N018867-005A,SAMP	11	1000	Unknown		03/01/2016 12:16	Finished	SAMP, 10mL
21	N018867-006A,SAMP	12	1000	Unknown		03/01/2016 12:25	Finished	SAMP, 10mL
22	N018867-007A,SAMP	13	1000	Unknown		03/01/2016 12:35	Finished	SAMP, 10mL
23	N018867-008A,SAMP	14	1000	Unknown		03/01/2016 12:44	Finished	SAMP, 10mL
24	CCV-2,CCV,1	15	1000	Unknown		03/01/2016 12:54	Finished	CCV @ 10ppb, IWST 160202A
25	CCB-2,CCB,1	16	1000	Unknown		03/01/2016 13:03	Finished	CCB
26	N018867-009A,SAMP	17	1000	Unknown		03/01/2016 13:13	Finished	SAMP, 10mL
27	N018867-010A,SAMP	18	1000	Unknown		03/01/2016 13:22	Finished	SAMP, 0.1 to 10mL
28	N018867-005A,SAMP	19	1000	Unknown		03/01/2016 13:32	Finished	SAMP, 10mL
29	N018867-005ADUP,D	20	1000	Unknown		03/01/2016 13:41	Finished	DUP, 10mL
30	N018867-005AMS,MS	21	1000	Unknown		03/01/2016 13:51	Finished	MS(5ppb), IWST-160202B, 10r
31	N018867-005AMSD,M	22	1000	Unknown		03/01/2016 14:00	Finished	MSD(5ppb), IWST-160202B, 1
32	N018845-001A,SAMP	23	1000	Unknown		03/01/2016 14:09	Finished	SAMP, 10mL
33	N018845-001AMS,MS	24	1000	Unknown		03/01/2016 14:19	Finished	MS(5ppb), IWST-160202B, 10r
34	N018845-002A,SAMP	25	1000	Unknown		03/01/2016 14:28	Finished	SAMP, 10mL
35	N018845-002AMS,MS	26	1000	Unknown		03/01/2016 14:38	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-3,CCV,1	27	1000	Unknown		03/01/2016 14:47	Finished	CCV @ 5ppb, IWST 160202A
37	CCB-3,CCB,1	28	1000	Unknown		03/01/2016 14:57	Finished	CCB
38	N018867-010A,SAMP	29	1000	Unknown		03/01/2016 15:06	Finished	SAMP, 10mL
39	N018867-019C,SAMP	30	1000	Unknown		03/01/2016 15:16	Finished	SAMP, 10mL
40	CCV-4,CCV,1	31	1000	Unknown		03/01/2016 15:25	Finished	CCV @ 10ppb, IWST 160202A
41	CCB-4,CCB,1	32	1000	Unknown		03/01/2016 15:35	Finished	CCB
42	SHUTDOWN	33	1000	Unknown		03/01/2016 15:44	Finished	BLANK
43	Eluent: R160224A	34	1000	Unknown		n.a.	Finished	Eluent
44	PCR: R160226A	35	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40AM
Prepared By: NEB

Reagent ID:
Sulfuric Acid: C1N-151130D
Diphenylcarbazide: C1N-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018843-006A1	9.41	—	—	—	—	R160219D
2)	A2	9.41	—	—	—	—	
3)	A3	9.40	—	—	—	—	
4)	7A1	9.43	—	—	—	—	
5)	A2	9.41	—	—	—	—	
6)	A3	9.40	—	—	—	—	
7)	8A1	9.43	—	—	—	—	
8)	A2	9.39	—	—	—	—	
9)	A3	9.43	—	—	—	—	
10)	9A1	9.43	—	—	—	—	
11)	A2	9.42	—	—	—	—	
12)	A3	9.41	—	—	—	—	
13)	10A1	9.42	—	—	—	—	
14)	A2	9.40	—	—	—	—	
15)	A3	9.40	—	—	—	—	

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40AM
Prepared By: NEB

Reagent ID:
Sulfuric Acid: C1N-151130D
Diphenylcarbazide: C1N-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018844-001A1	9.44	—	—	—	—	R160219D
2)	5A	9.56	—	—	—	—	
3)	N018845-002A	9.45	—	—	—	—	
4)	6A	9.43	—	—	—	—	
5)	7A	9.38	—	—	—	—	
6)	8A	9.44	—	—	—	—	
7)	9A	9.46	—	—	—	—	
8)	10A	9.50	—	—	—	—	
9)	N018844-001A2	9.43	—	—	—	—	
10)	A3	9.41	—	—	—	—	
11)	N018845-001A	9.52	—	—	—	—	
12)							
13)							
14)							
15)							

Logbook No. 10

Reb 3/9/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0546	0.2480	1.1957	2.3389	3.5494	4.7448	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 3/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0507	0.2490	1.1983	2.3757	3.6209	4.8423	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ICV** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2250745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ZZZZZZ** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2250746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **CCV** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.063	0.20	5.000	0	101	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ZZZZZZ** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.202	0.20	0.2000	0	101	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **CCV** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.171	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCV-3	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106219
Client ID:	CCV	Batch ID:	R106219	TestNo:	EPA 218.6			Analysis Date:	3/1/2016	SeqNo:	2250769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.118	0.20	5.000	0	102	95	105				

Sample ID	CCV-4	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106219
Client ID:	CCV	Batch ID:	R106219	TestNo:	EPA 218.6			Analysis Date:	3/1/2016	SeqNo:	2250772

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.845	0.20	10.00	0	98.4	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ICV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	0.20	5.000	0	97.0	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.216	0.20	0.2000	0	108	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.960	0.20	10.00	0	99.6	95	105				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	100	95	105				

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.872	0.20	10.00	0	98.7	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.934	0.20	5.000	0	98.7	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **ICB** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2250747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **CCB** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **CCB** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **CCB** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106219**
Client ID: **CCB** Batch ID: **R106219** TestNo: **EPA 218.6** Analysis Date: **3/1/2016** SeqNo: **2250773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ICB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/1/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.031	
CCV-2	5.031	
CCV-3	5.040	
CCV-4	5.040	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
MB-R106219	N.A.	N.A.
LCS-R106219	5.031	PASS
N018867-001A	5.023	PASS
N018867-002A	5.031	PASS
N018867-003A	5.023	PASS
N018867-004A	5.031	PASS
N018867-005A	5.023	PASS
N018867-006A	5.031	PASS
N018867-007A	5.031	PASS
N018867-008A	5.040	PASS
N018867-009A	N.A.	N.A.
N018867-005A	5.023	PASS
N018867-005ADUP	5.023	PASS
N018867-005AMS	5.023	PASS
N018867-005AMSD	5.023	PASS
N018845-001A	4.873	PASS
N018845-001AMS	4.881	PASS
N018867-010A	N.A.	N.A.

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/2/2016

Sample Name	Retention Time	Evaluation
ICV	5.040	
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
LCS-R106240	5.040	PASS
MB-R106240	N.A.	N.A.
N018857-019C	5.040	PASS
N018857-019CDUP	5.040	PASS
N018857-019CMS	5.040	PASS
N018857-019CMSD	5.040	PASS
N018867-010A	N.A.	N.A.
N018845-002A	N.A.	N.A.
N018845-002AMS	4.998	PASS
N018845-006A	5.040	PASS
N018845-006AMS	5.040	PASS
N018845-007A	5.031	PASS
N018845-007AMS	5.031	PASS
N018845-008A	5.040	PASS
N018845-008AMS	5.023	PASS
N018845-009A	4.890	PASS
N018845-009AMS	4.890	PASS
N018845-010A	5.040	PASS
N018845-010AMS	5.023	PASS
N018855-001A	4.981	PASS
N018855-001AMS	4.981	PASS
N018855-002A	5.031	PASS
N018855-002AMS	5.031	PASS
N018855-003A	5.006	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/2/2016

Sample Name	Retention Time	Evaluation
ICV	5.040	
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
N018855-003AMS	5.006	PASS
N018855-004A	4.815	FAIL
N018855-004AMS	4.815	FAIL
N018855-005A	N.A.	N.A.
N018855-005AMS	5.040	PASS
N018855-006A	5.040	PASS
N018855-006AMS	5.040	PASS
N018855-002A	4.998	PASS
N018855-002AMS	4.998	PASS
N018855-004A	5.006	PASS
N018855-004AMS	5.006	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Reb 2/8/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

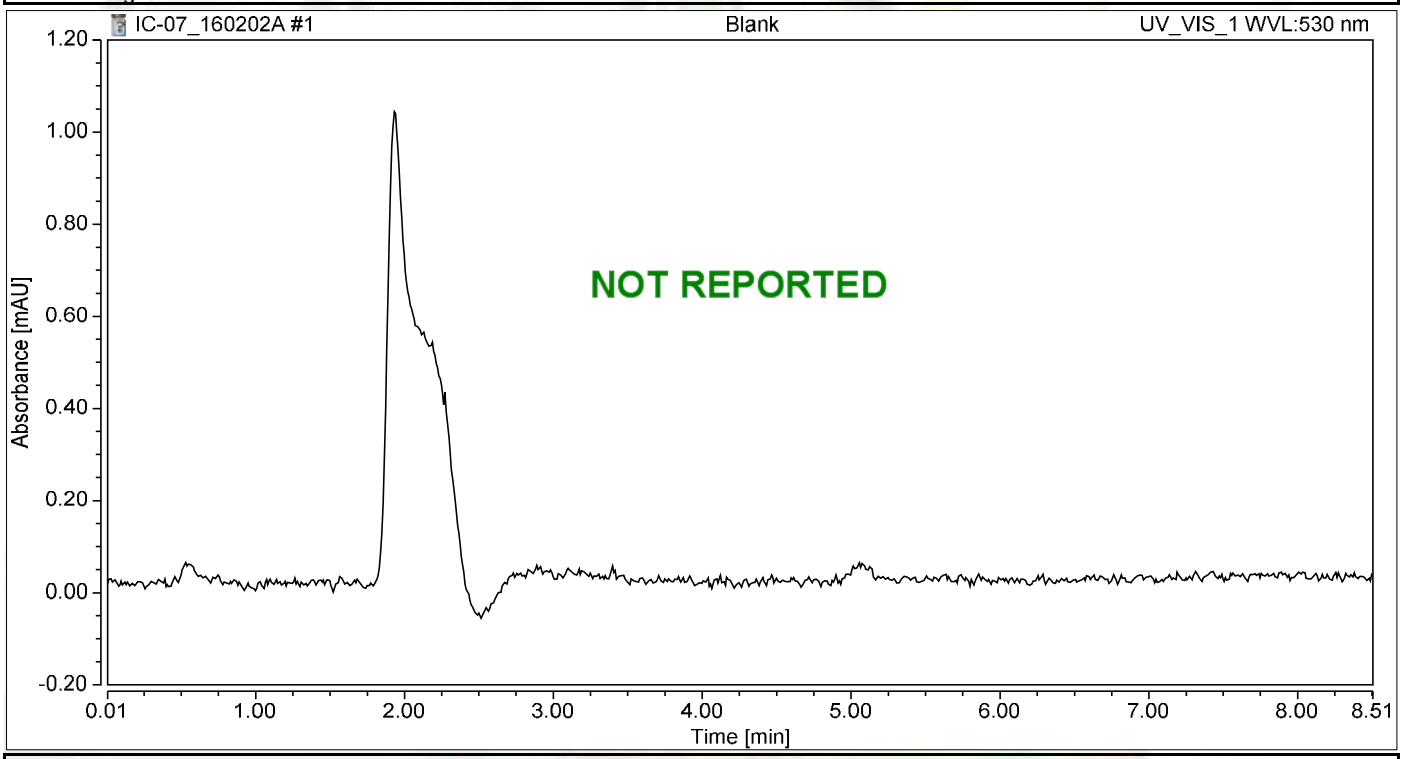
Nancy 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

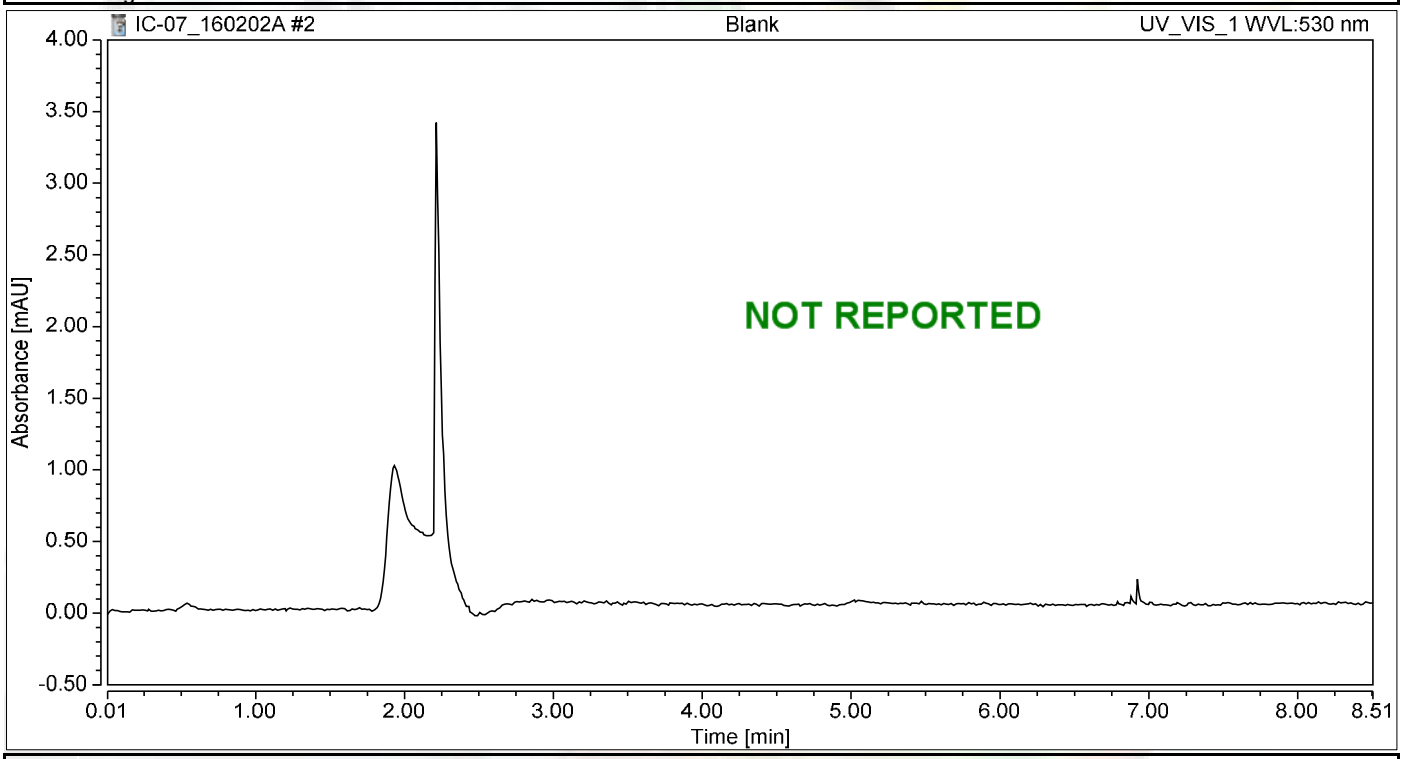
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

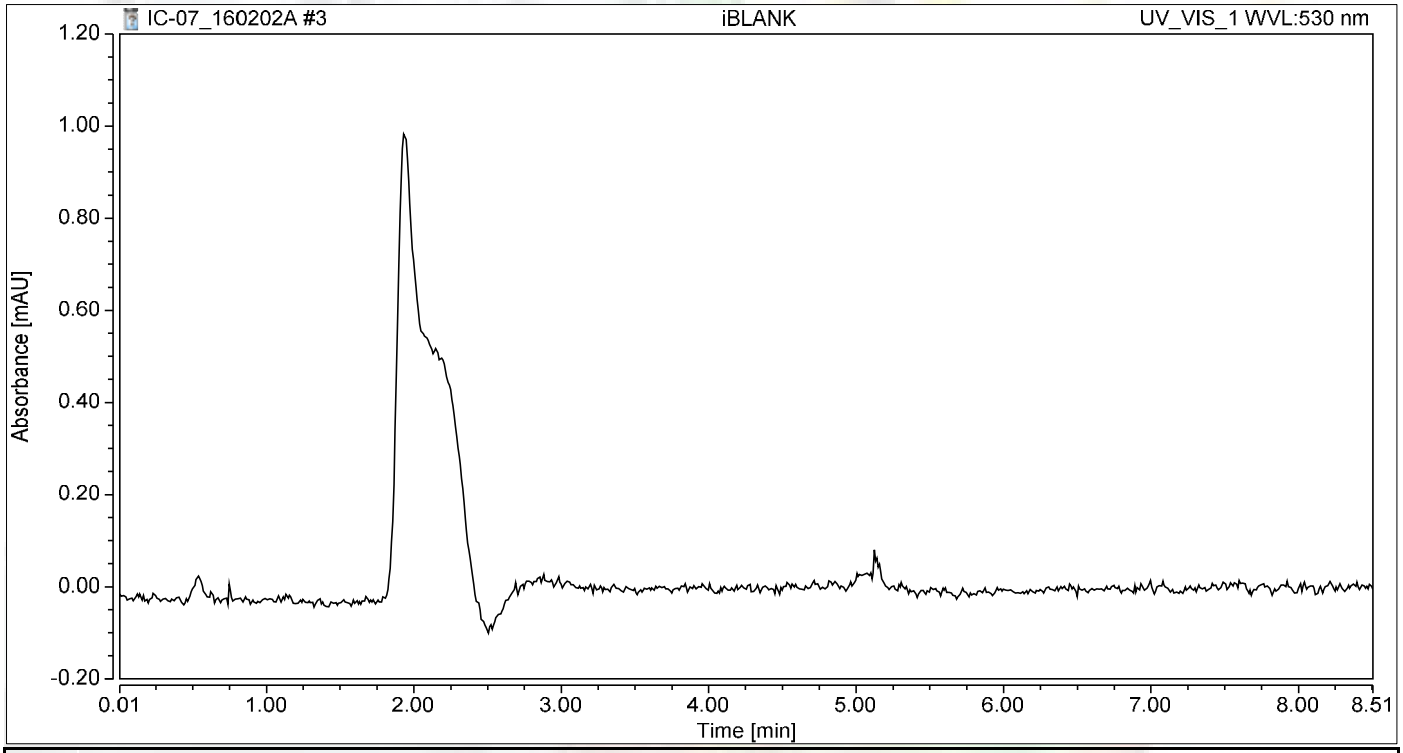
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

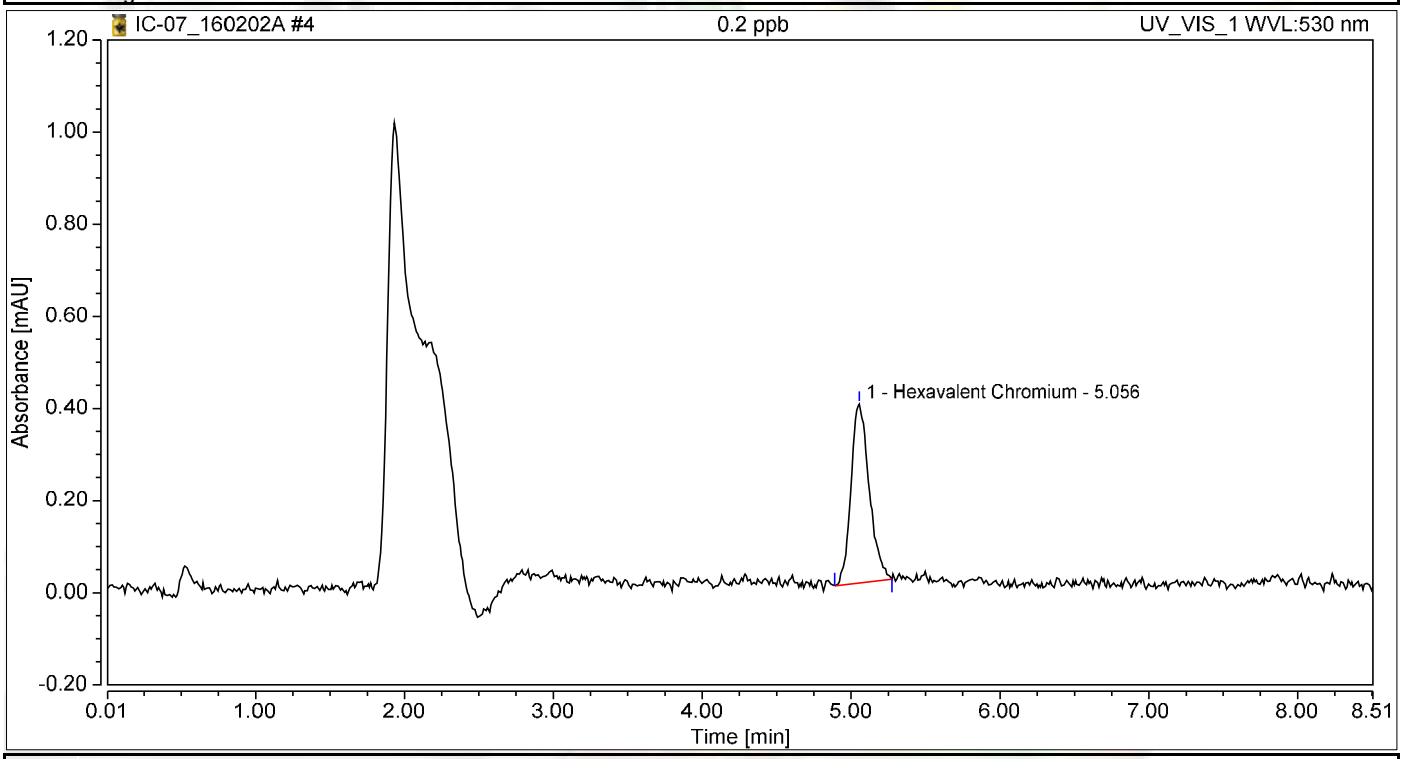
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

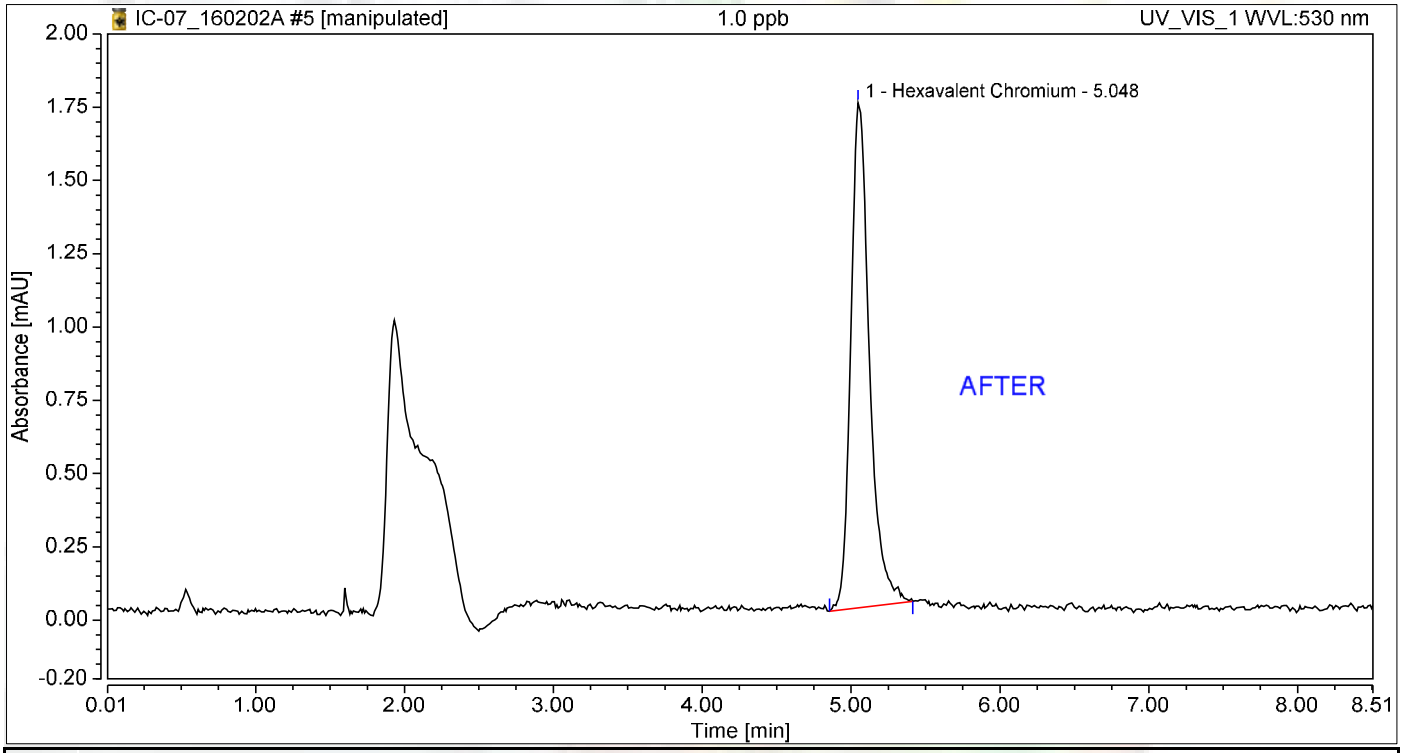
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.055	0.389	100.00	100.00	0.2305
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.723	100.00	100.00	1.0477
Total:			**0.248**	**1.723**	**100.00**	**100.00**	

Nancy 2/8/2016

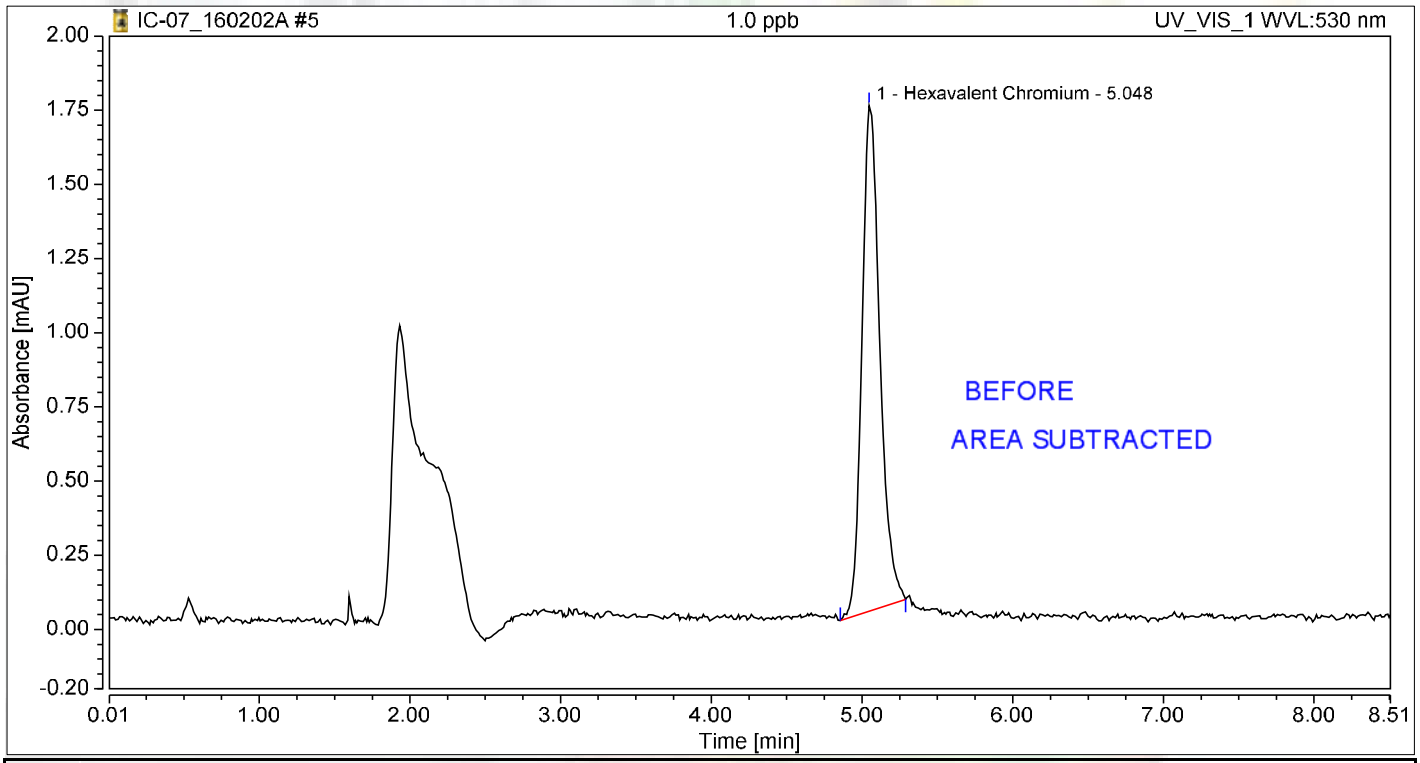
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.235	1.704	100.00	100.00	0.9945
Total:			**0.235**	**1.704**	**100.00**	**100.00**	

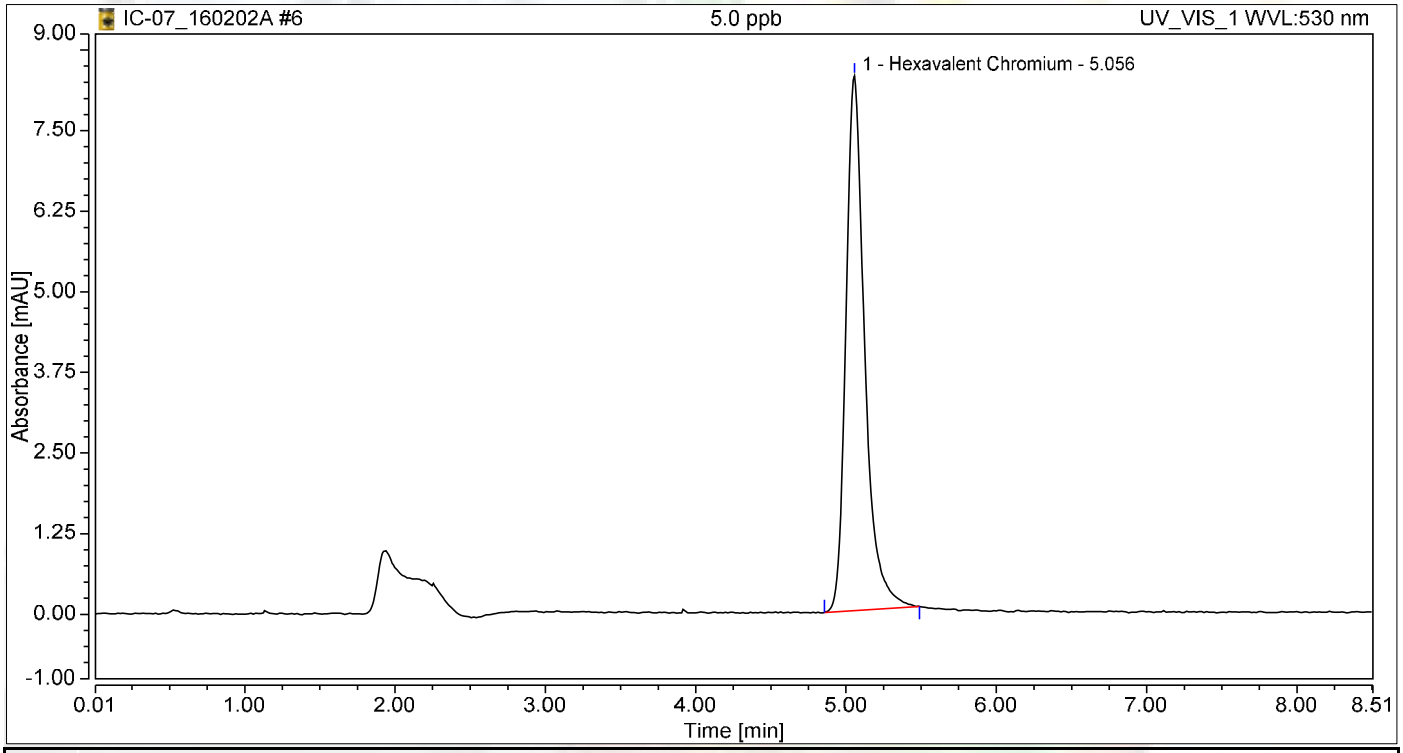
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

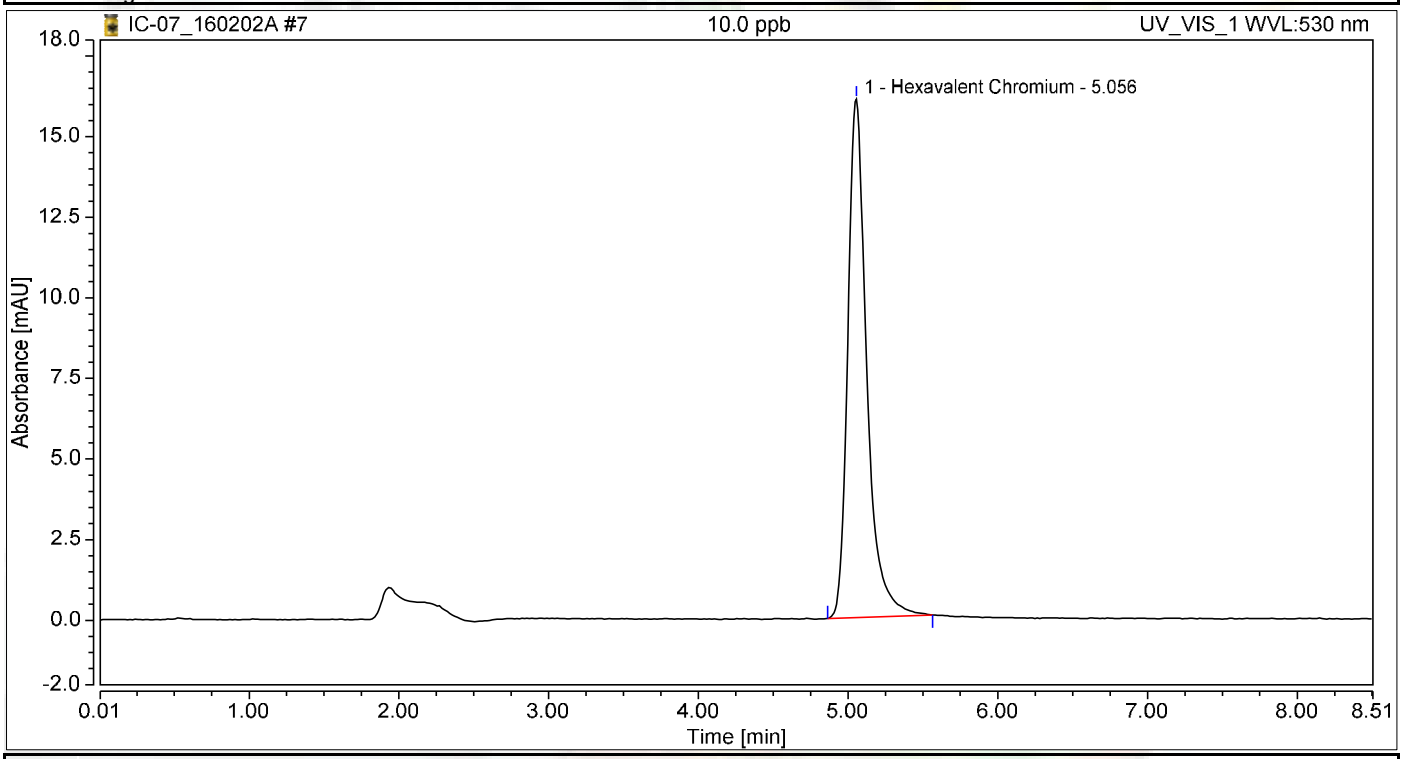
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.196	8.293	100.00	100.00	5.0518
Total:			**1.196**	**8.293**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

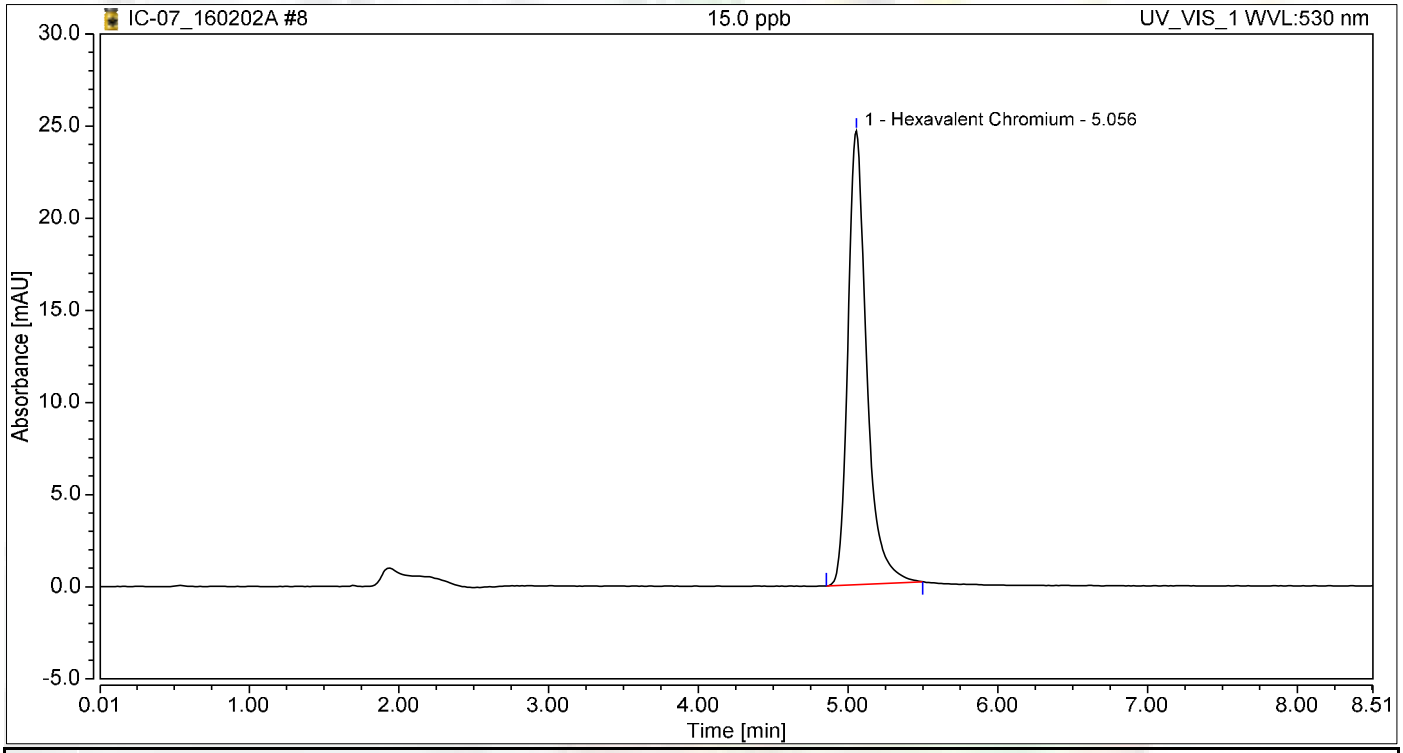
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.339	16.085	100.00	100.00	9.8818
Total:			**2.339**	**16.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

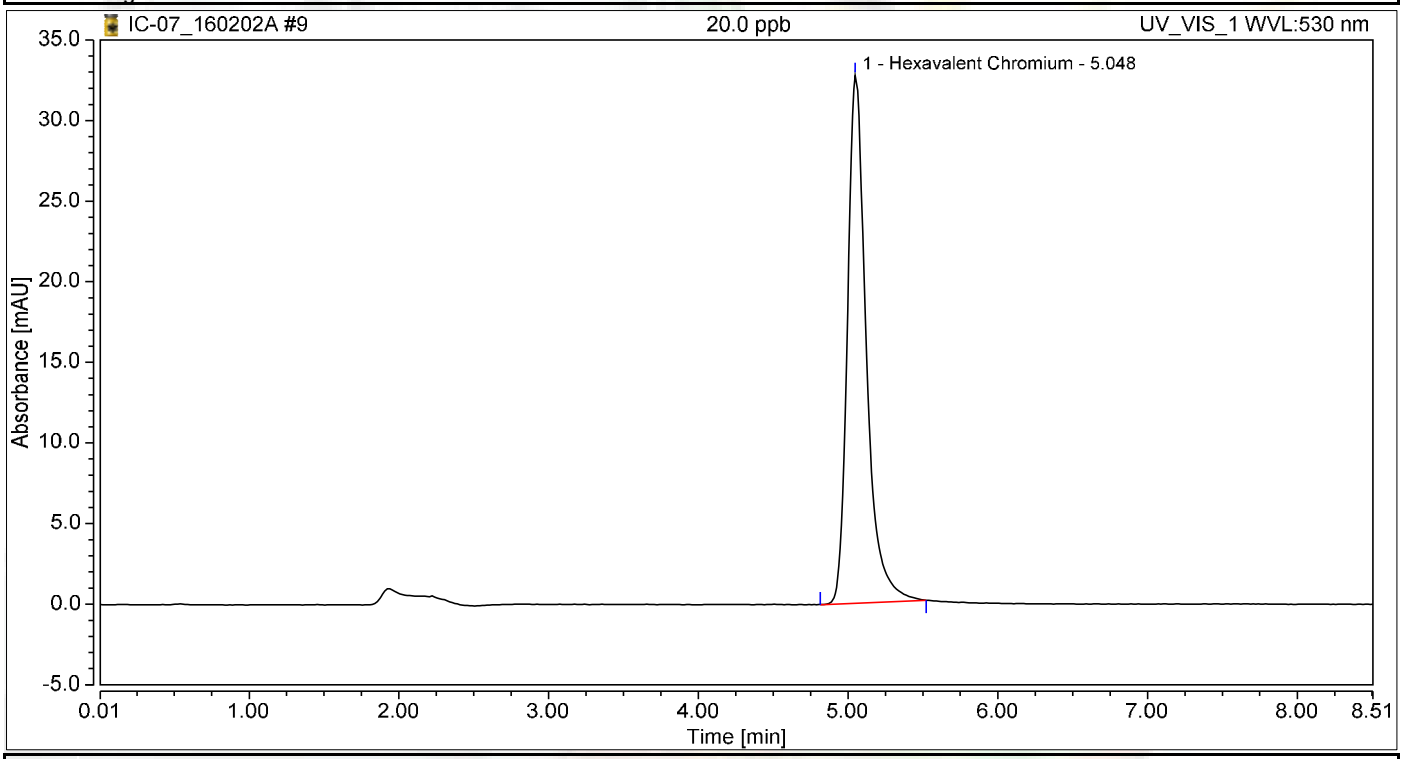
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.549	24.617	100.00	100.00	14.9960
Total:			**3.549**	**24.617**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



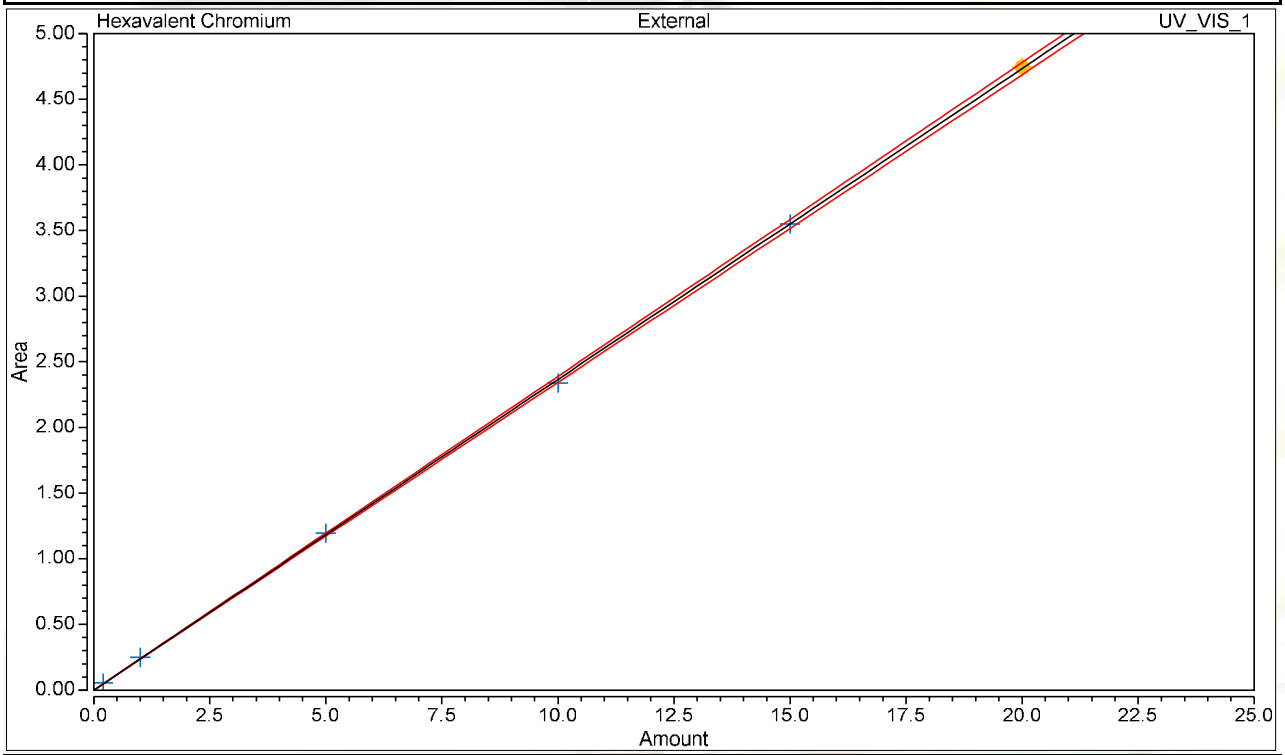
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	4.745	32.729	100.00	100.00	20.0465
Total:			**4.745**	**32.729**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2367
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99993

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

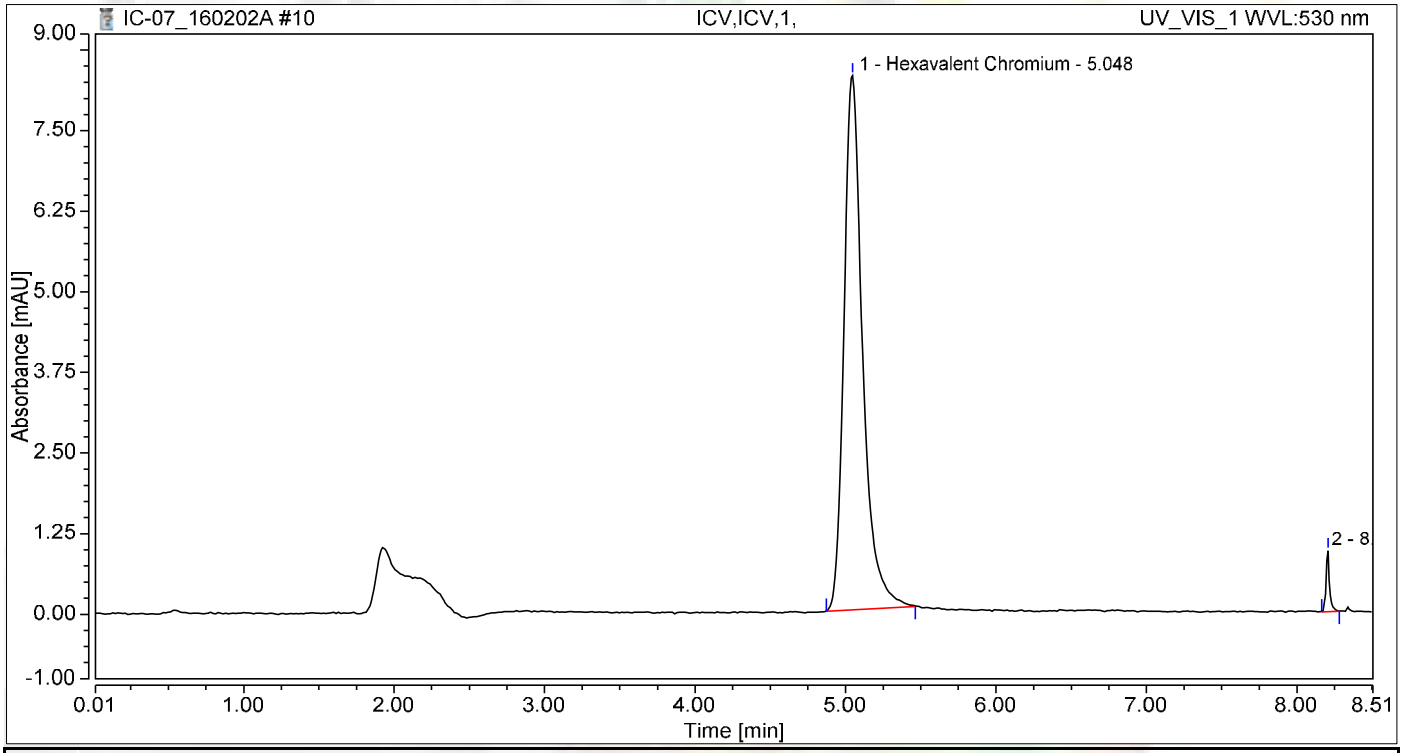
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0546	0.055	0.389
5	1.0 ppb	02	1.0000	0.2480	0.248	1.723
6	5.0 ppb	03	5.0000	1.1957	1.196	8.293
7	10.0 ppb	04	10.0000	2.3389	2.339	16.085
8	15.0 ppb	05	15.0000	3.5494	3.549	24.617
9	20.0 ppb	06	20.0000	4.7448	4.745	32.729

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

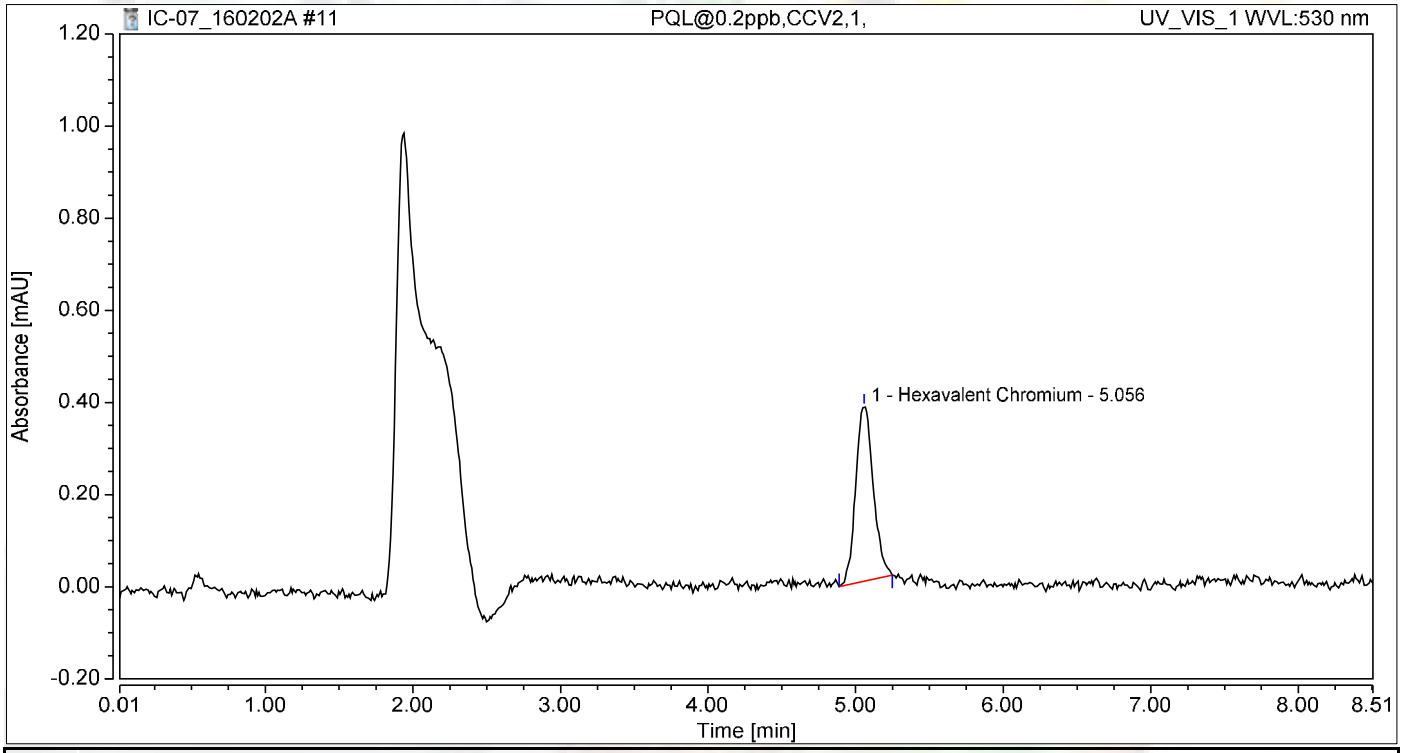
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.187	8.280	97.89	89.76	5.0149
2		8.206	0.026	0.944	2.11	10.24	n.a.
Total:			**1.213**	**9.225**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

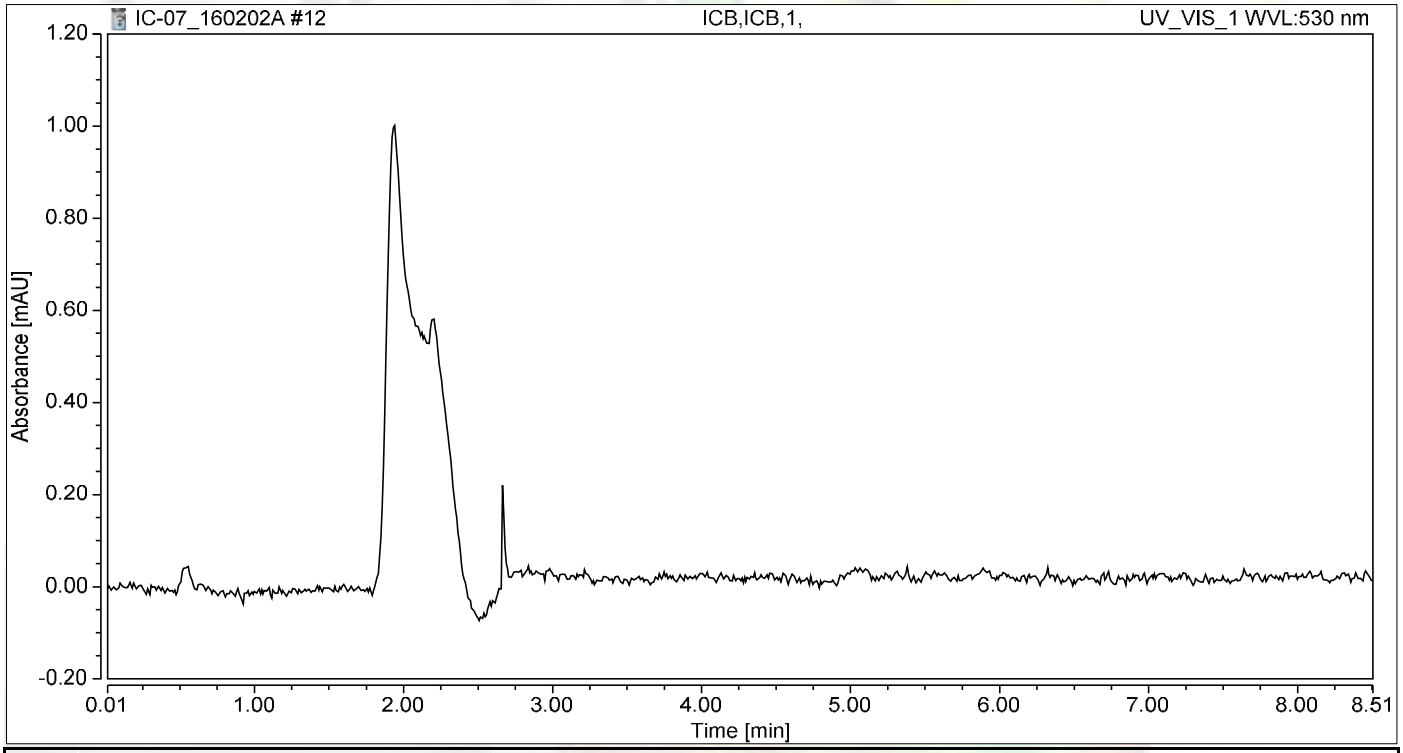
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.052	0.379	100.00	100.00	0.2196
Total:			**0.052**	**0.379**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

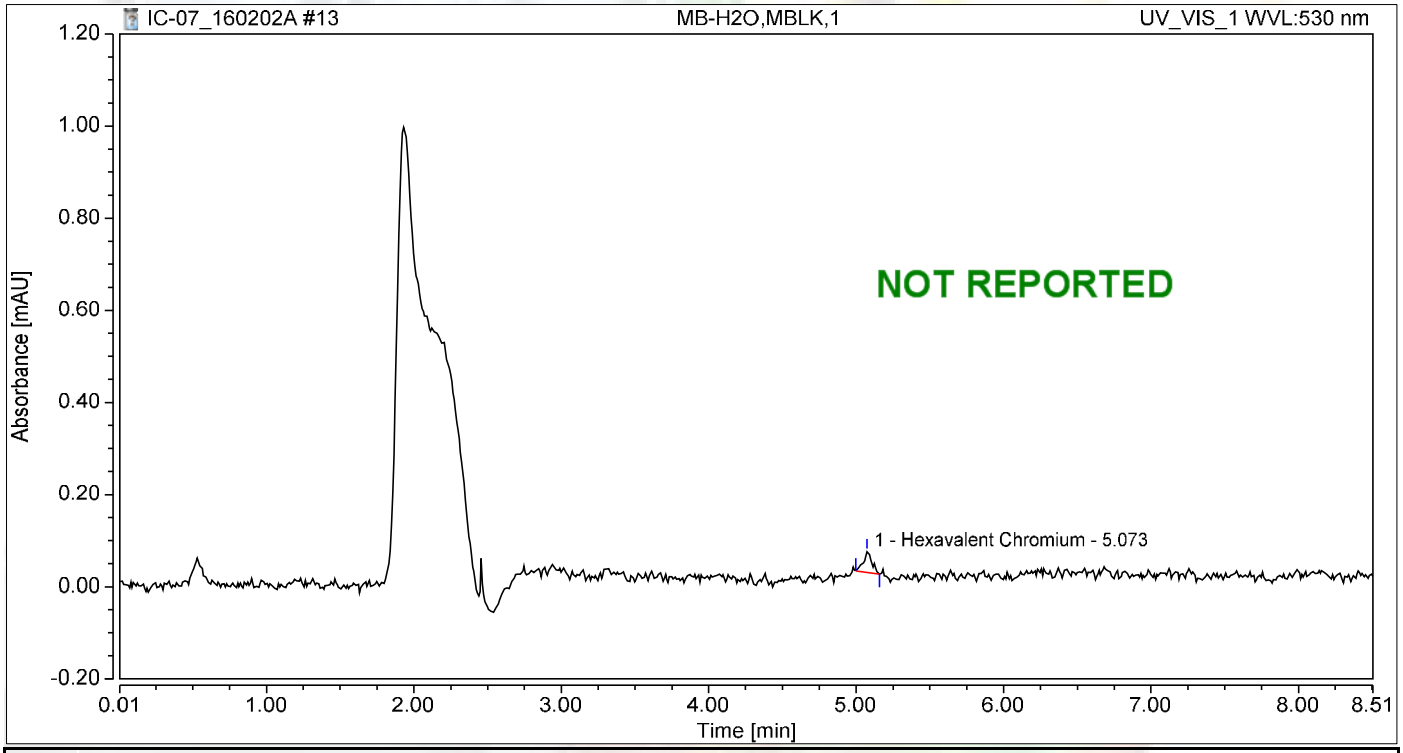
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

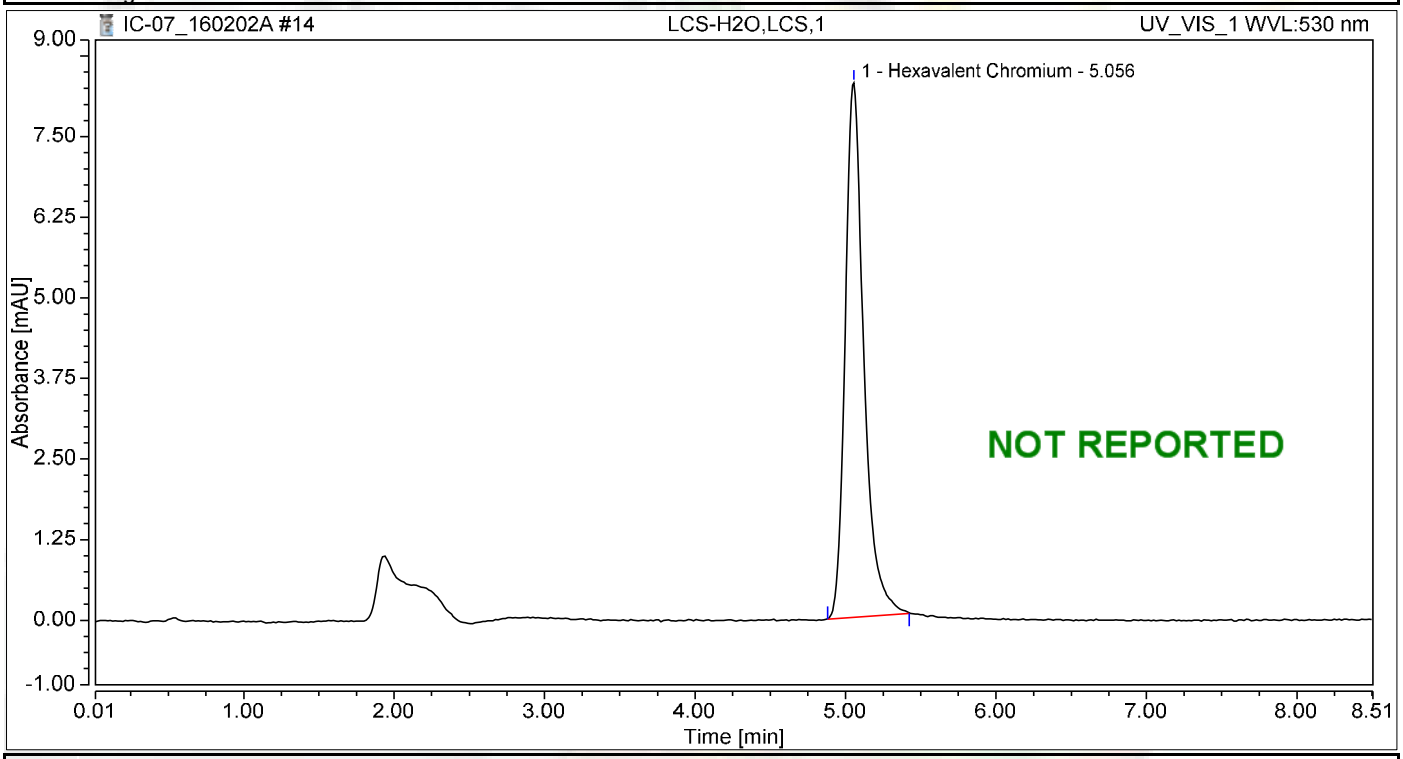
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.003	0.045	100.00	100.00	0.0130
Total:			**0.003**	**0.045**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.183	8.285	100.00	100.00	4.9980
Total:			**1.183**	**8.285**	**100.00**	**100.00**	

RAW DATA

Reb 3/9/2016

INJECTION LOG: 160301A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	03/01/16 10:36 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	03/01/16 10:47 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/01/16 10:56 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	03/01/16 11:06 AM	Reported
14	MB-R106219	MBLK	1	Hexavalent Chromium	03/01/16 11:15 AM	Reported
15	LCS-R106219	LCS	1	Hexavalent Chromium	03/01/16 11:25 AM	Reported
16	N018867-001A	SAMP	1	Hexavalent Chromium	03/01/16 11:37 AM	Reported
17	N018867-002A	SAMP	1	Hexavalent Chromium	03/01/16 11:48 AM	Reported
18	N018867-003A	SAMP	1	Hexavalent Chromium	03/01/16 11:57 AM	Reported
19	N018867-004A	SAMP	1	Hexavalent Chromium	03/01/16 12:06 PM	Reported
20	N018867-005A	SAMP	1	Hexavalent Chromium	03/01/16 12:16 PM	Reported
21	N018867-006A	SAMP	1	Hexavalent Chromium	03/01/16 12:25 PM	Reported
22	N018867-007A	SAMP	1	Hexavalent Chromium	03/01/16 12:35 PM	Reported
23	N018867-008A	SAMP	1	Hexavalent Chromium	03/01/16 12:44 PM	Reported
24	CCV-2	CCV	1	Hexavalent Chromium	03/01/16 12:54 PM	Reported
25	CCB-2	CCB	1	Hexavalent Chromium	03/01/16 1:03 PM	Reported
26	N018867-009A	SAMP	1	Hexavalent Chromium	03/01/16 1:13 PM	Reported
27	N018867-010A	SAMP	100	Hexavalent Chromium	03/01/16 1:22 PM	Not Reported
28	N018867-005A	SAMP	1	Hexavalent Chromium	03/01/16 1:32 PM	Reported
29	N018867-005ADUP	DUP	1	Hexavalent Chromium	03/01/16 1:41 PM	Reported
30	N018867-005AMS	MS	1	Hexavalent Chromium	03/01/16 1:51 PM	Reported
31	N018867-005AMSD	MSD	1	Hexavalent Chromium	03/01/16 2:00 PM	Reported
32	N018845-001A	SAMP	1	Hexavalent Chromium	03/01/16 2:09 PM	Reported
33	N018845-001AMS	MS	1	Hexavalent Chromium	03/01/16 2:19 PM	Reported
34	N018845-002A	SAMP	1	Hexavalent Chromium	03/01/16 2:28 PM	Not Reported
35	N018845-002AMS	MS	1	Hexavalent Chromium	03/01/16 2:38 PM	Not Reported
36	CCV-3	CCV	1	Hexavalent Chromium	03/01/16 2:47 PM	Reported
37	CCB-3	CCB	1	Hexavalent Chromium	03/01/16 2:57 PM	Reported
38	N018867-010A	SAMP	1	Hexavalent Chromium	03/01/16 3:06 PM	Reported
39	N018867-019C	SAMP	1	Hexavalent Chromium	03/01/16 3:16 PM	Not Reported
40	CCV-4	CCV	1	Hexavalent Chromium	03/01/16 3:25 PM	Reported
41	CCB-4	CCB	1	Hexavalent Chromium	03/01/16 3:35 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160301A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**04/Mar/16 09:17:32**
No. of Injections:	**44**	*Updated By:*	**ics 5000**

Injection Details

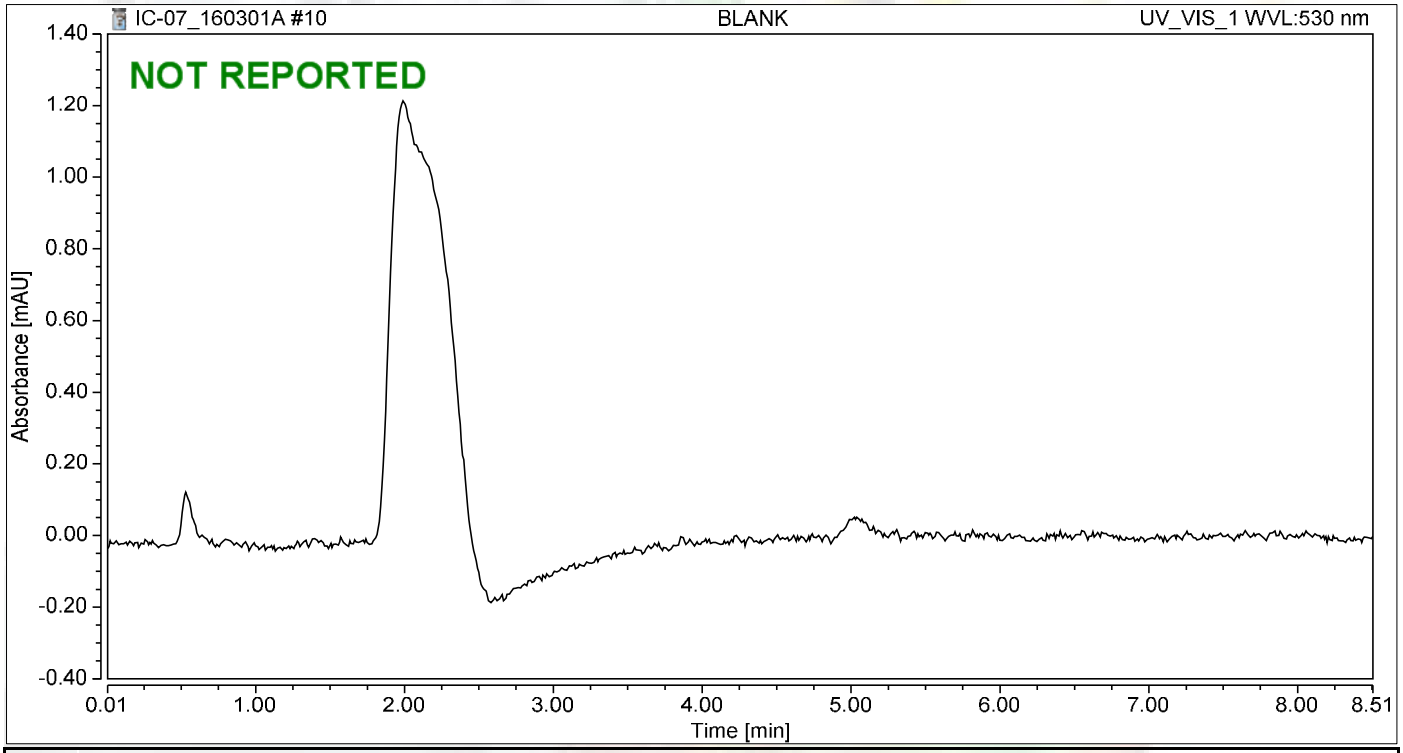
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		03/01/2016 10:36	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		03/01/2016 10:47	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		03/01/2016 10:56	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		03/01/2016 11:06	Finished	CCB R160209C
14	MB-H2O,MBLK,1	5	1000	Unknown		03/01/2016 11:15	Finished	MB
15	LCS-H2O,LCS,1	6	1000	Unknown		03/01/2016 11:25	Finished	LCS @ 5ppb, IWST-160202B
16	N018867-001A,SAMP	7	1000	Unknown		03/01/2016 11:37	Finished	SAMP, 10mL
17	N018867-002A,SAMP	8	1000	Unknown		03/01/2016 11:48	Finished	SAMP, 10mL
18	N018867-003A,SAMP	9	1000	Unknown		03/01/2016 11:57	Finished	SAMP, 10mL
19	N018867-004A,SAMP	10	1000	Unknown		03/01/2016 12:06	Finished	SAMP, 10mL
20	N018867-005A,SAMP	11	1000	Unknown		03/01/2016 12:16	Finished	SAMP, 10mL
21	N018867-006A,SAMP	12	1000	Unknown		03/01/2016 12:25	Finished	SAMP, 10mL
22	N018867-007A,SAMP	13	1000	Unknown		03/01/2016 12:35	Finished	SAMP, 10mL
23	N018867-008A,SAMP	14	1000	Unknown		03/01/2016 12:44	Finished	SAMP, 10mL
24	CCV-2,CCV,1	15	1000	Unknown		03/01/2016 12:54	Finished	CCV @ 10ppb, IWST 160202A
25	CCB-2,CCB,1	16	1000	Unknown		03/01/2016 13:03	Finished	CCB
26	N018867-009A,SAMP	17	1000	Unknown		03/01/2016 13:13	Finished	SAMP, 10mL
27	N018867-010A,SAMP	18	1000	Unknown		03/01/2016 13:22	Finished	SAMP, 0.1 to 10mL
28	N018867-005A,SAMP	19	1000	Unknown		03/01/2016 13:32	Finished	SAMP, 10mL
29	N018867-005ADUP,D	20	1000	Unknown		03/01/2016 13:41	Finished	DUP, 10mL
30	N018867-005AMS,MS	21	1000	Unknown		03/01/2016 13:51	Finished	MS(5ppb), IWST-160202B, 10r
31	N018867-005AMSD,M	22	1000	Unknown		03/01/2016 14:00	Finished	MSD(5ppb), IWST-160202B, 1
32	N018845-001A,SAMP	23	1000	Unknown		03/01/2016 14:09	Finished	SAMP, 10mL
33	N018845-001AMS,MS	24	1000	Unknown		03/01/2016 14:19	Finished	MS(5ppb), IWST-160202B, 10r
34	N018845-002A,SAMP	25	1000	Unknown		03/01/2016 14:28	Finished	SAMP, 10mL
35	N018845-002AMS,MS	26	1000	Unknown		03/01/2016 14:38	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-3,CCV,1	27	1000	Unknown		03/01/2016 14:47	Finished	CCV @ 5ppb, IWST 160202A
37	CCB-3,CCB,1	28	1000	Unknown		03/01/2016 14:57	Finished	CCB
38	N018867-010A,SAMP	29	1000	Unknown		03/01/2016 15:06	Finished	SAMP, 10mL
39	N018867-019C,SAMP	30	1000	Unknown		03/01/2016 15:16	Finished	SAMP, 10mL
40	CCV-4,CCV,1	31	1000	Unknown		03/01/2016 15:25	Finished	CCV @ 10ppb, IWST 160202A
41	CCB-4,CCB,1	32	1000	Unknown		03/01/2016 15:35	Finished	CCB
42	SHUTDOWN	33	1000	Unknown		03/01/2016 15:44	Finished	BLANK
43	Eluent: R160224A	34	1000	Unknown		n.a.	Finished	Eluent
44	PCR: R160226A	35	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 10:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

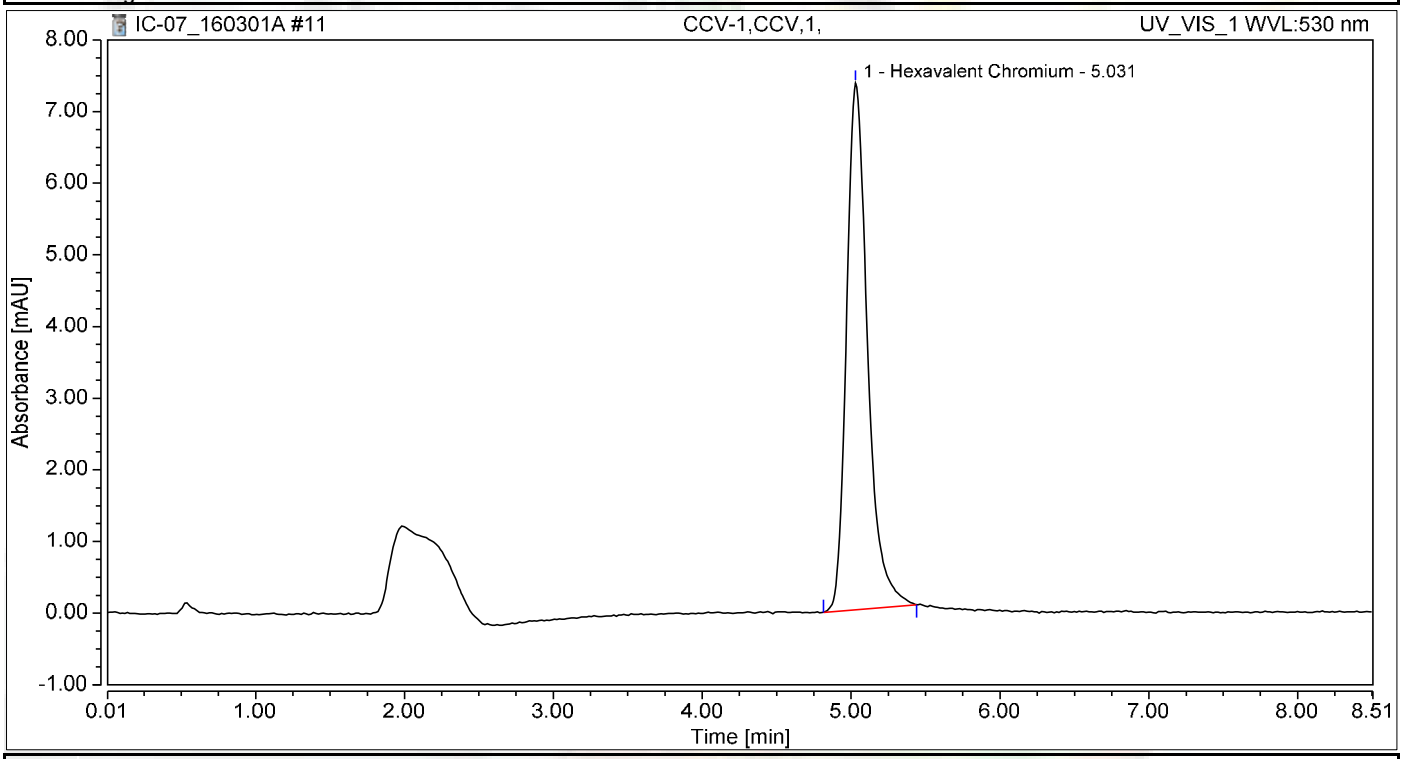
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 10:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

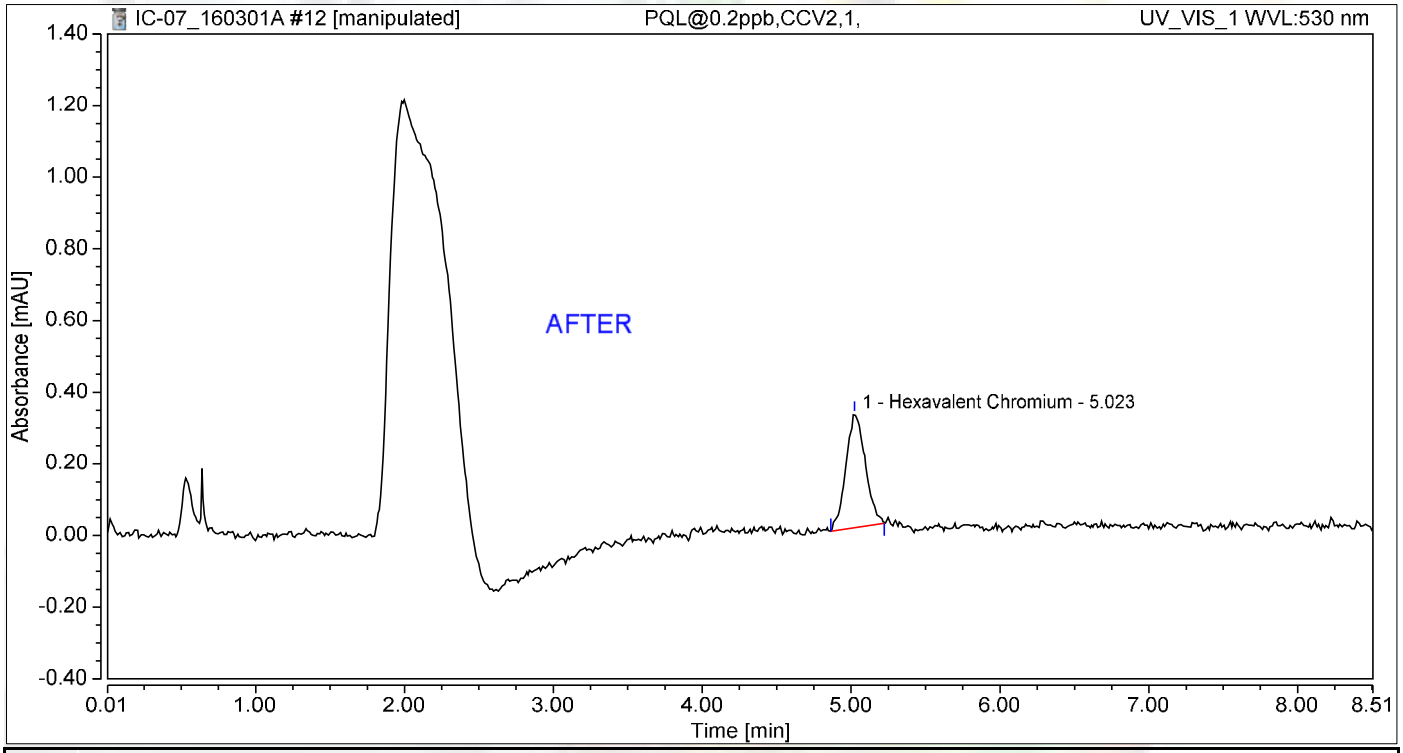
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.198	7.348	100.00	100.00	5.0630
Total:			**1.198**	**7.348**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 10:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.048	0.317	100.00	100.00	0.2015
Total:			**0.048**	**0.317**	**100.00**	**100.00**	

Reb 3/9/2016

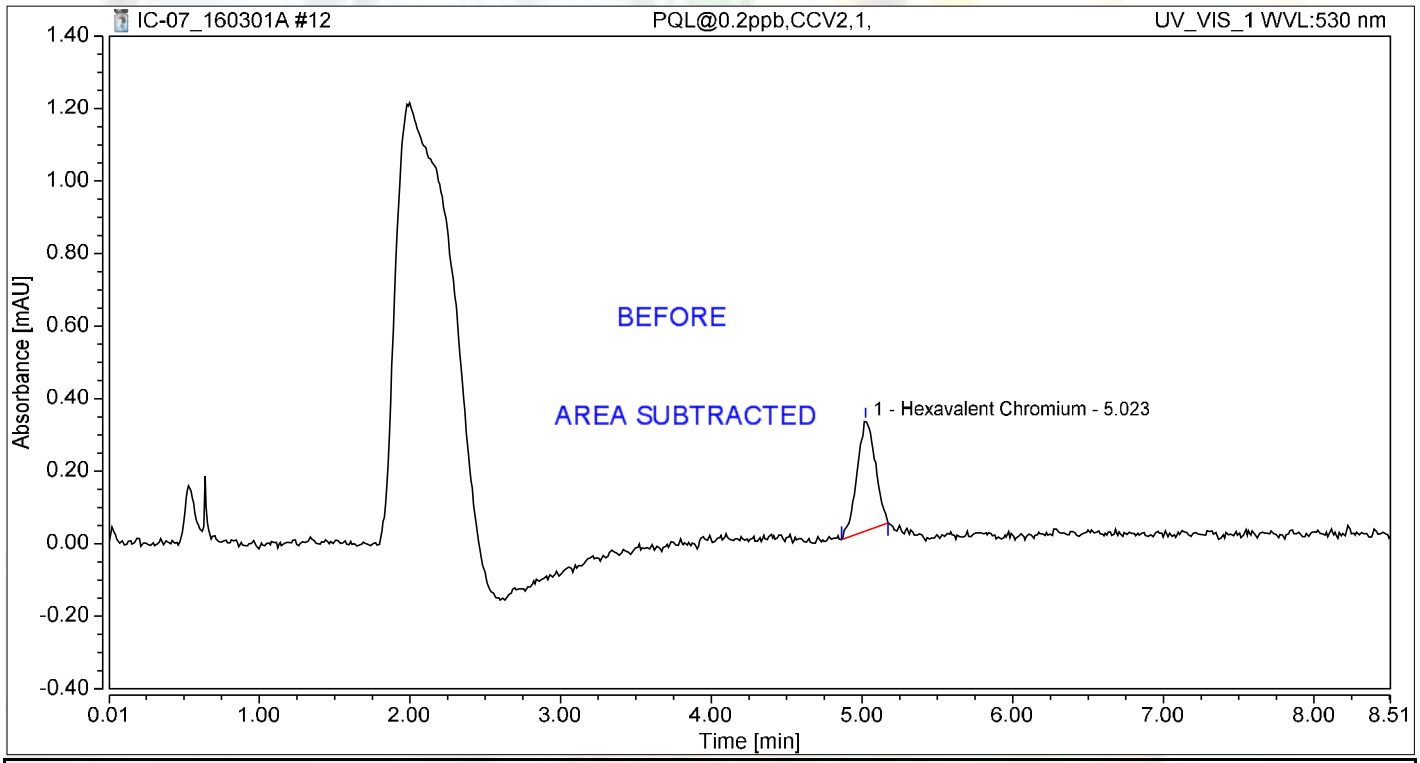
Nancy 3/10/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 10:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.043	0.303	100.00	100.00	0.1811
Total:			**0.043**	**0.303**	**100.00**	**100.00**	

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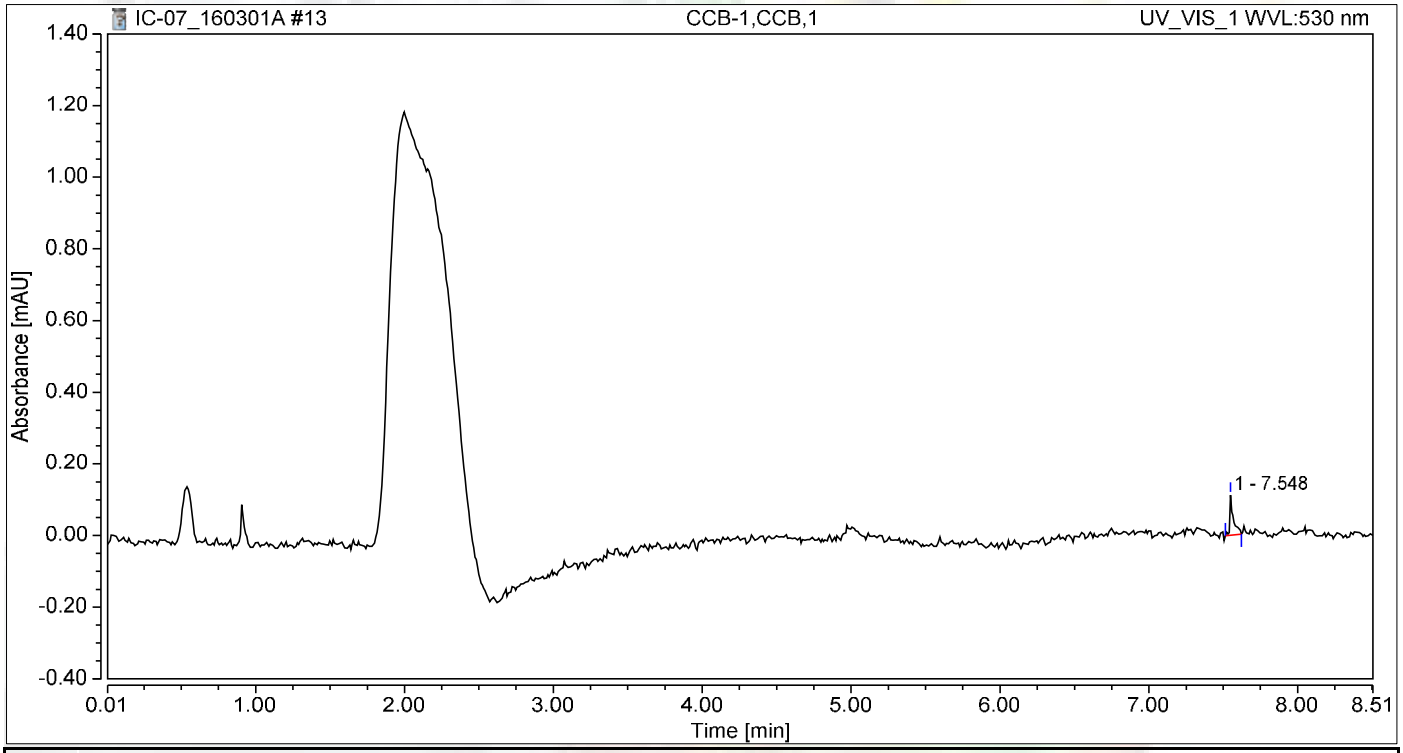
Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

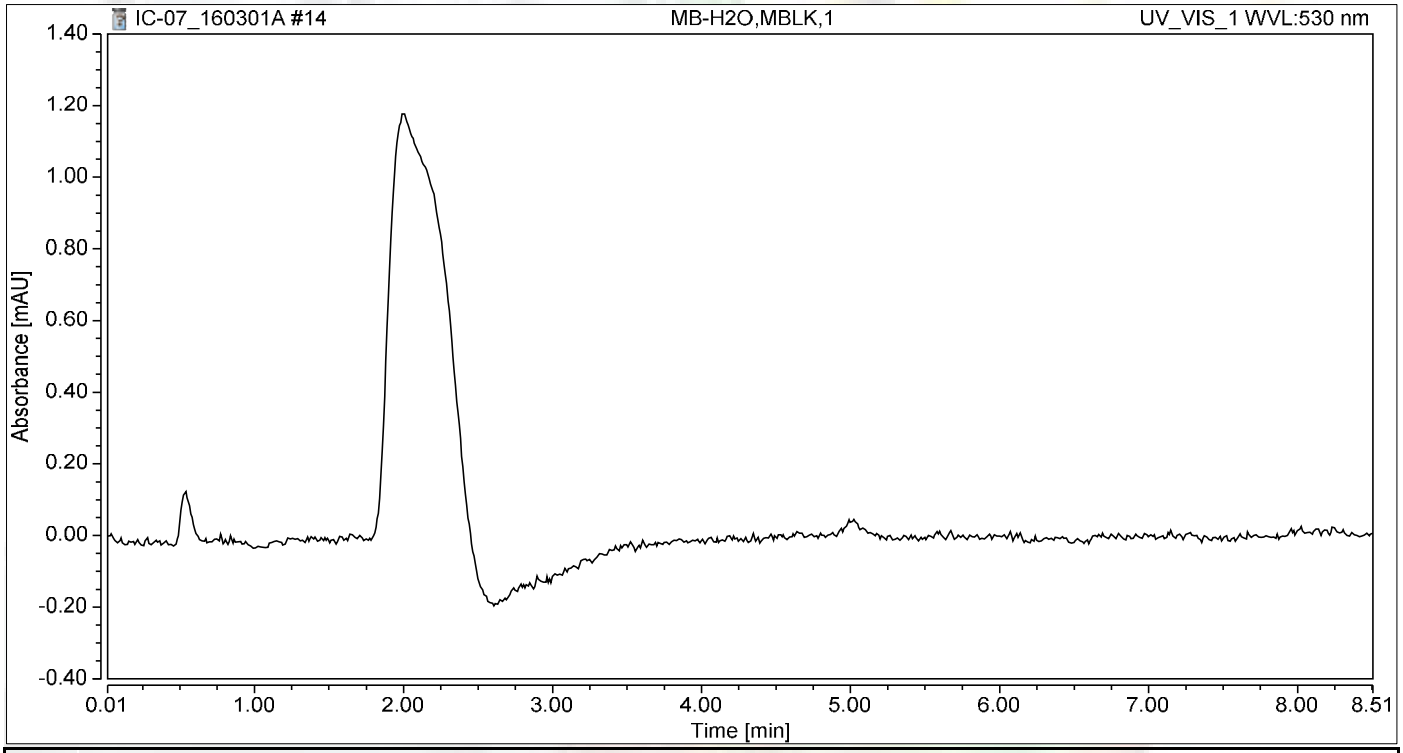
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		7.548	0.003	0.113	100.00	100.00	n.a.
Total:			**0.003**	**0.113**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

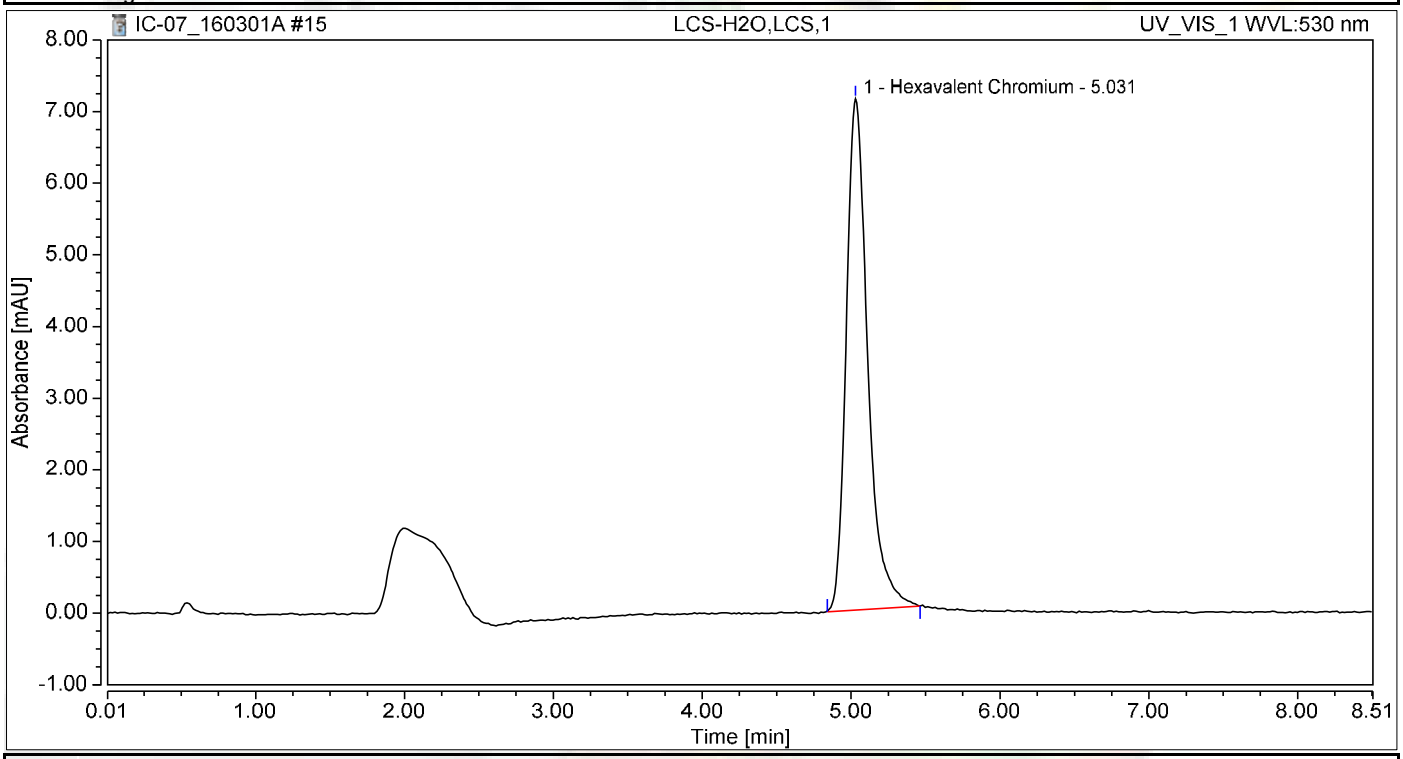
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

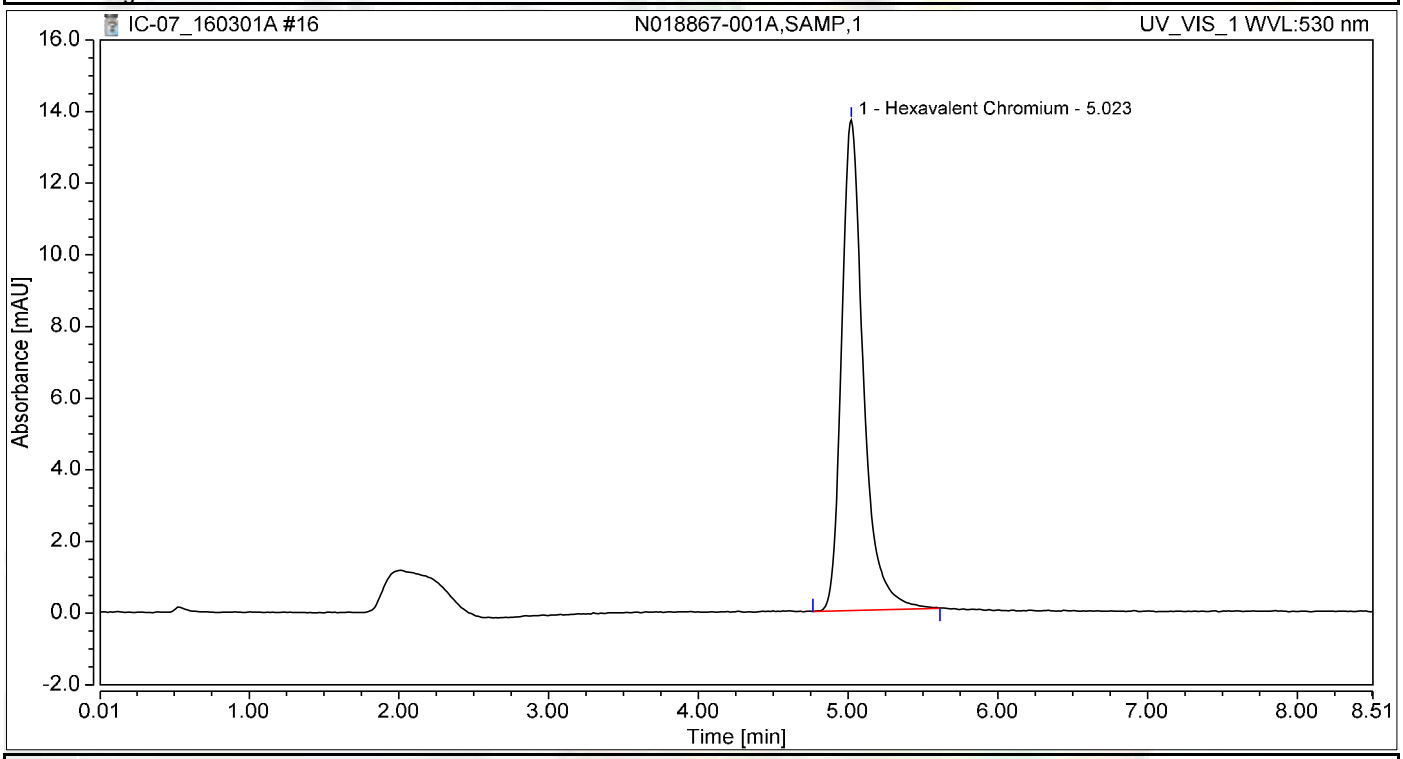
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.184	7.136	100.00	100.00	5.0025
Total:			**1.184**	**7.136**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

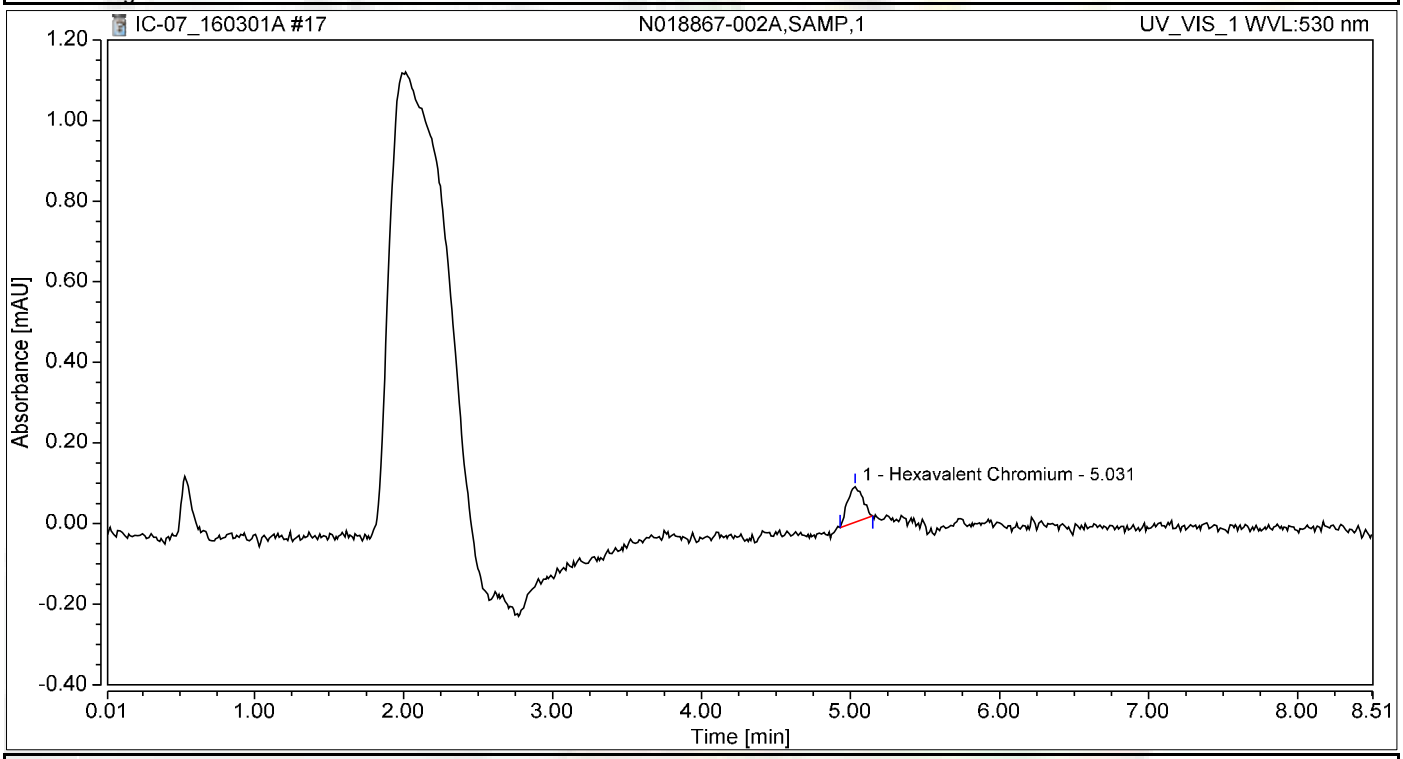
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	2.307	13.690	100.00	100.00	9.7486
Total:			**2.307**	**13.690**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

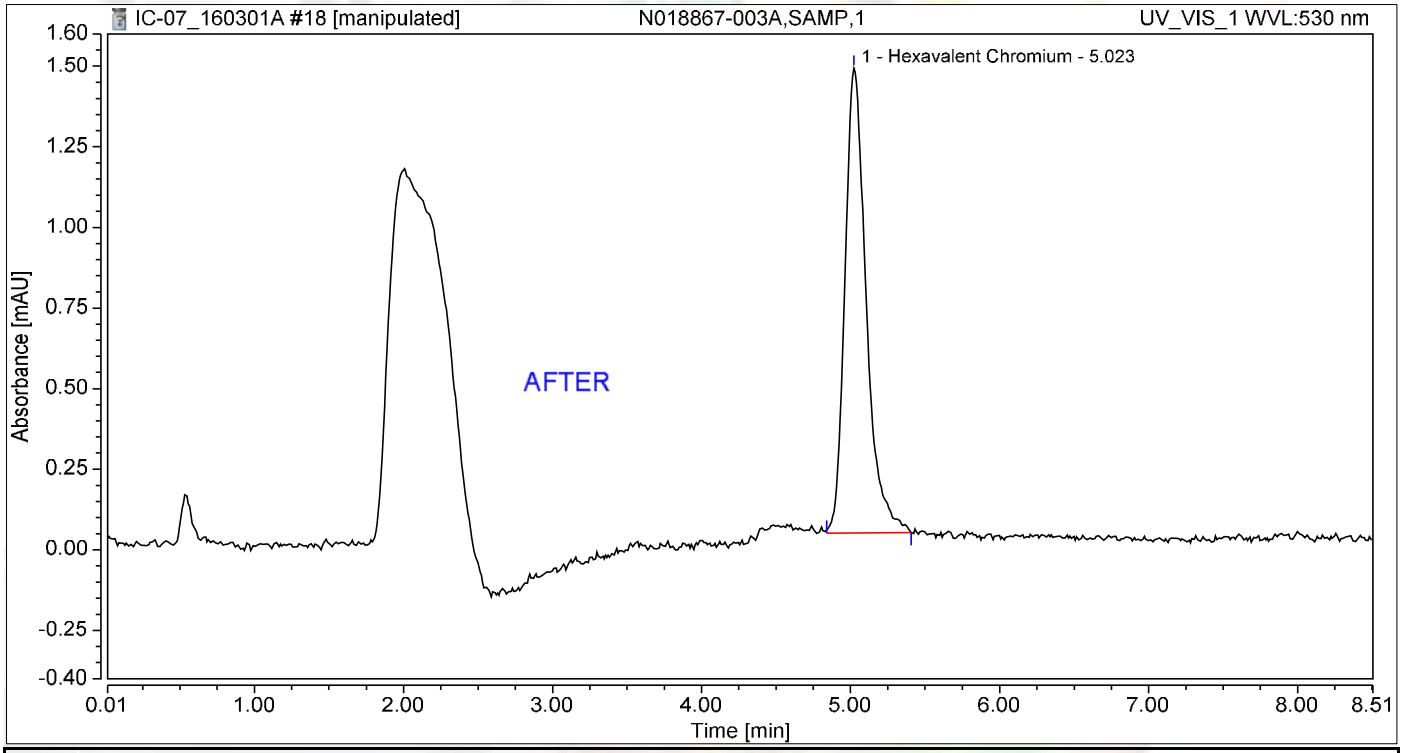
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.010	0.088	100.00	100.00	0.0443
Total:			**0.010**	**0.088**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.237	1.441	100.00	100.00	1.0033
Total:			**0.237**	**1.441**	**100.00**	**100.00**	

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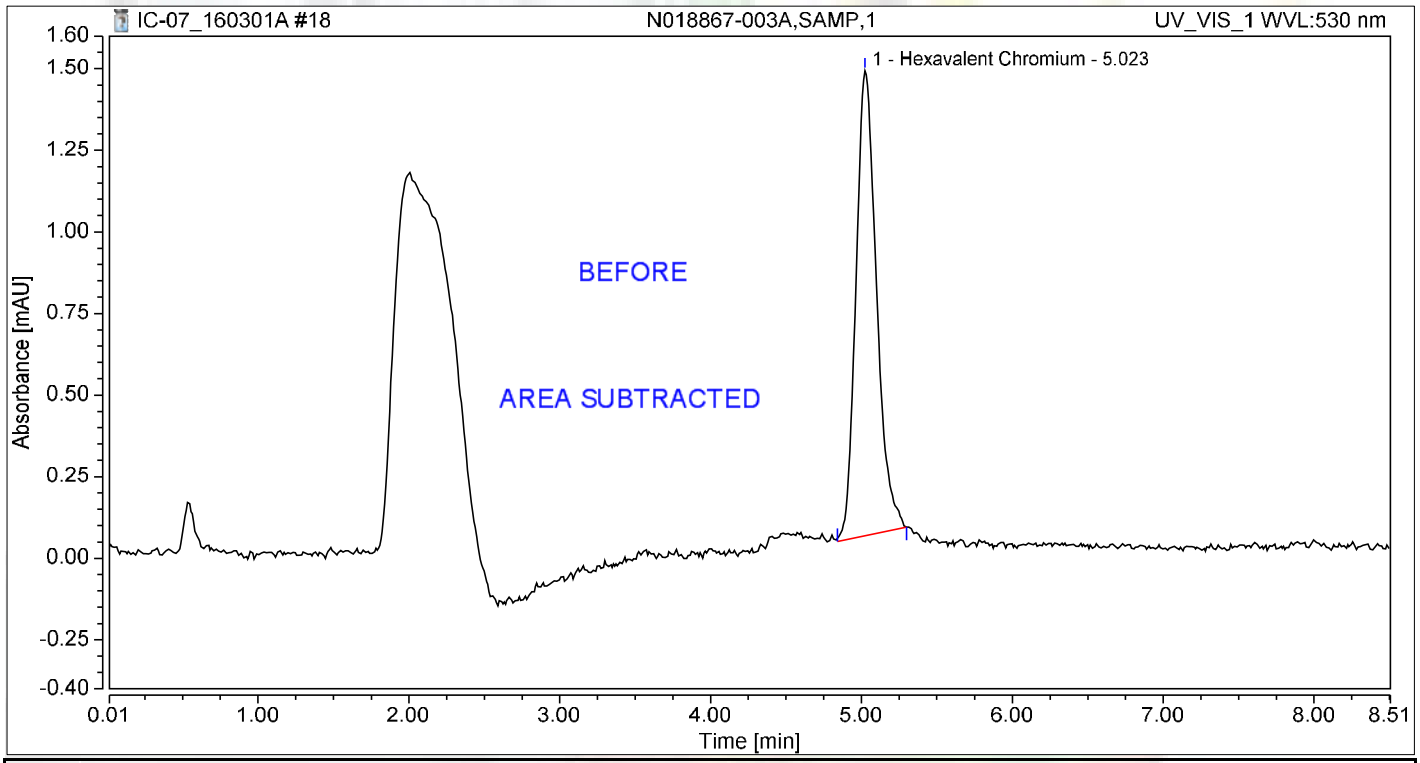
Chromatogram and Results

Injection Details

Injection Name:	**N018867-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.225	1.425	100.00	100.00	0.9509
Total:			**0.225**	**1.425**	**100.00**	**100.00**	

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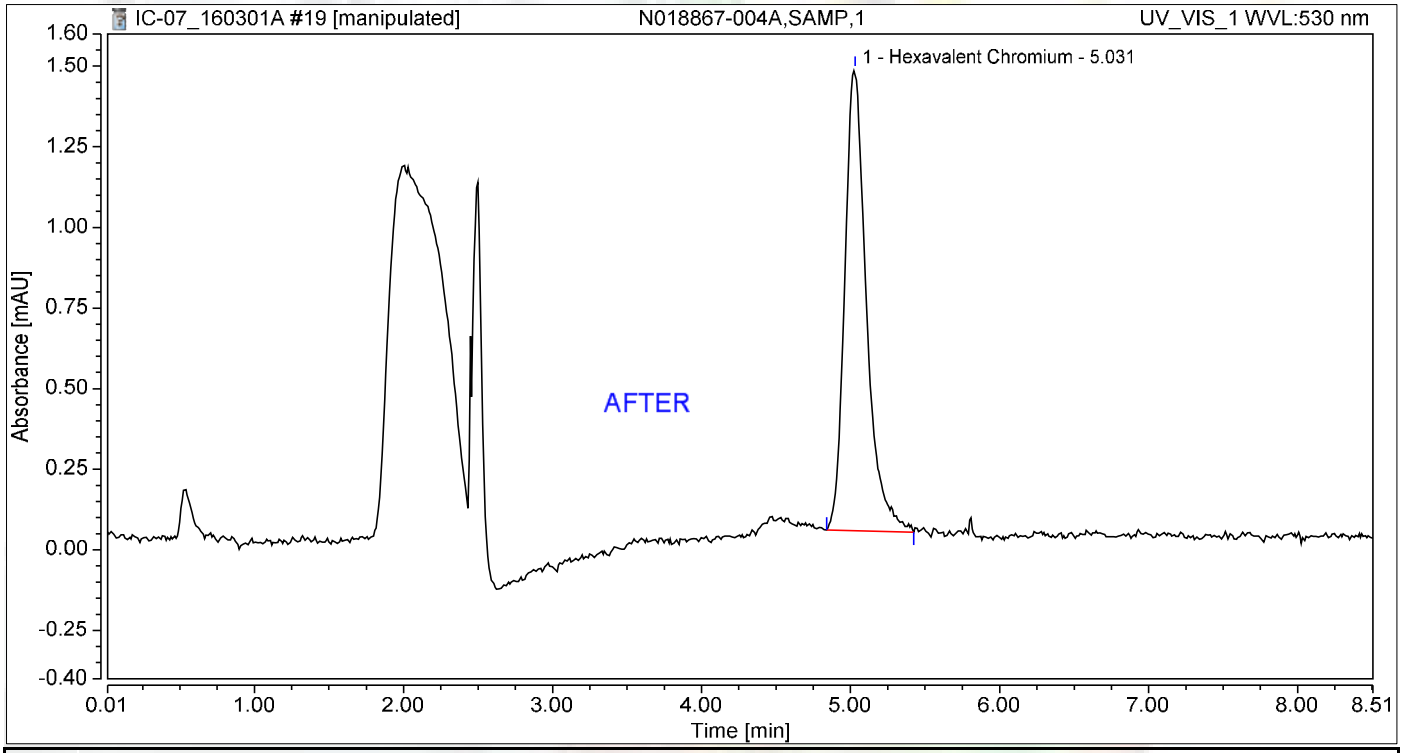
Chromatogram and Results

Injection Details

Injection Name:	**N018867-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.431	100.00	100.00	1.0156
Total:			**0.240**	**1.431**	**100.00**	**100.00**	

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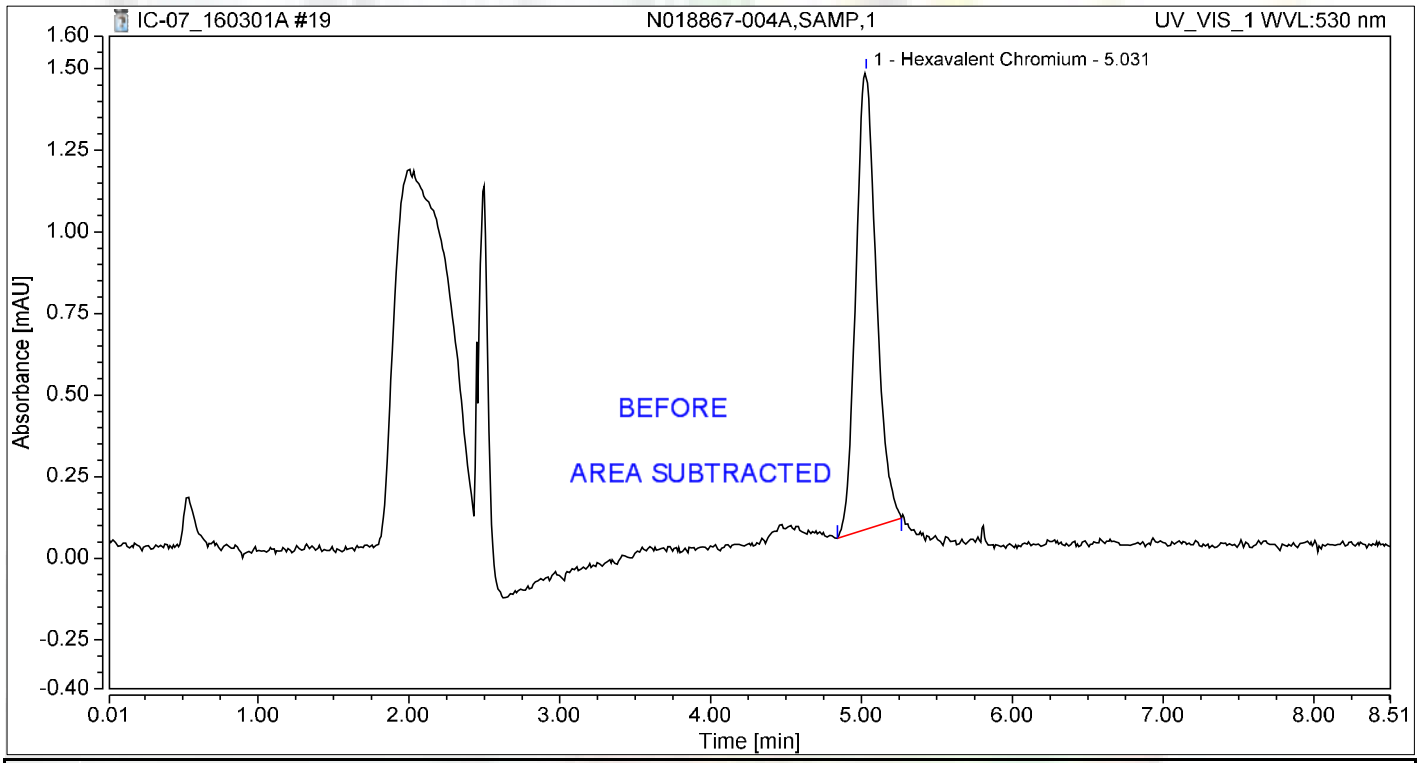
Chromatogram and Results

Injection Details

Injection Name:	**N018867-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.221	1.401	100.00	100.00	0.9325
Total:			**0.221**	**1.401**	**100.00**	**100.00**	

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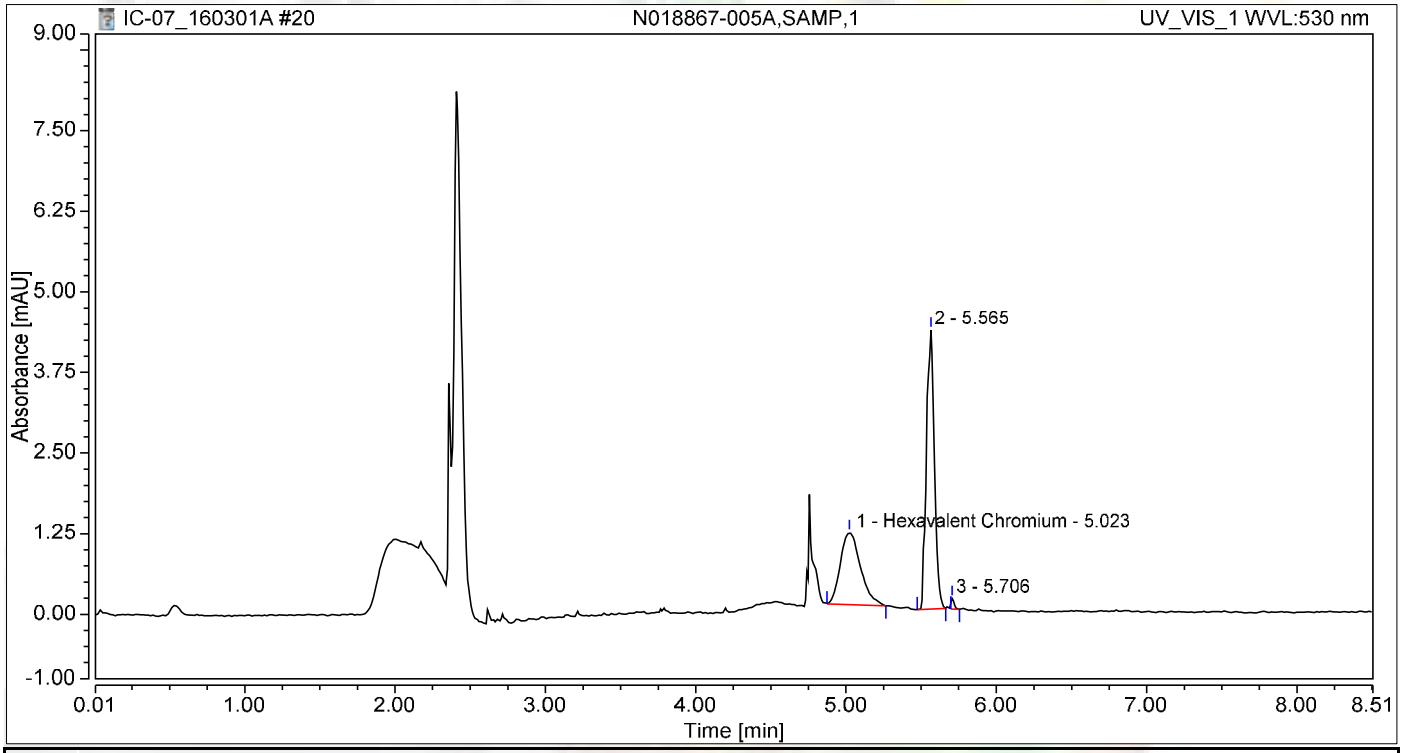
Chromatogram and Results

Injection Details

Injection Name:	**N018867-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.173	1.116	38.83	19.88	0.7295
2		5.565	0.269	4.329	60.42	77.13	n.a.
3		5.706	0.003	0.168	0.75	2.99	n.a.
Total:			**0.445**	**5.613**	**100.00**	**100.00**	

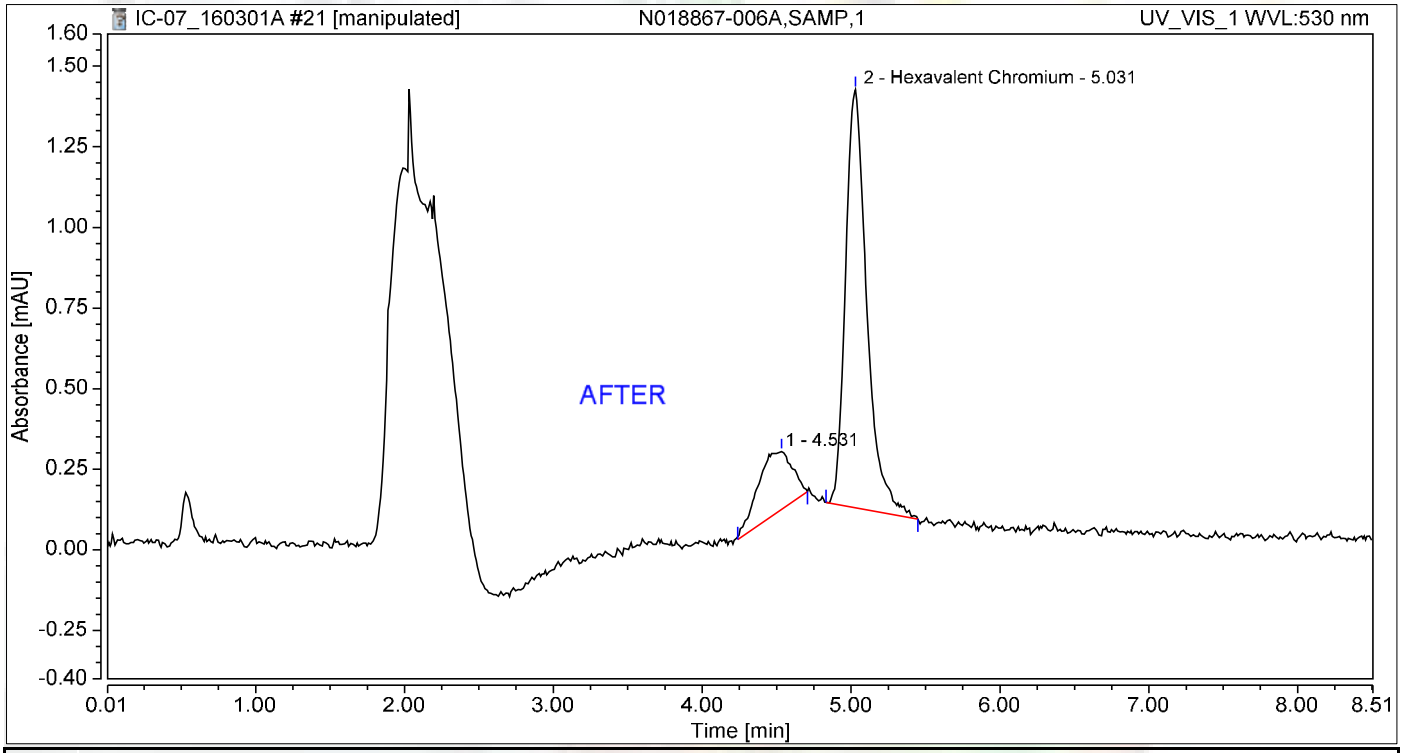
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018867-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.531	0.051	0.180	19.27	12.16	n.a.
2	Hexavalent Chromium	5.031	0.213	1.298	80.73	87.84	0.9017
Total:			**0.264**	**1.477**	**100.00**	**100.00**	

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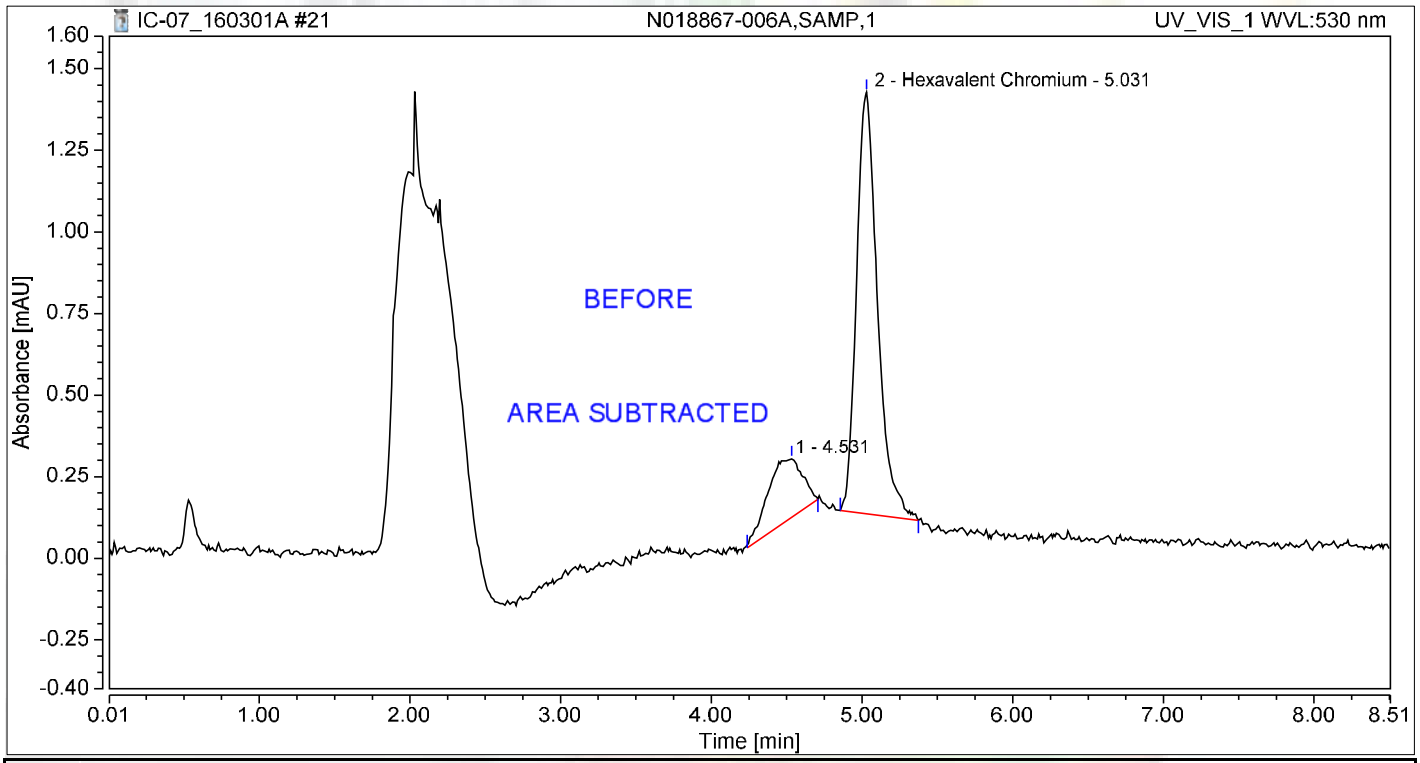
Chromatogram and Results

Injection Details

Injection Name:	**N018867-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.531	0.051	0.180	19.63	12.21	n.a.
2	Hexavalent Chromium	5.031	0.209	1.292	80.37	87.79	0.8809
Total:			**0.259**	**1.471**	**100.00**	**100.00**	

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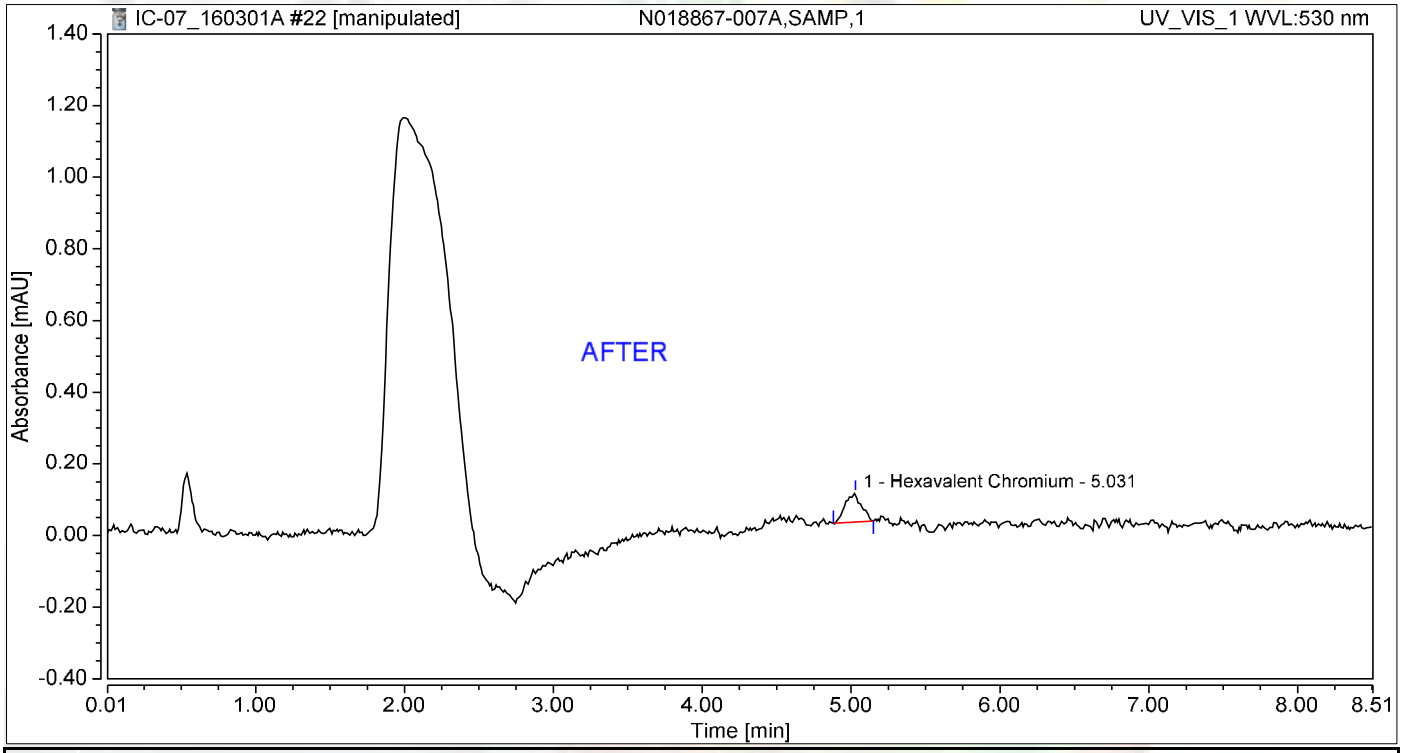
Chromatogram and Results

Injection Details

Injection Name:	**N018867-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.010	0.080	100.00	100.00	0.0425
Total:			**0.010**	**0.080**	**100.00**	**100.00**	

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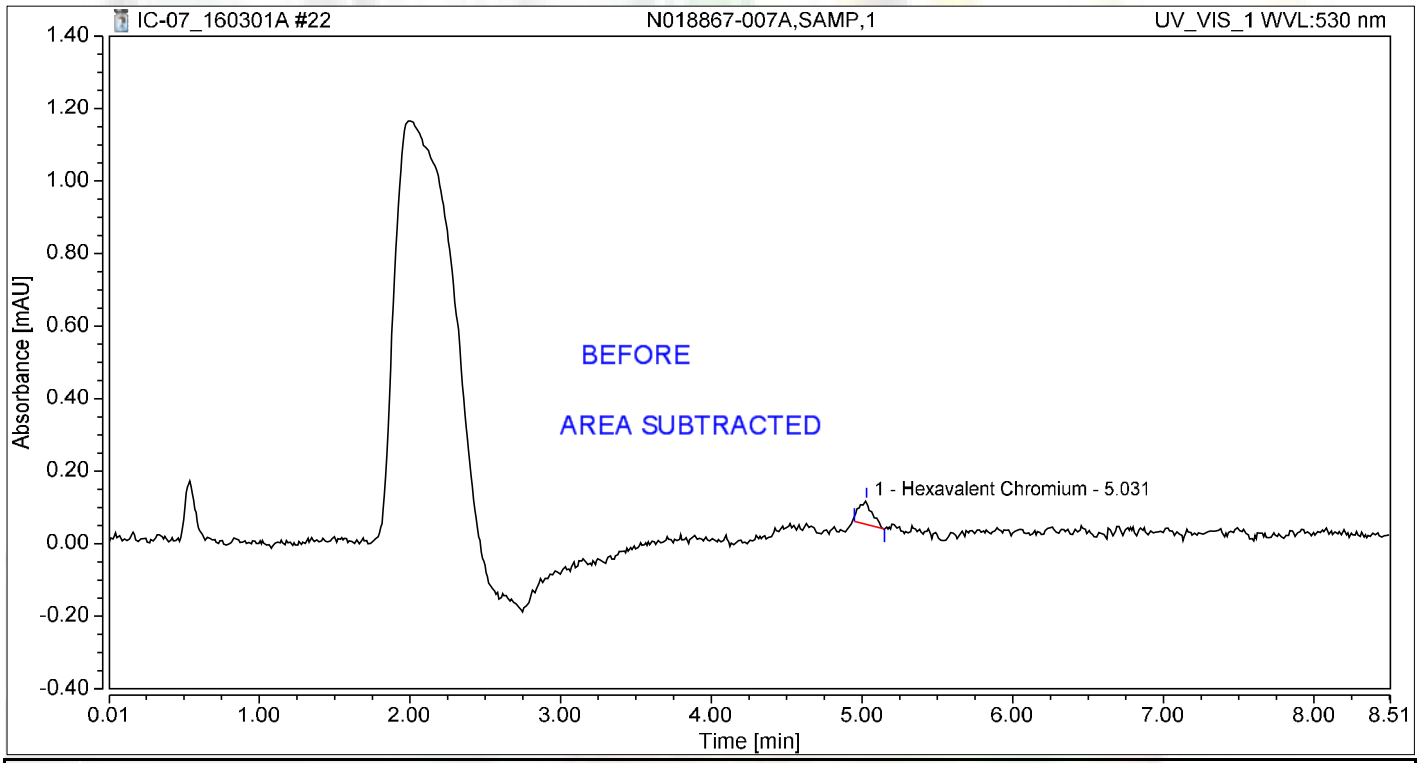
Chromatogram and Results

Injection Details

Injection Name:	**N018867-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.007	0.065	100.00	100.00	0.0280
Total:			**0.007**	**0.065**	**100.00**	**100.00**	

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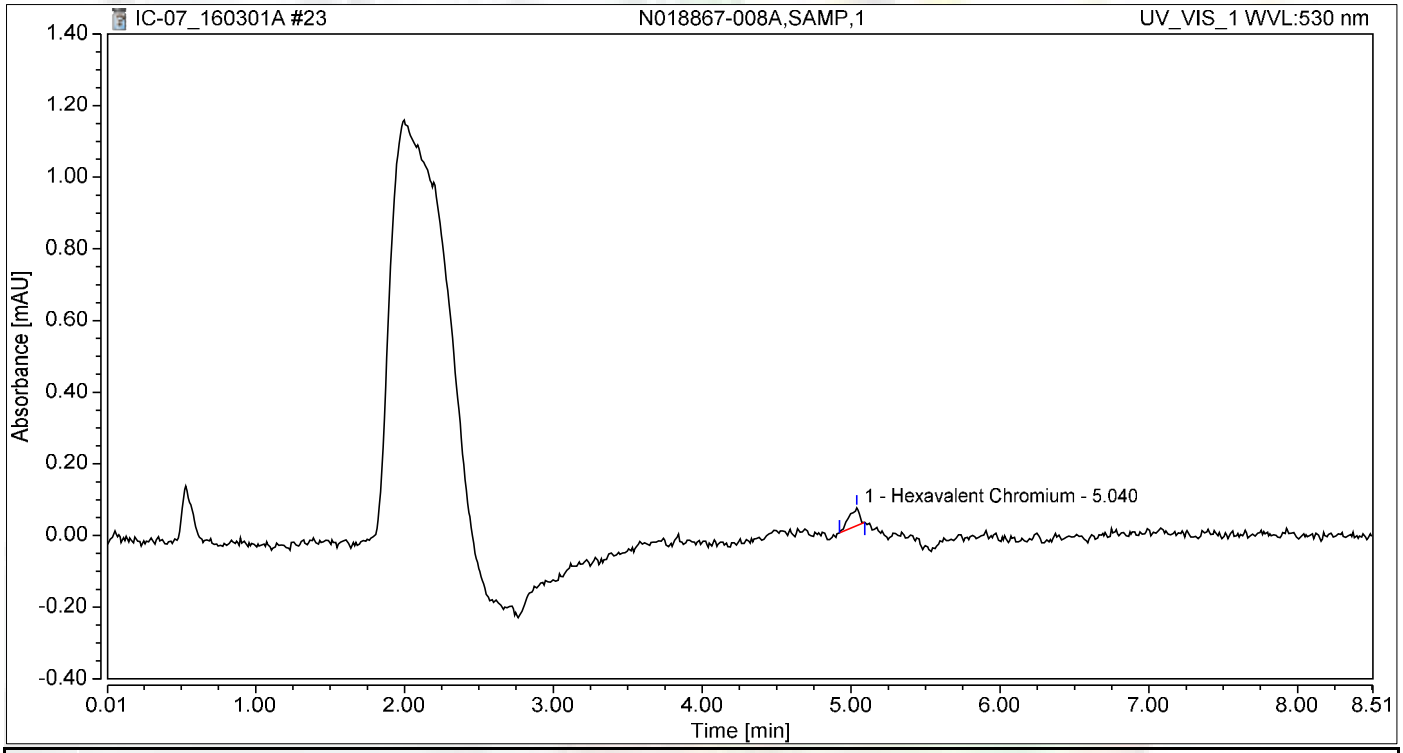
Chromatogram and Results

Injection Details

Injection Name:	**N018867-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

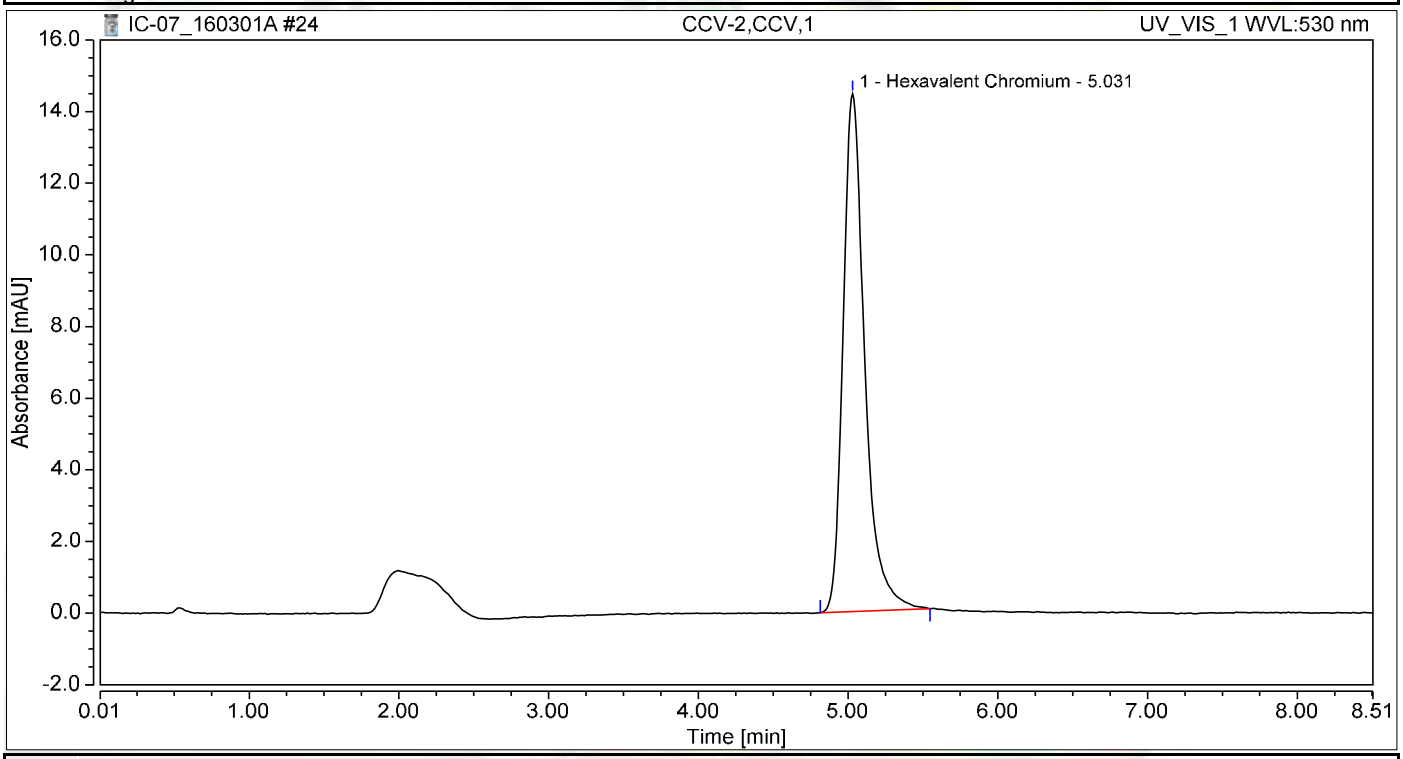
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.004	0.050	100.00	100.00	0.0170
Total:			**0.004**	**0.050**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 12:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

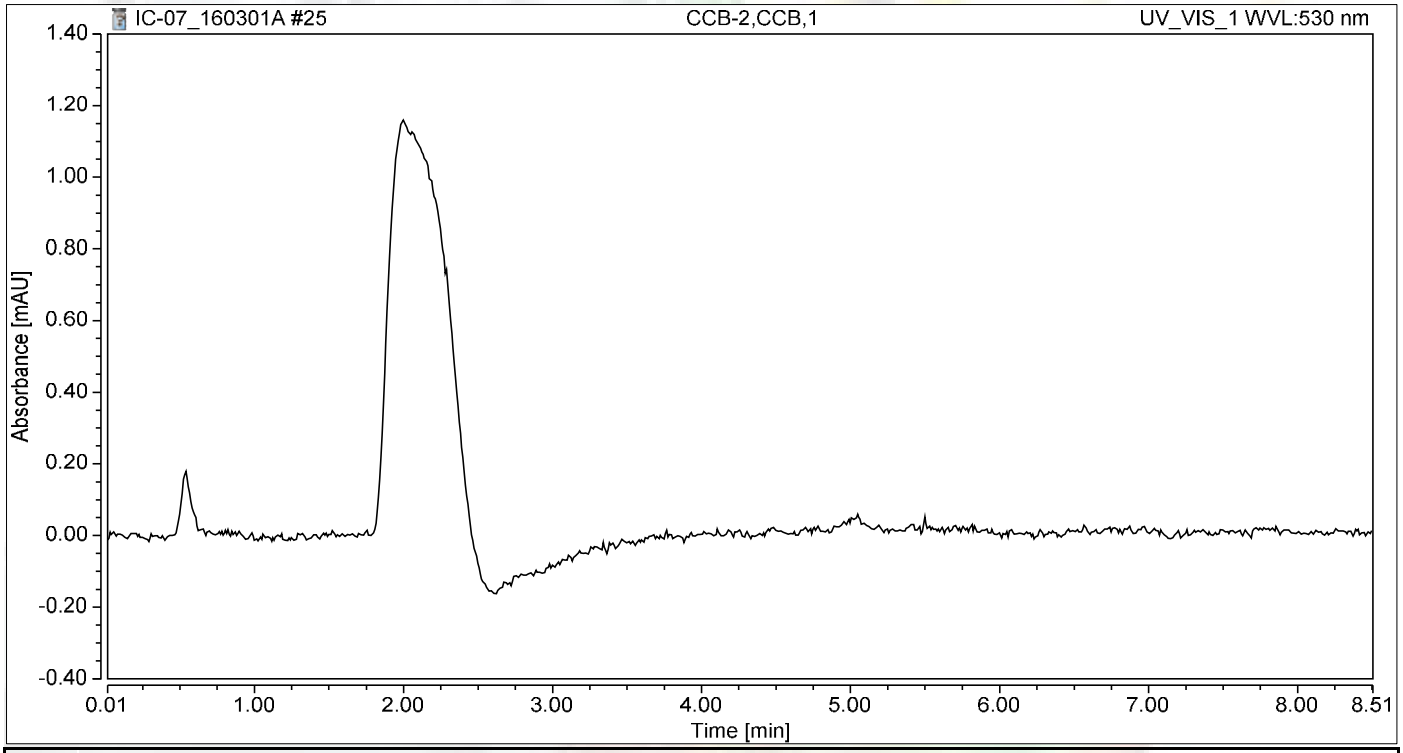
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.407	14.452	100.00	100.00	10.1714
Total:			**2.407**	**14.452**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

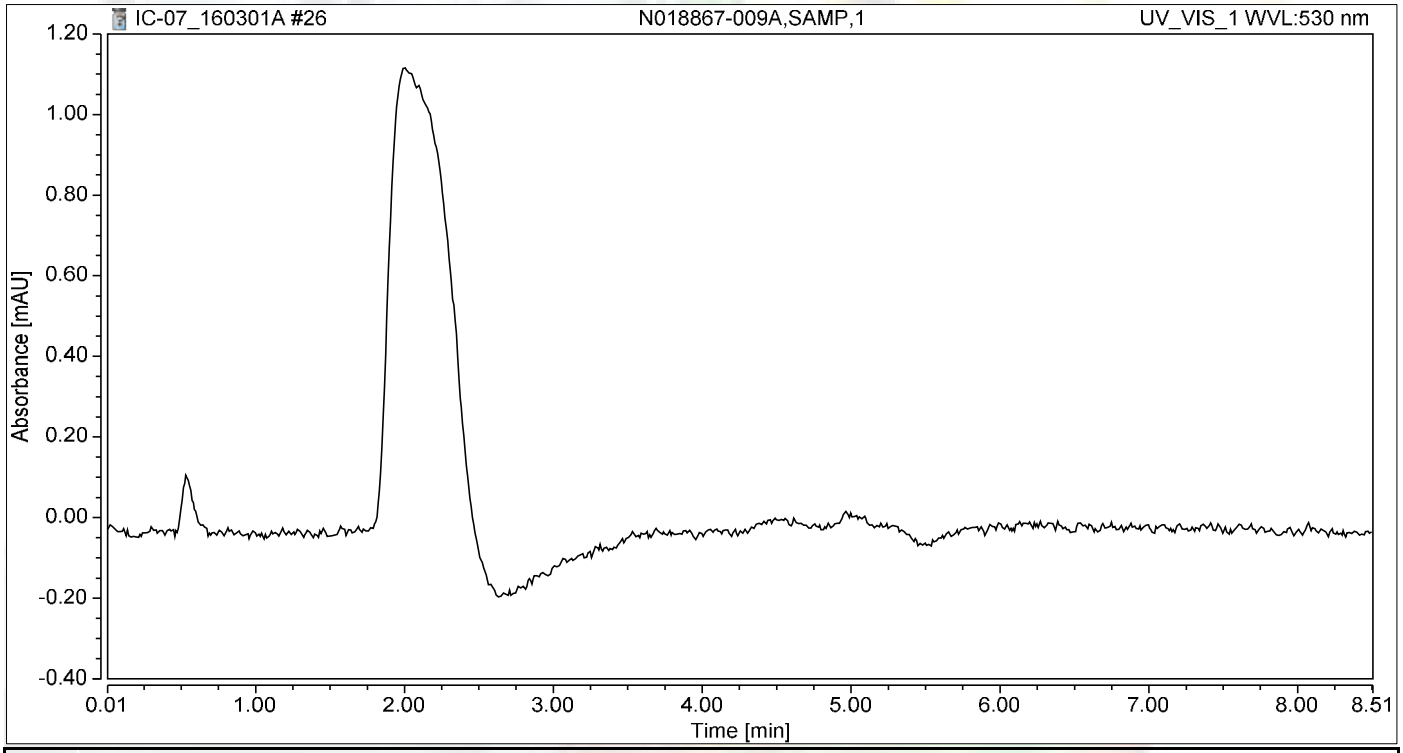
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

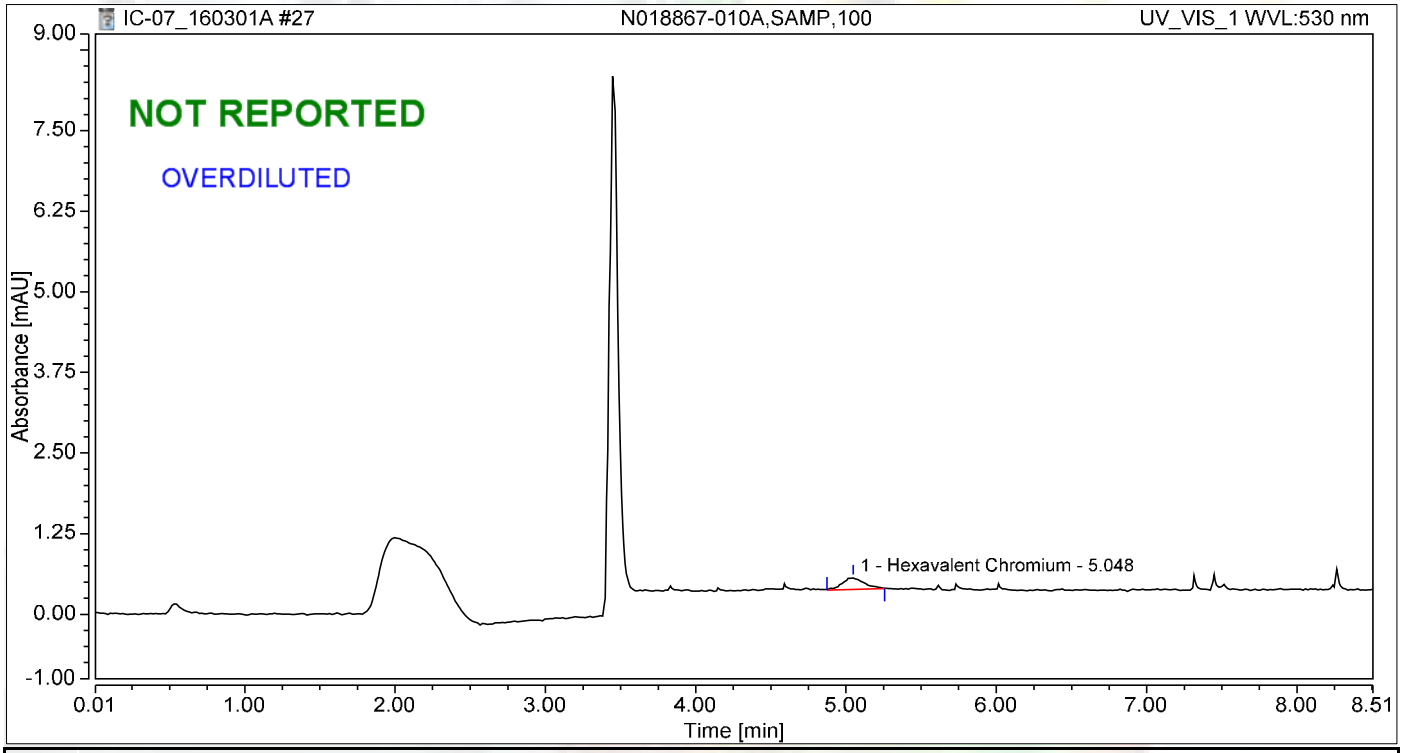
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-010A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

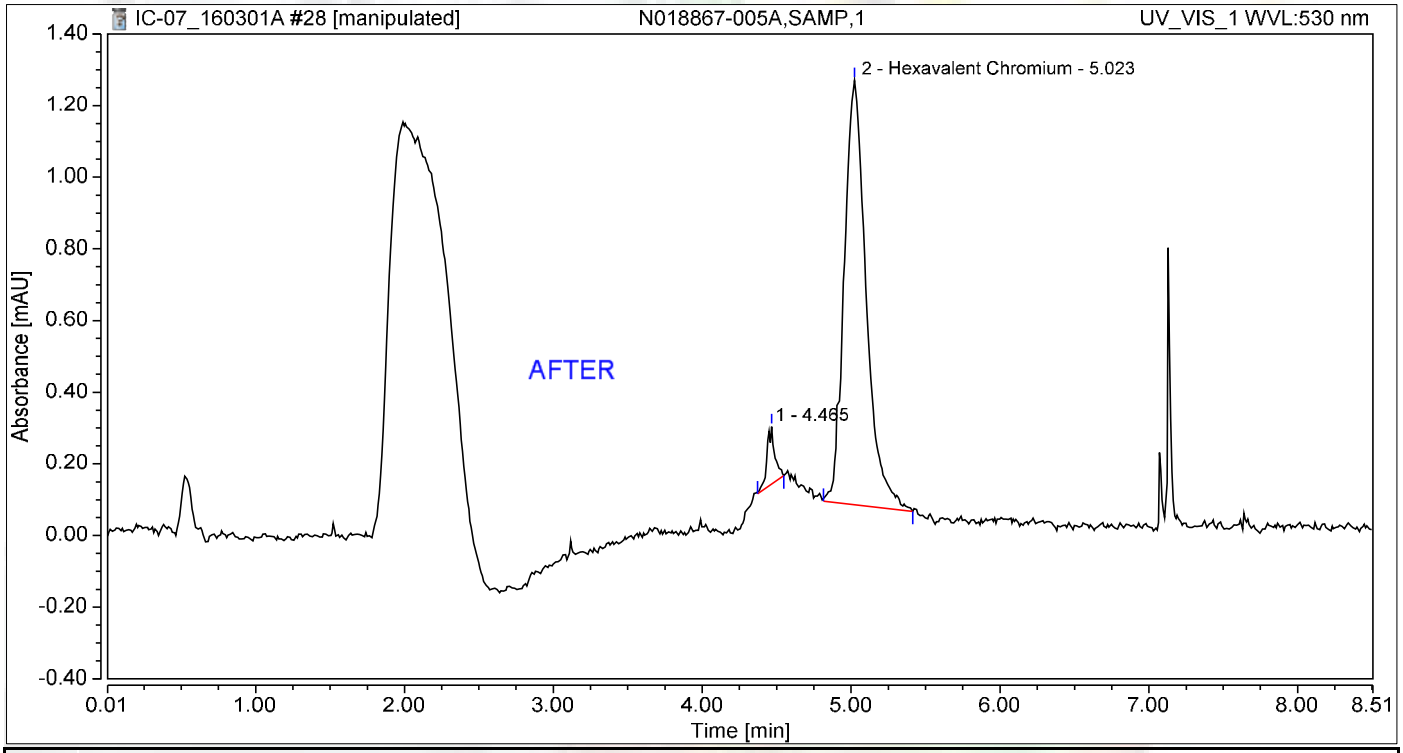
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.031	0.180	100.00	100.00	0.1309
Total:			**0.031**	**0.180**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.465	0.010	0.161	4.68	11.97	n.a.
2	Hexavalent Chromium	5.023	0.201	1.184	95.32	88.03	0.8505
Total:			**0.211**	**1.345**	**100.00**	**100.00**	

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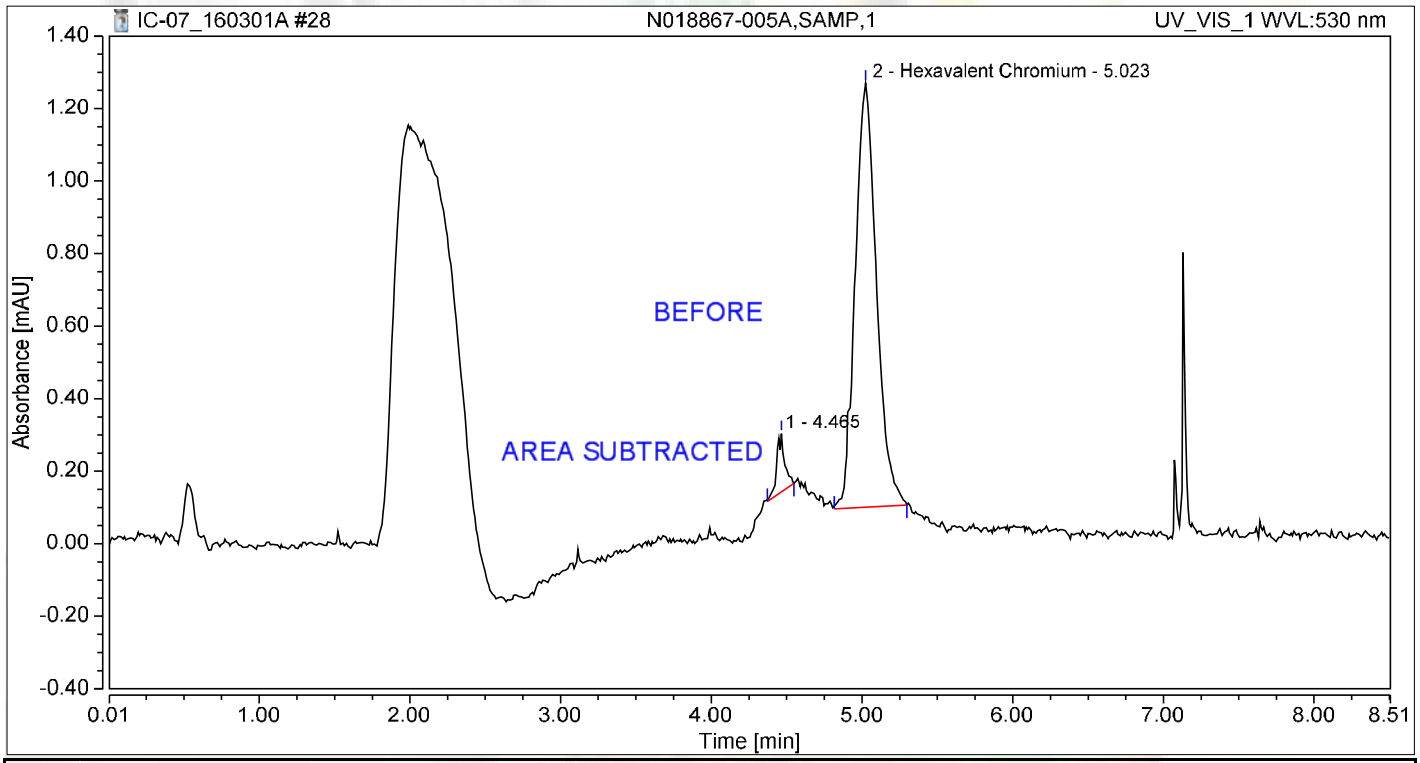
Chromatogram and Results

Injection Details

Injection Name:	**N018867-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.465	0.010	0.161	4.91	12.10	n.a.
2	Hexavalent Chromium	5.023	0.191	1.169	95.09	87.90	0.8076
Total:			**0.201**	**1.330**	**100.00**	**100.00**	

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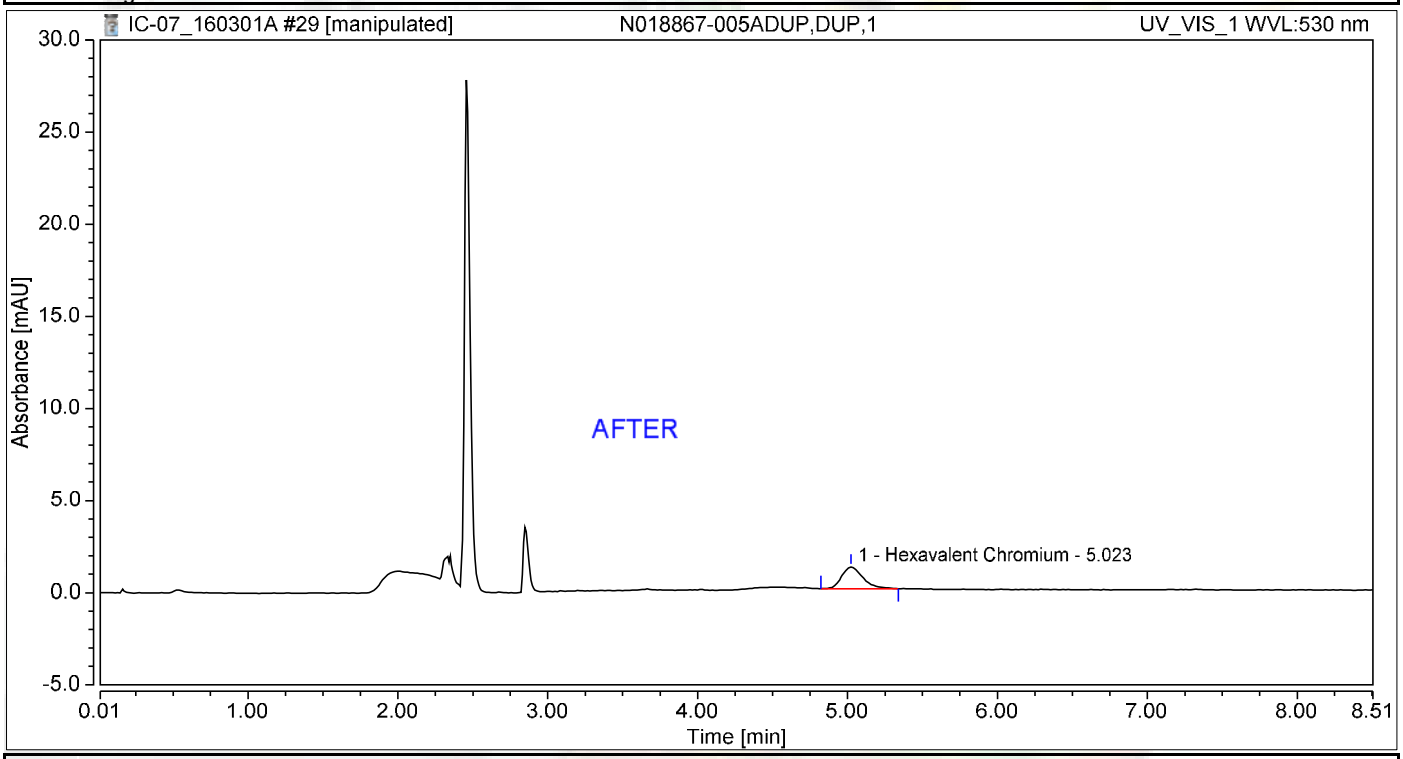
Chromatogram and Results

Injection Details

Injection Name:	**N018867-005ADUP,DUP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.190	1.166	100.00	100.00	0.8043
Total:			**0.190**	**1.166**	**100.00**	**100.00**	

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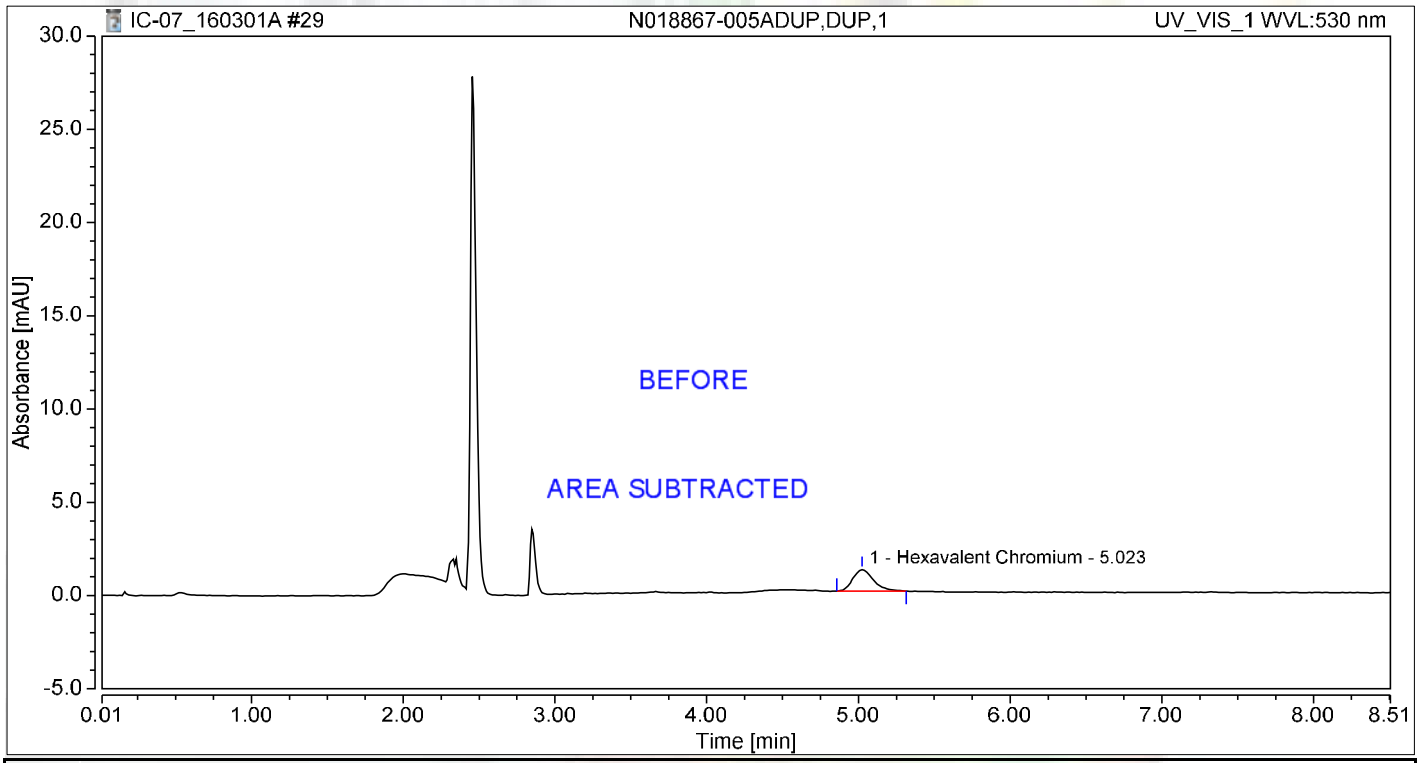
Chromatogram and Results

Injection Details

Injection Name:	**N018867-005ADUP,DUP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.184	1.155	100.00	100.00	0.7787
Total:			**0.184**	**1.155**	**100.00**	**100.00**	

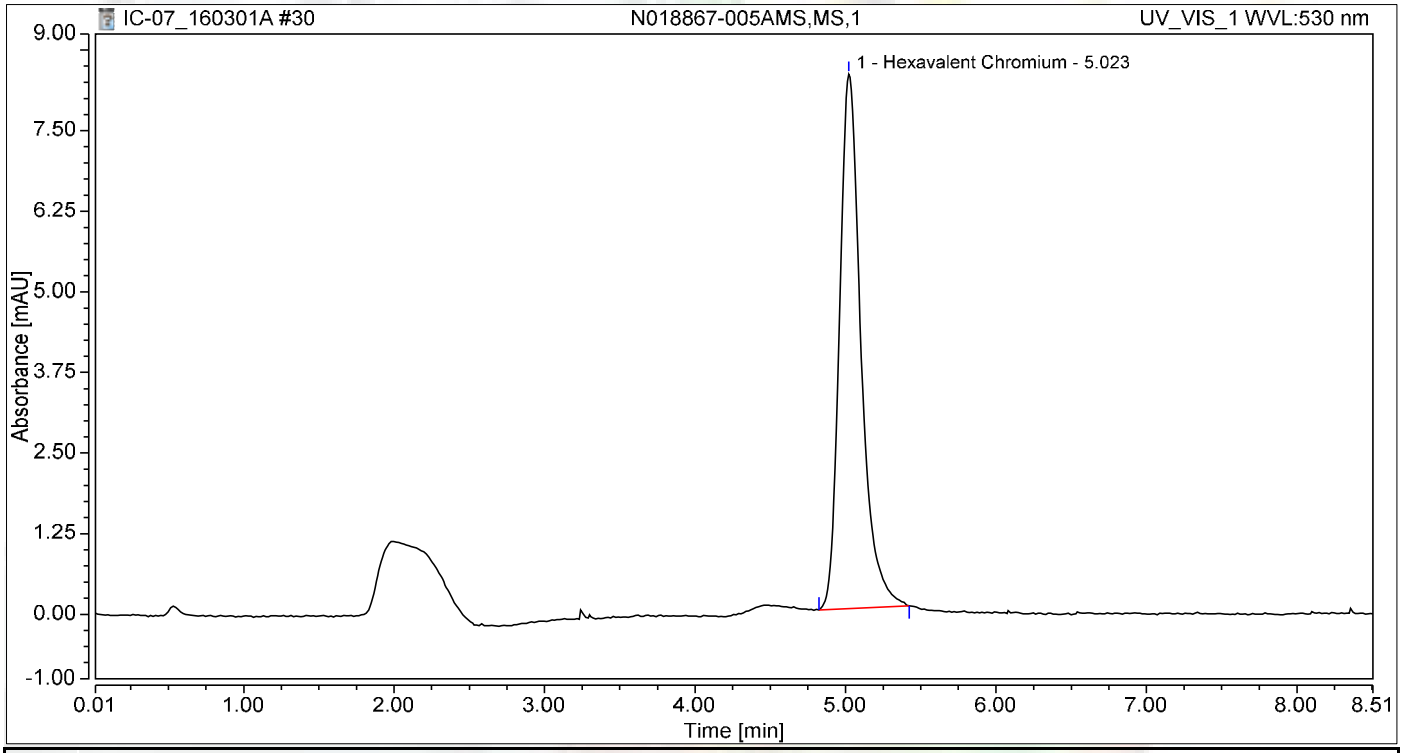
Reb 3/9/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018867-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

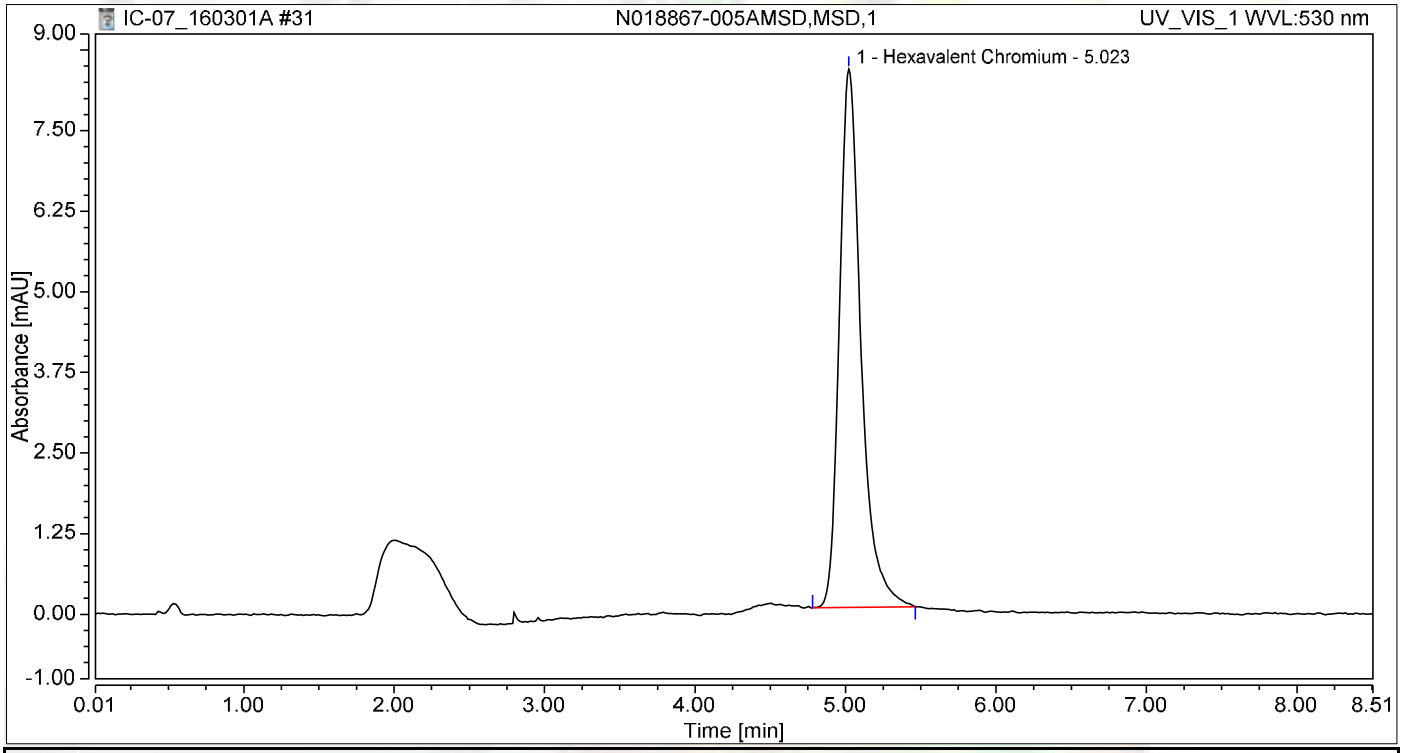
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	1.368	8.283	100.00	100.00	5.7790
Total:			**1.368**	**8.283**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-005AMSD,MSD,1**	*Run Time (min):*	**8.49**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

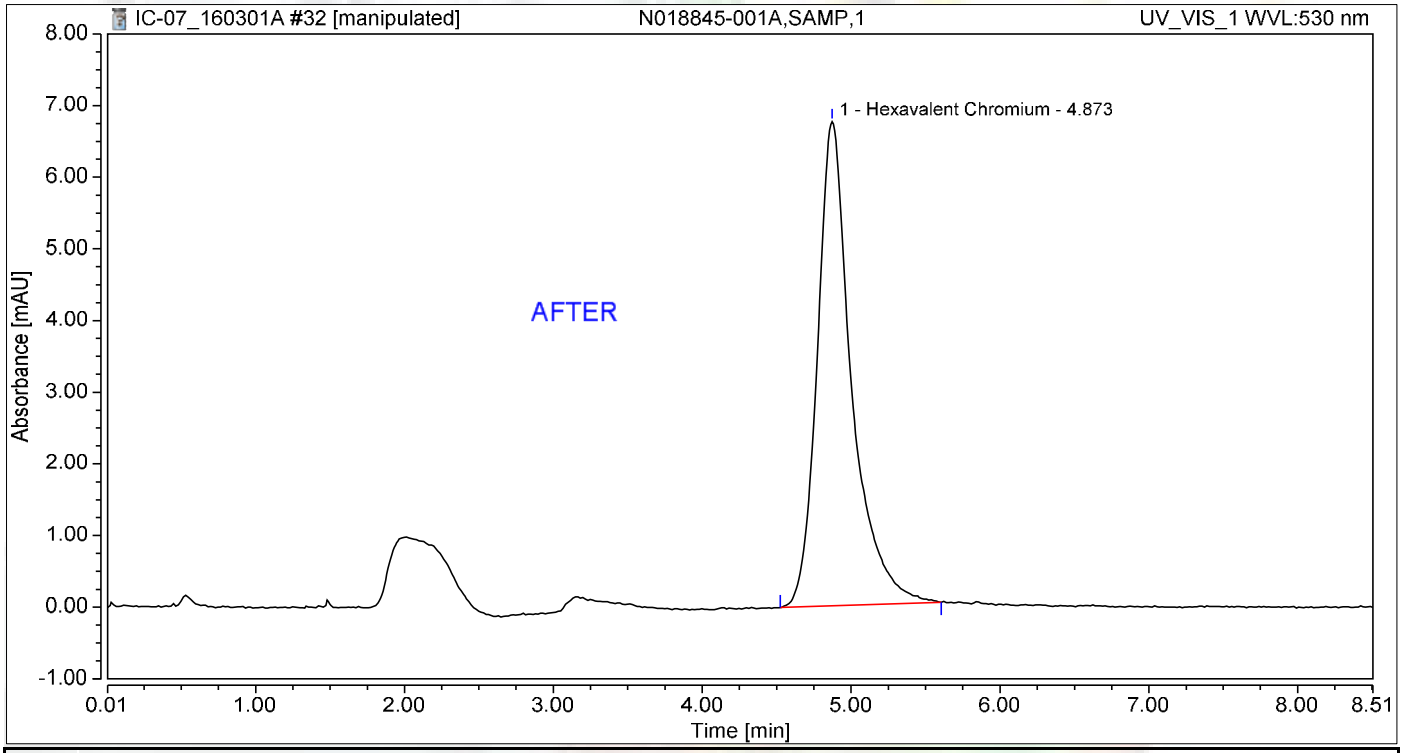
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	1.388	8.347	100.00	100.00	5.8621
Total:			**1.388**	**8.347**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.873	1.806	6.760	100.00	100.00	7.6322
Total:			**1.806**	**6.760**	**100.00**	**100.00**	

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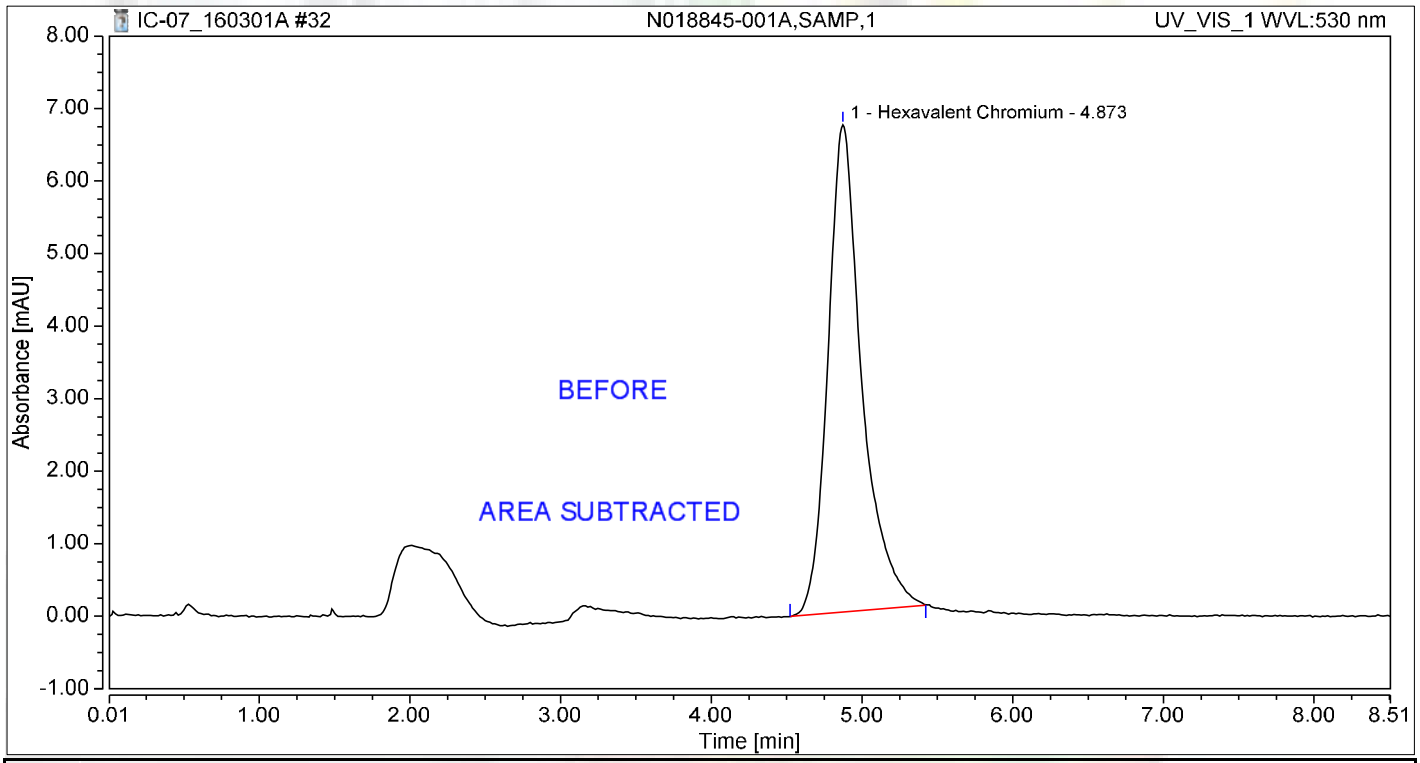
Chromatogram and Results

Injection Details

Injection Name:	**N018845-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.873	1.752	6.721	100.00	100.00	7.4041
Total:			**1.752**	**6.721**	**100.00**	**100.00**	

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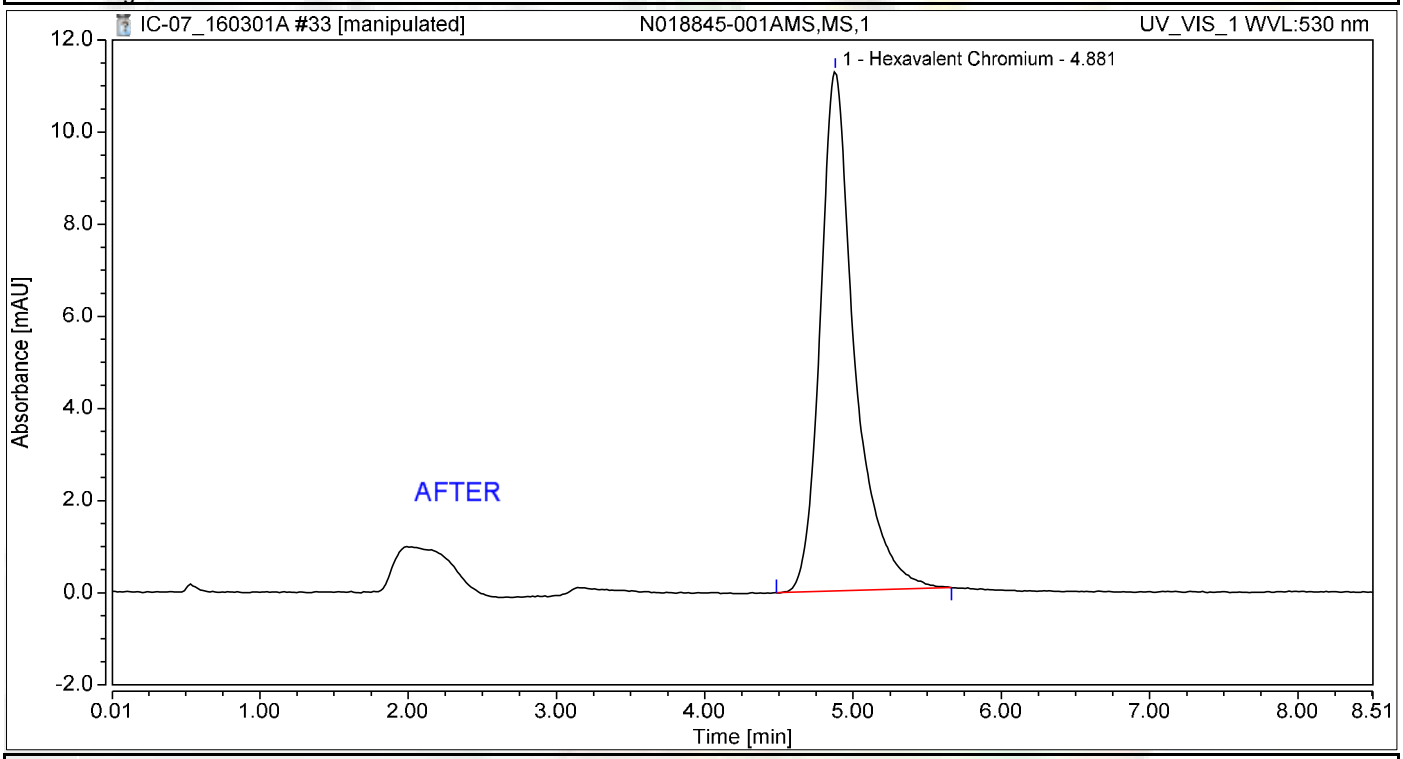
Chromatogram and Results

Injection Details

Injection Name:	**N018845-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.881	3.027	11.284	100.00	100.00	12.7873
Total:			**3.027**	**11.284**	**100.00**	**100.00**	

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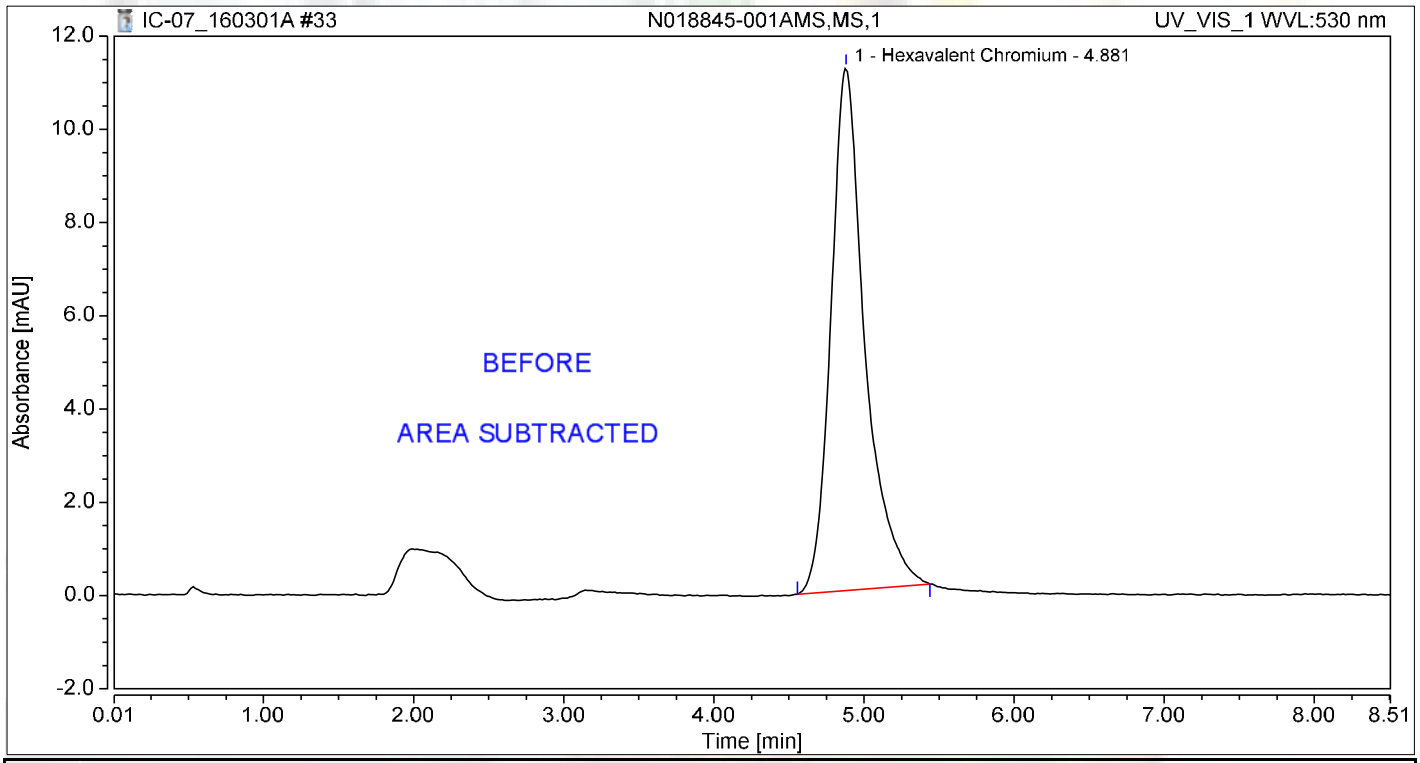
Chromatogram and Results

Injection Details

Injection Name:	**N018845-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.881	2.937	11.218	100.00	100.00	12.4106
Total:			**2.937**	**11.218**	**100.00**	**100.00**	

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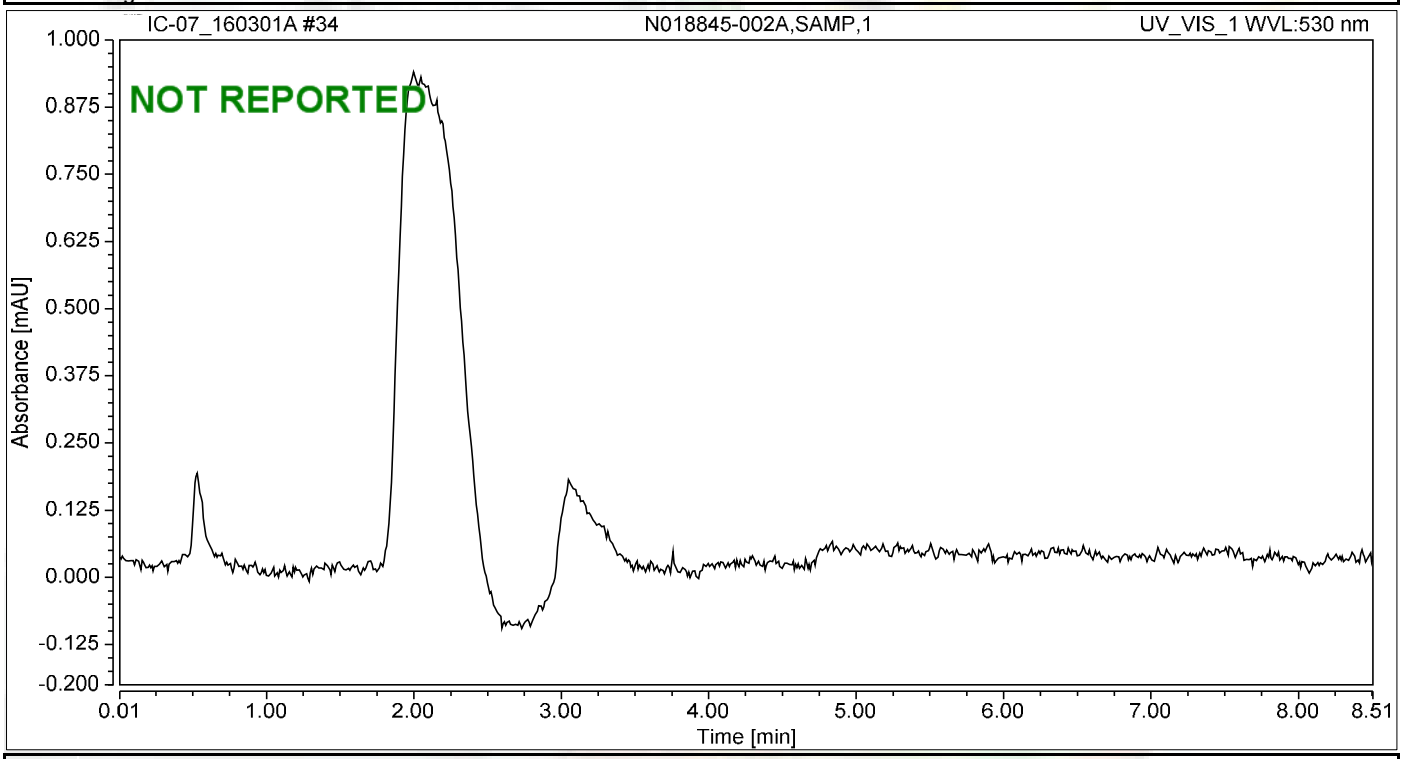
Chromatogram and Results

Injection Details

Injection Name:	**N018845-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

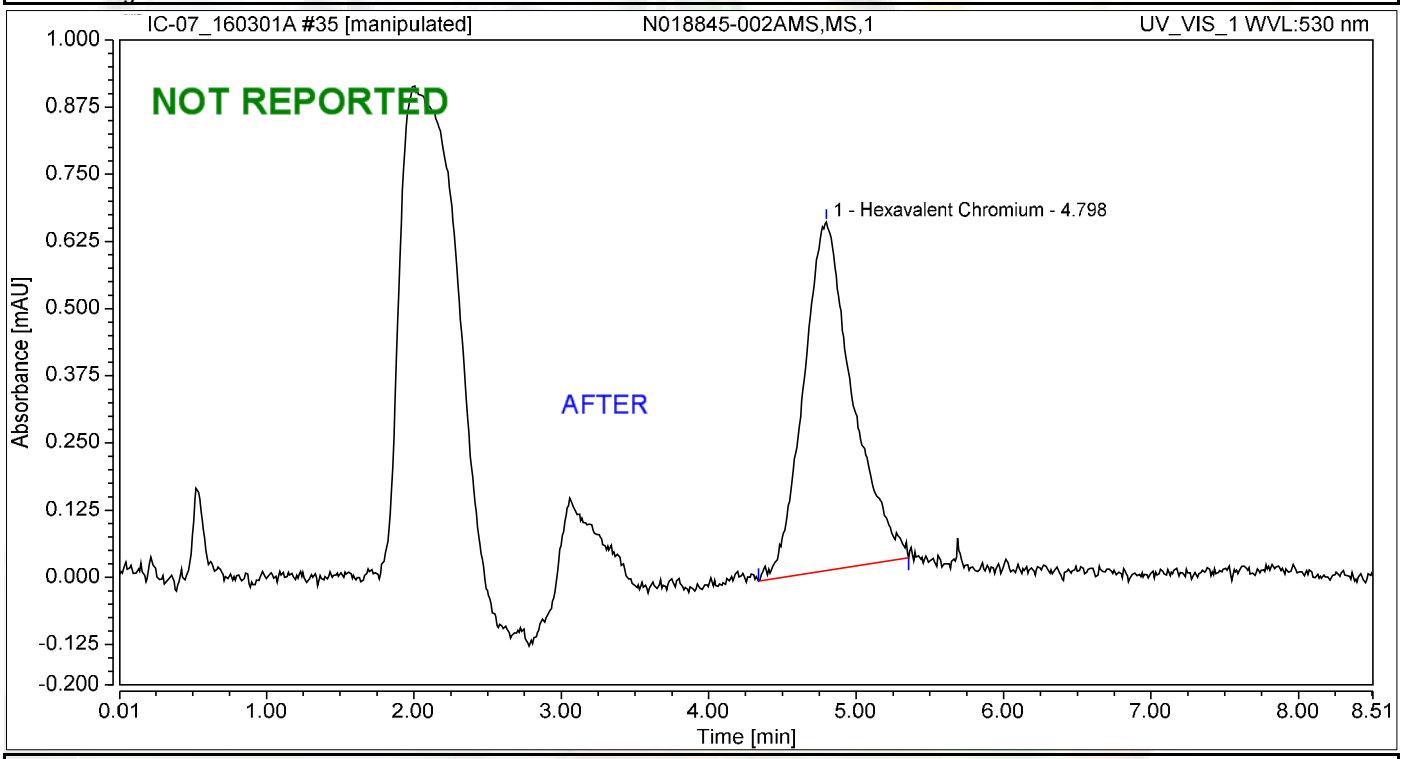
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

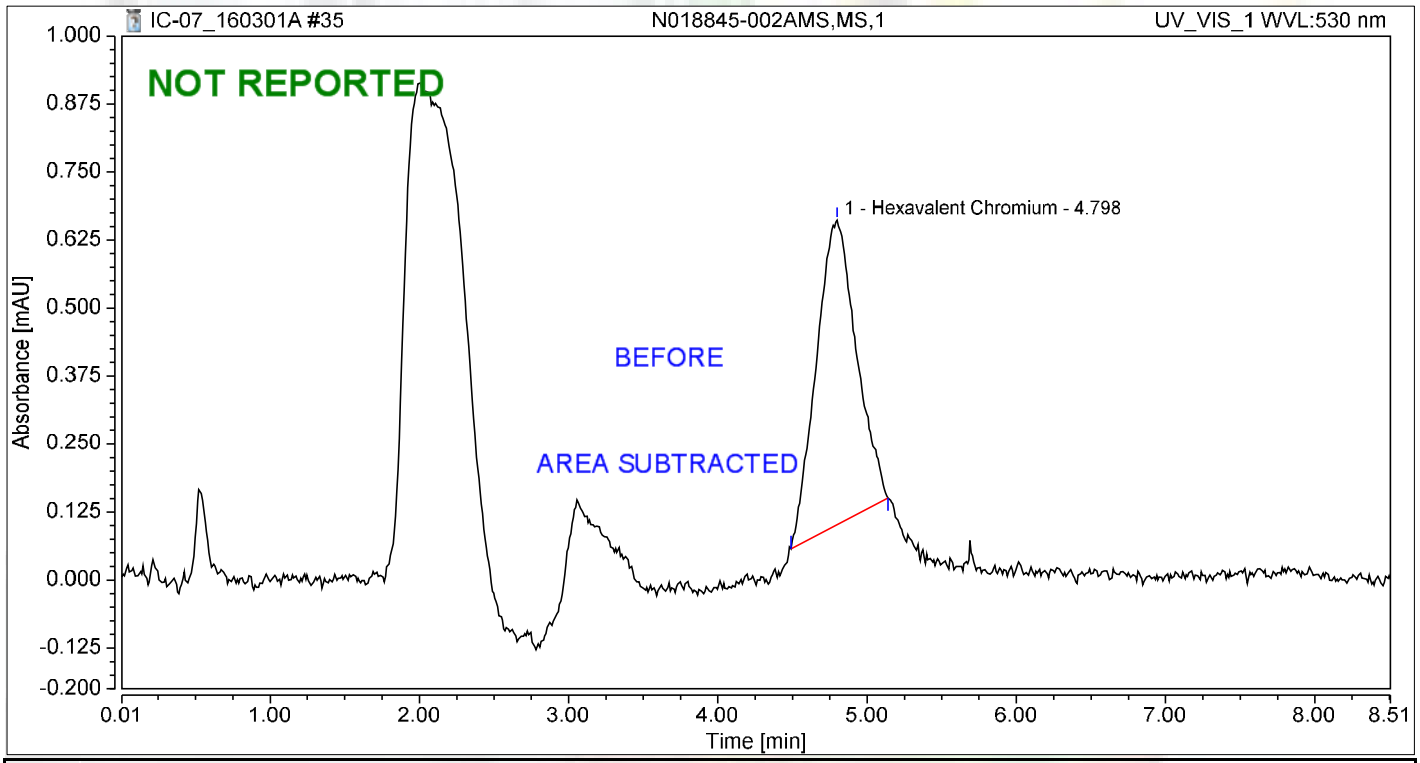
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.798	0.251	0.649	100.00	100.00	1.0585
Total:			**0.251**	**0.649**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

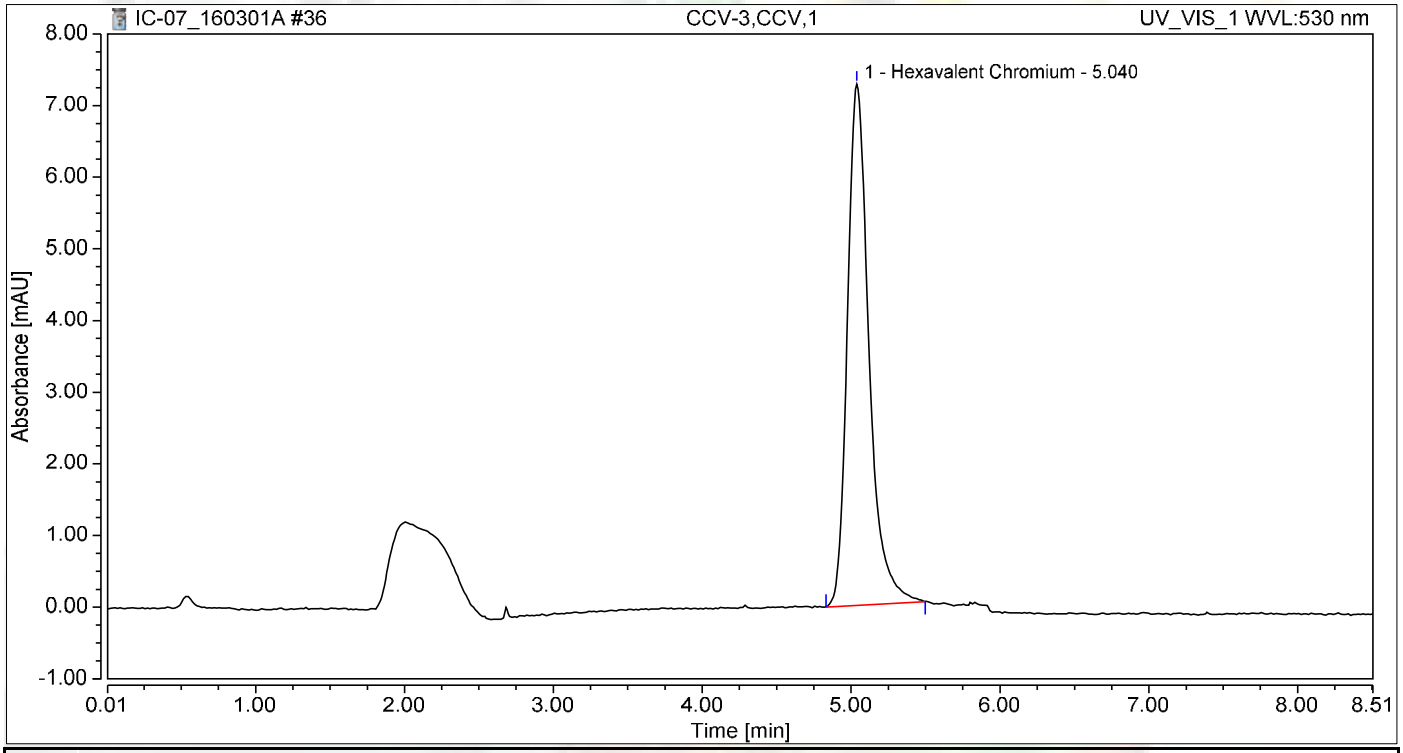
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.798	0.175	0.560	100.00	100.00	0.7373
Total:			**0.175**	**0.560**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

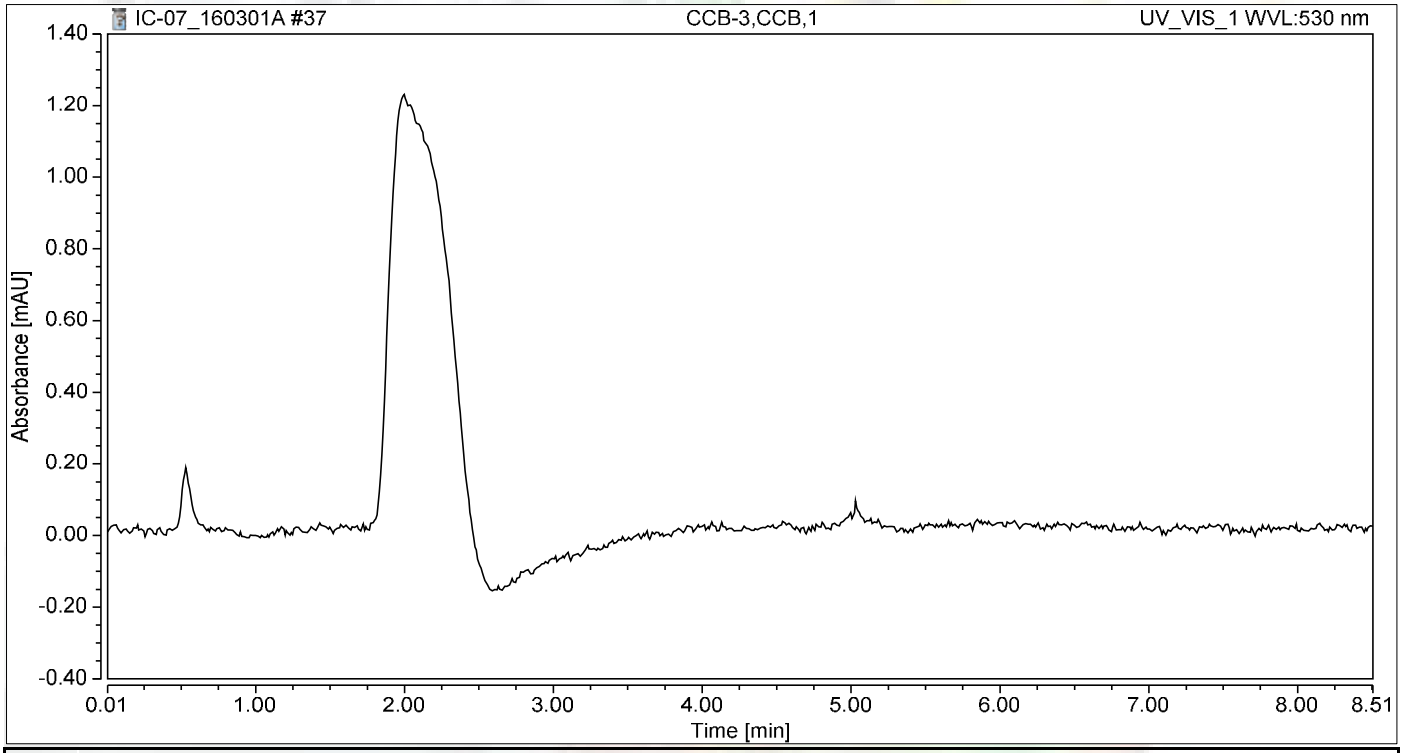
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.211	7.274	100.00	100.00	5.1184
Total:			**1.211**	**7.274**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 14:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

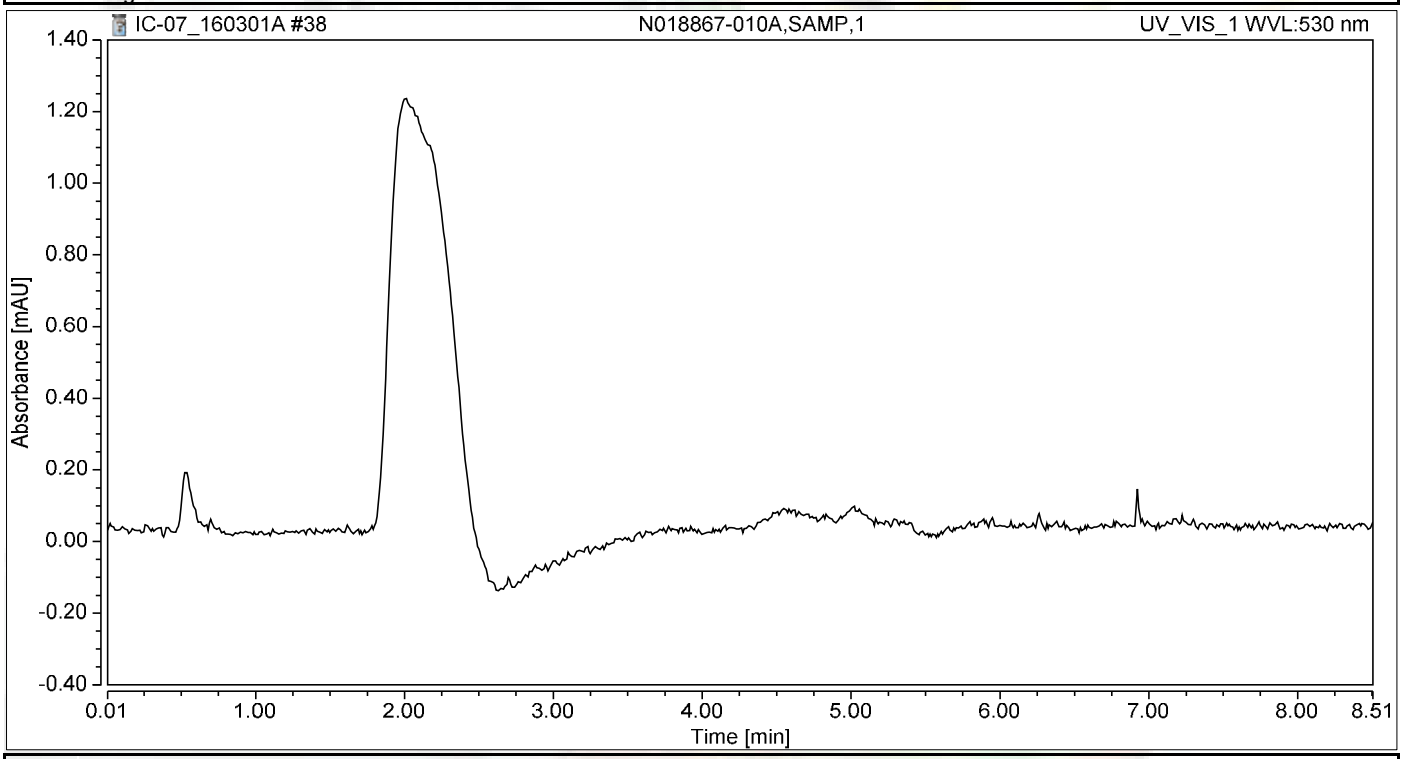
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 15:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

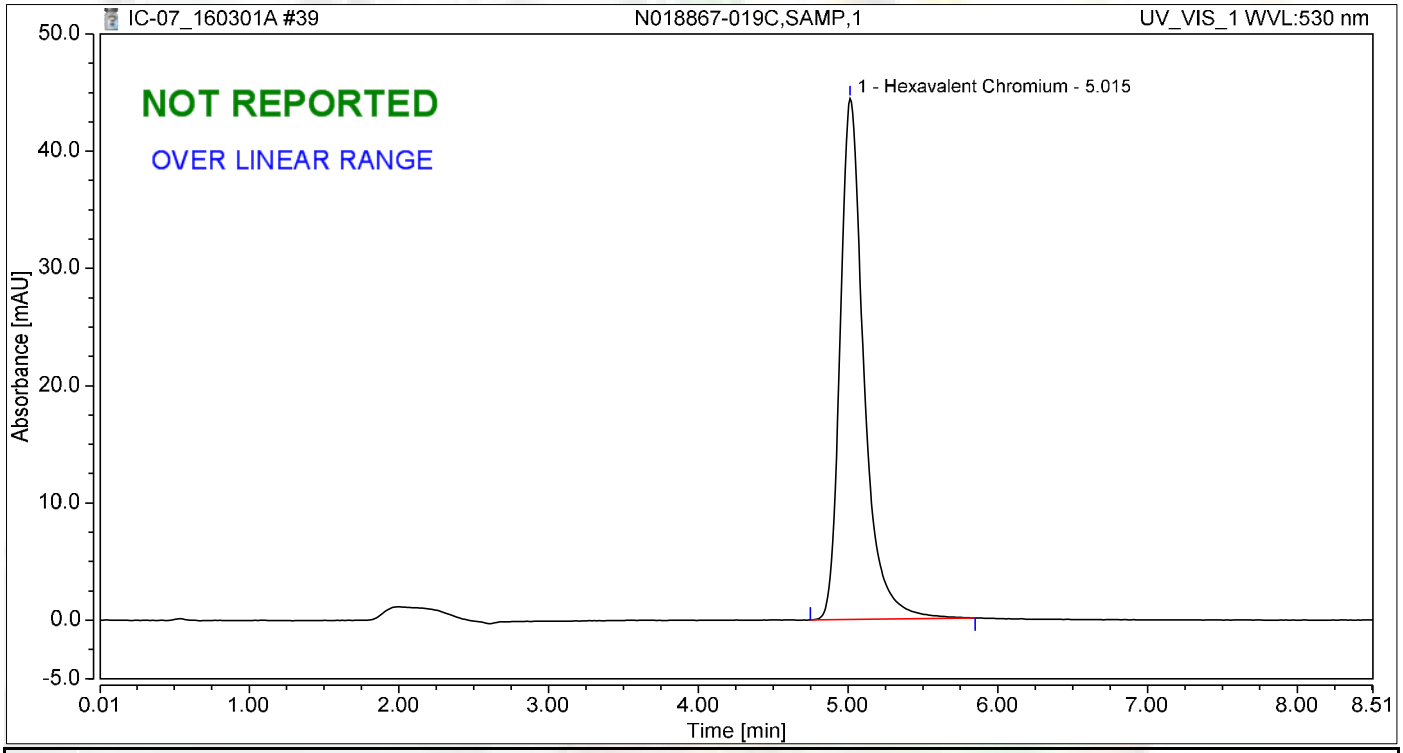
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-019C,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 15:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

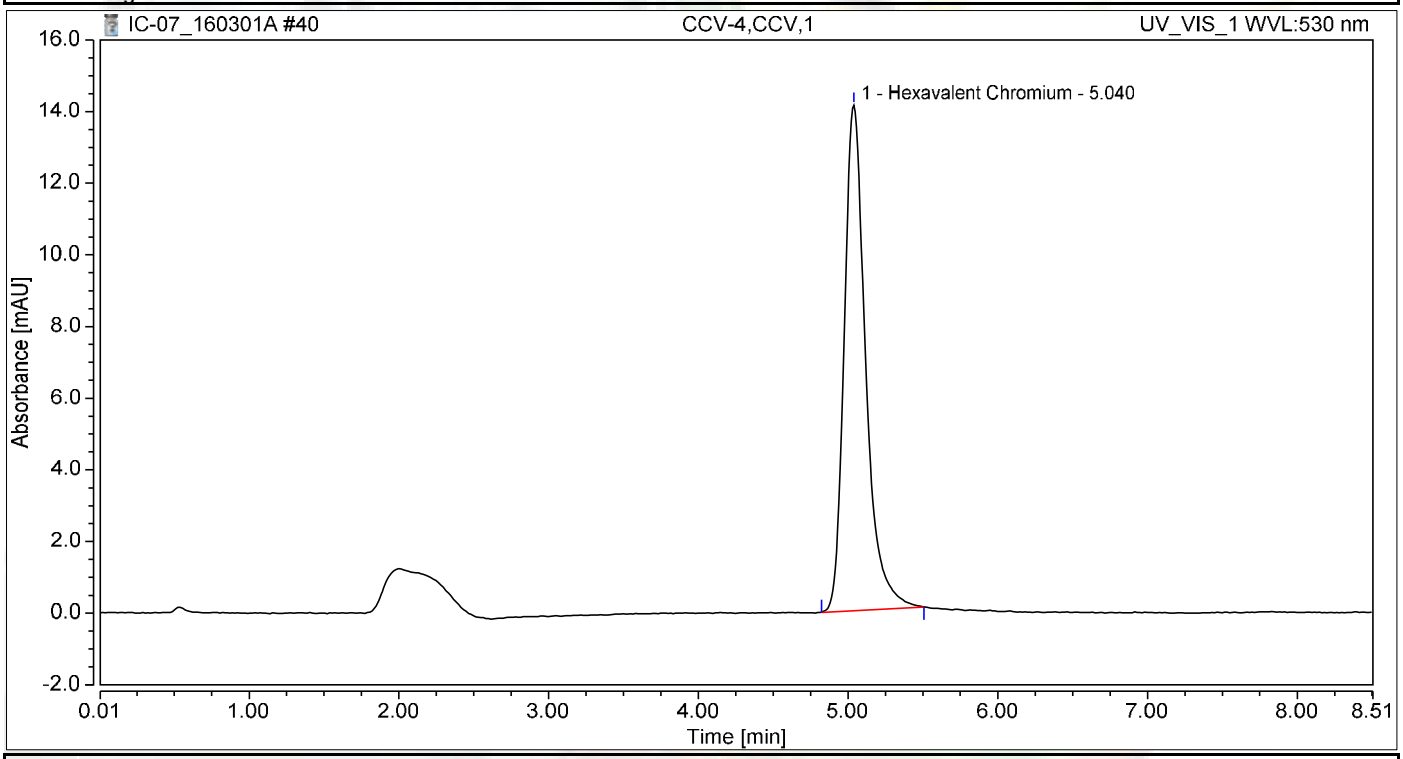
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	8.176	44.442	100.00	100.00	34.5443
Total:			**8.176**	**44.442**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 15:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

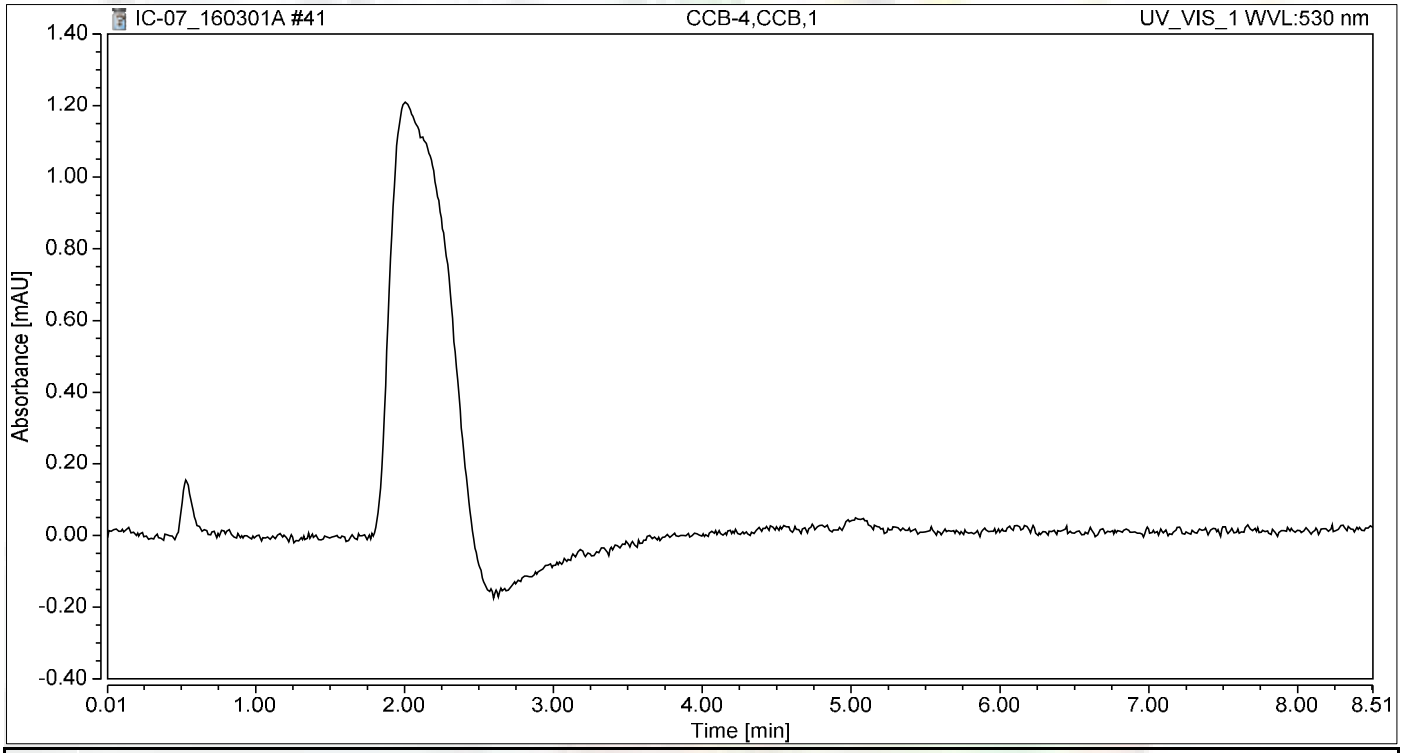
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.330	14.109	100.00	100.00	9.8450
Total:			**2.330**	**14.109**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Mar/16 15:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

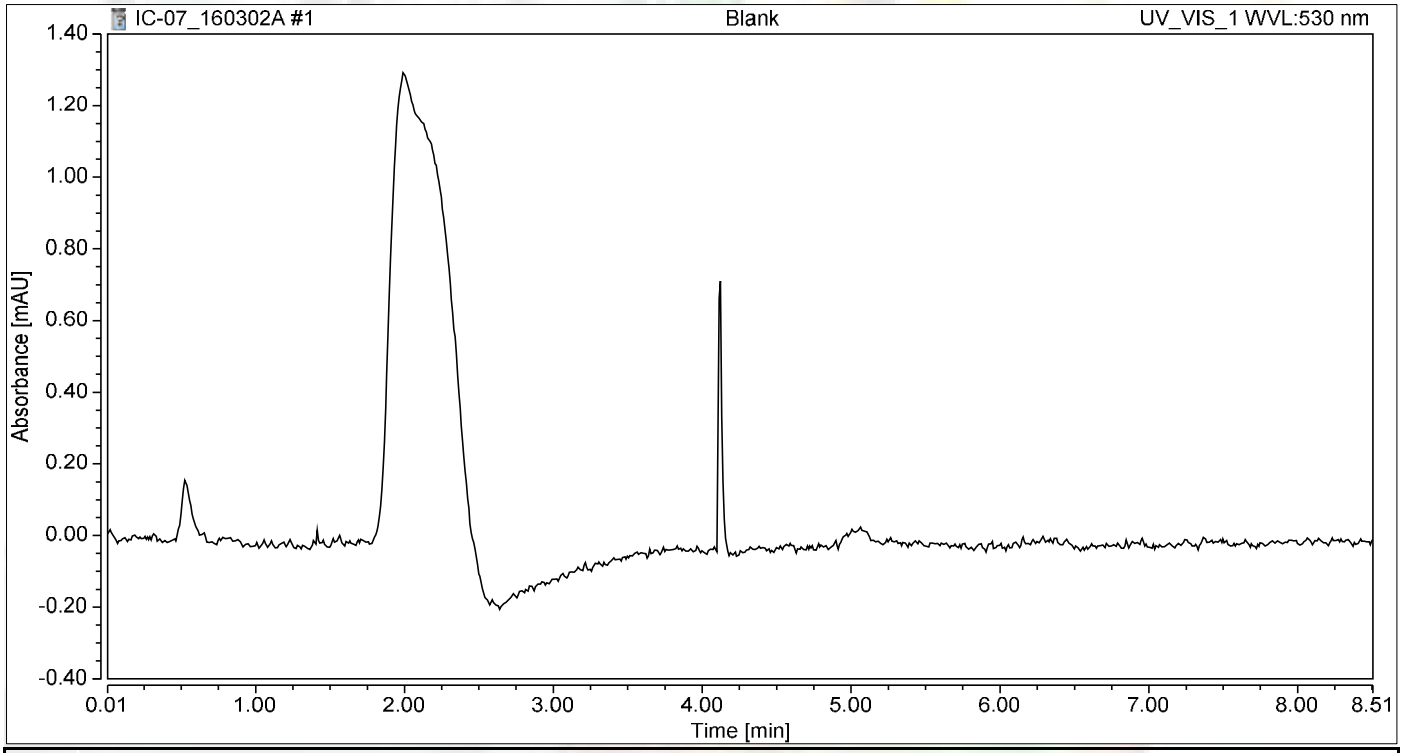
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

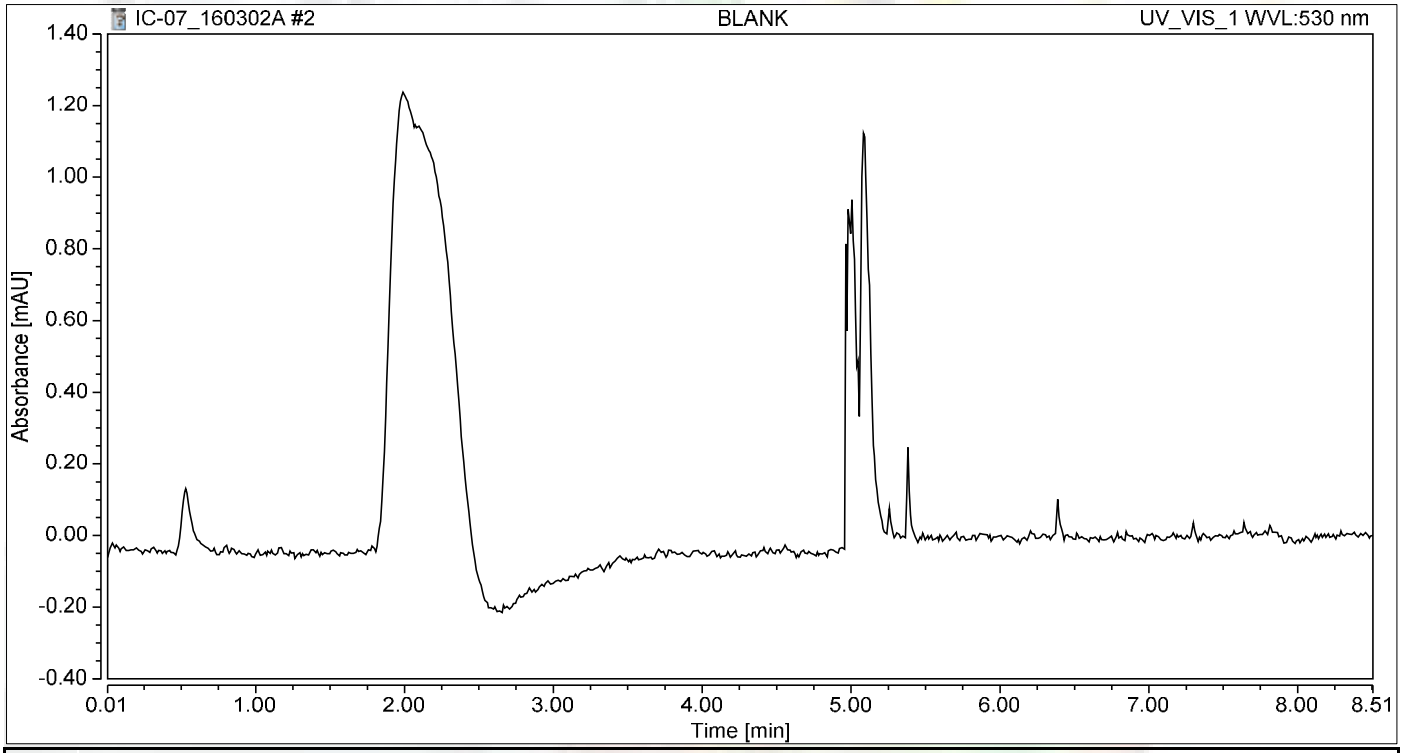
not reported

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

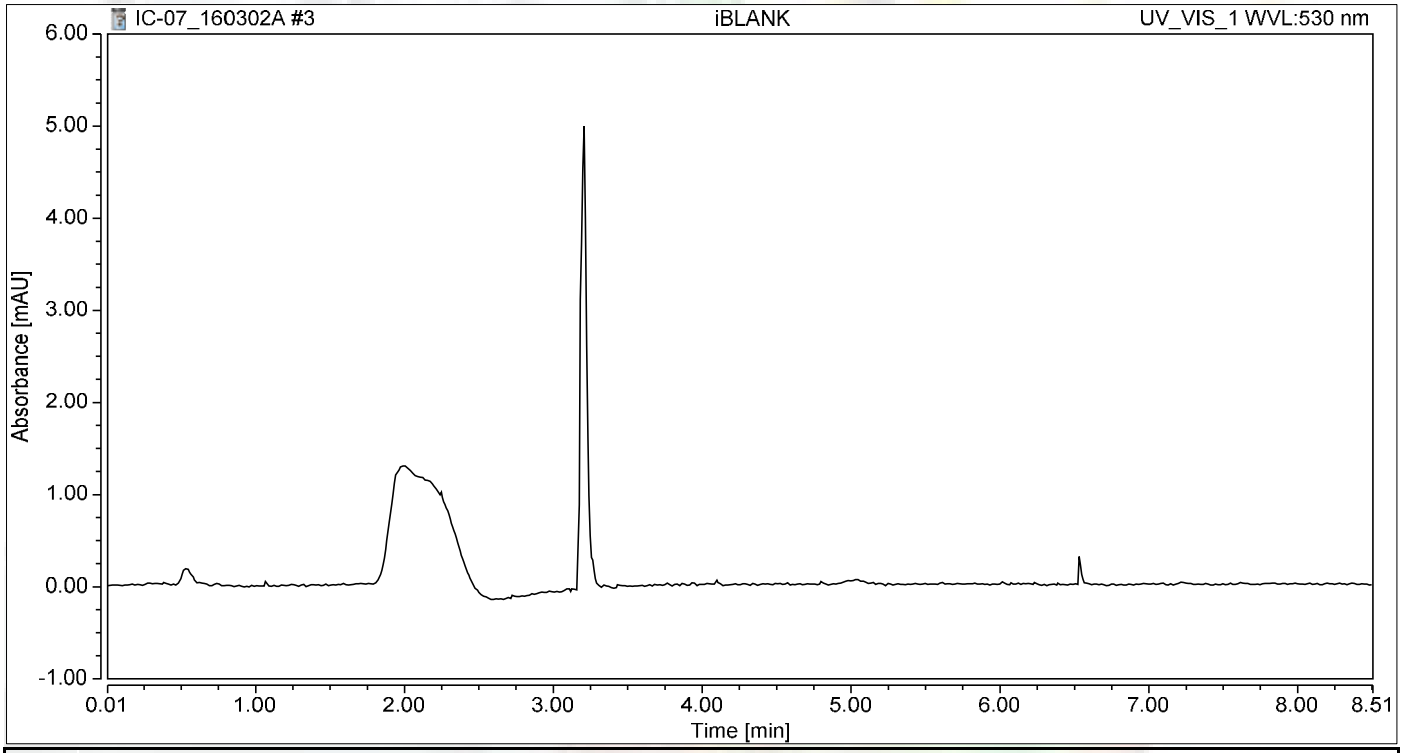
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

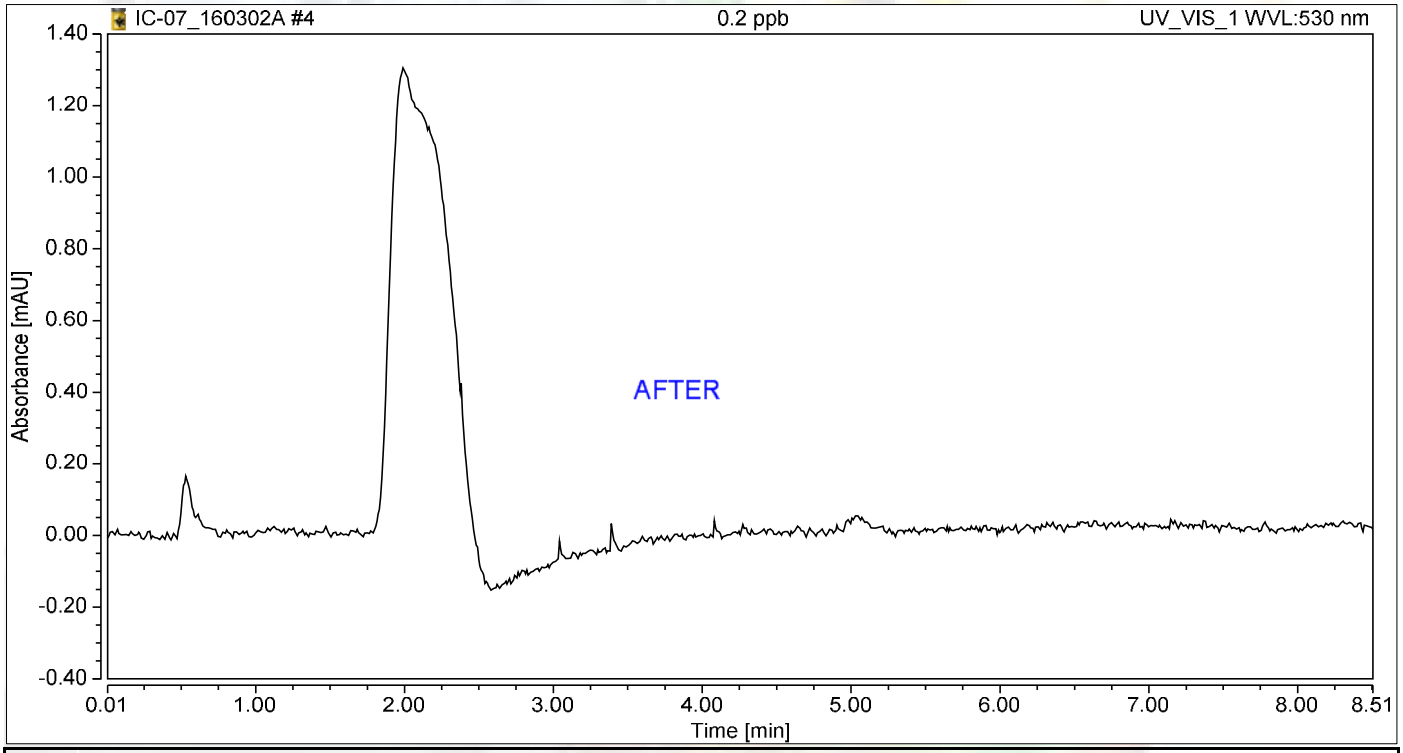
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

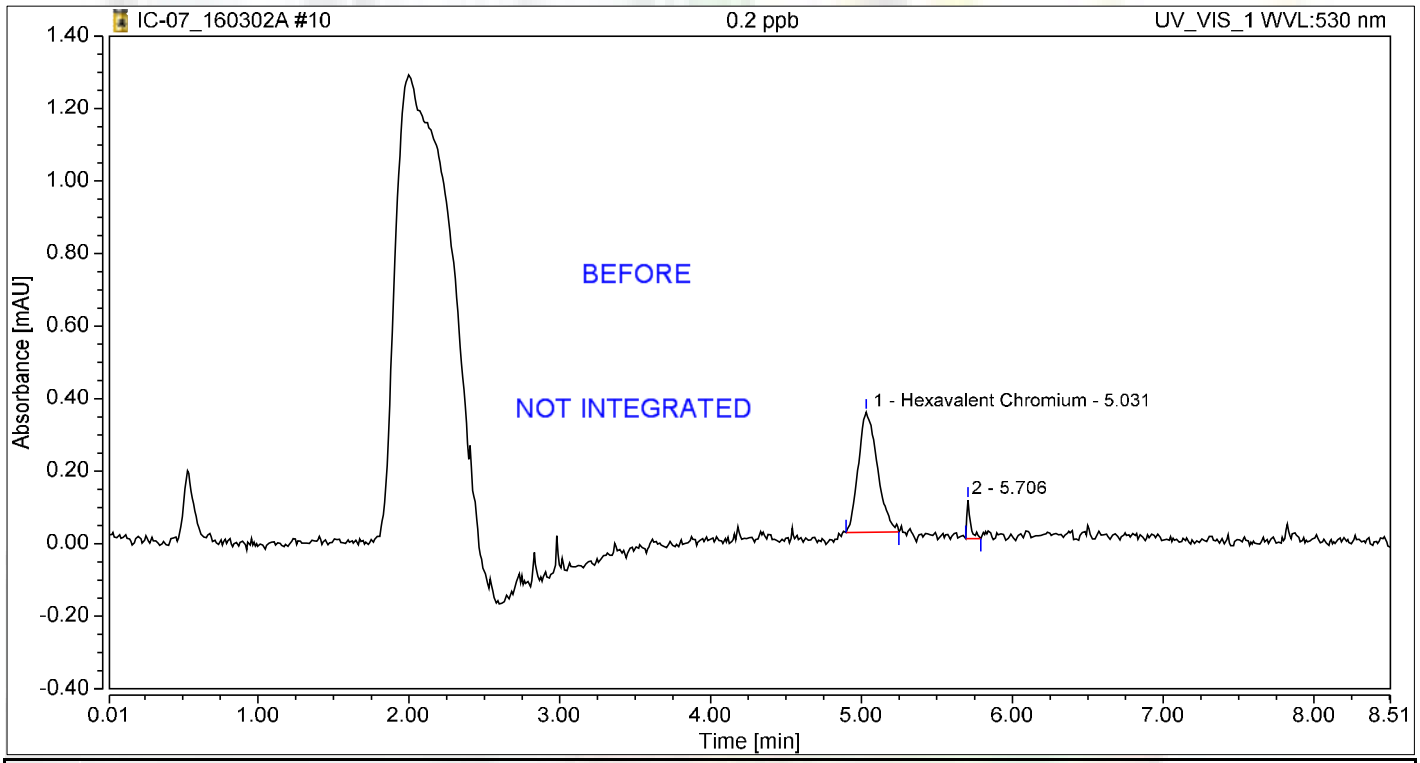
not reported

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.049	0.331	94.14	75.72	0.2023
2		5.706	0.003	0.106	5.86	24.28	n.a.
Total:			**0.052**	**0.437**	**100.00**	**100.00**	

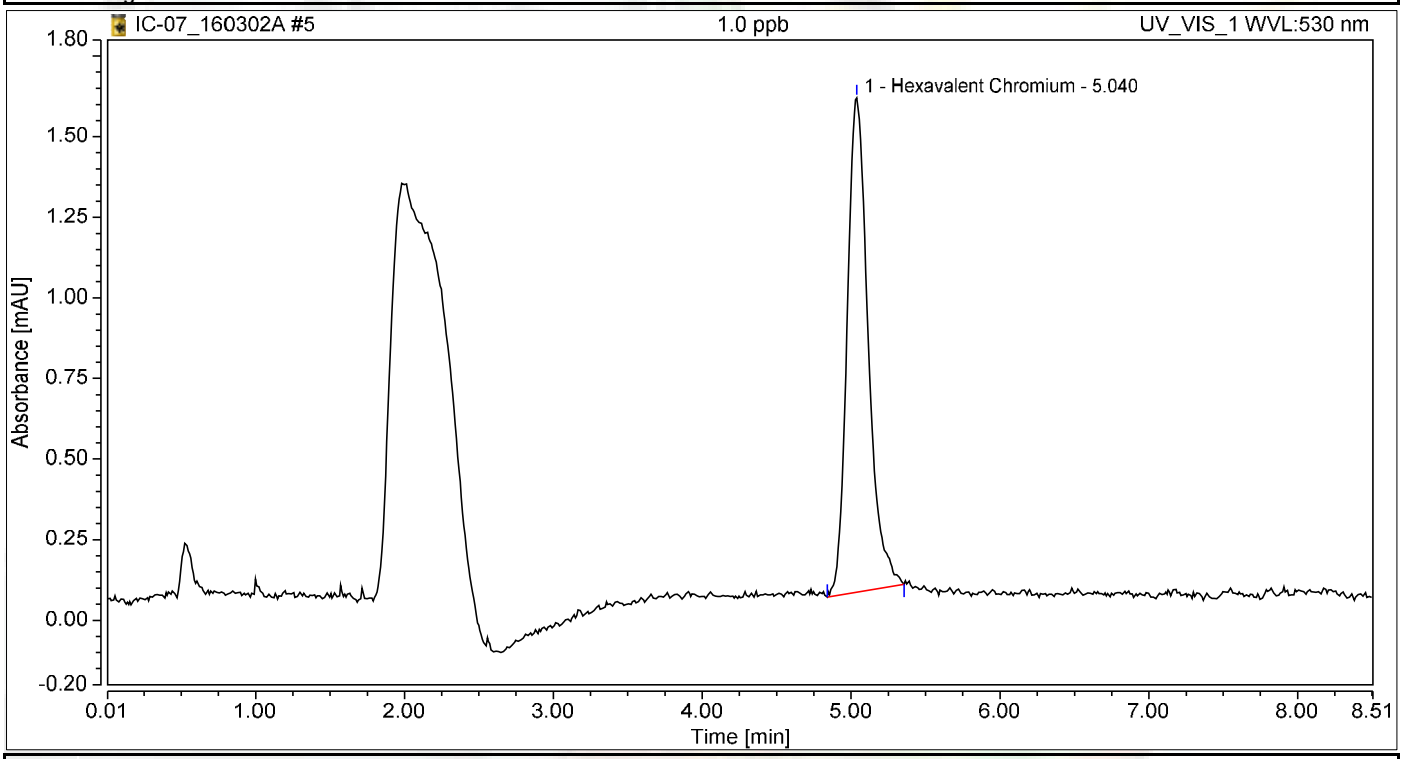
not reported

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

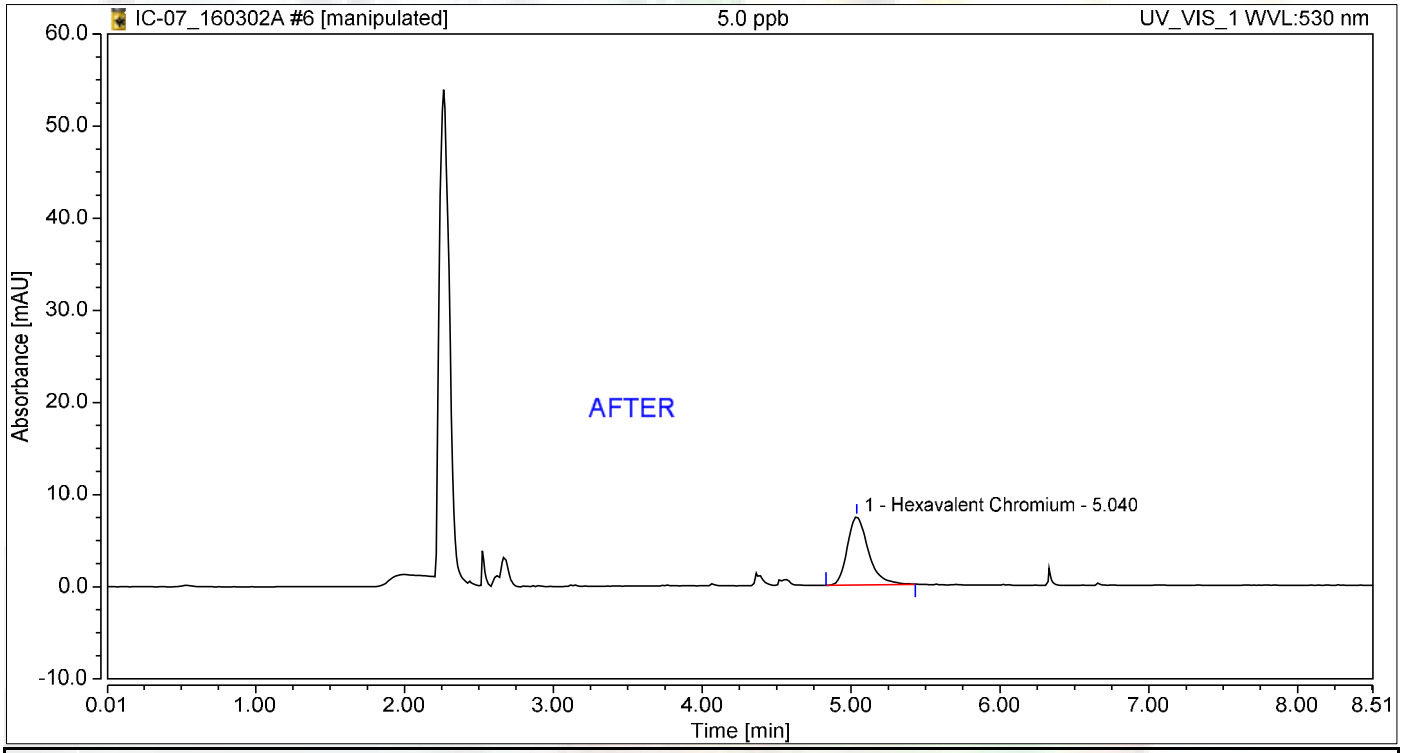
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.249	1.533	100.00	100.00	1.0323
Total:			**0.249**	**1.533**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.198	7.374	100.00	100.00	4.9678
Total:			**1.198**	**7.374**	**100.00**	**100.00**	

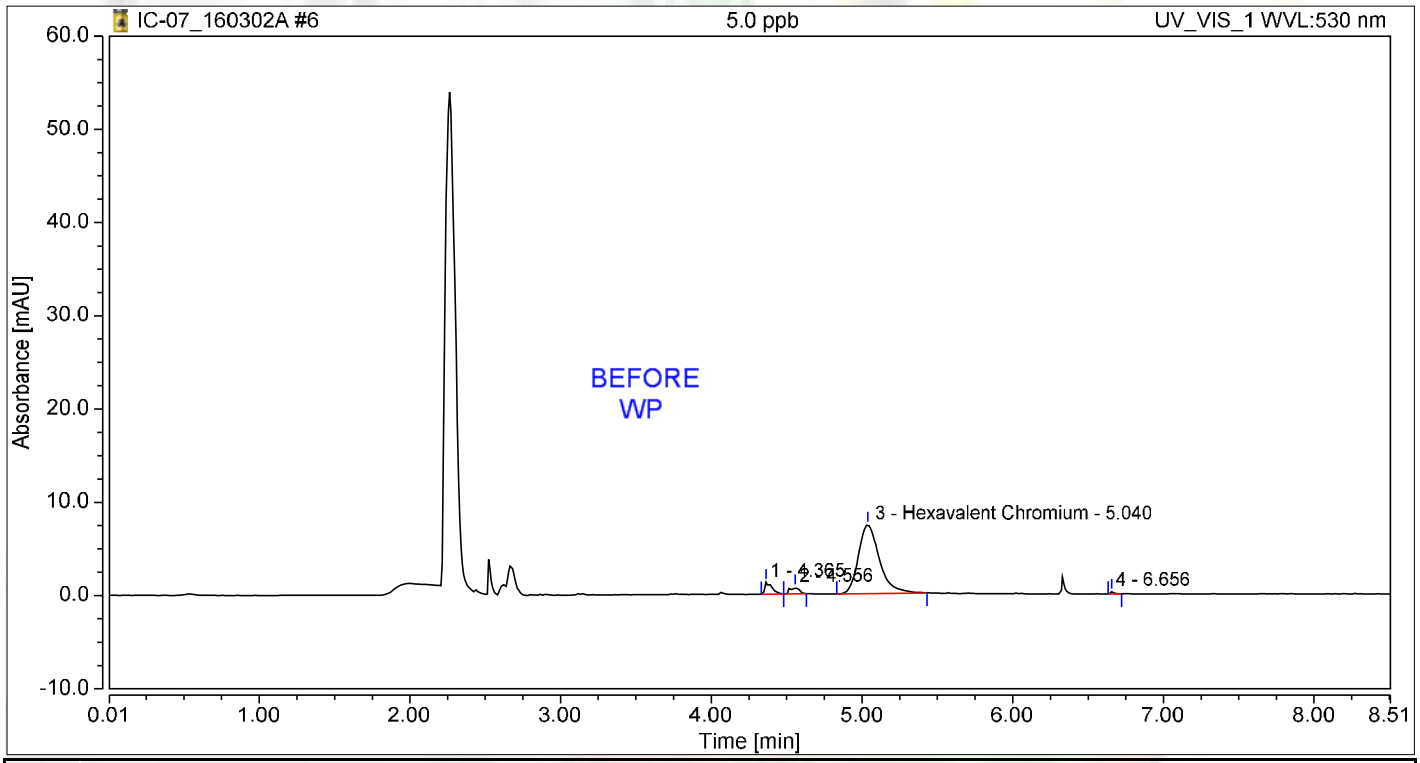
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

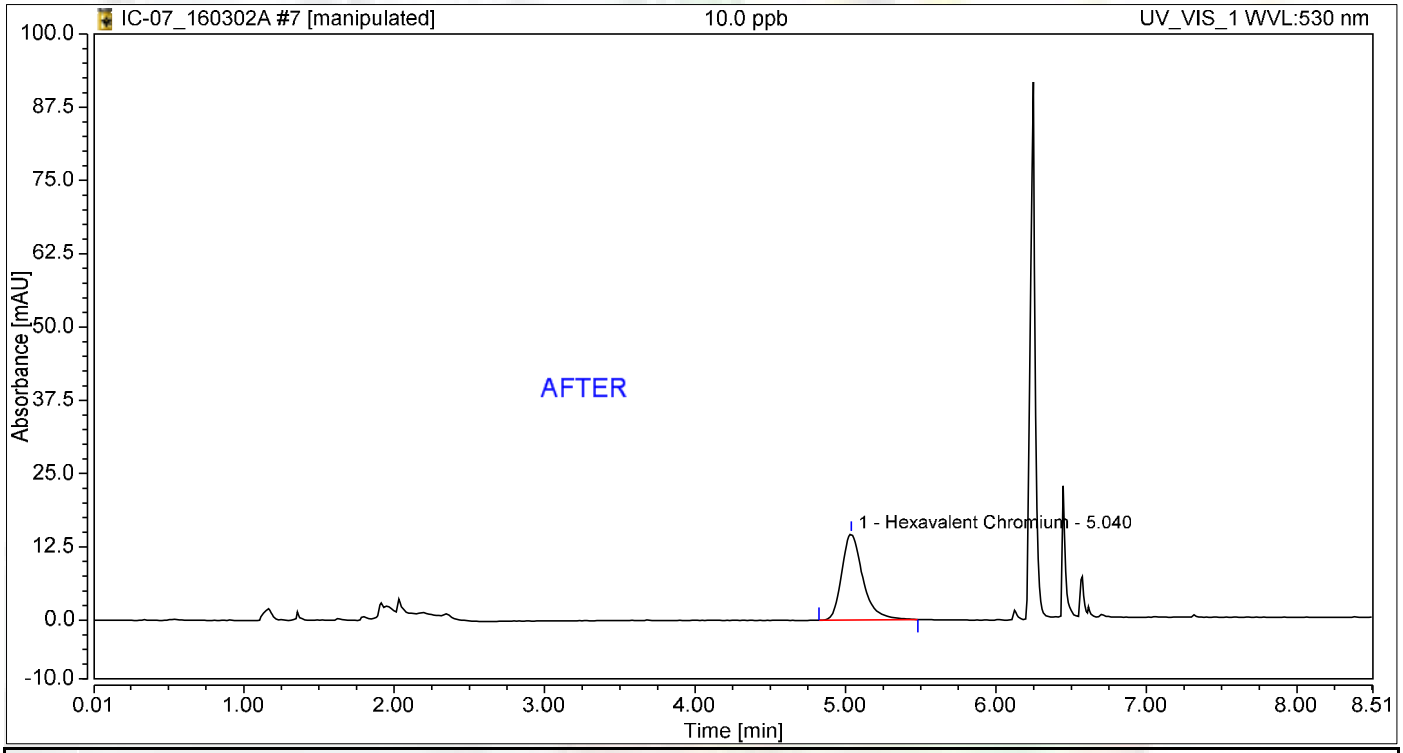
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.365	0.067	1.305	5.11	13.54	n.a.
2		4.556	0.047	0.689	3.58	7.15	n.a.
3	Hexavalent Chromium	5.040	1.198	7.374	90.83	76.51	4.9678
4		6.656	0.006	0.270	0.48	2.80	n.a.
Total:			**1.319**	**9.638**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	100.00	100.00	9.8485
Total:			**2.376**	**14.635**	**100.00**	**100.00**	

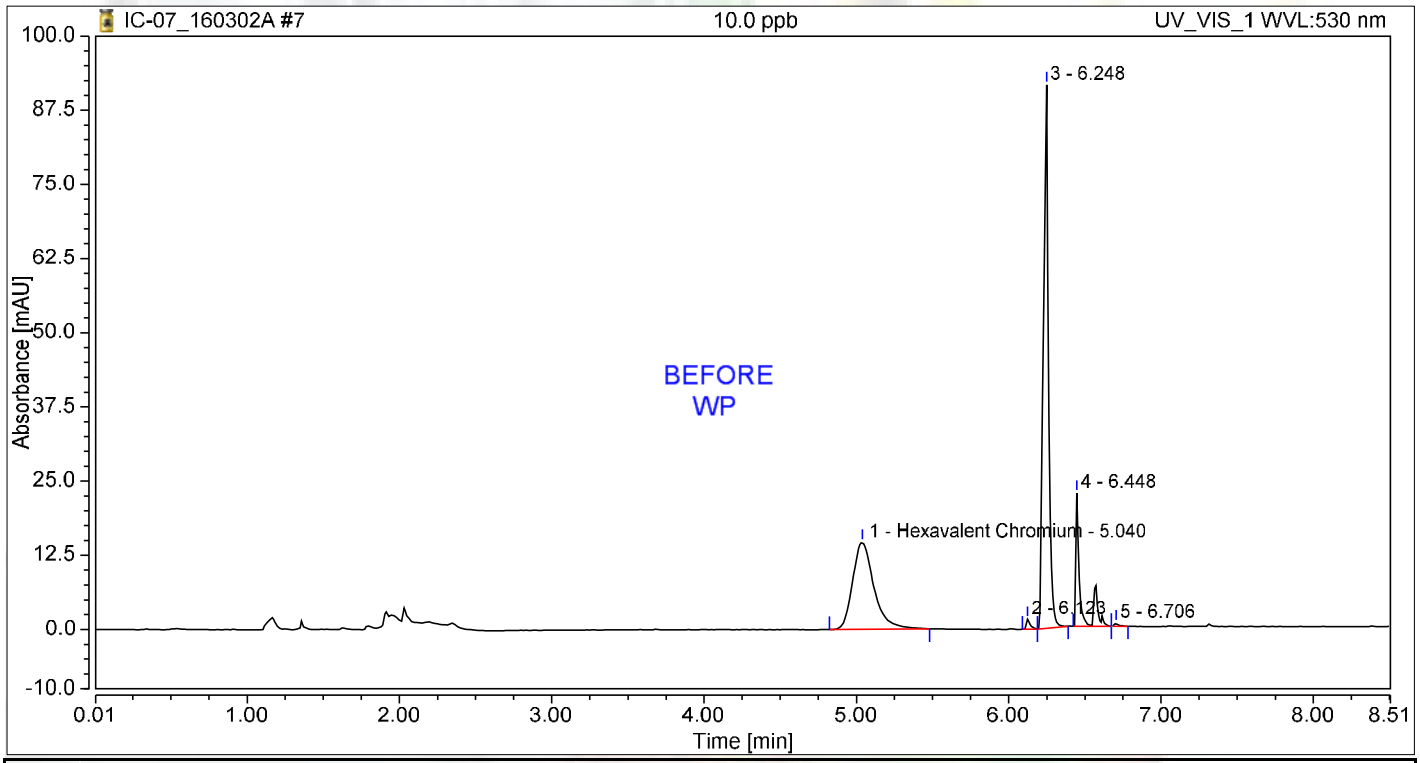
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

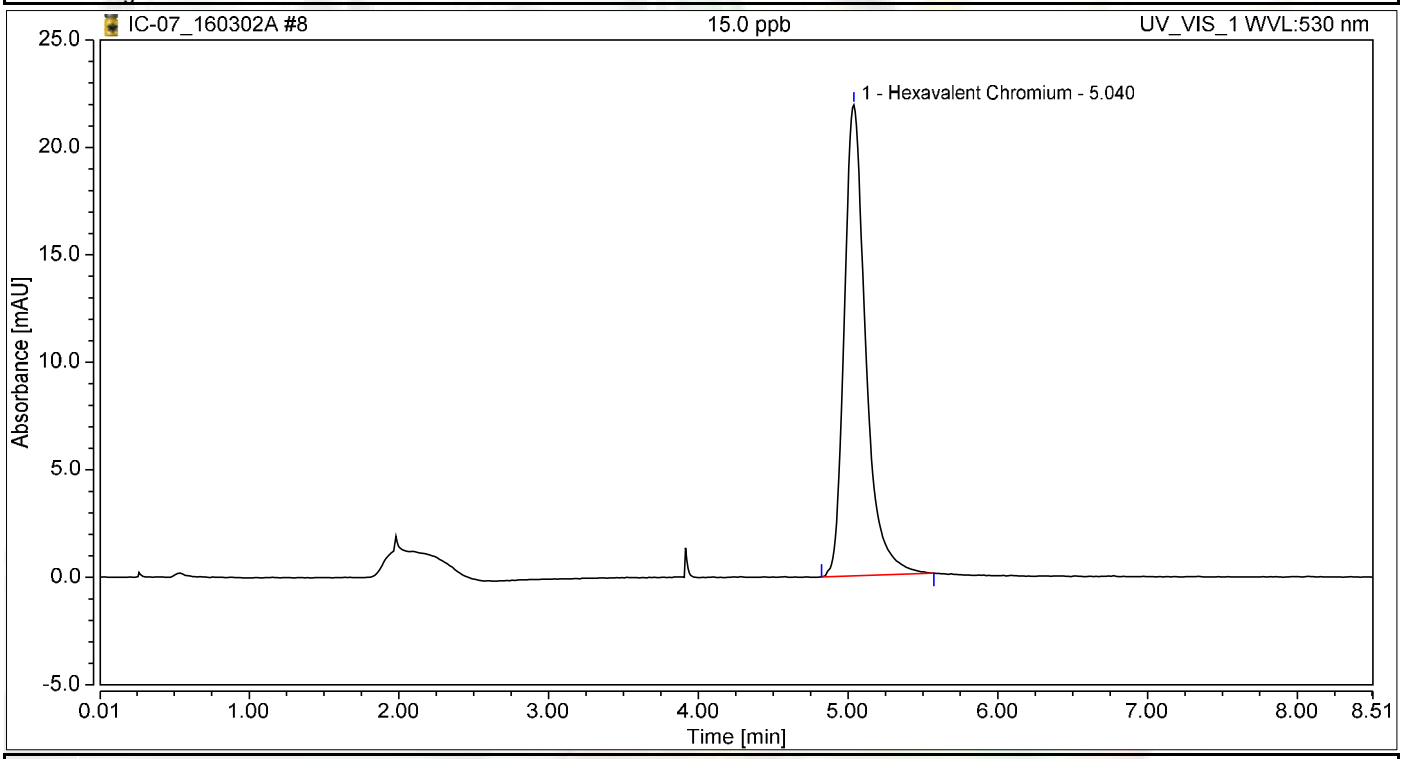
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	35.13	11.19	9.8486
2		6.123	0.044	1.639	0.65	1.25	n.a.
3		6.248	3.570	91.547	52.80	69.99	n.a.
4		6.448	0.753	22.451	11.14	17.16	n.a.
5		6.706	0.019	0.535	0.28	0.41	n.a.
Total:			**6.762**	**130.808**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

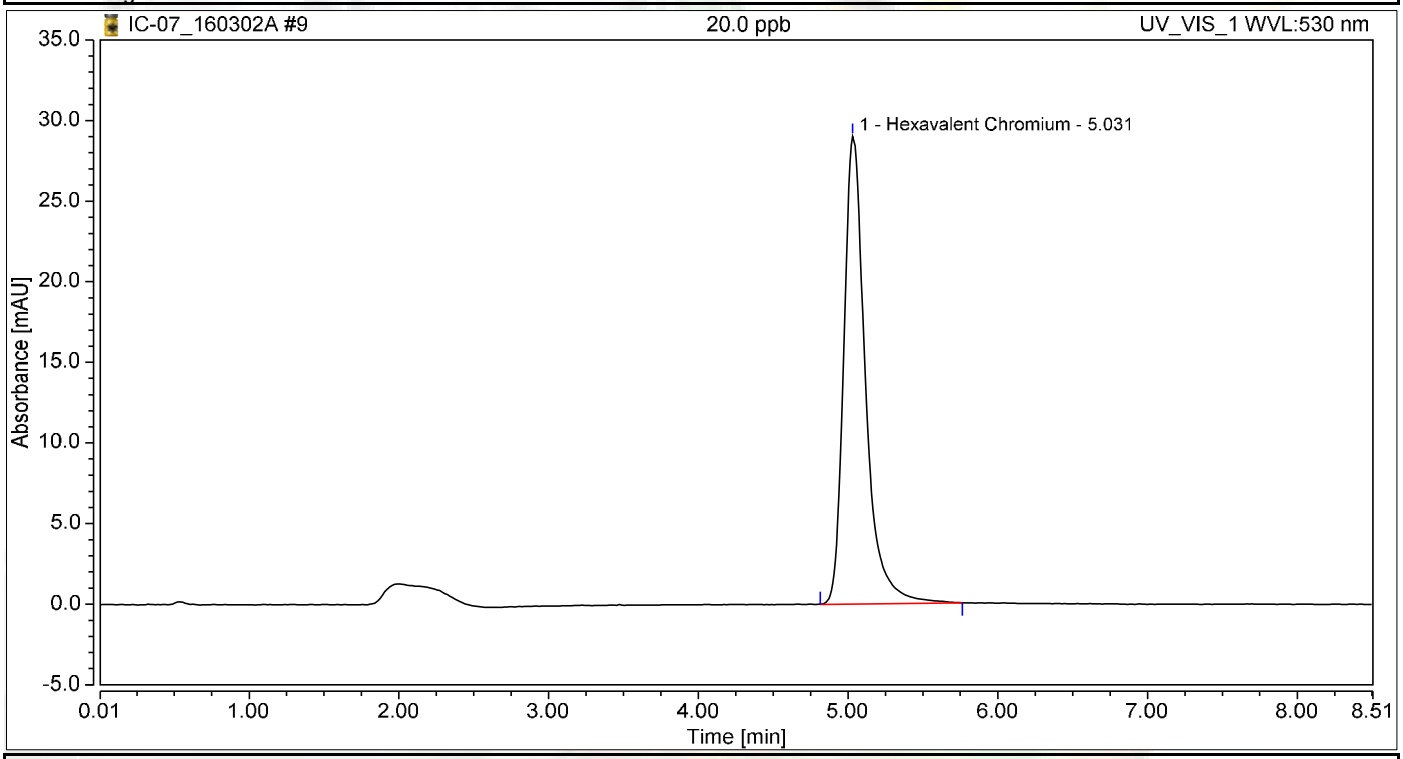
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.621	21.921	100.00	100.00	15.0105
Total:			**3.621**	**21.921**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

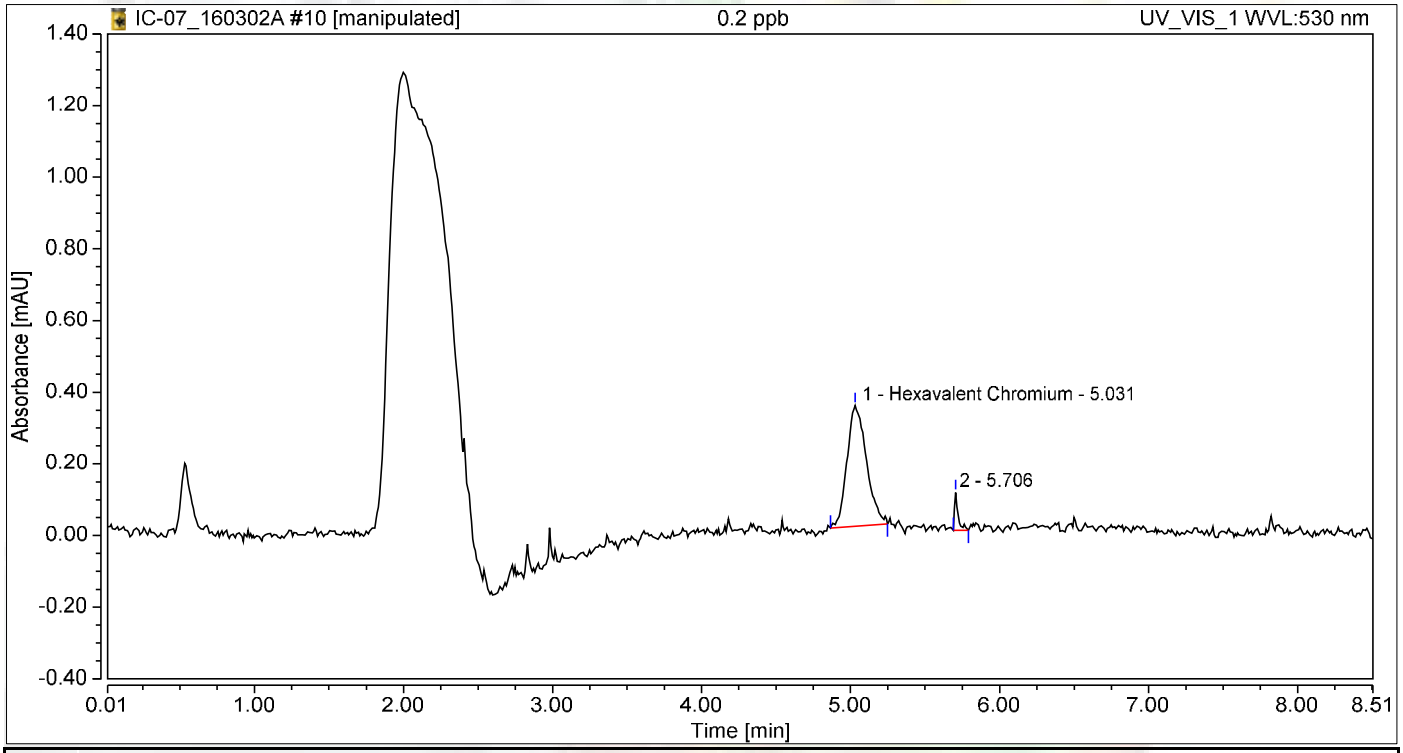
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	4.842	29.016	100.00	100.00	20.0742
Total:			**4.842**	**29.016**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



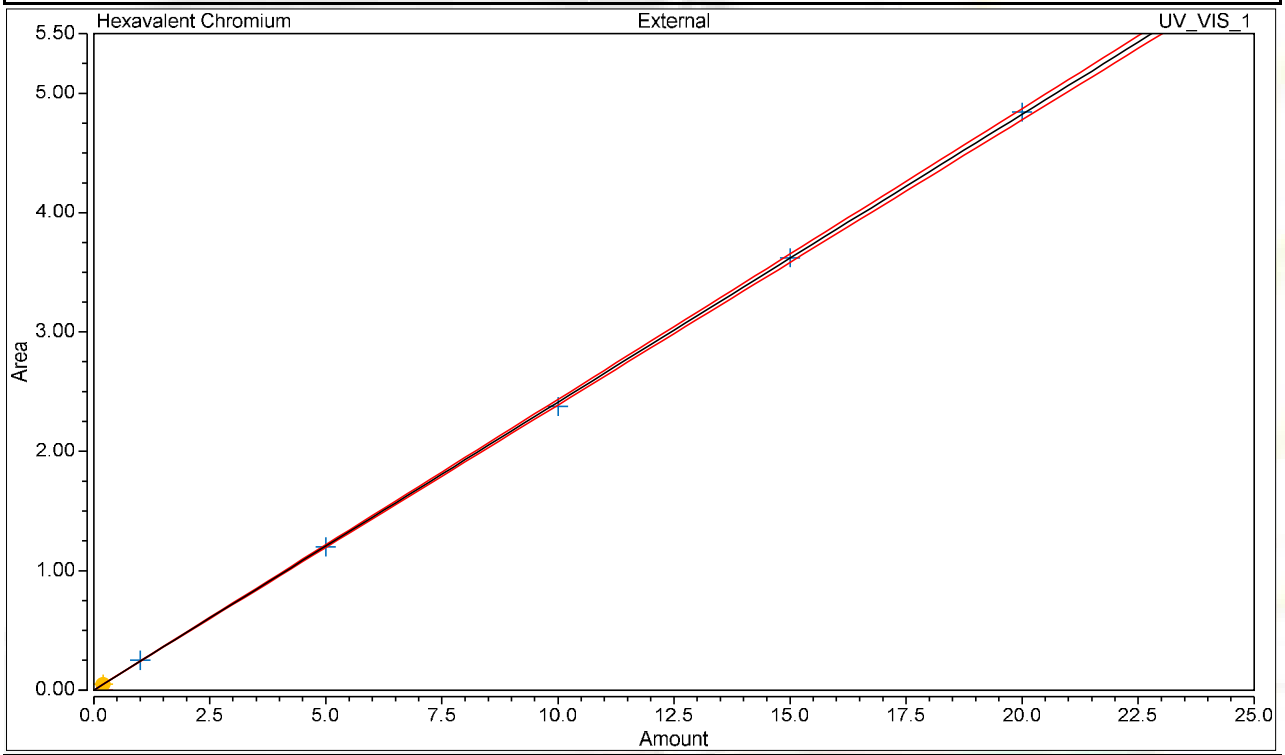
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.051	0.337	94.34	76.03	0.2102
2		5.706	0.003	0.106	5.66	23.97	n.a.
Total:			**0.054**	**0.443**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	1	*R-Square*	0.99990

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

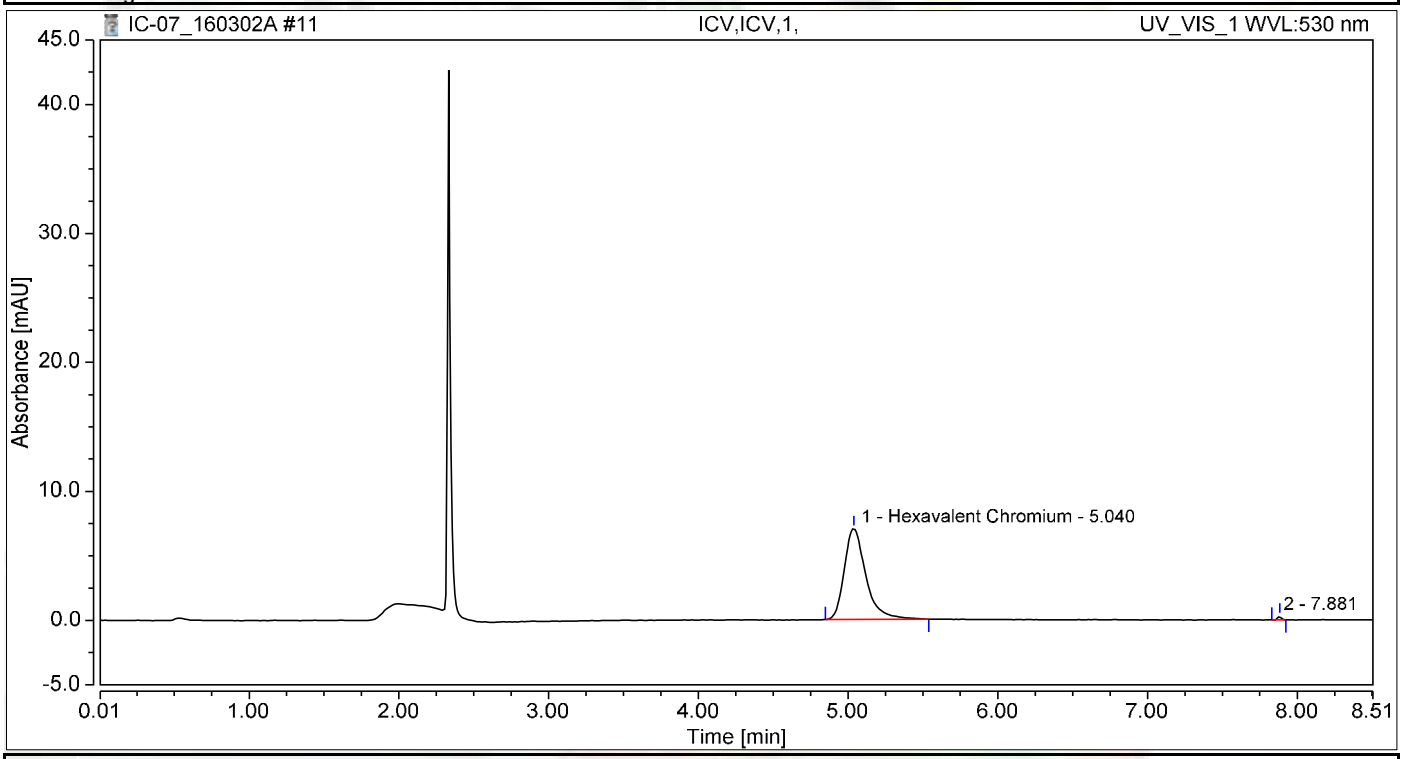
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	n.a.	n.a.	n.a.
5	1.0 ppb	02	1.0000	0.2490	0.249	1.533
6	5.0 ppb	03	5.0000	1.1983	1.198	7.374
7	10.0 ppb	04	10.0000	2.3757	2.376	14.635
8	15.0 ppb	05	15.0000	3.6209	3.621	21.921
9	20.0 ppb	06	20.0000	4.8423	4.842	29.016
10	0.2 ppb	01	0.2000	0.0507	0.051	0.337

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

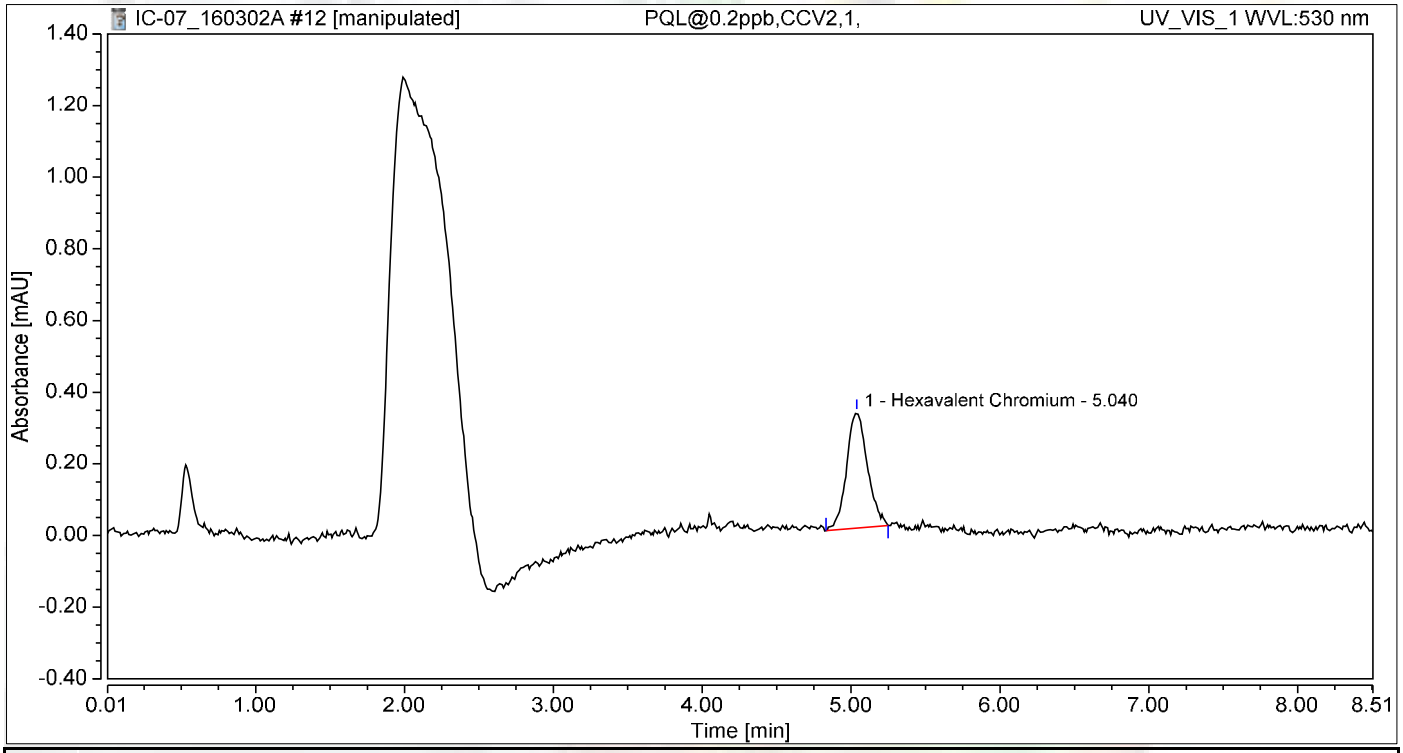
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.170	7.047	99.36	95.77	4.8510
2		7.881	0.008	0.311	0.64	4.23	n.a.
Total:			**1.178**	**7.359**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

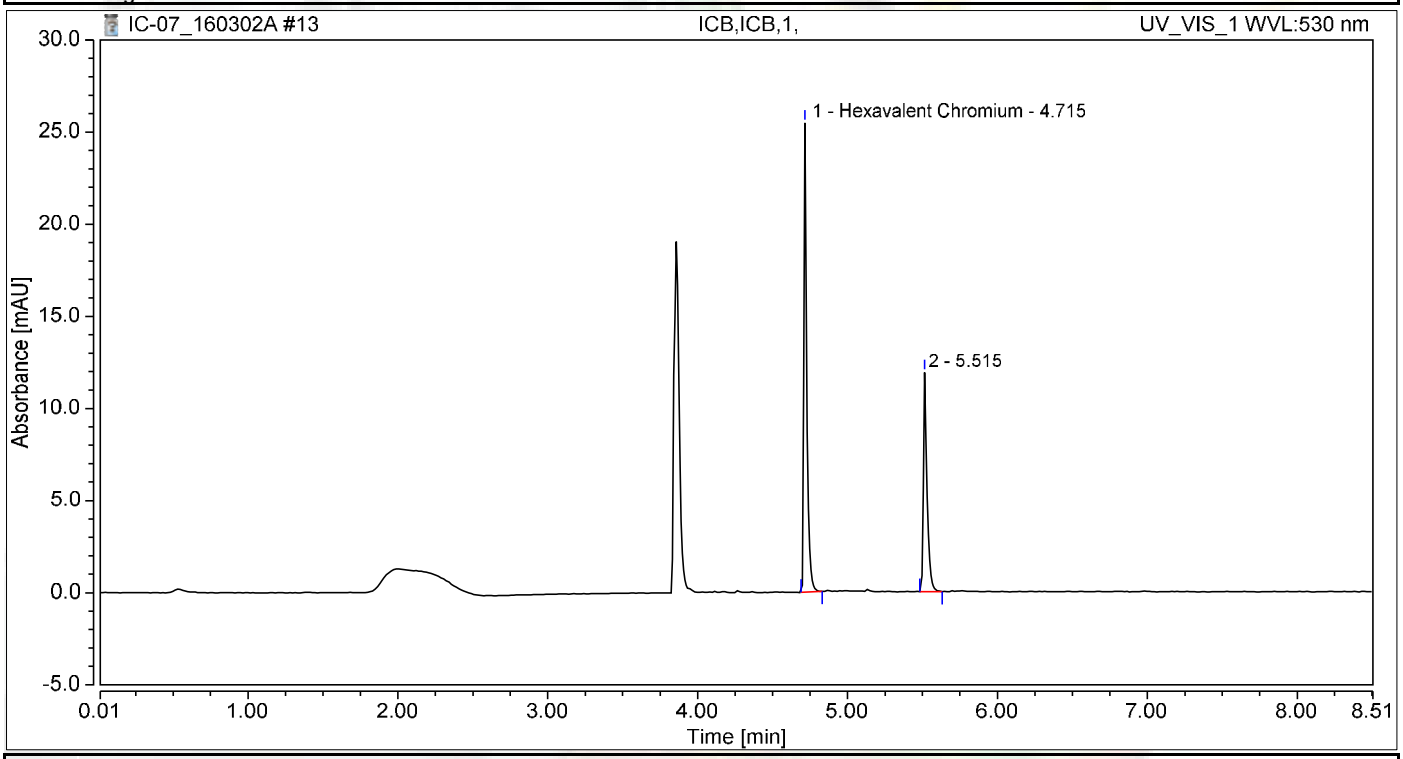
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.052	0.323	100.00	100.00	0.2155
Total:			**0.052**	**0.323**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.715	0.593	25.475	64.78	68.20	2.4601
2		5.515	0.323	11.876	35.22	31.80	n.a.
Total:			**0.916**	**37.350**	**100.00**	**100.00**	

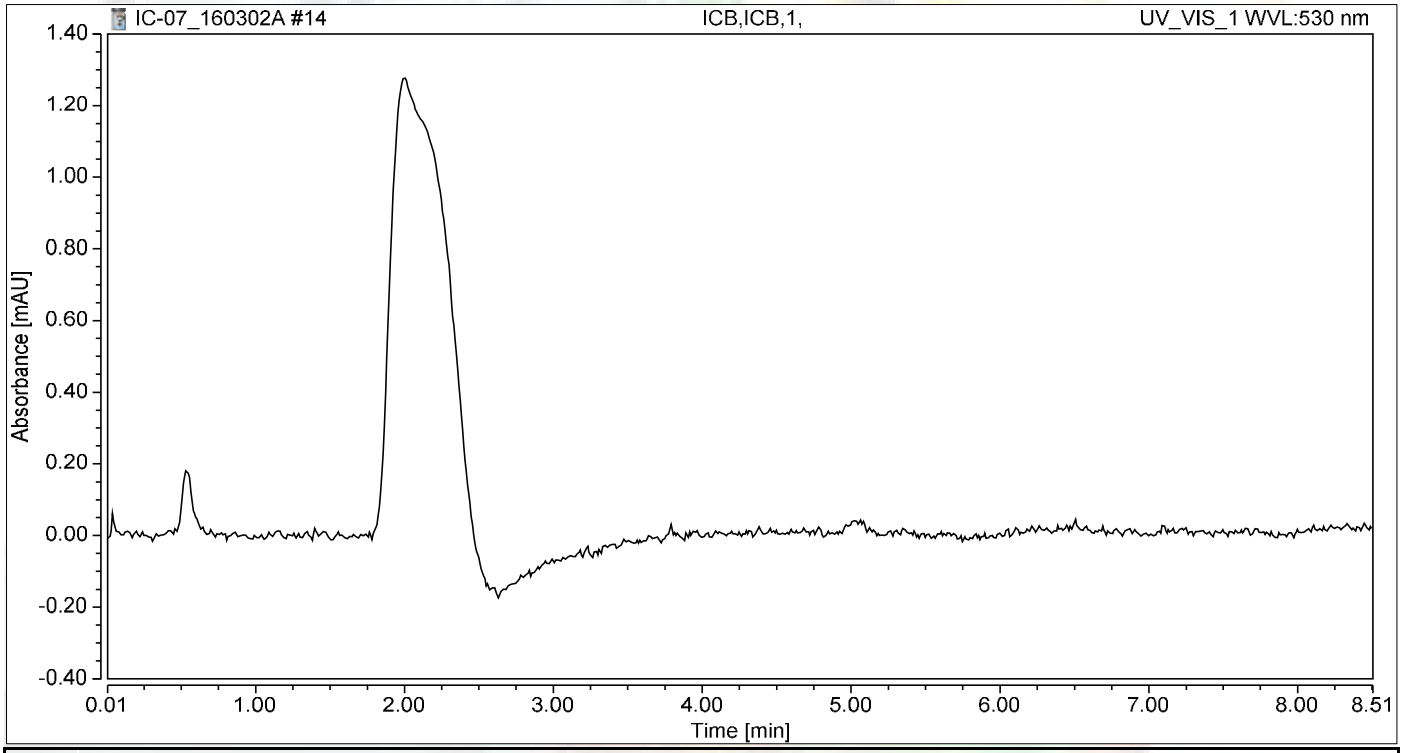
not reported

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

Reb 3/10/2016

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

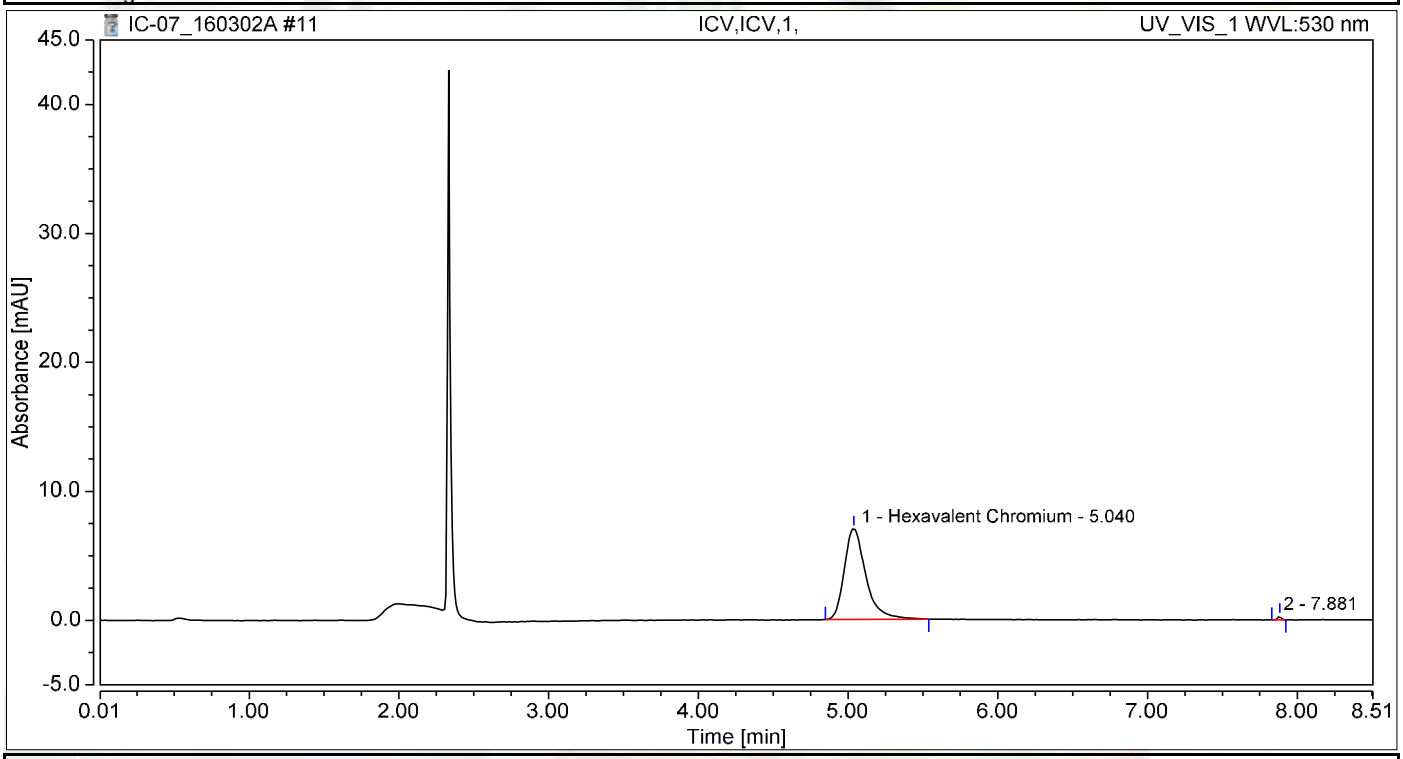
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

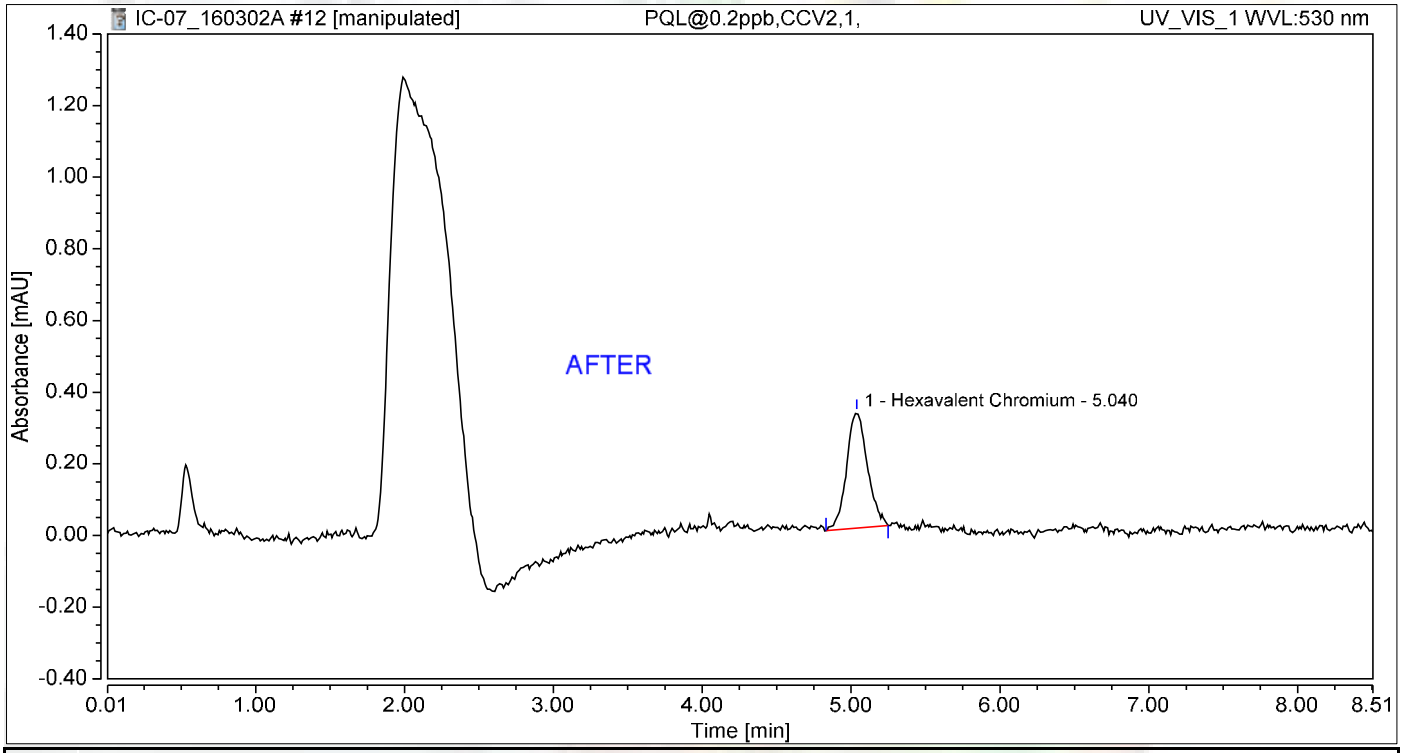
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.170	7.047	99.36	95.77	4.8510
2		7.881	0.008	0.311	0.64	4.23	n.a.
Total:			**1.178**	**7.359**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.052	0.323	100.00	100.00	0.2155
Total:			**0.052**	**0.323**	**100.00**	**100.00**	

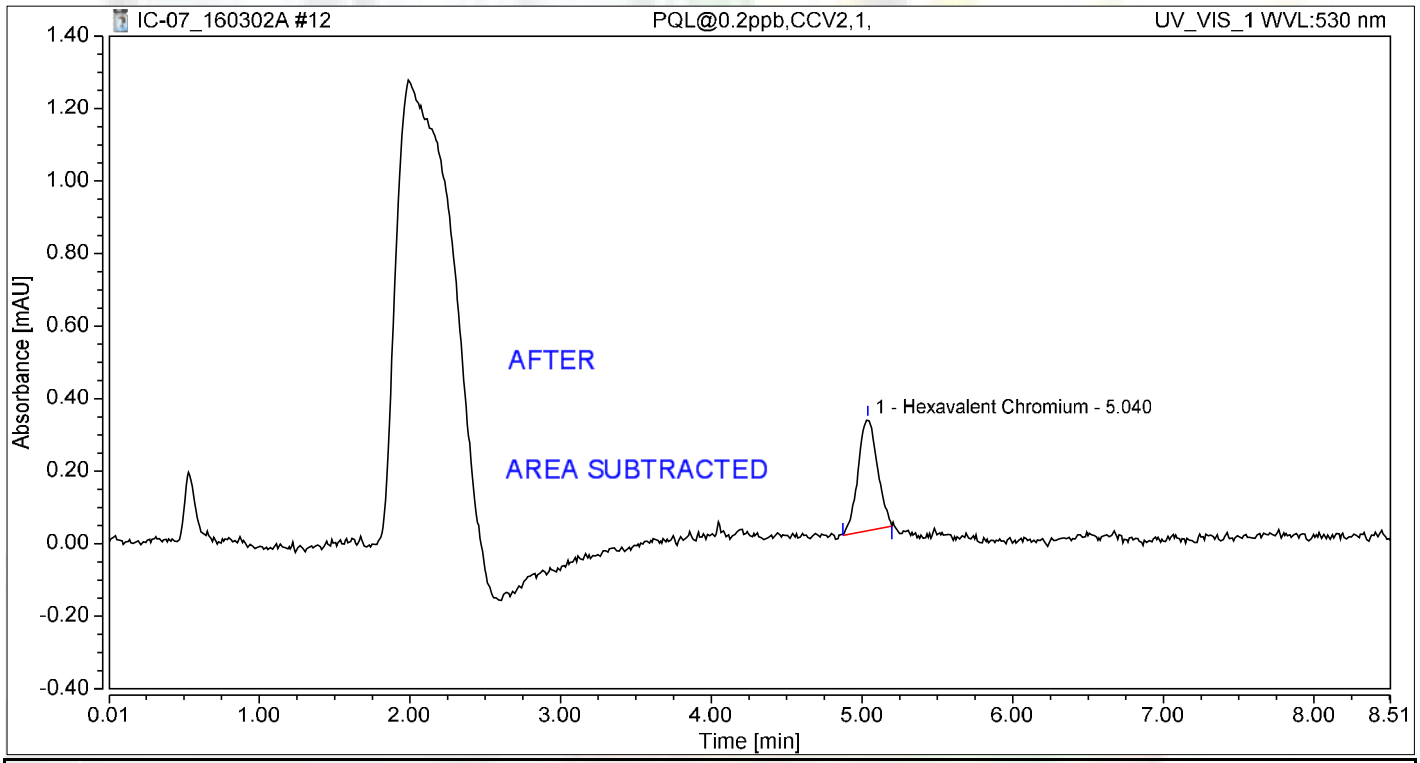
Nancy 3/10/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

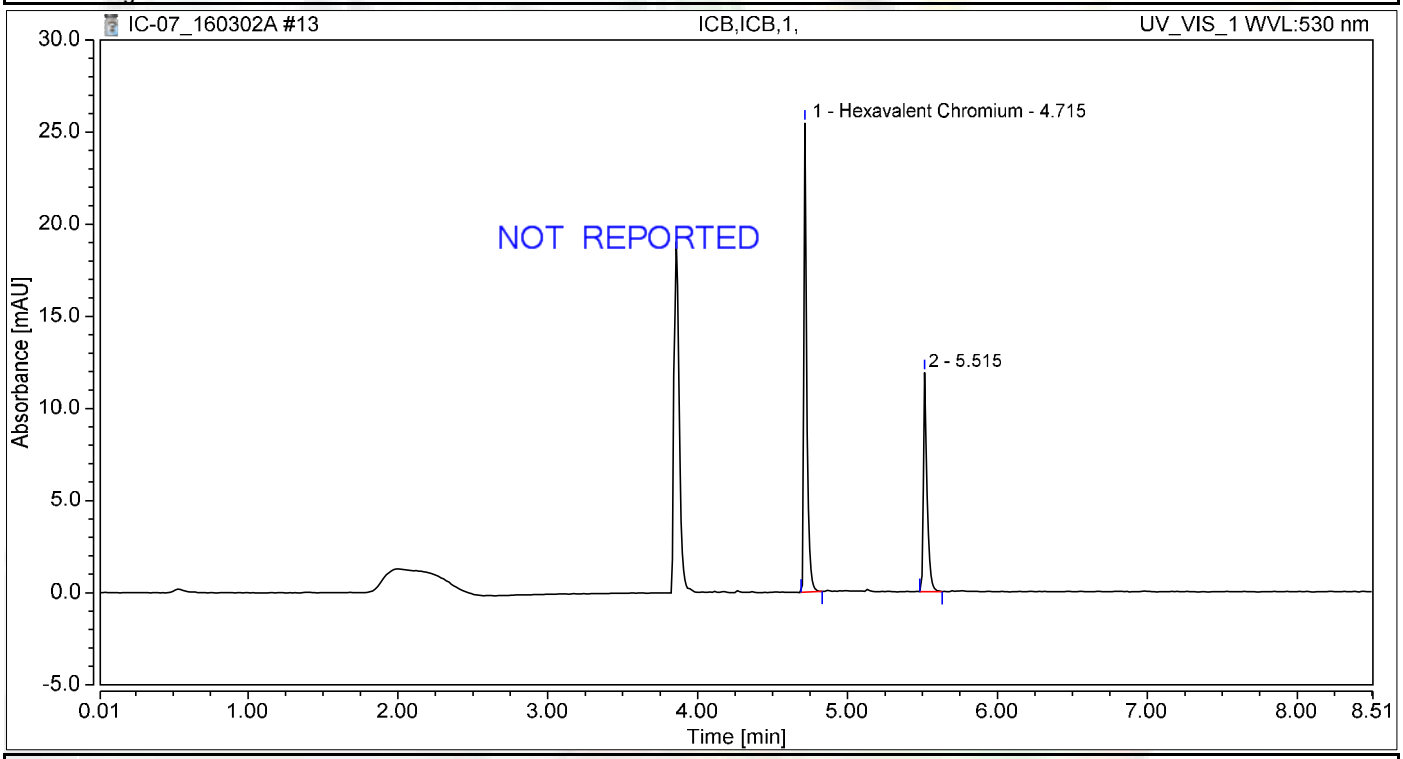
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.046	0.308	100.00	100.00	0.1909
Total:			**0.046**	**0.308**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

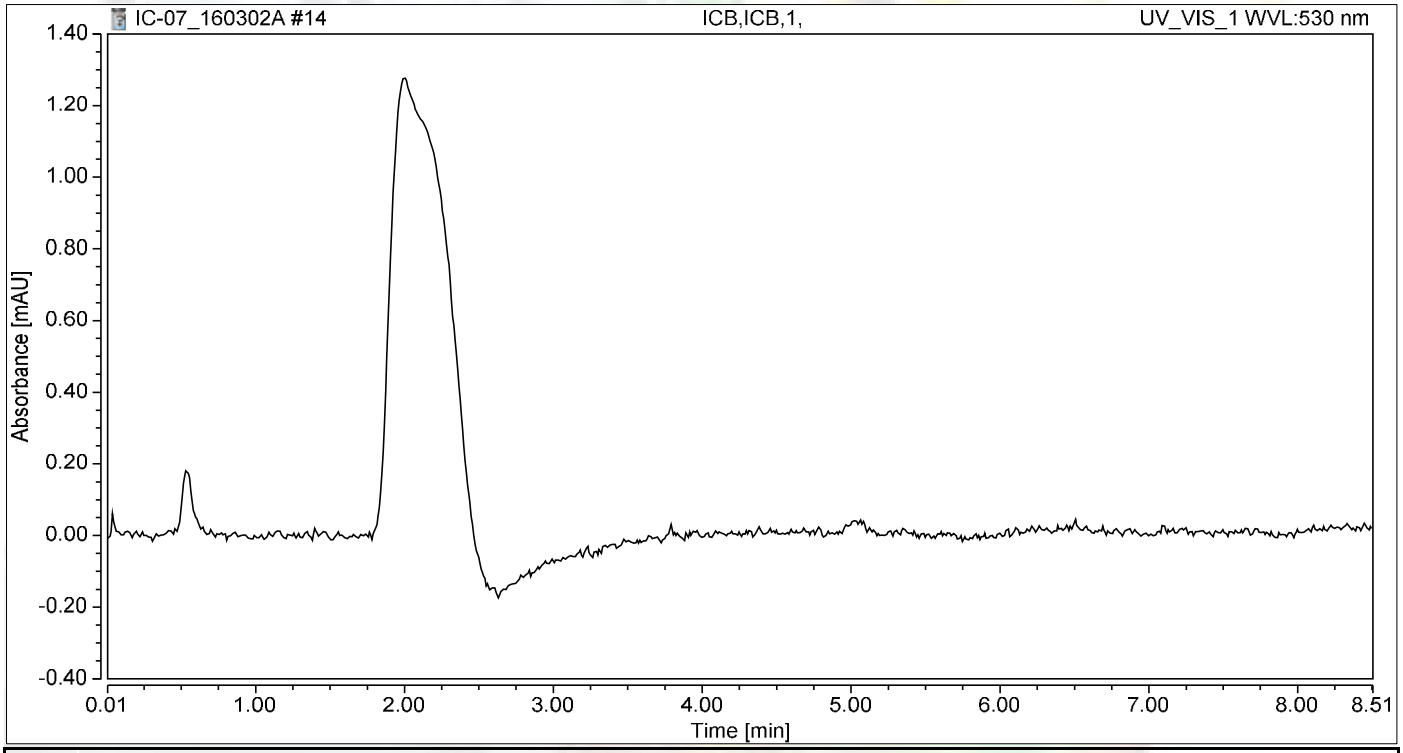
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.715	0.593	25.475	64.78	68.20	2.4601
2		5.515	0.323	11.876	35.22	31.80	n.a.
Total:			**0.916**	**37.350**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

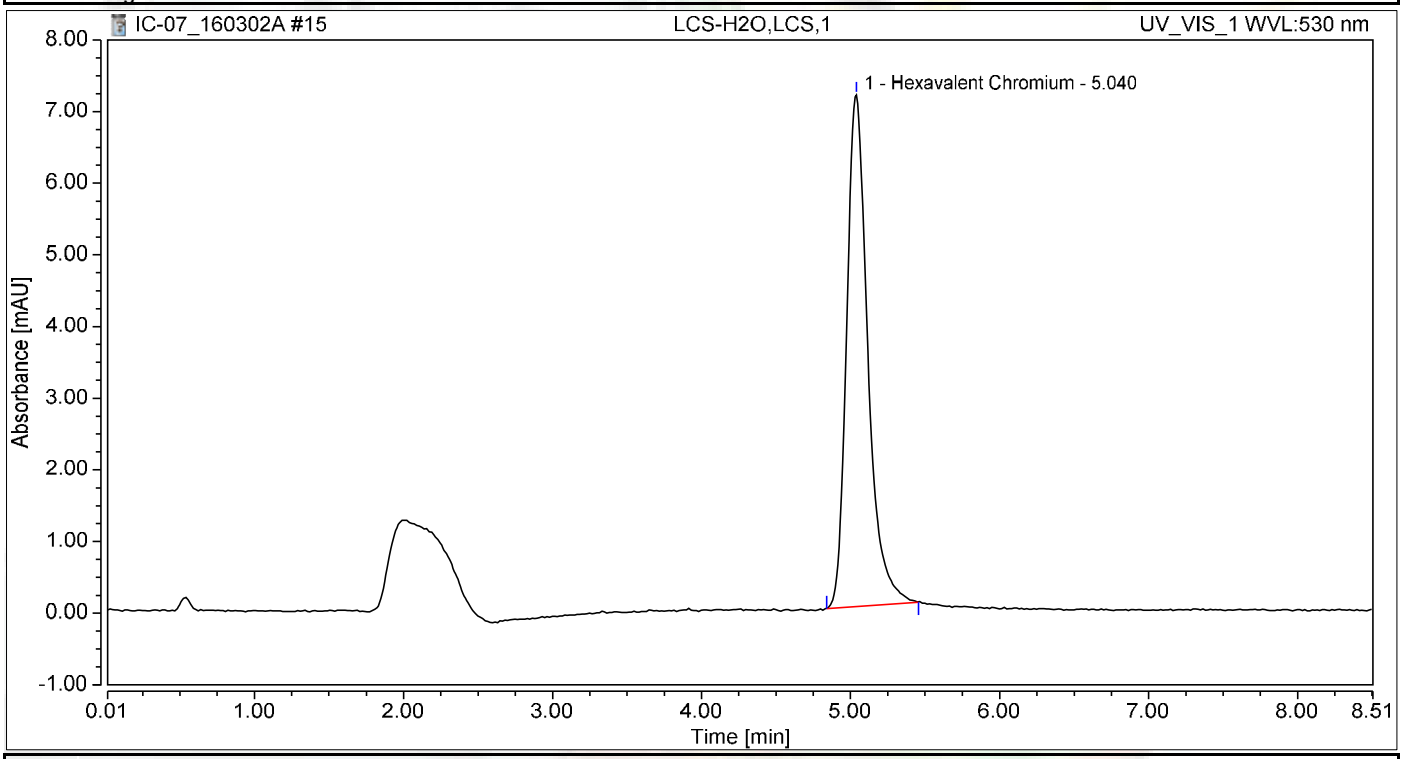
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

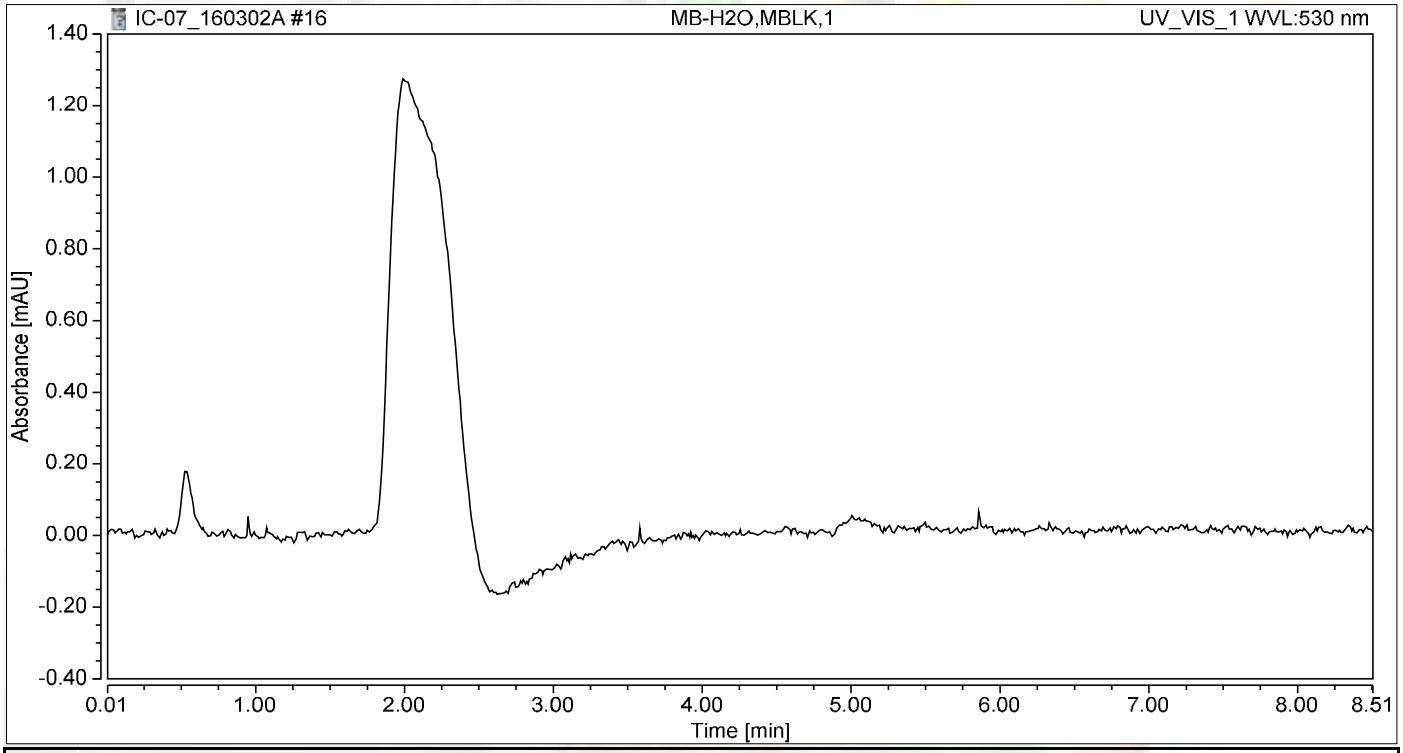
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.168	7.143	100.00	100.00	4.8409
Total:			**1.168**	**7.143**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

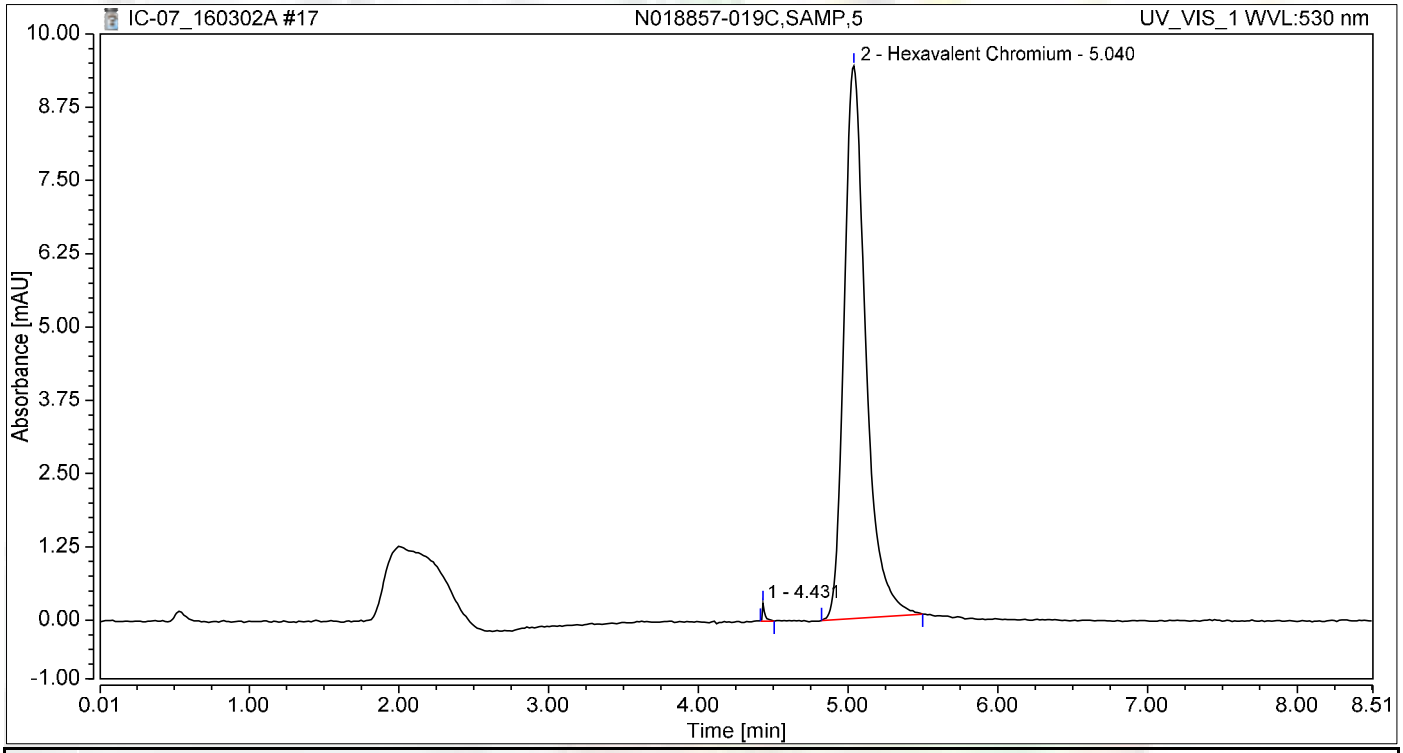
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019C,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

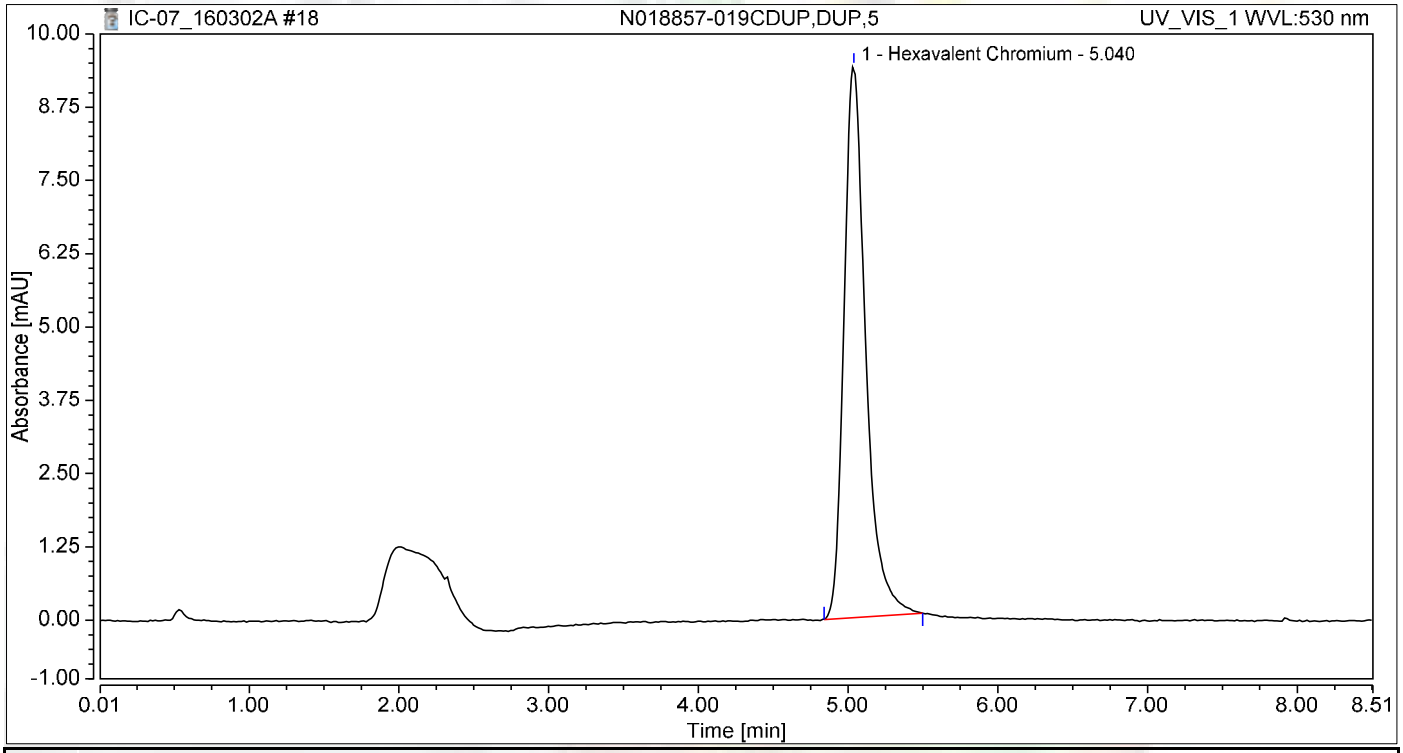
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.431	0.006	0.300	0.37	3.09	n.a.
2	Hexavalent Chromium	5.040	1.580	9.425	99.63	96.91	6.5498
Total:			**1.586**	**9.725**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019CDUP,DUP,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

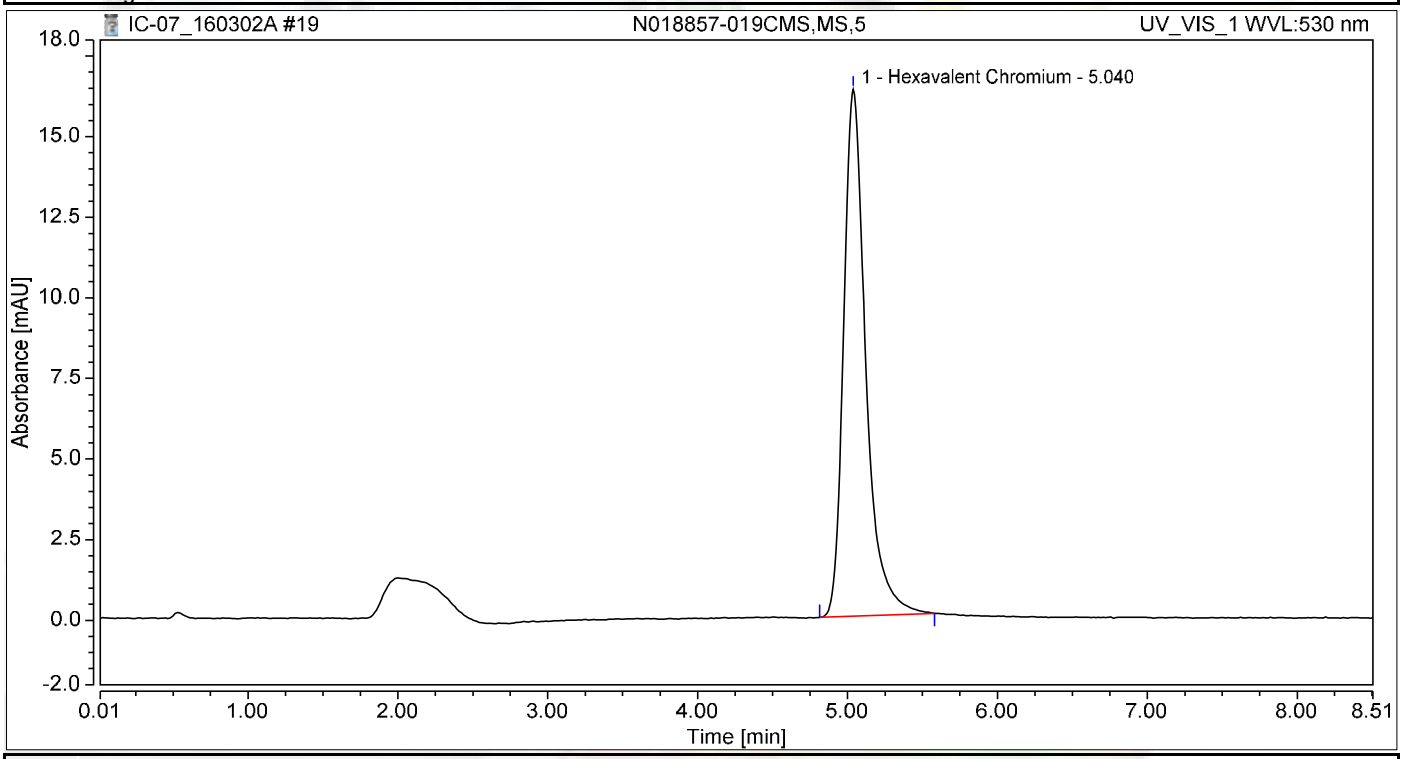
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.576	9.412	100.00	100.00	6.5345
Total:			**1.576**	**9.412**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019CMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

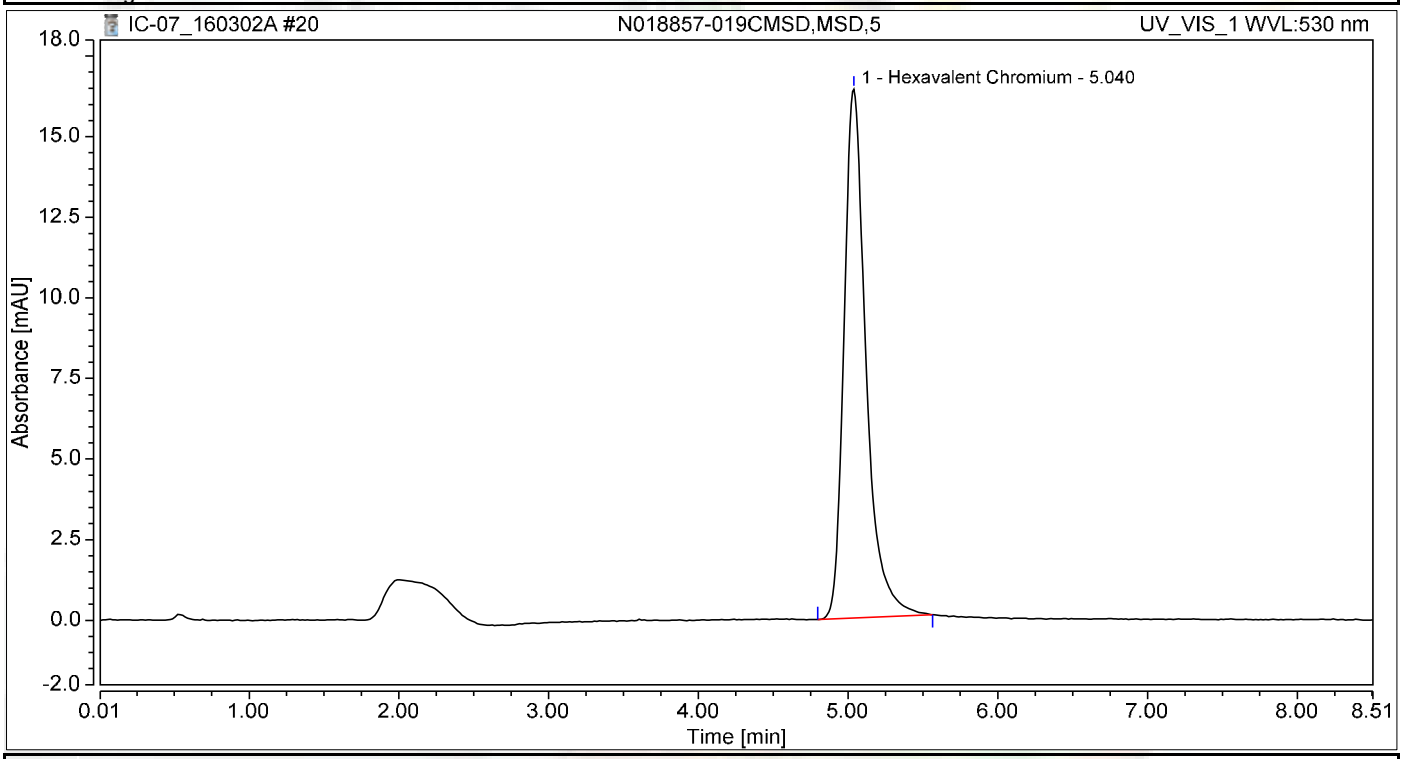
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.784	16.349	100.00	100.00	11.5408
Total:			**2.784**	**16.349**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019CMSD,MSD,5**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

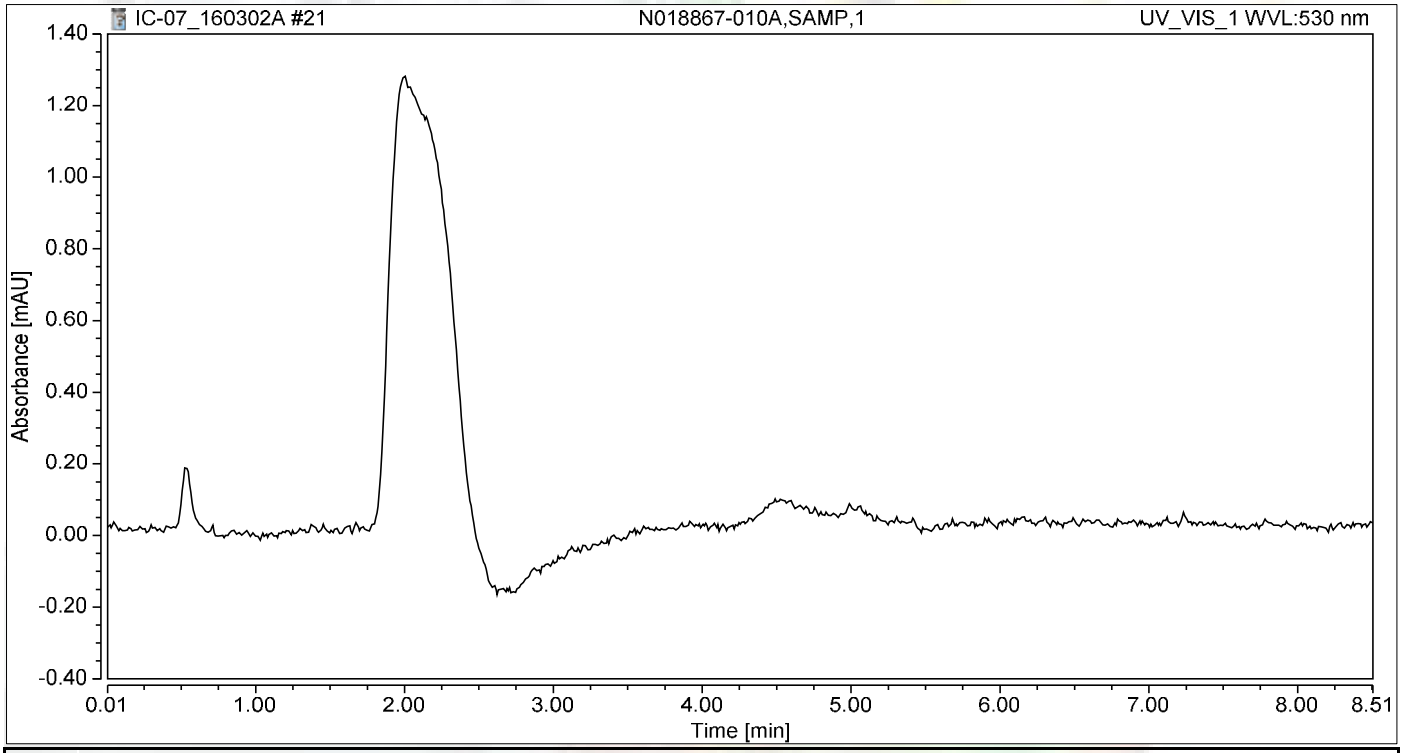
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.780	16.401	100.00	100.00	11.5253
Total:			**2.780**	**16.401**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

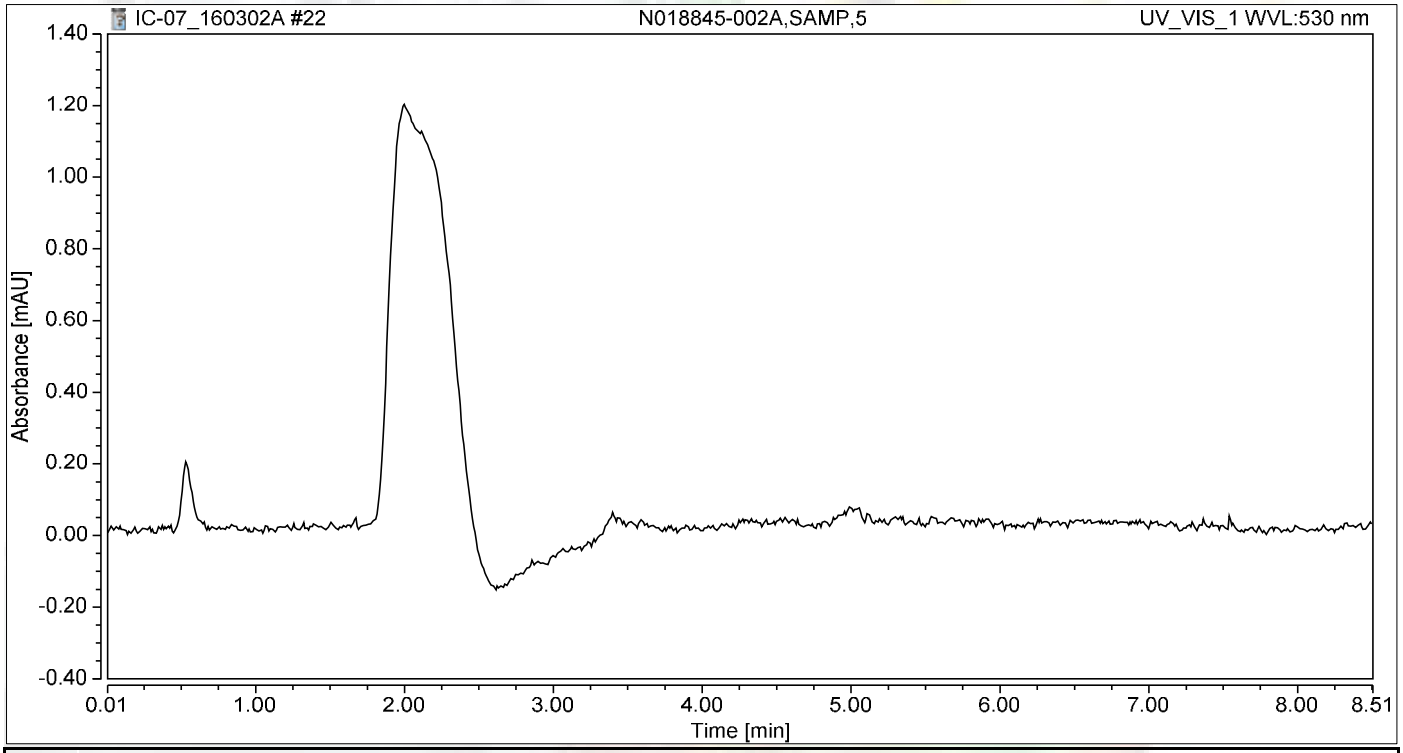
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

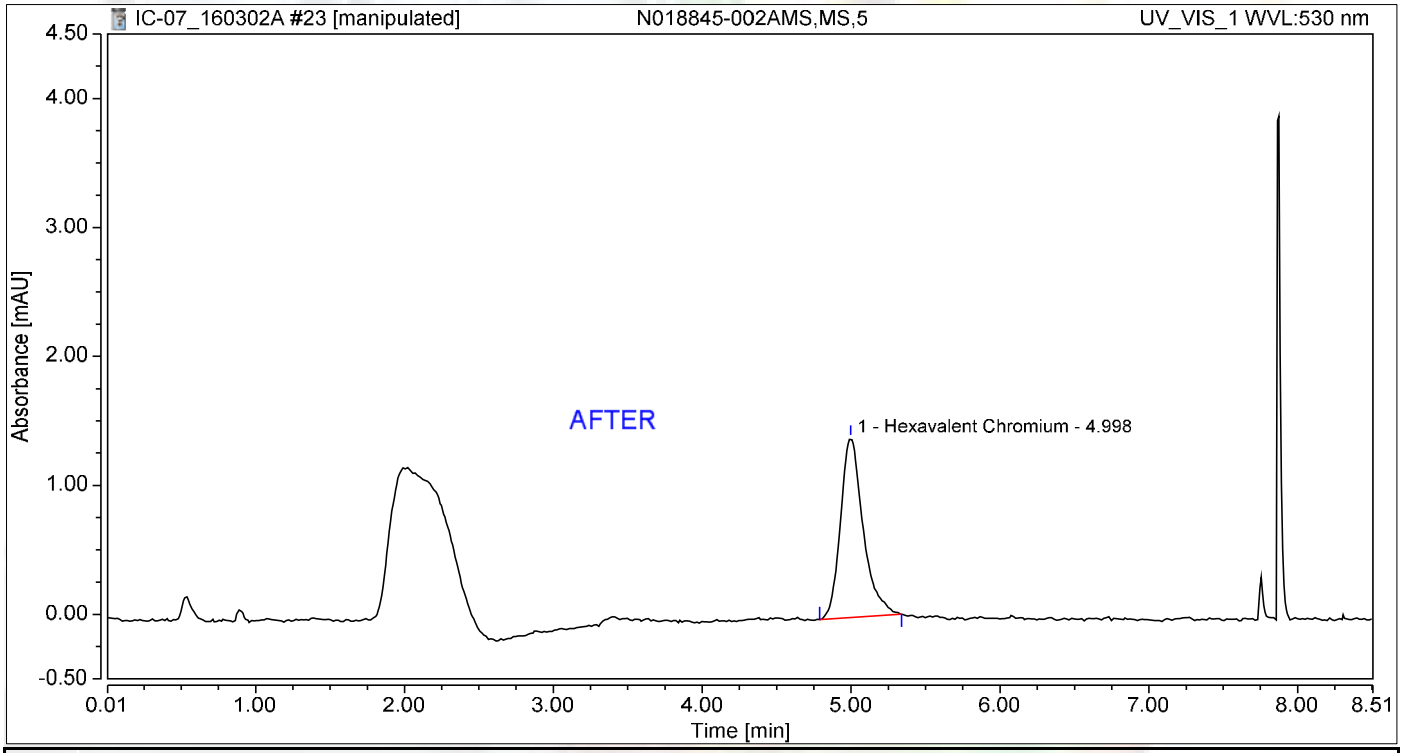
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	0.245	1.390	100.00	100.00	1.0148
Total:			**0.245**	**1.390**	**100.00**	**100.00**	

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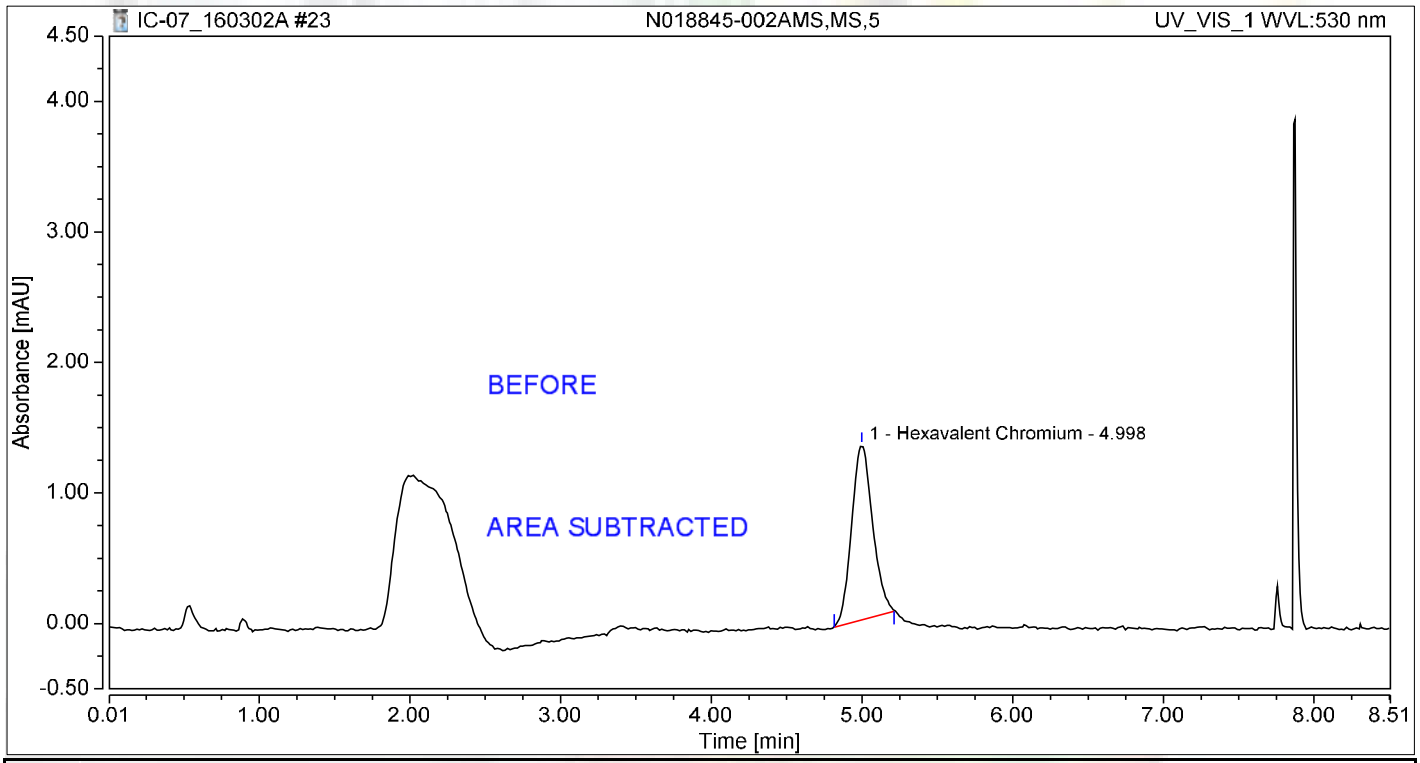
Chromatogram and Results

Injection Details

Injection Name:	**N018845-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	0.216	1.336	100.00	100.00	0.8970
Total:			**0.216**	**1.336**	**100.00**	**100.00**	

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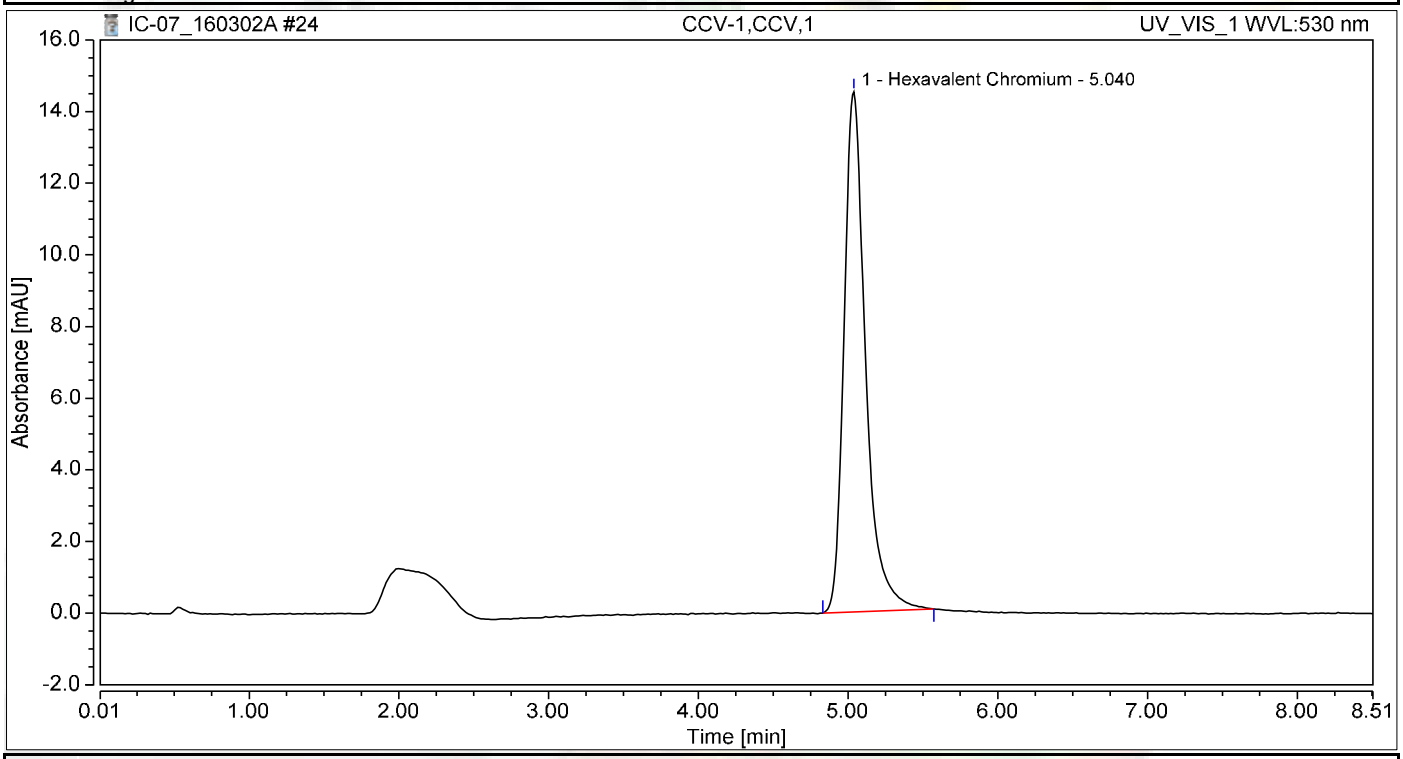
Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

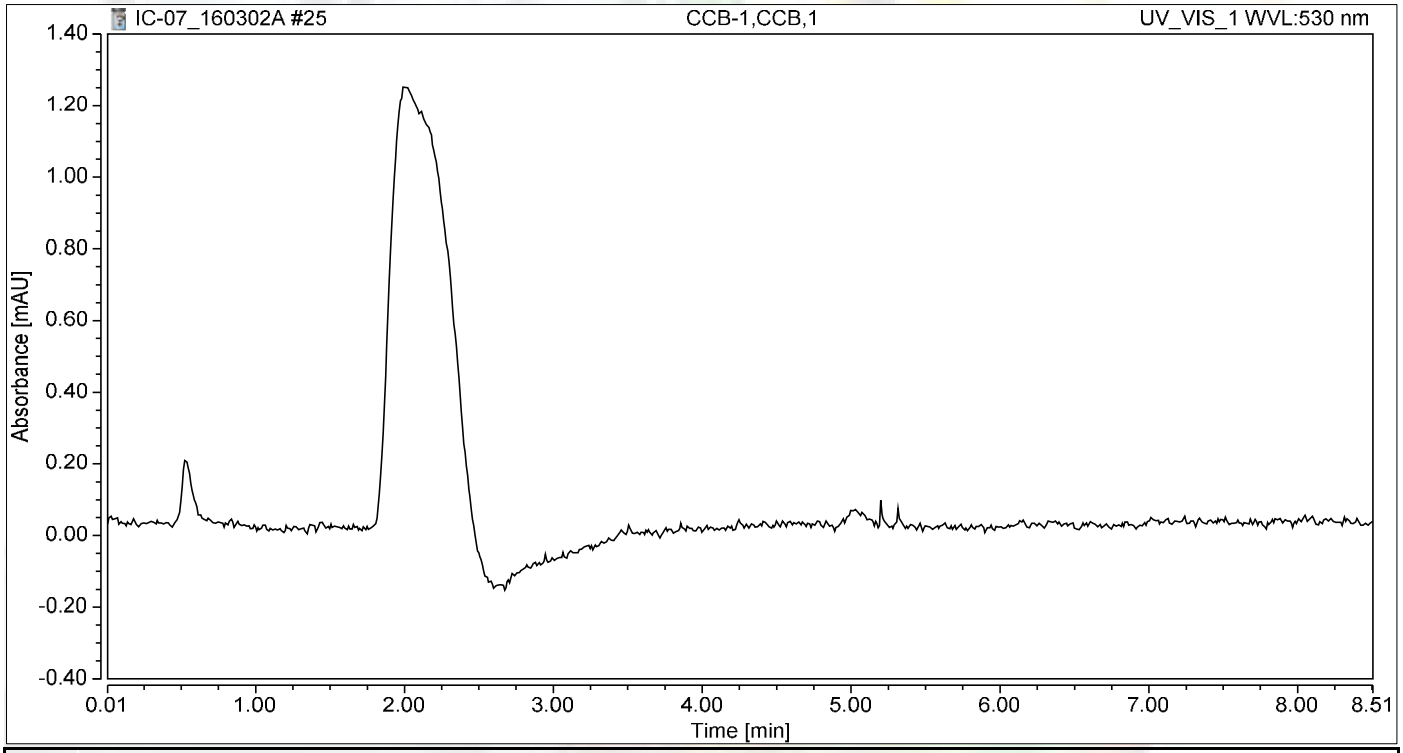
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.402	14.524	100.00	100.00	9.9597
Total:			**2.402**	**14.524**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

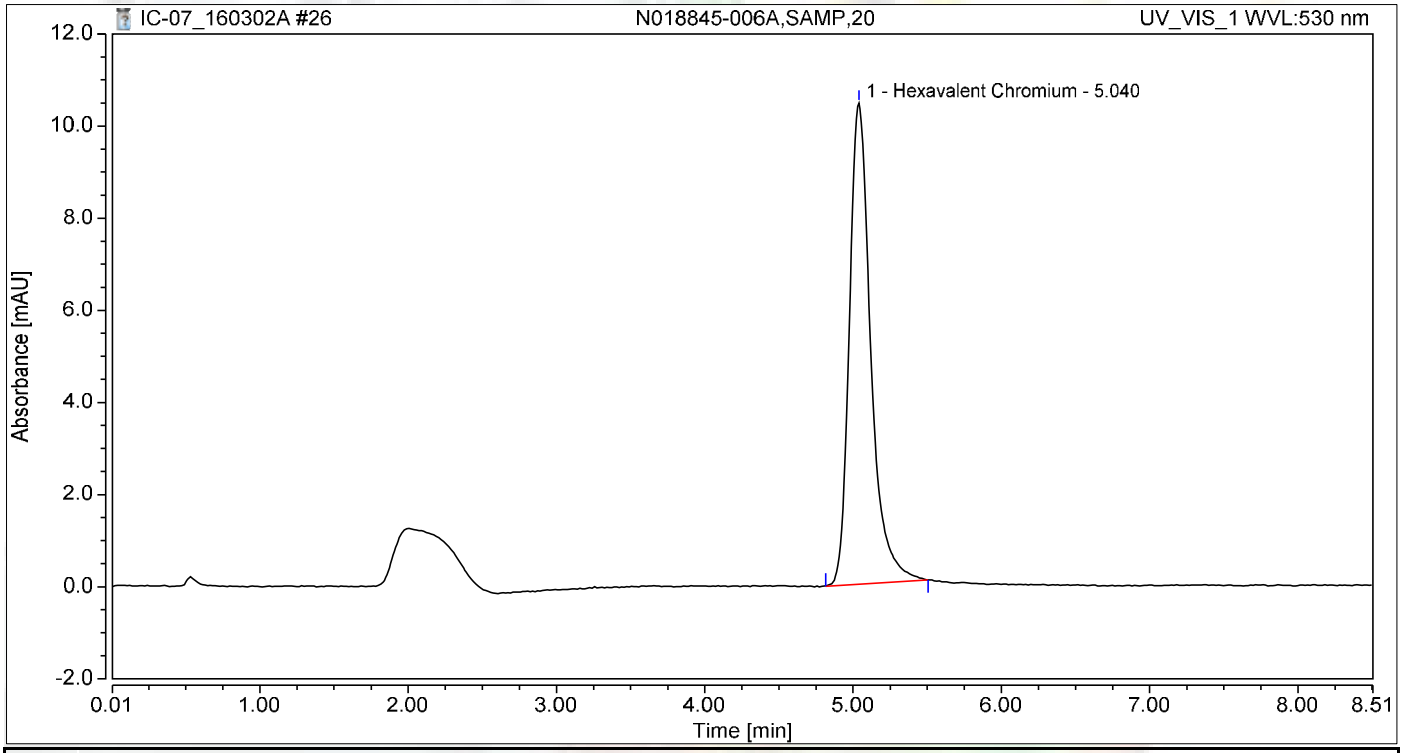
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-006A,SAMP,20**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

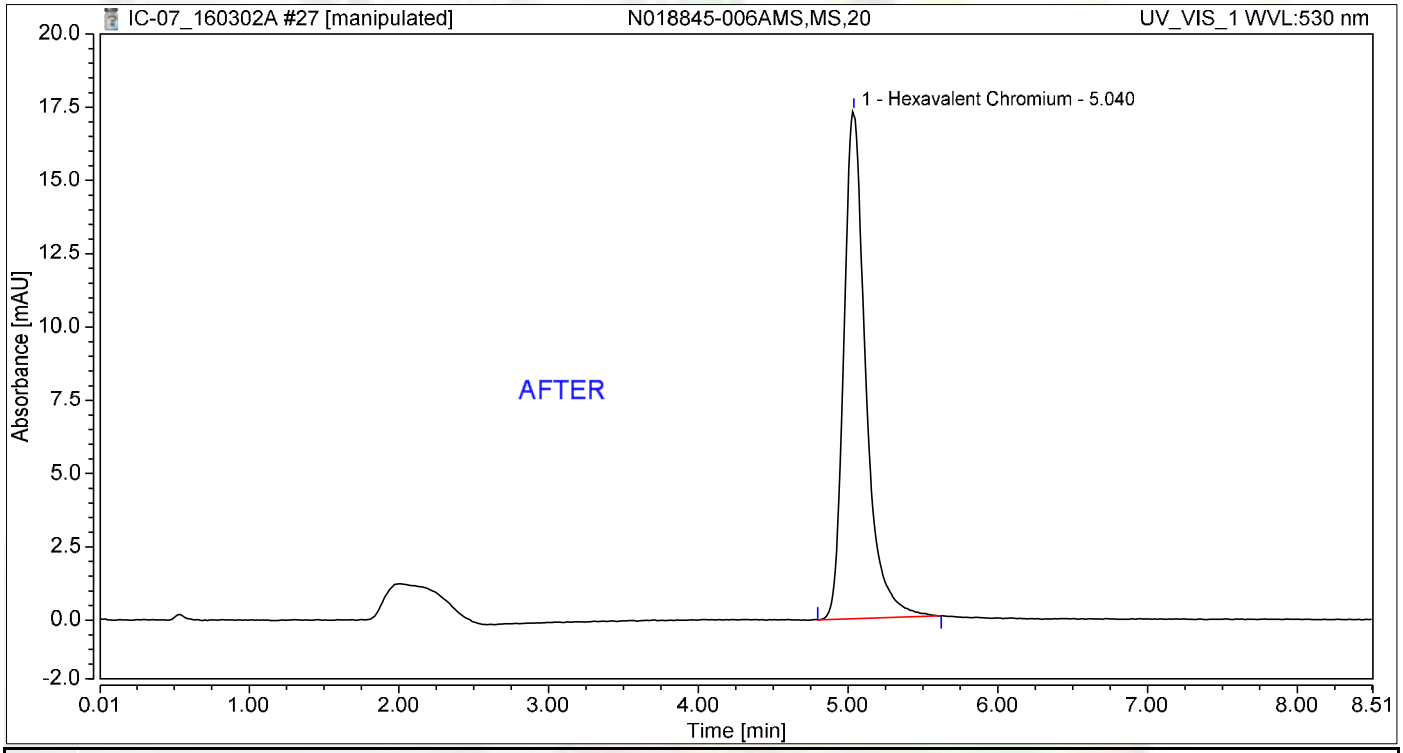
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.732	10.446	100.00	100.00	7.1812
Total:			**1.732**	**10.446**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-006AMS,MS,20**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.924	17.326	100.00	100.00	12.1206
Total:			**2.924**	**17.326**	**100.00**	**100.00**	

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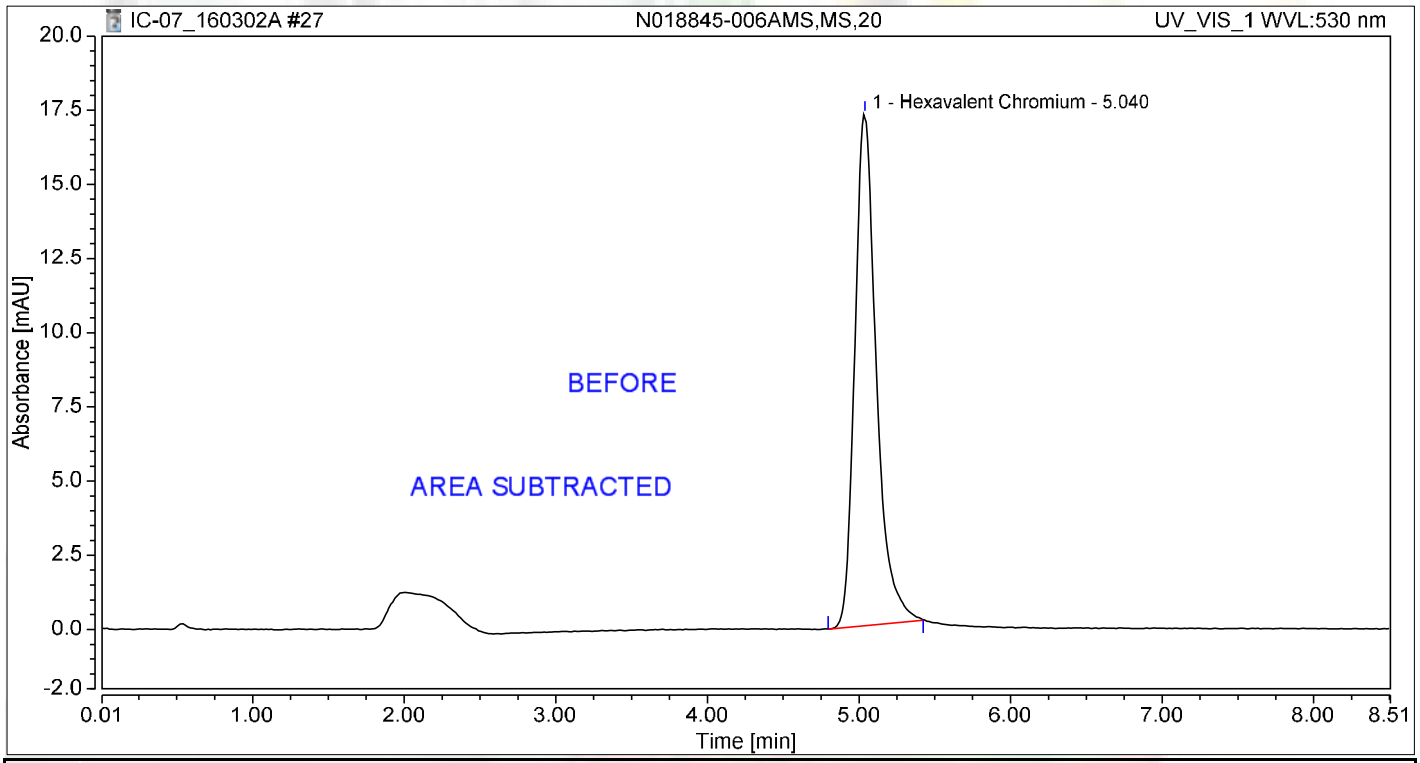
Chromatogram and Results

Injection Details

Injection Name:	**N018845-006AMS,MS,20**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.843	17.247	100.00	100.00	11.7863
Total:			**2.843**	**17.247**	**100.00**	**100.00**	

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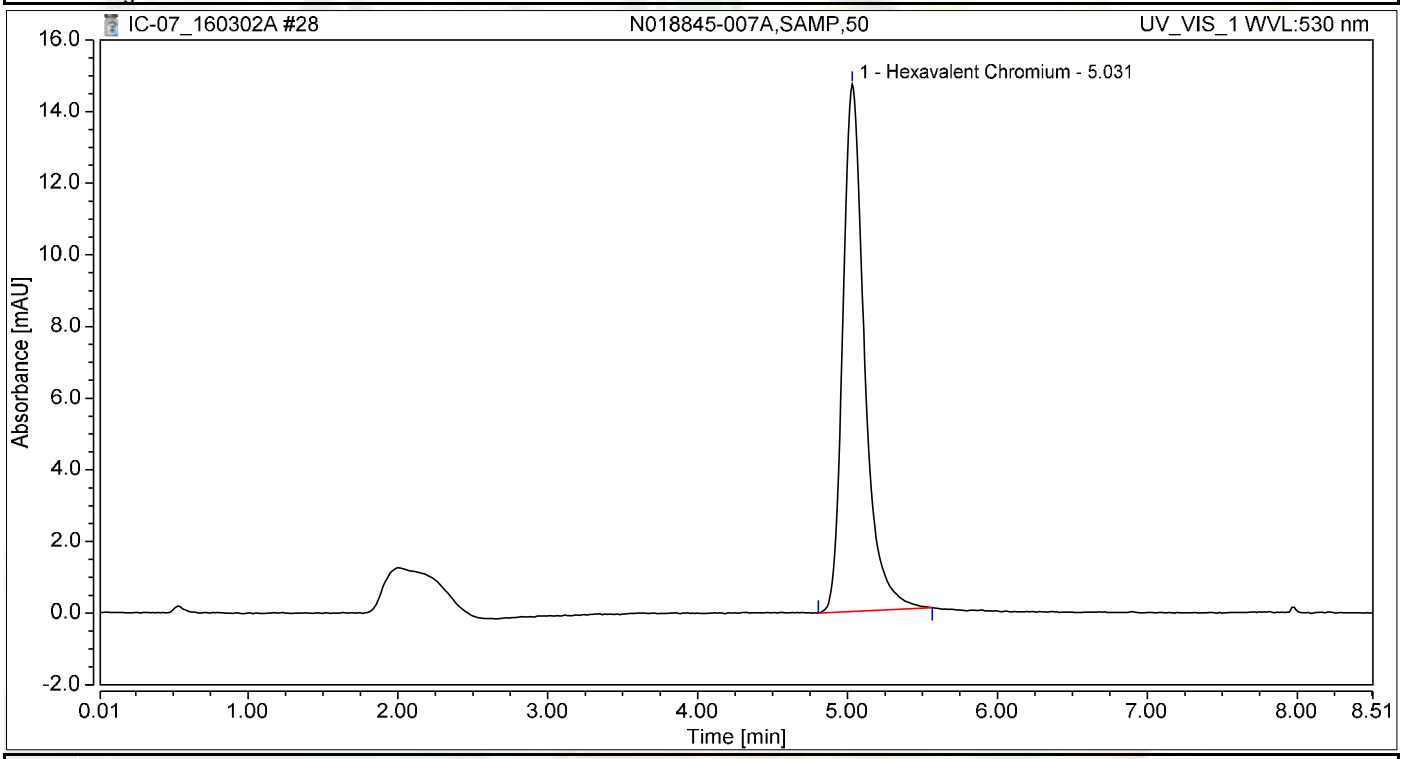
Chromatogram and Results

Injection Details

Injection Name:	**N018845-007A,SAMP,50**	*Run Time (min):*	**8.49**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

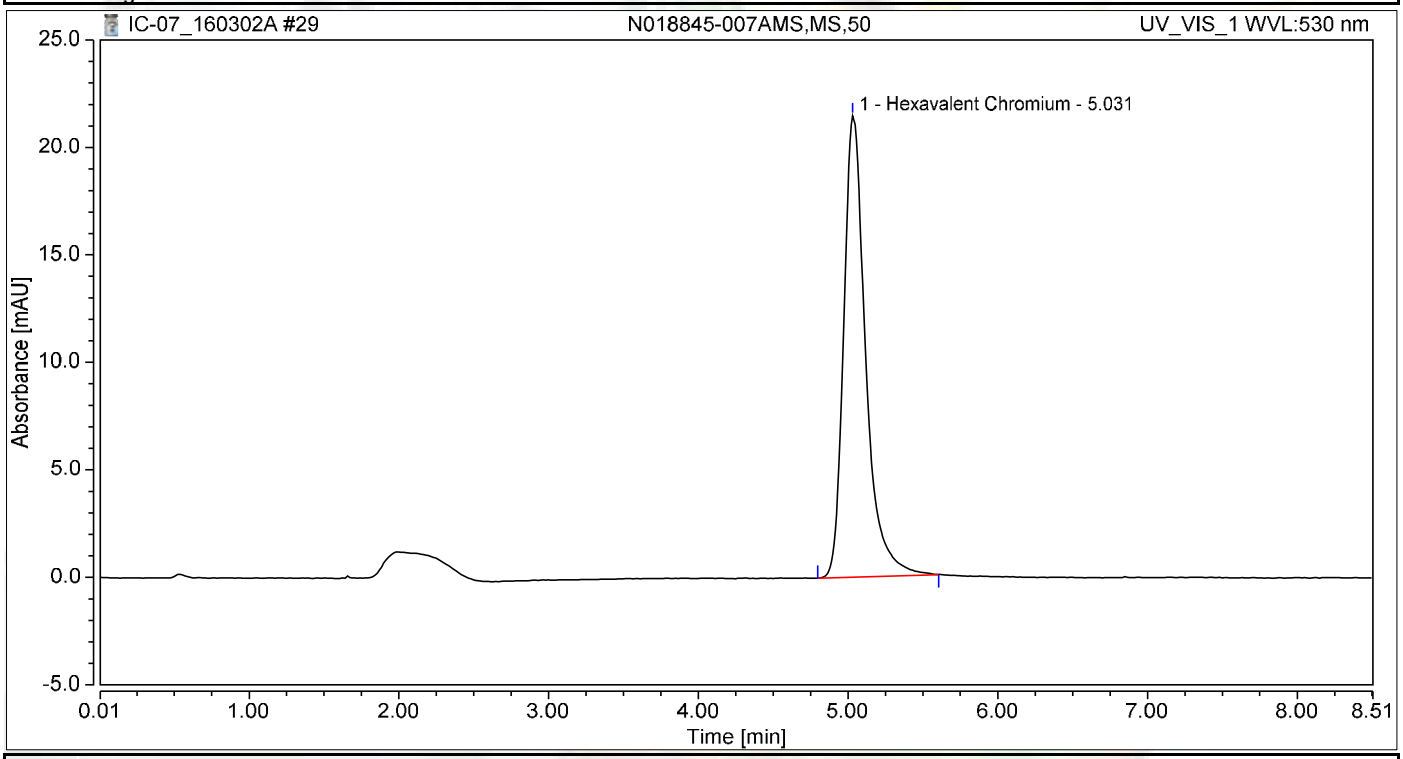
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.464	14.717	100.00	100.00	10.2155
Total:			**2.464**	**14.717**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-007AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

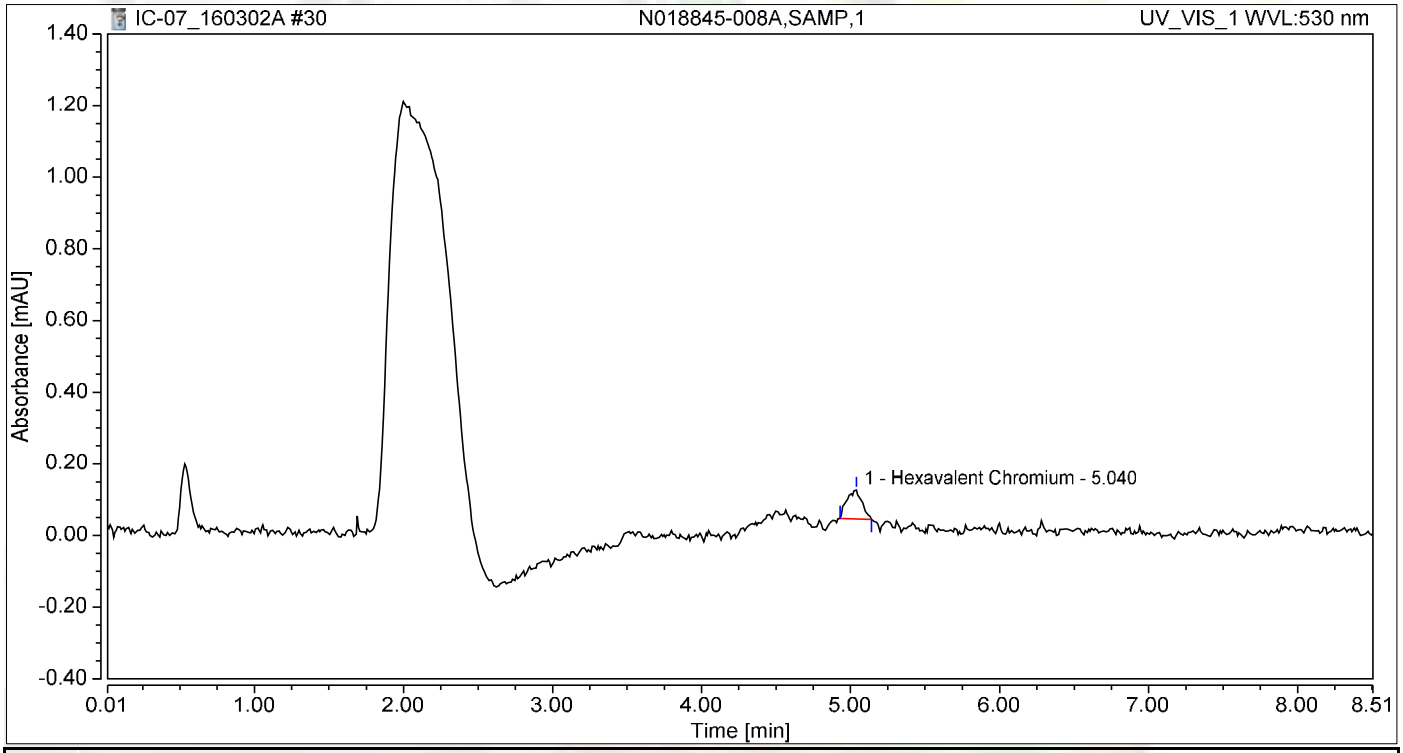
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	3.632	21.476	100.00	100.00	15.0566
Total:			**3.632**	**21.476**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

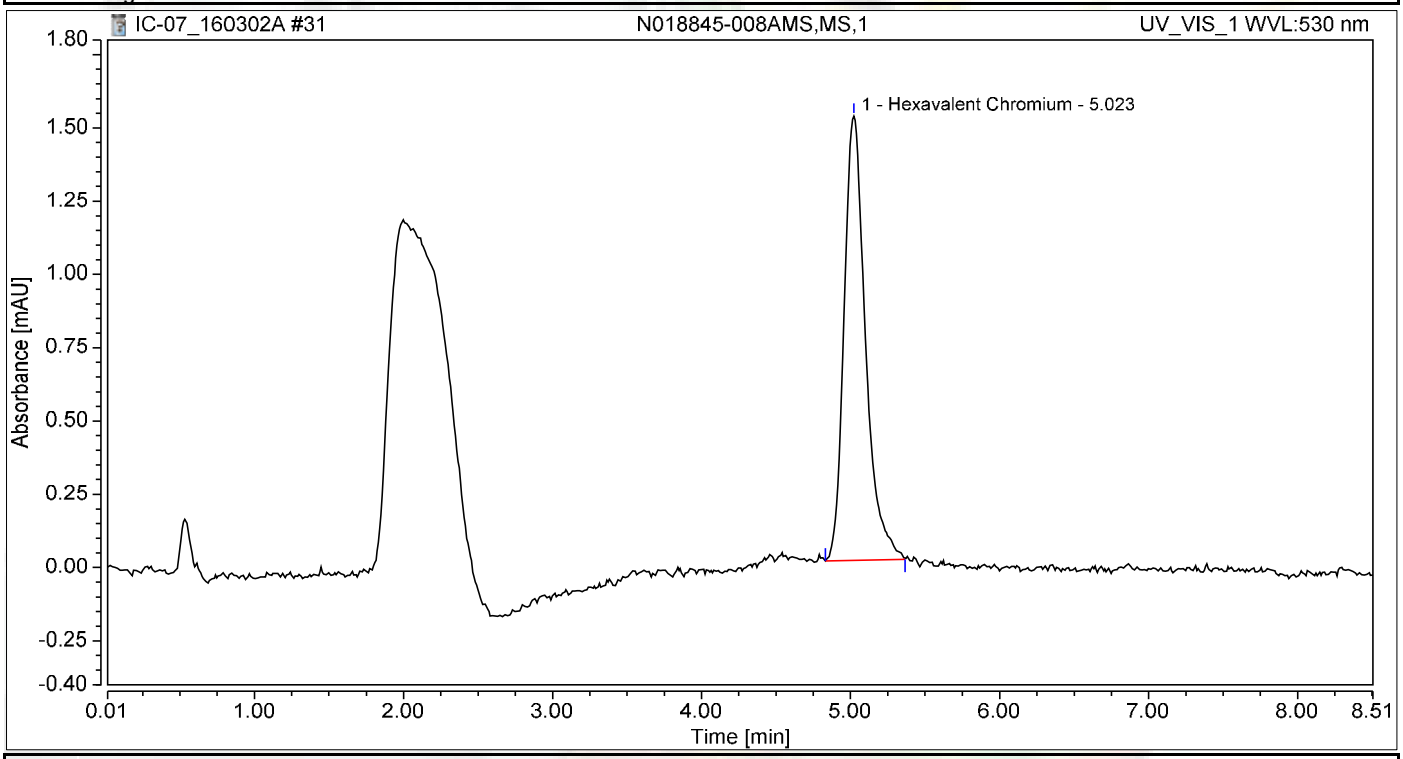
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.009	0.081	100.00	100.00	0.0393
Total:			**0.009**	**0.081**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

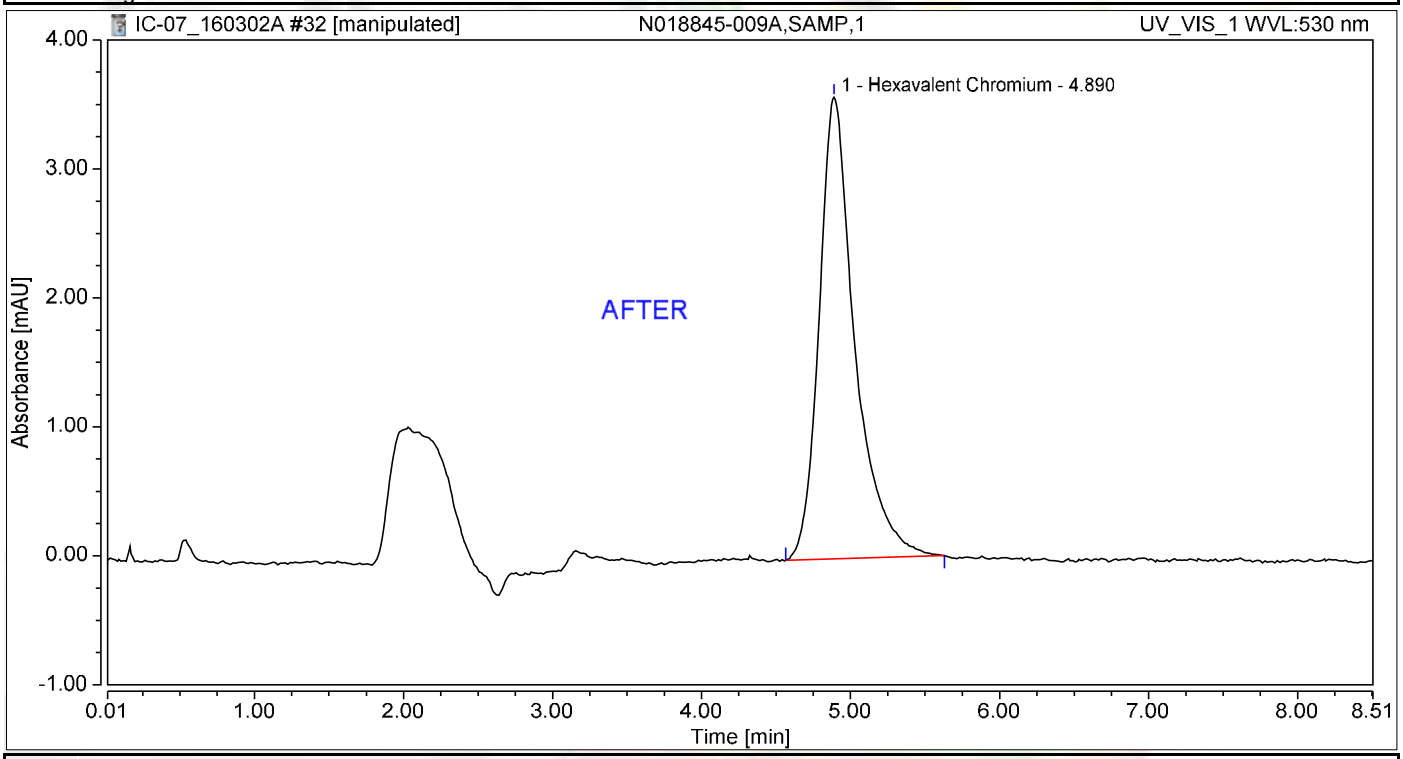
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.252	1.516	100.00	100.00	1.0434
Total:			**0.252**	**1.516**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.890	0.993	3.581	100.00	100.00	4.1149
Total:			**0.993**	**3.581**	**100.00**	**100.00**	

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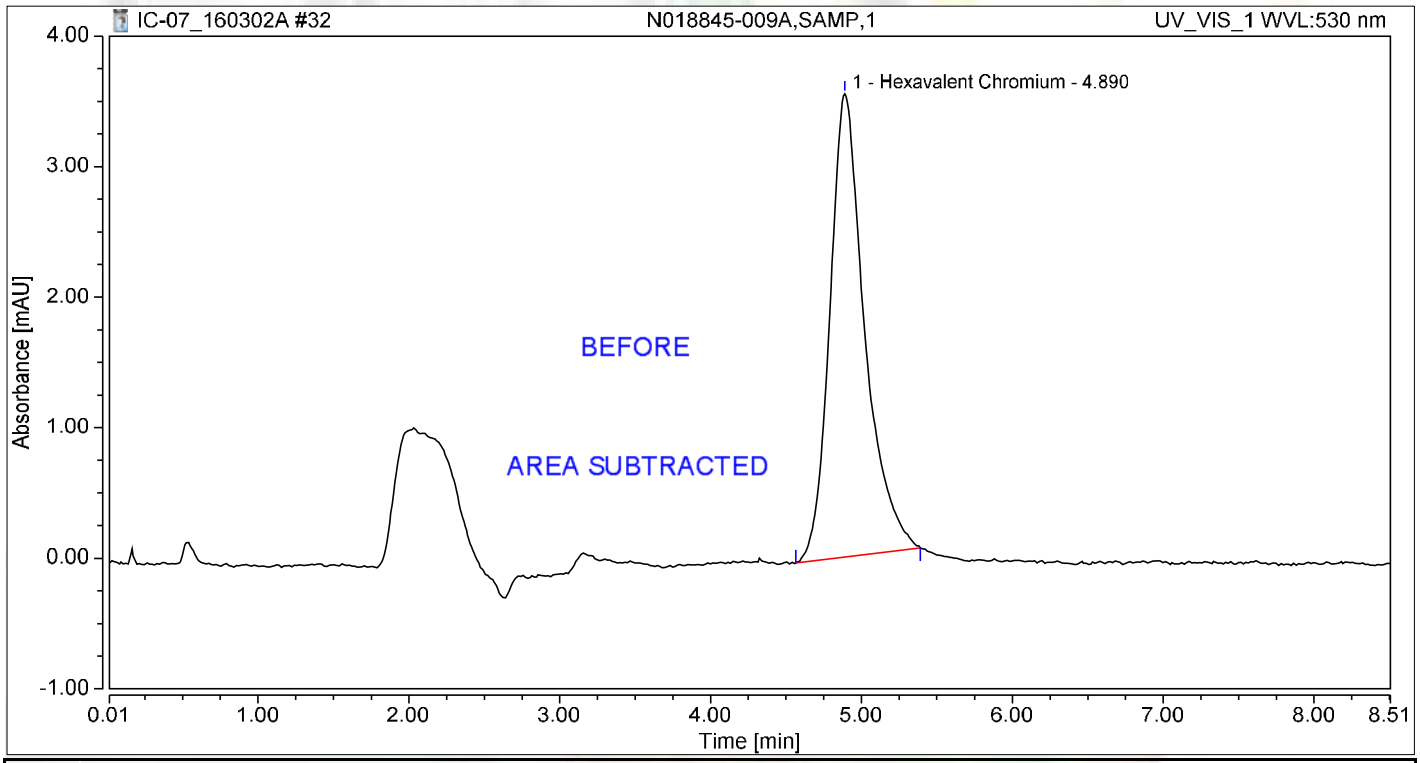
Chromatogram and Results

Injection Details

Injection Name:	**N018845-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.890	0.950	3.547	100.00	100.00	3.9365
Total:			**0.950**	**3.547**	**100.00**	**100.00**	

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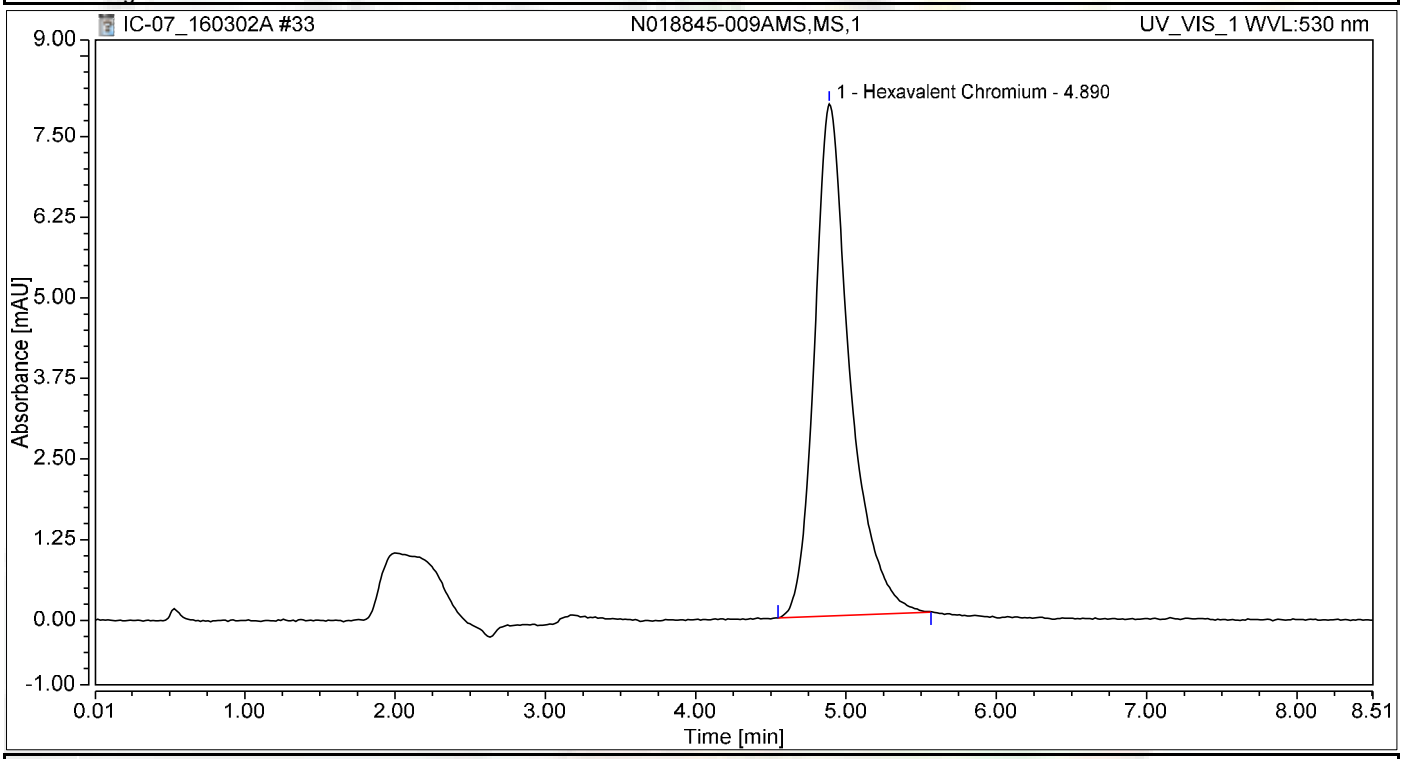
Chromatogram and Results

Injection Details

Injection Name:	**N018845-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

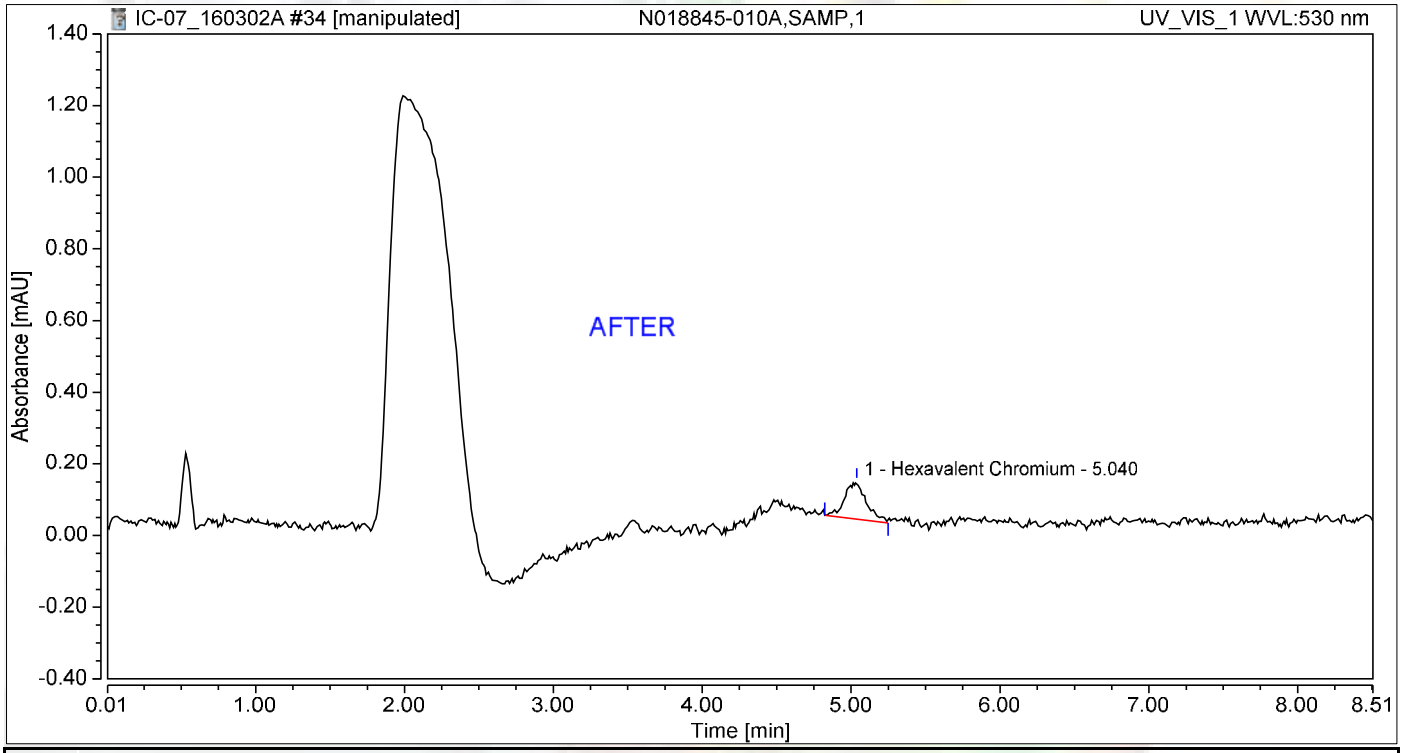
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.890	2.175	7.939	100.00	100.00	9.0180
Total:			**2.175**	**7.939**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.017	0.106	100.00	100.00	0.0720
Total:			**0.017**	**0.106**	**100.00**	**100.00**	

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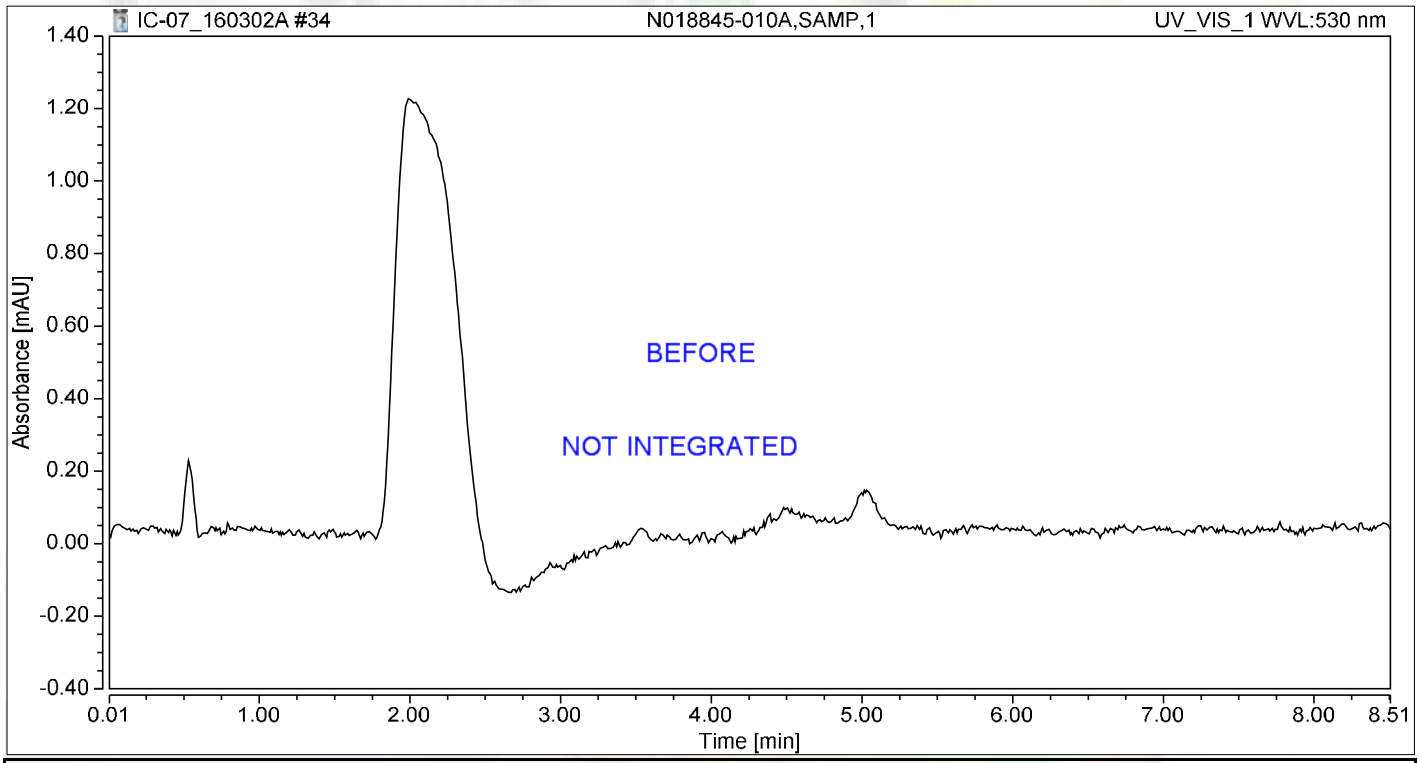
Chromatogram and Results

Injection Details

Injection Name:	**N018845-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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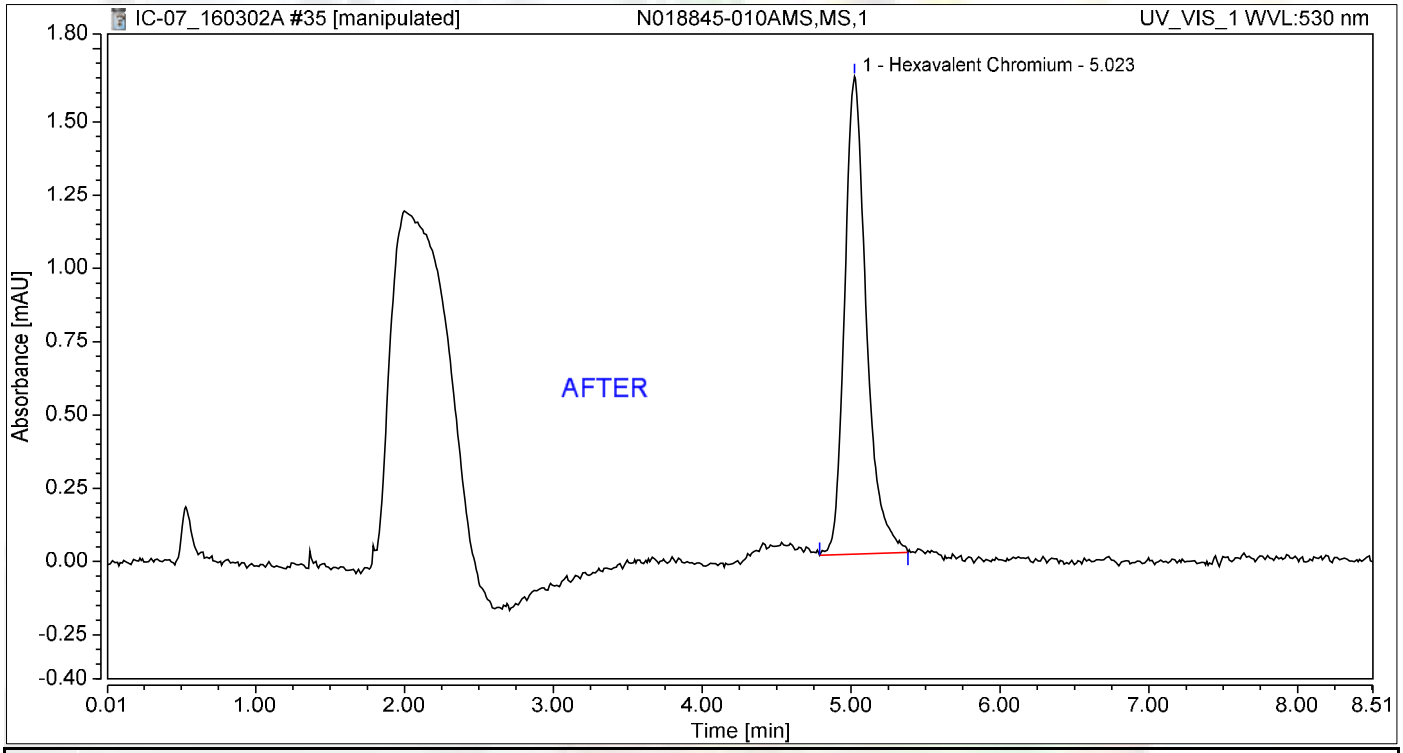
Chromatogram and Results

Injection Details

Injection Name:	**N018845-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.274	1.629	100.00	100.00	1.1369
Total:			**0.274**	**1.629**	**100.00**	**100.00**	

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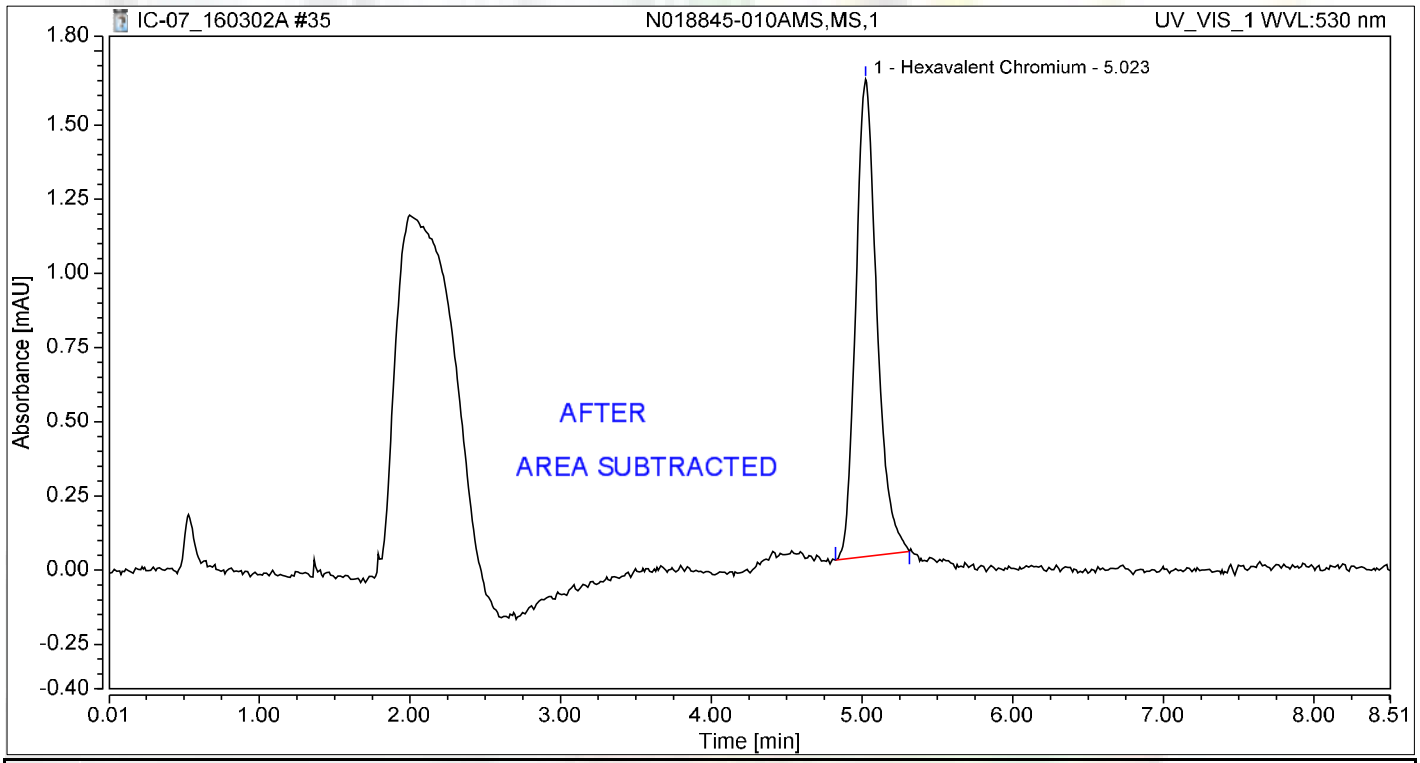
Chromatogram and Results

Injection Details

Injection Name:	**N018845-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.261	1.608	100.00	100.00	1.0820
Total:			**0.261**	**1.608**	**100.00**	**100.00**	

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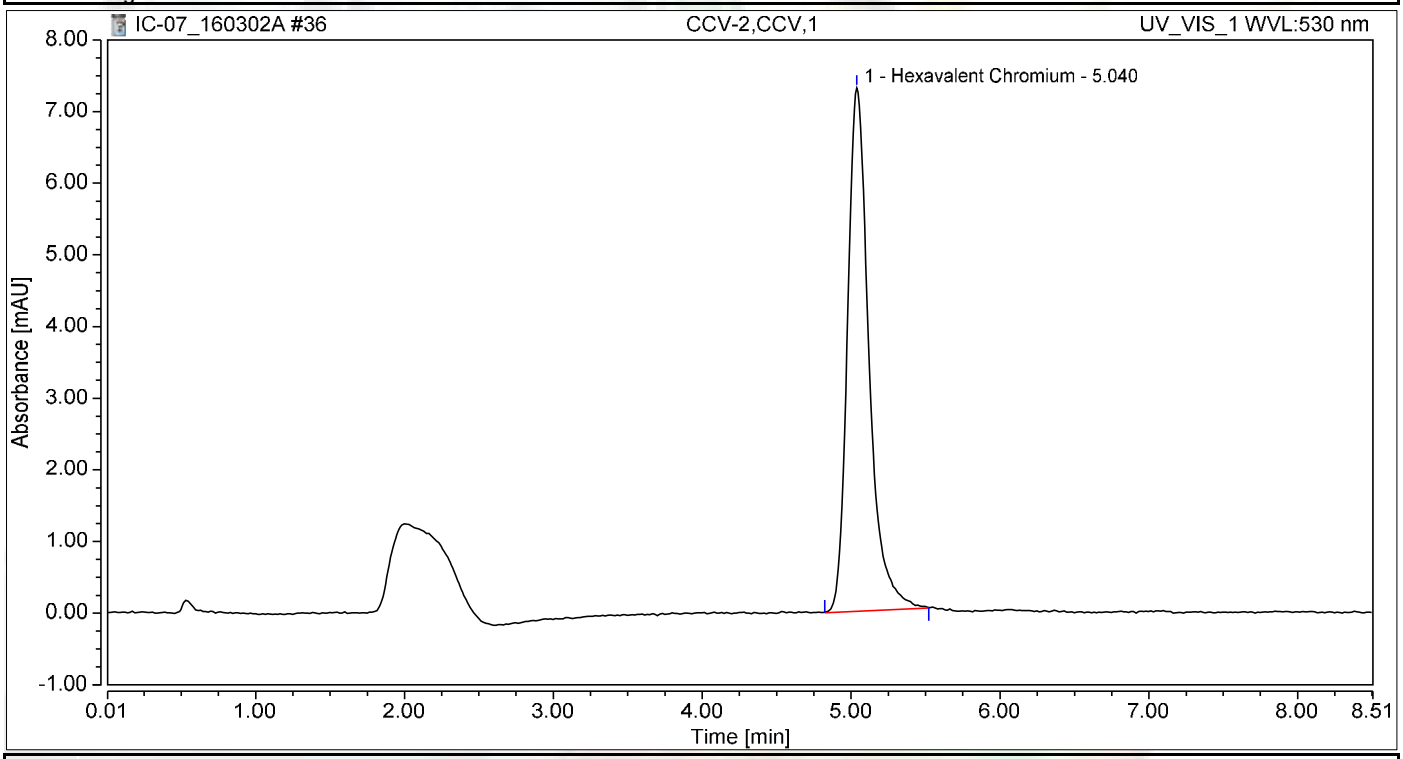
Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

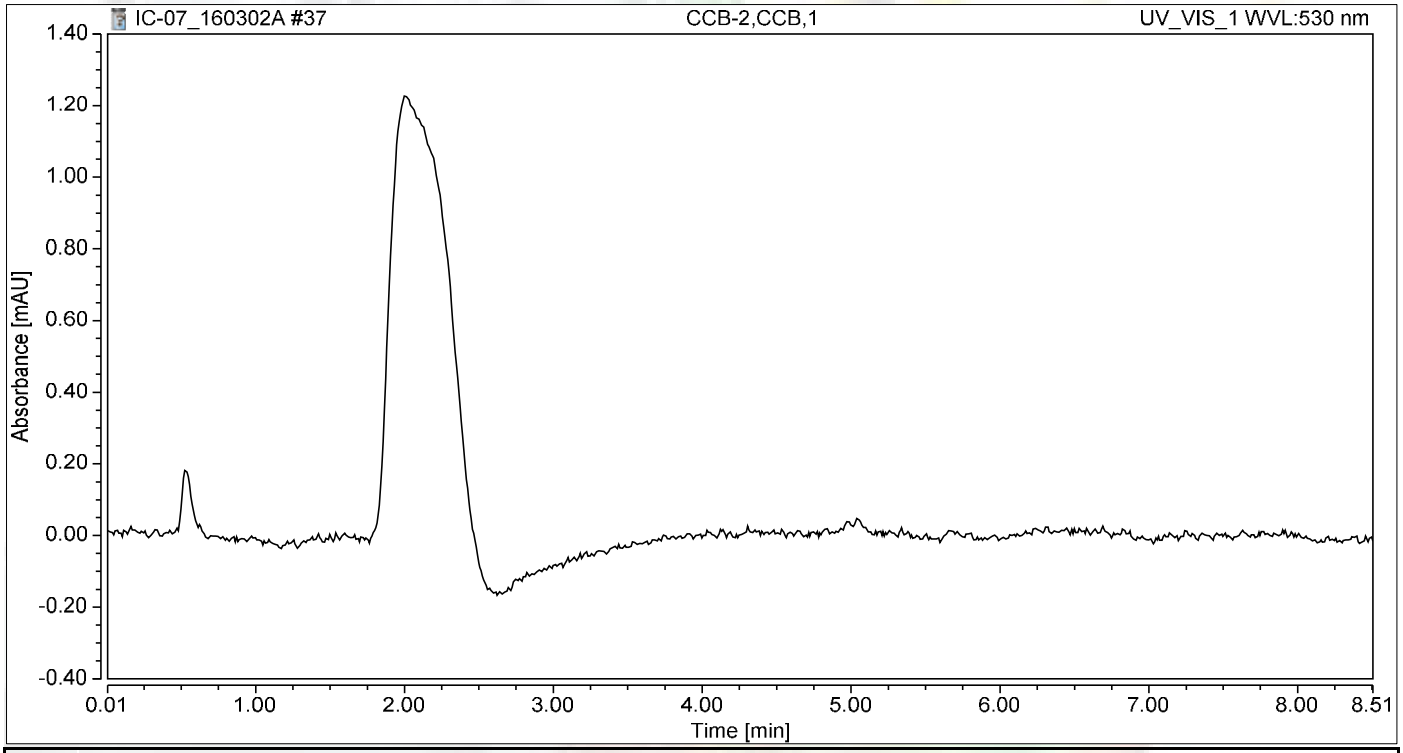
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.212	7.300	100.00	100.00	5.0248
Total:			**1.212**	**7.300**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

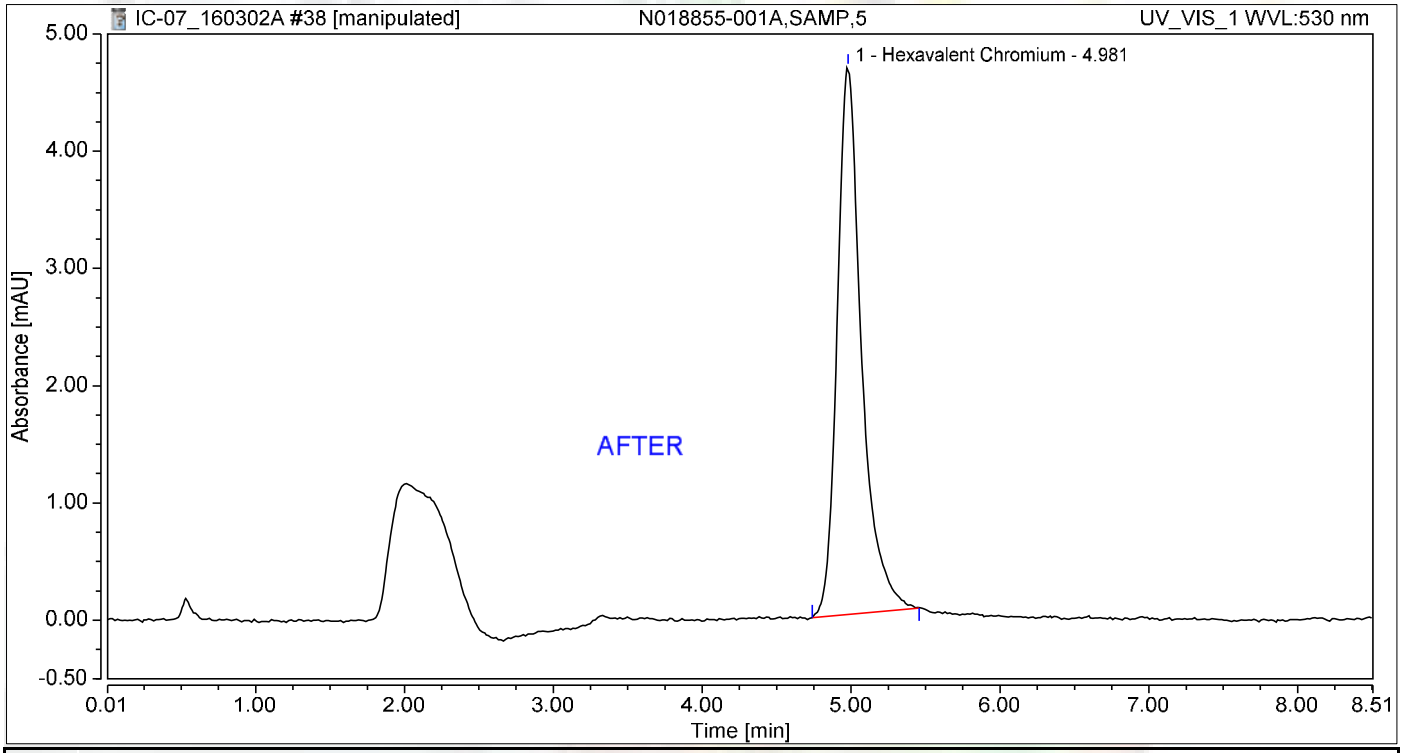
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.886	4.668	100.00	100.00	3.6732
Total:			**0.886**	**4.668**	**100.00**	**100.00**	

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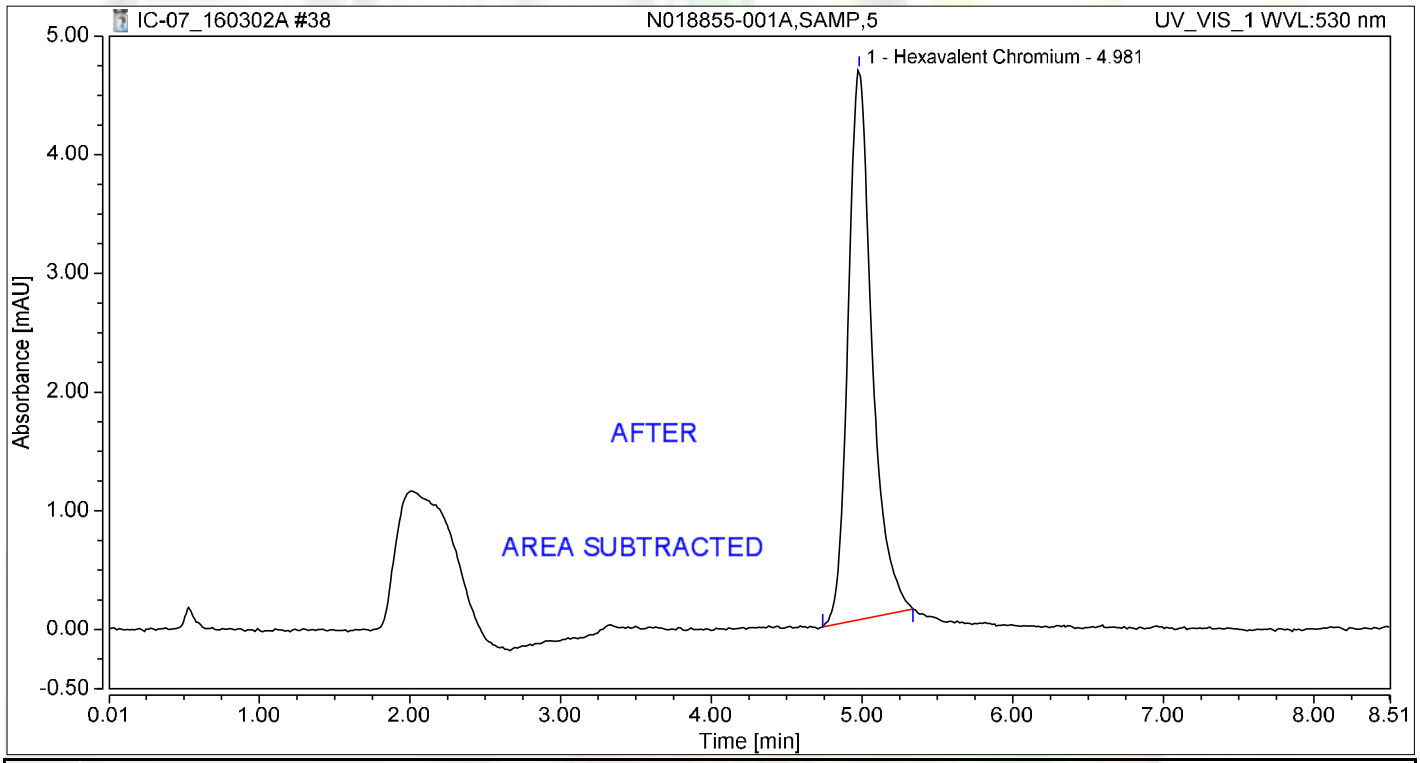
Chromatogram and Results

Injection Details

Injection Name:	**N018855-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.858	4.635	100.00	100.00	3.5574
Total:			**0.858**	**4.635**	**100.00**	**100.00**	

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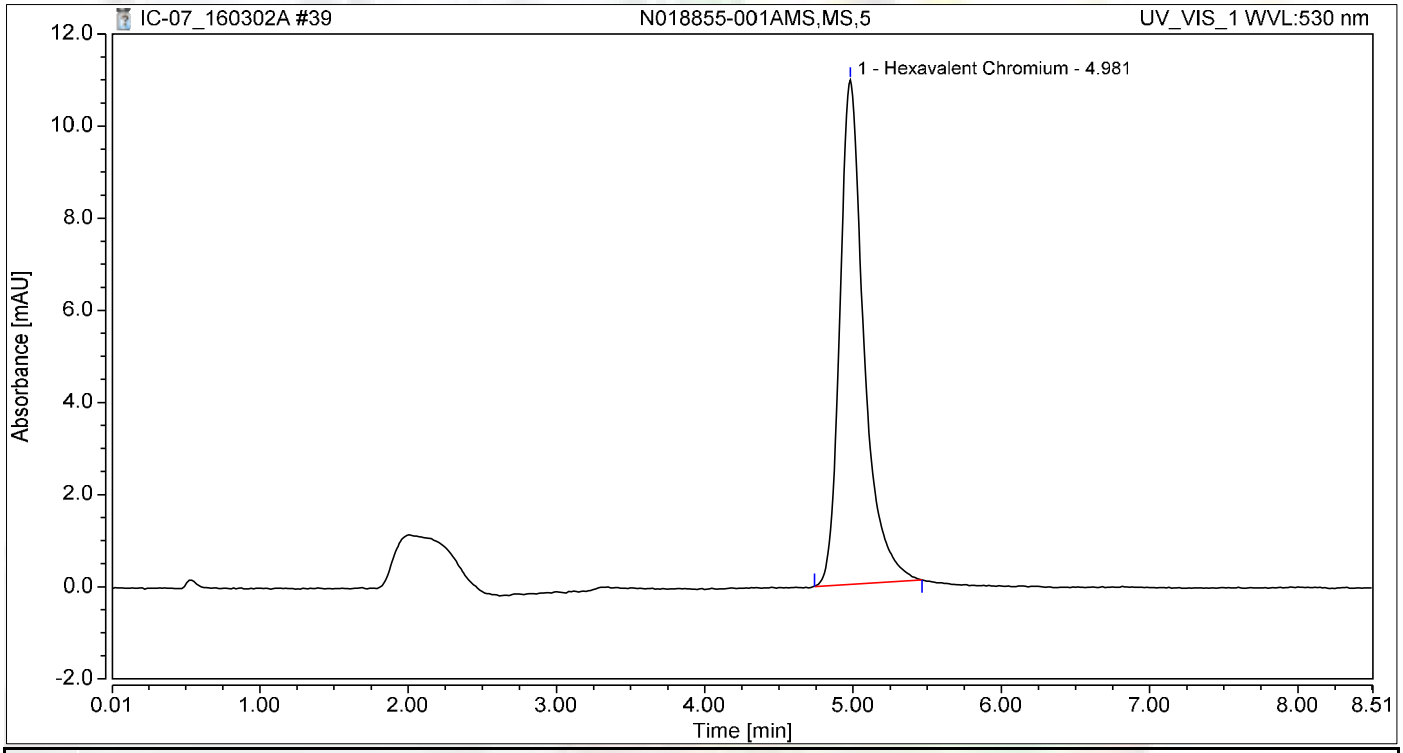
Chromatogram and Results

Injection Details

Injection Name:	**N018855-001AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

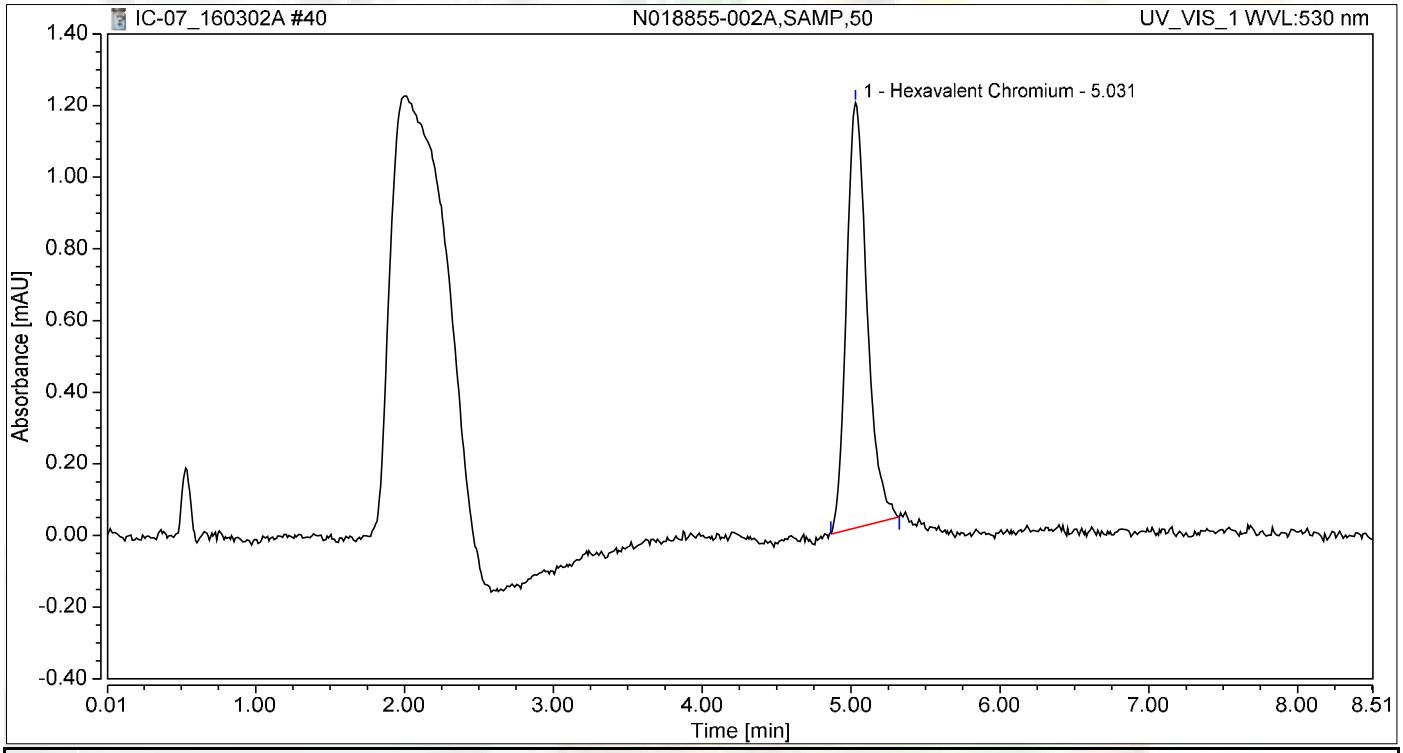
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	2.062	10.939	100.00	100.00	8.5471
Total:			**2.062**	**10.939**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002A,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.190	1.188	100.00	100.00	0.7866
Total:			**0.190**	**1.188**	**100.00**	**100.00**	

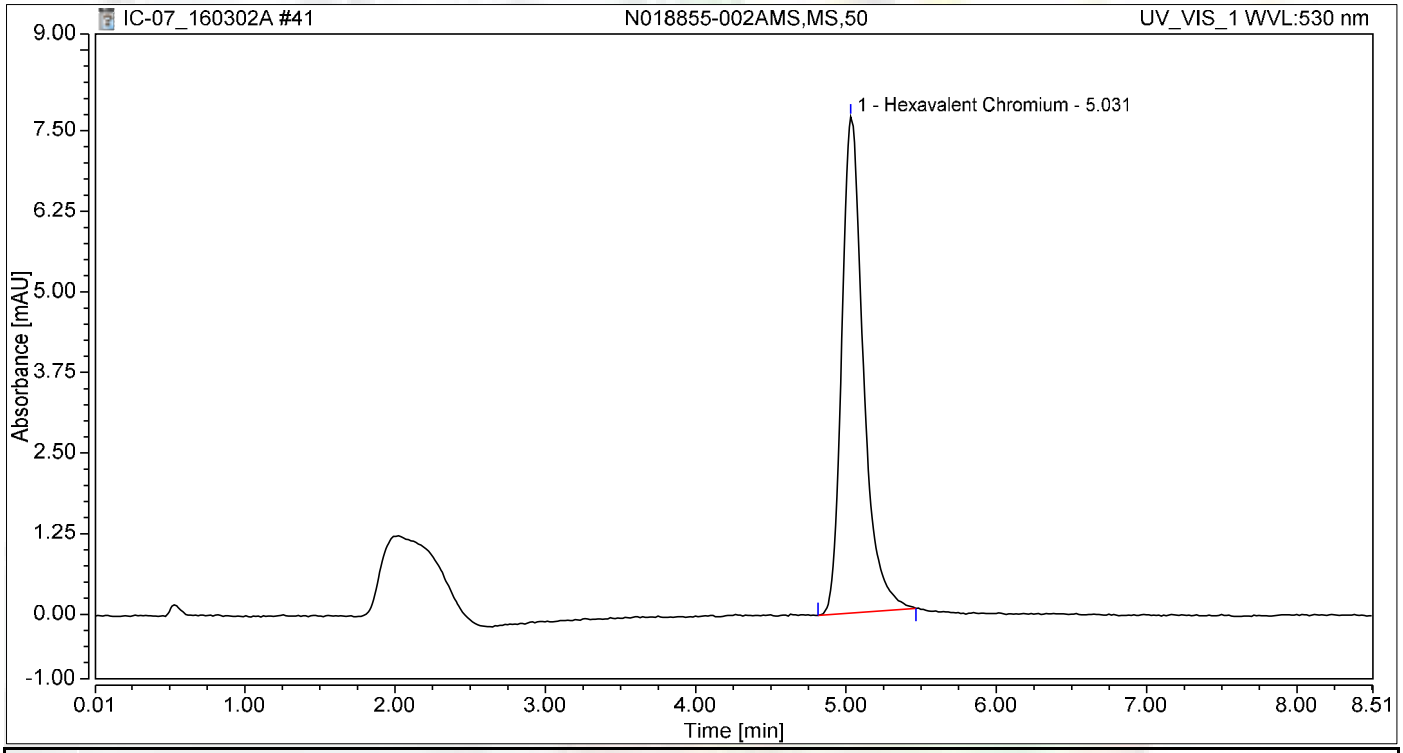
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.284	7.698	100.00	100.00	5.3213
Total:			**1.284**	**7.698**	**100.00**	**100.00**	

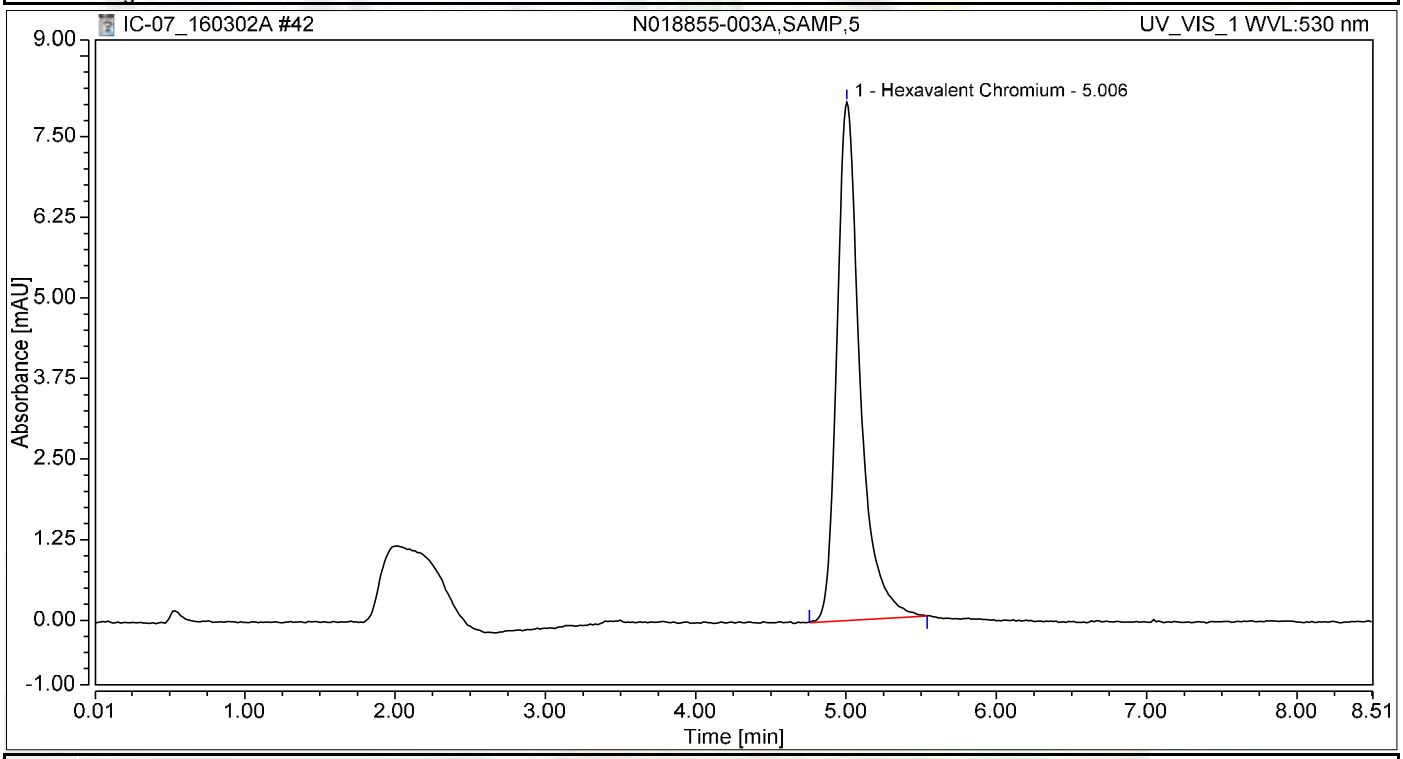
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-003A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

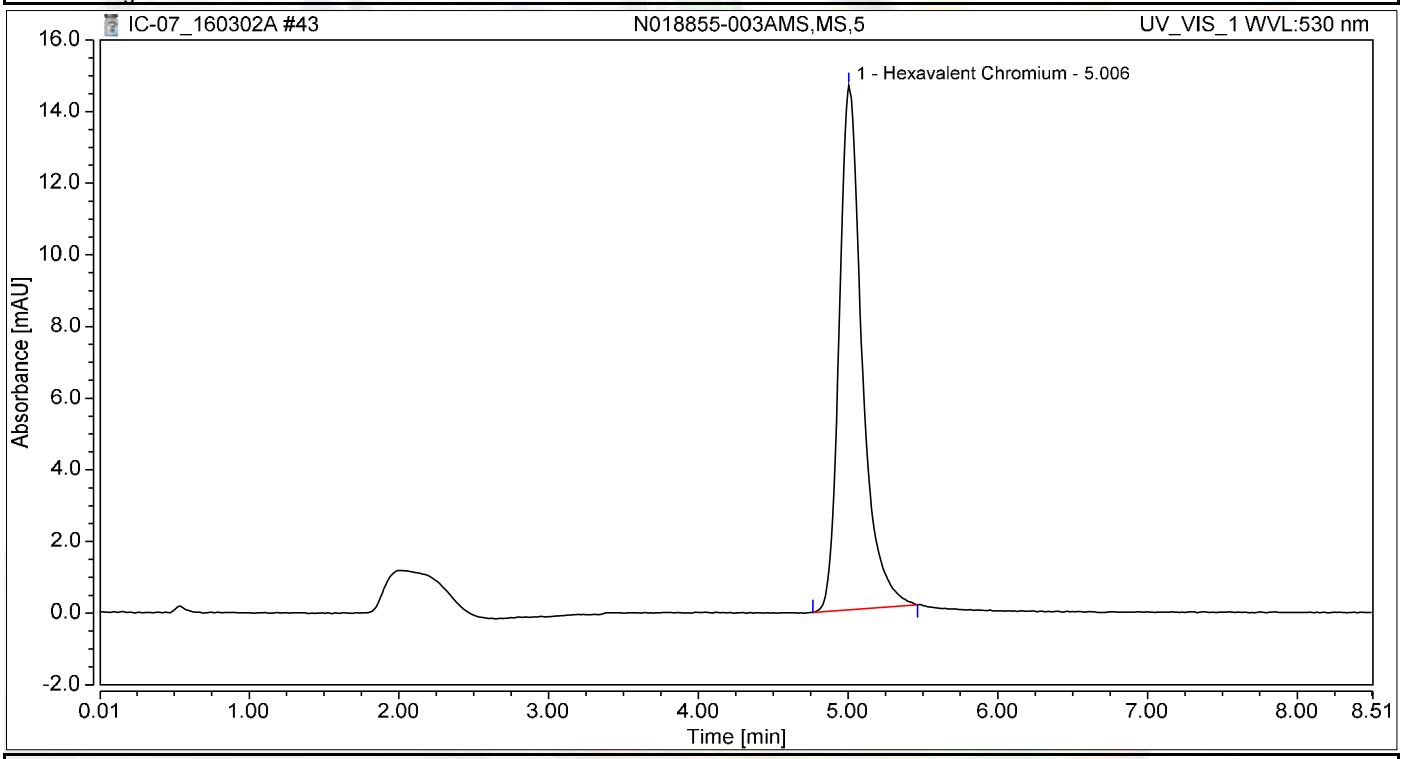
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	1.438	8.035	100.00	100.00	5.9593
Total:			**1.438**	**8.035**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-003AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

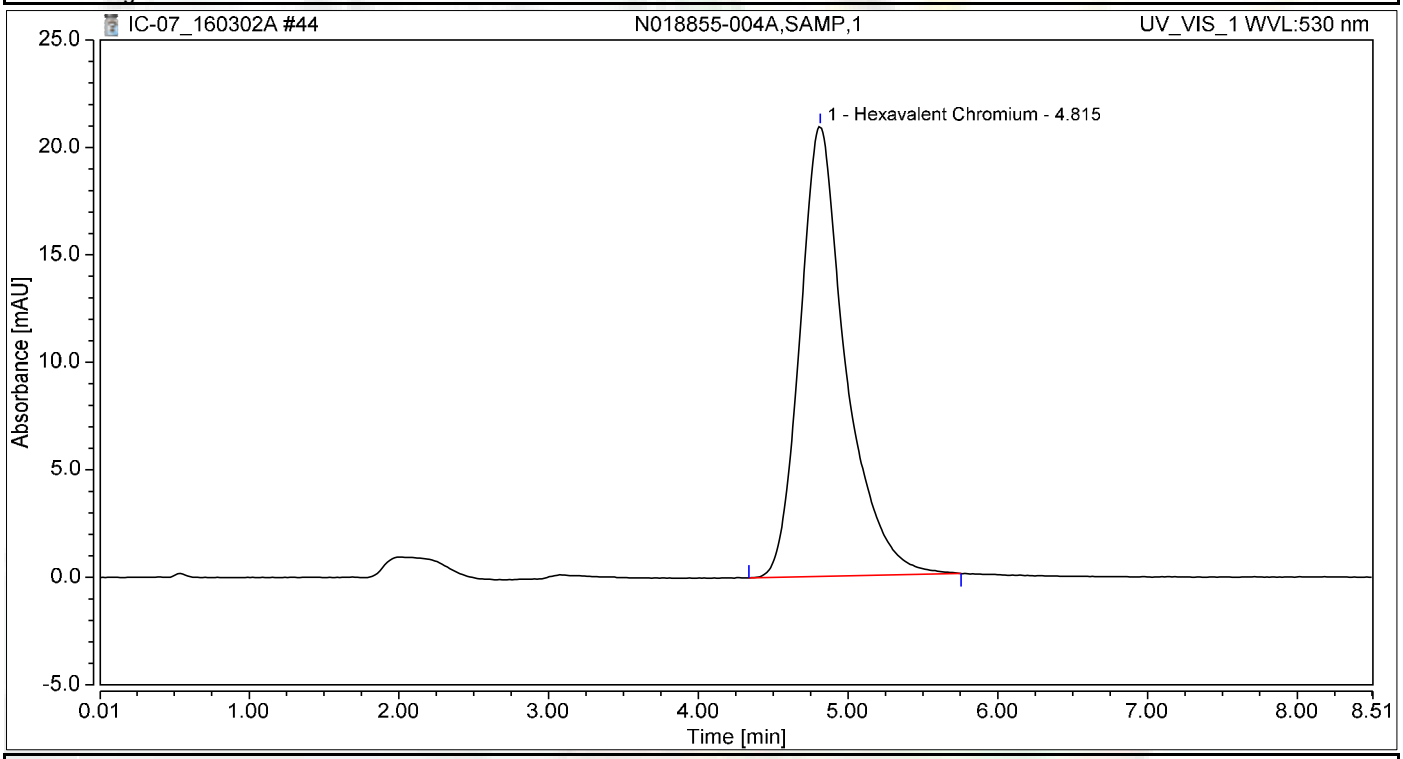
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	2.595	14.635	100.00	100.00	10.7589
Total:			**2.595**	**14.635**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.815	7.435	20.948	100.00	100.00	30.8228
Total:			**7.435**	**20.948**	**100.00**	**100.00**	

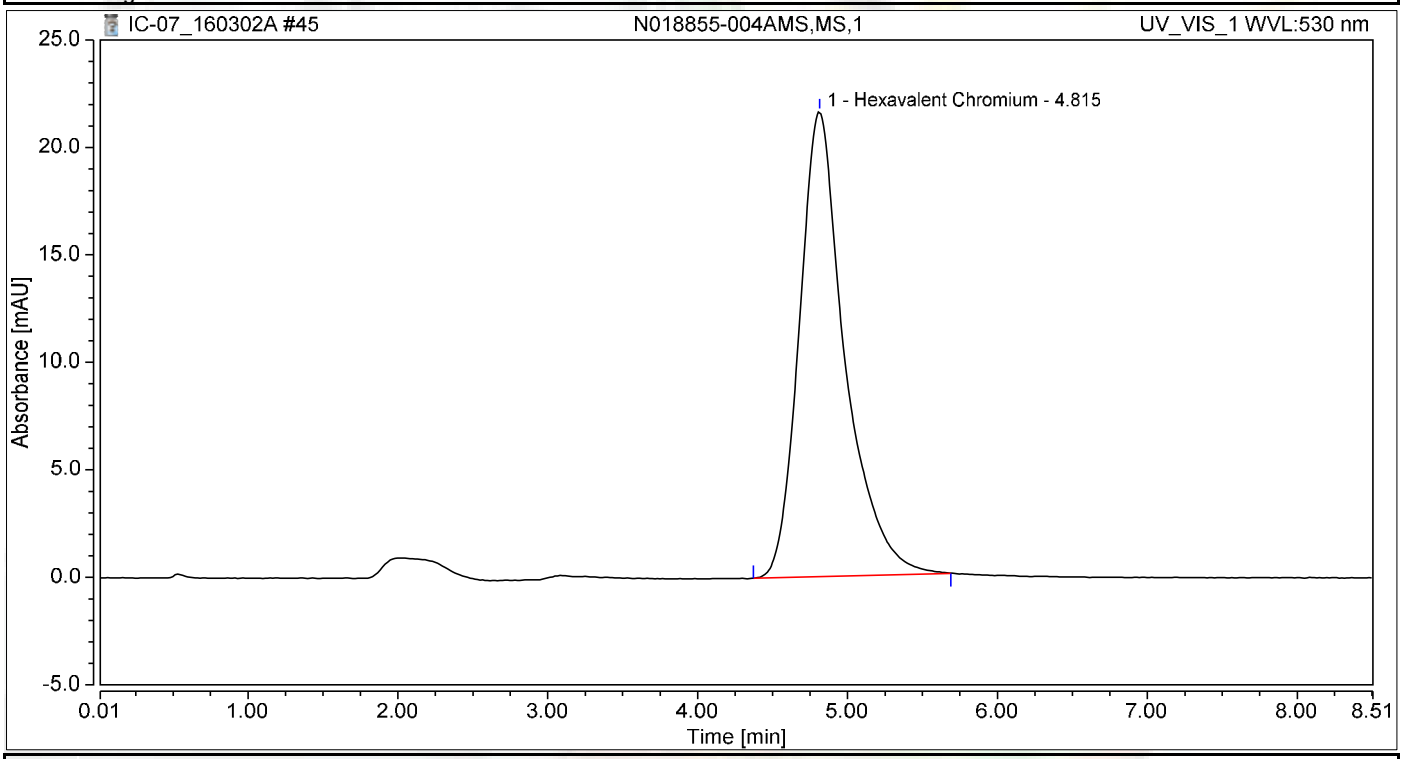
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.815	7.634	21.637	100.00	100.00	31.6483
Total:			**7.634**	**21.637**	**100.00**	**100.00**	

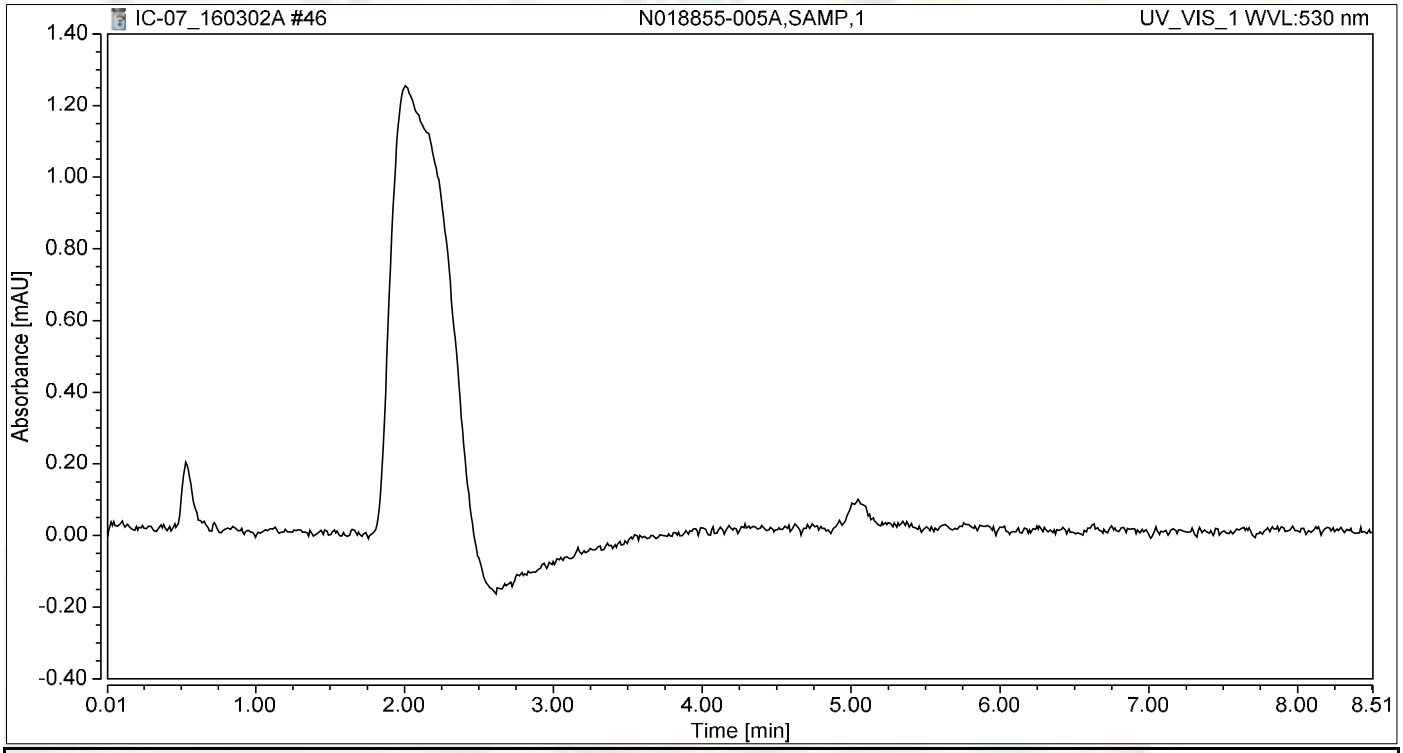
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

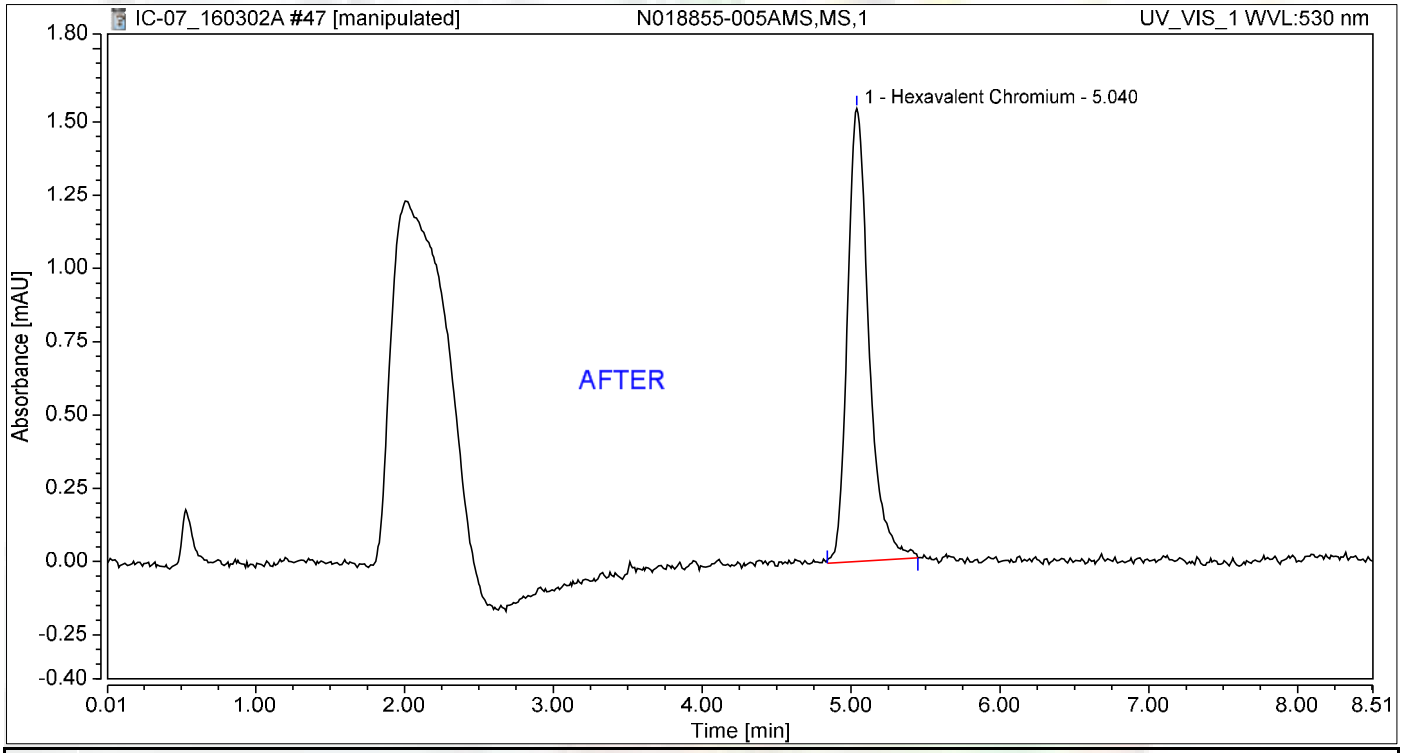
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.258	1.546	100.00	100.00	1.0675
Total:			**0.258**	**1.546**	**100.00**	**100.00**	

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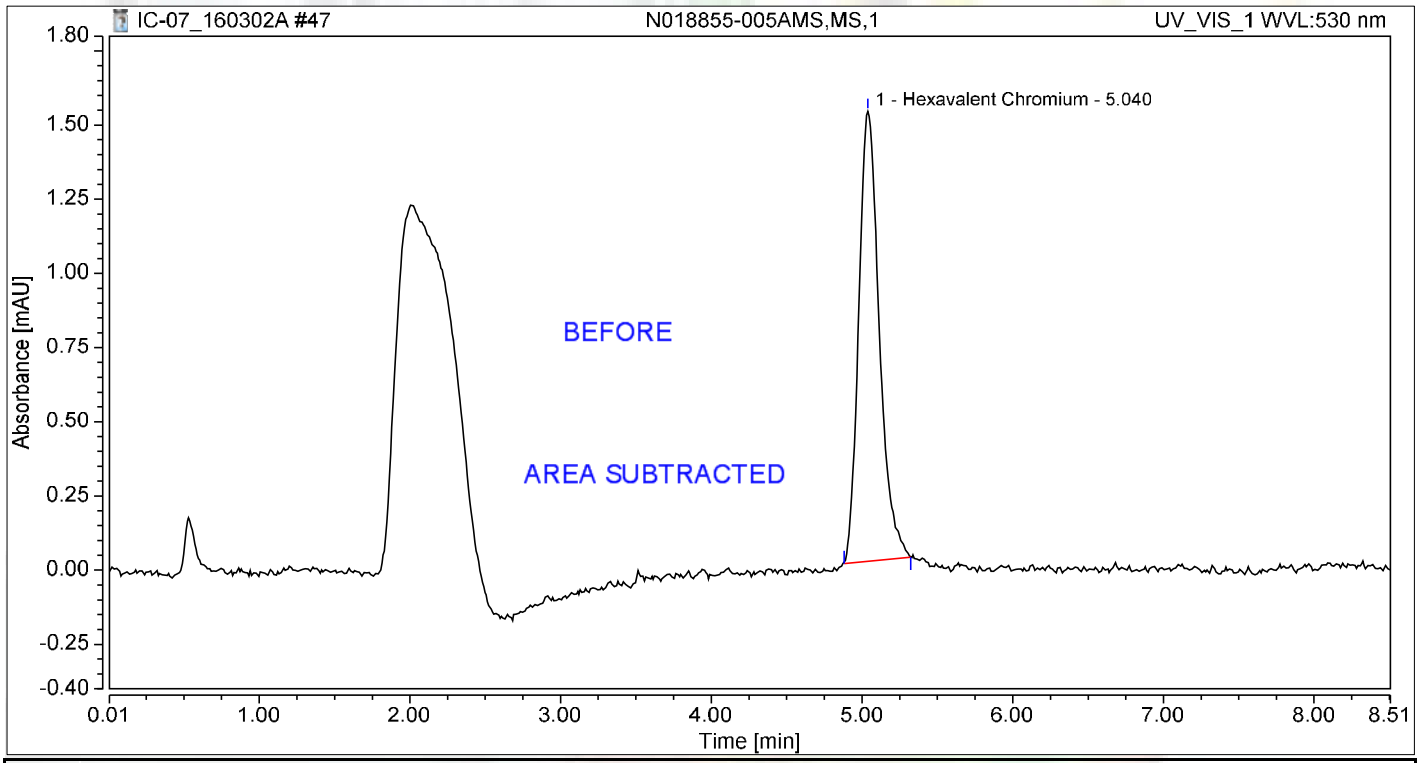
Chromatogram and Results

Injection Details

Injection Name:	**N018855-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.240	1.516	100.00	100.00	0.9933
Total:			**0.240**	**1.516**	**100.00**	**100.00**	

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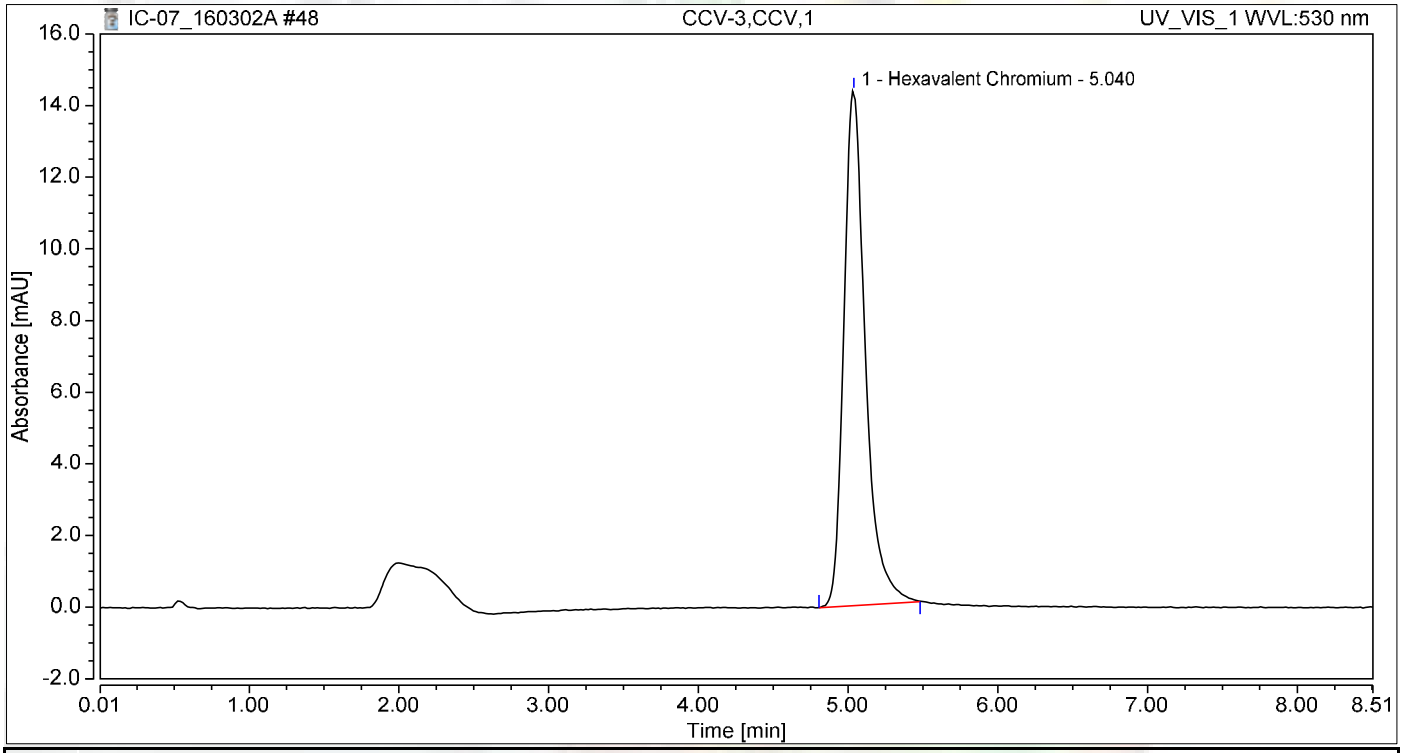
Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

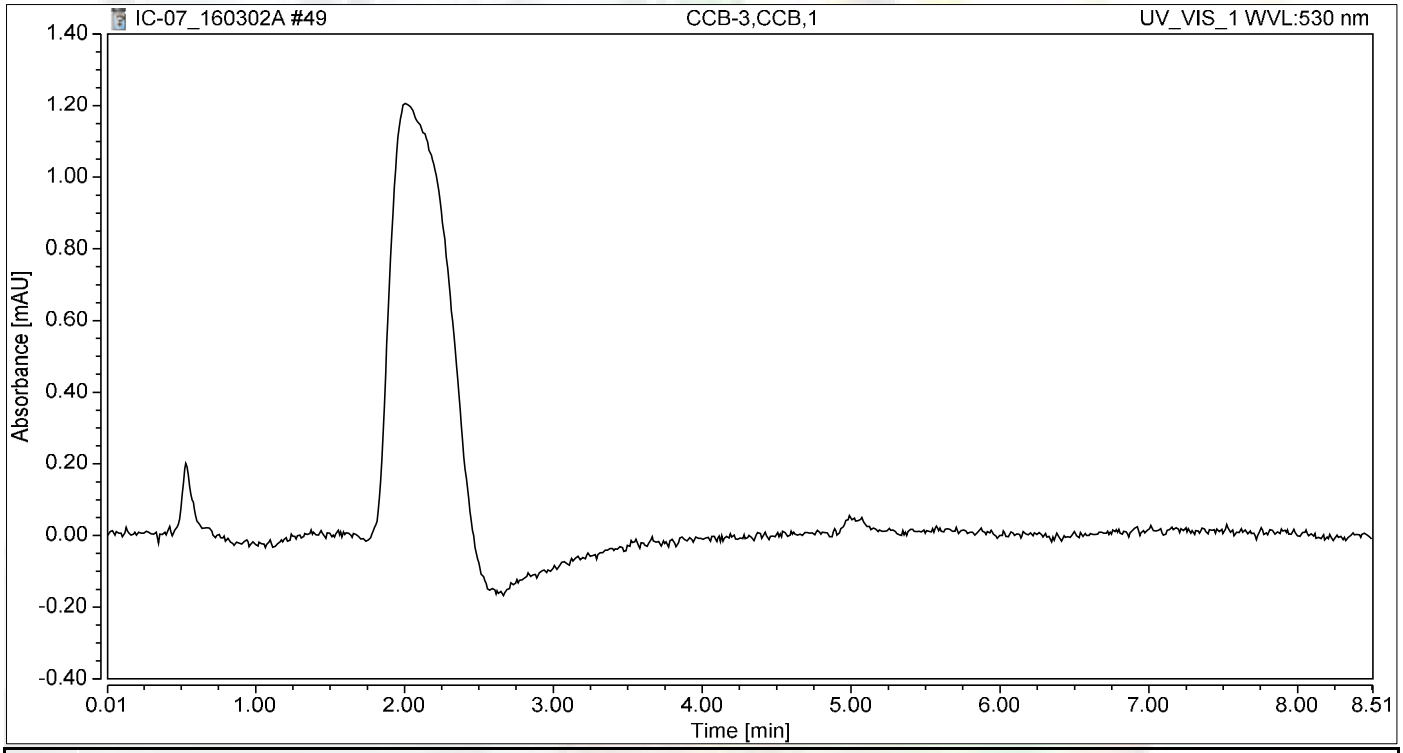
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.381	14.370	100.00	100.00	9.8715
Total:			**2.381**	**14.370**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

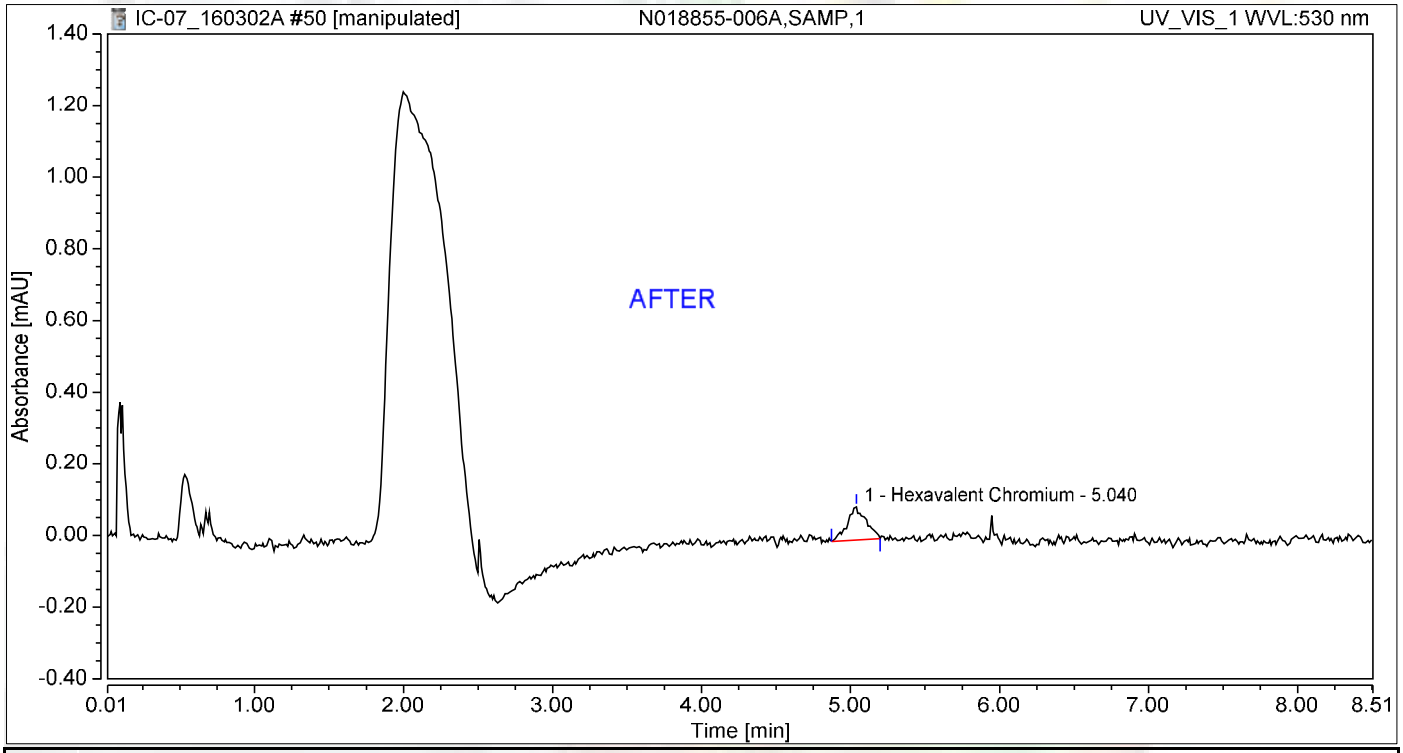
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.014	0.093	100.00	100.00	0.0561
Total:			**0.014**	**0.093**	**100.00**	**100.00**	

Reb 3/10/2016

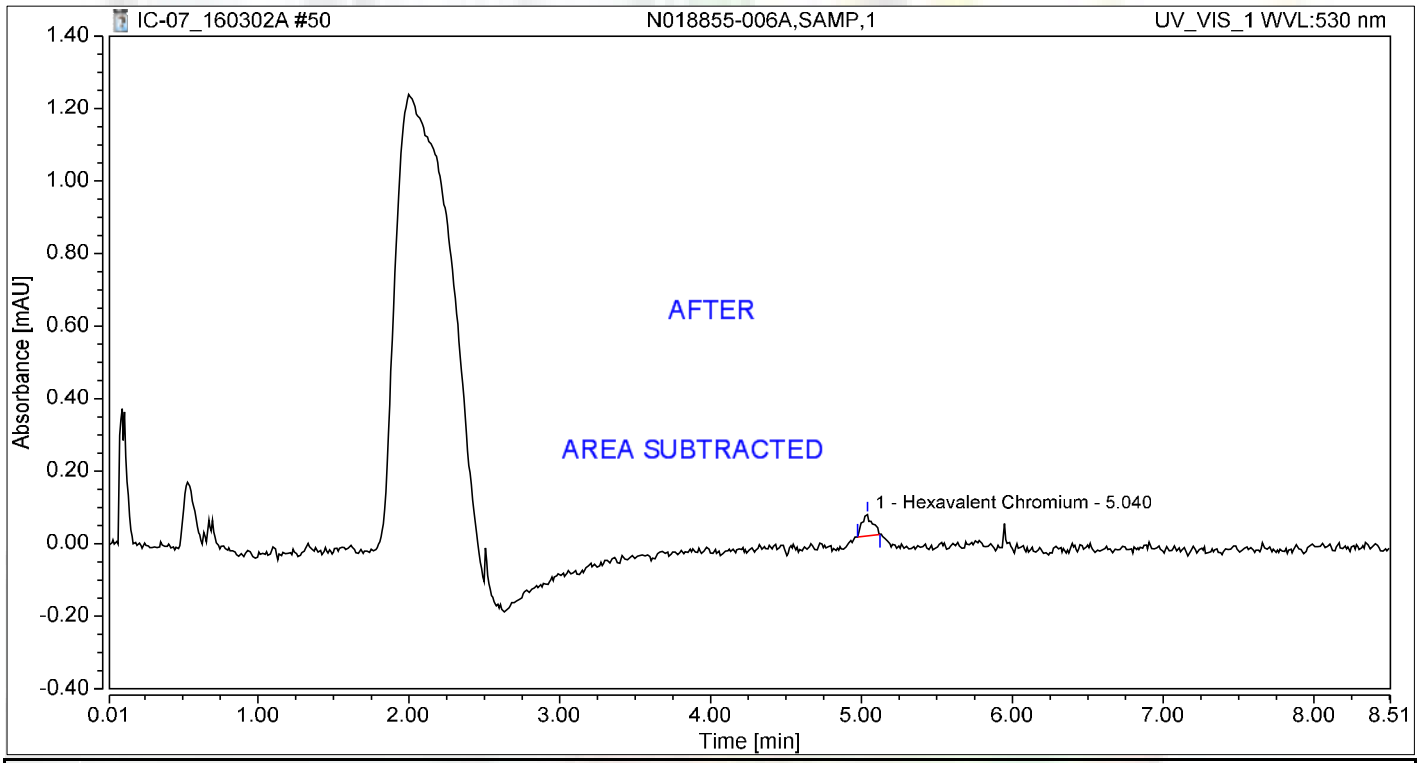
3/10/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018855-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.005	0.058	100.00	100.00	0.0202
Total:			**0.005**	**0.058**	**100.00**	**100.00**	

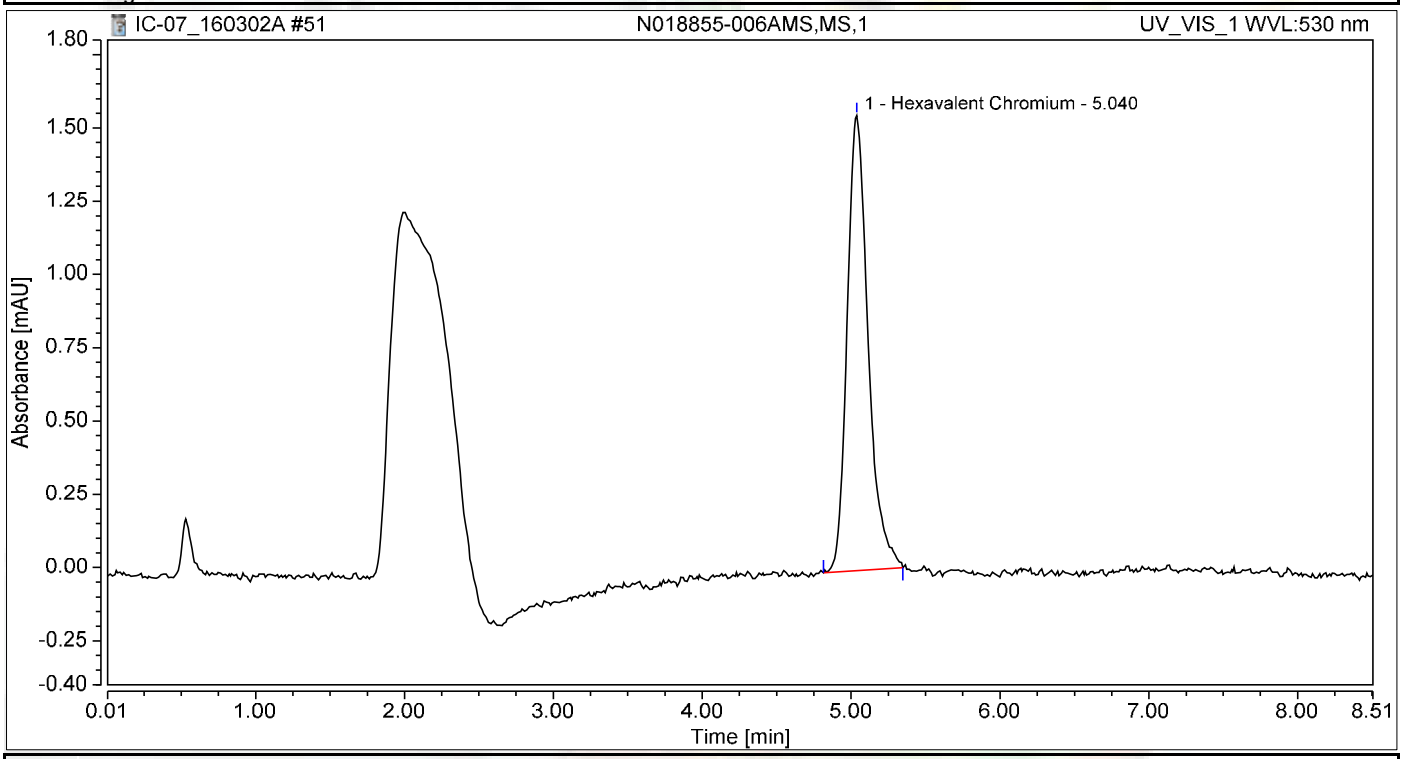
Reb 3/10/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018855-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

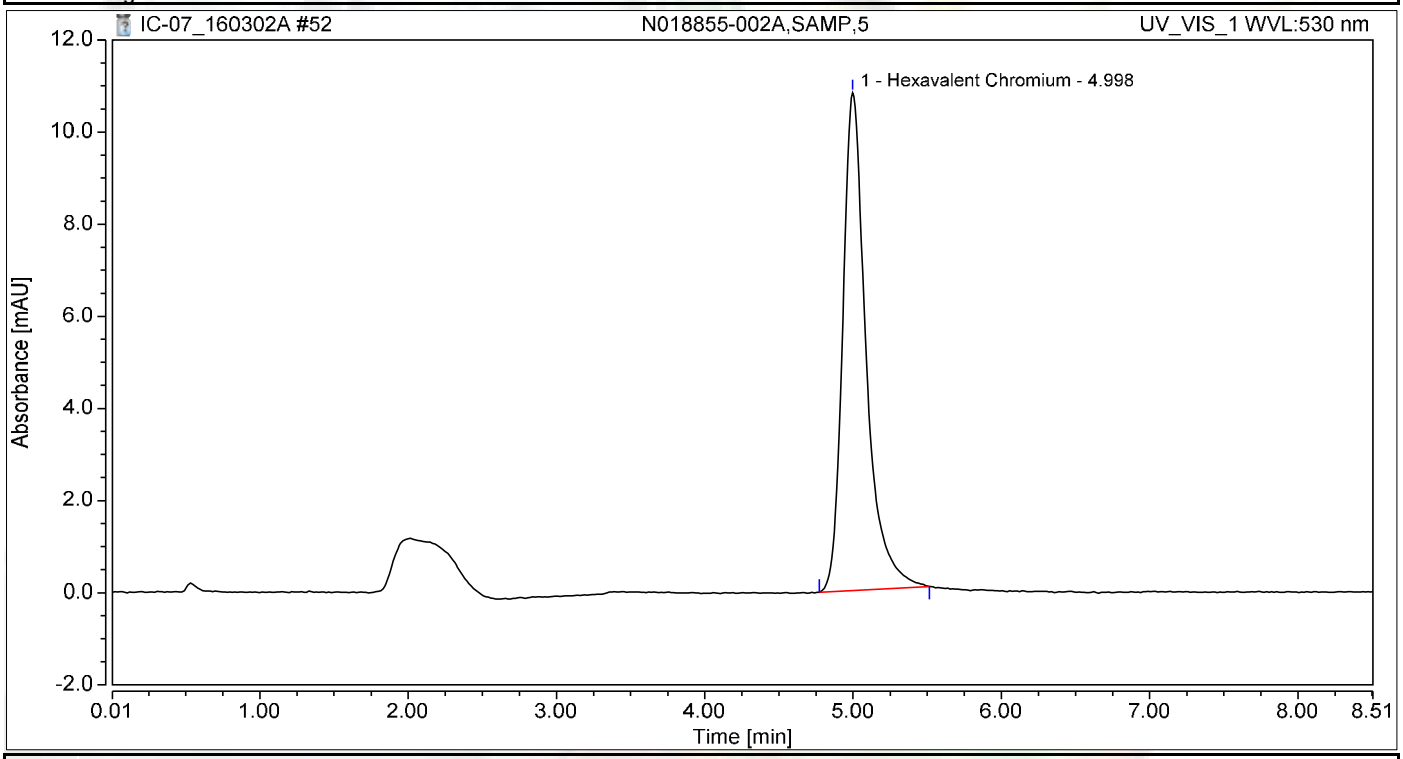
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.554	100.00	100.00	1.0437
Total:			**0.252**	**1.554**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

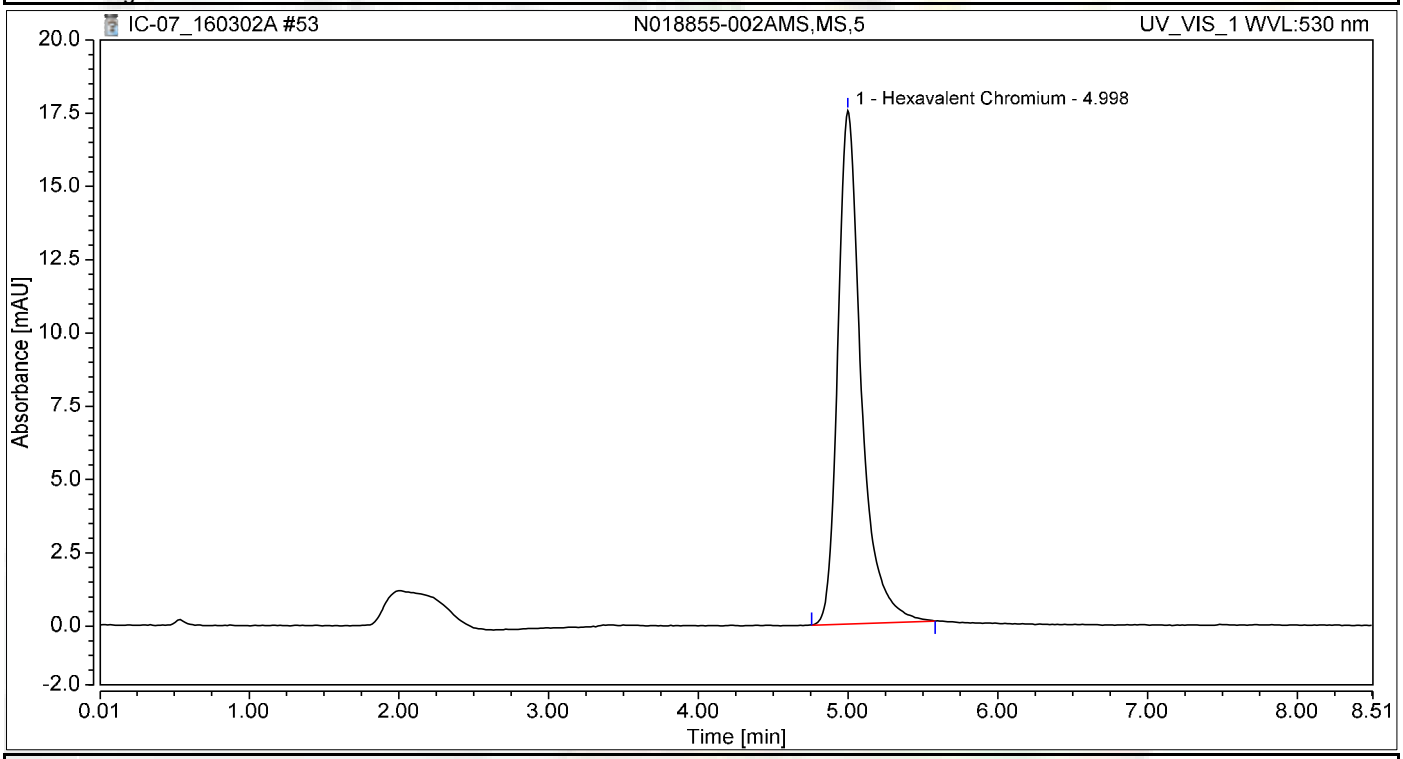
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	1.968	10.806	100.00	100.00	8.1566
Total:			**1.968**	**10.806**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

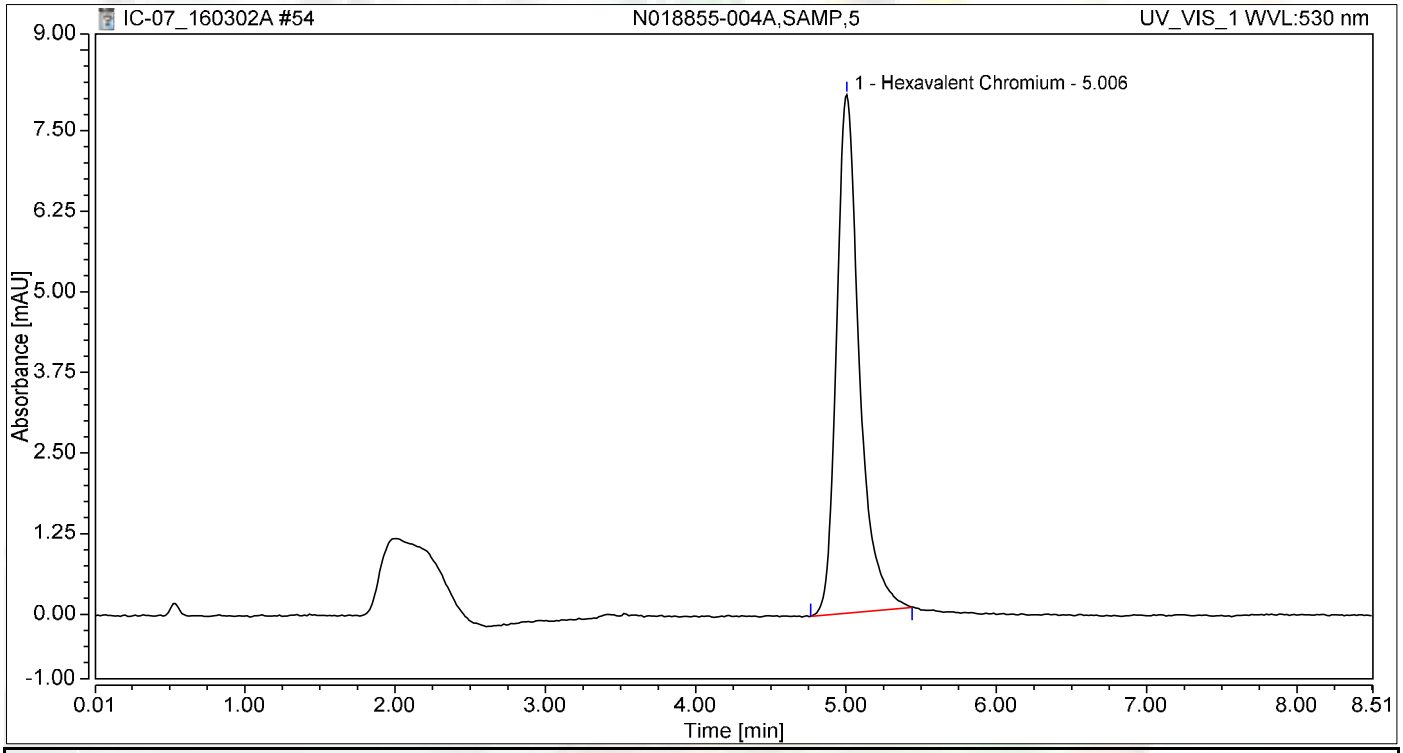
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	3.175	17.519	100.00	100.00	13.1605
Total:			**3.175**	**17.519**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

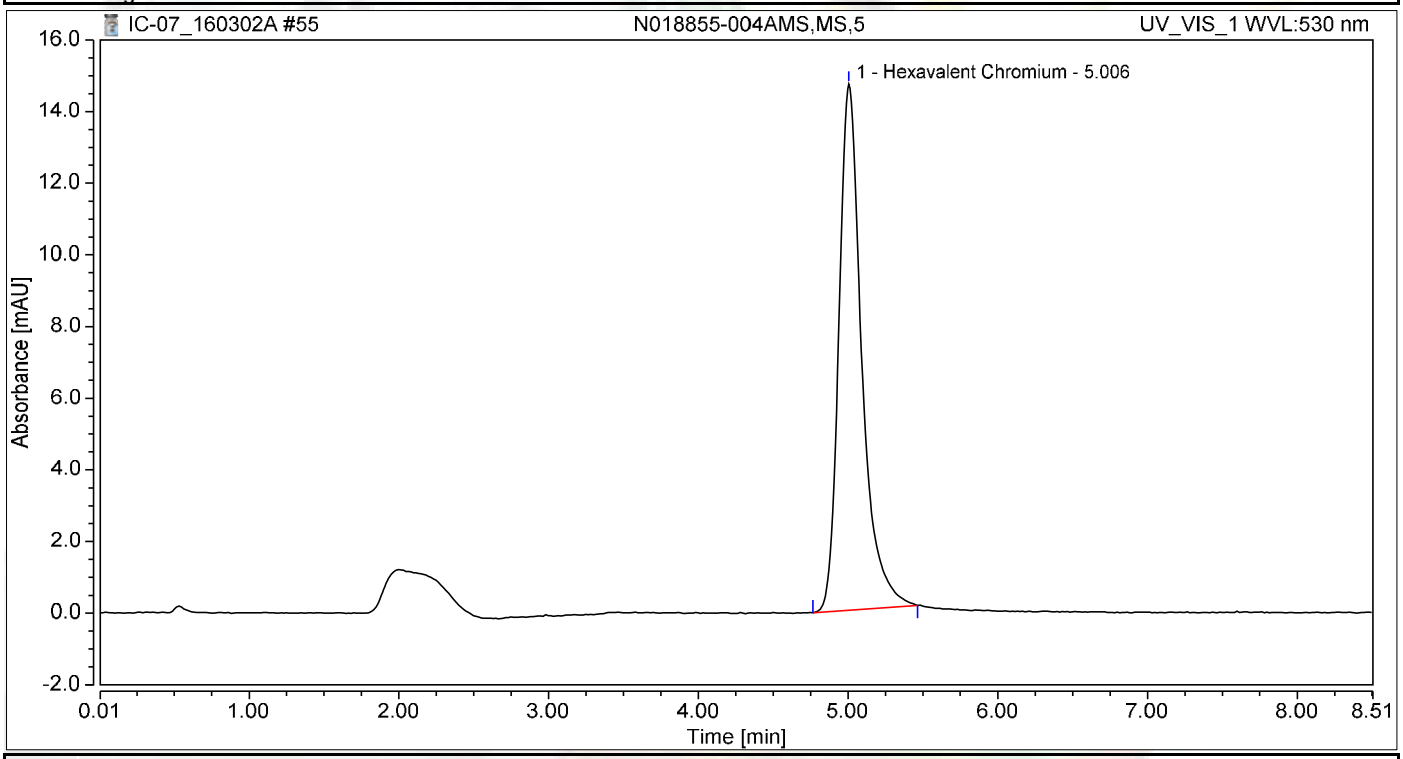
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	1.417	8.040	100.00	100.00	5.8726
Total:			**1.417**	**8.040**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

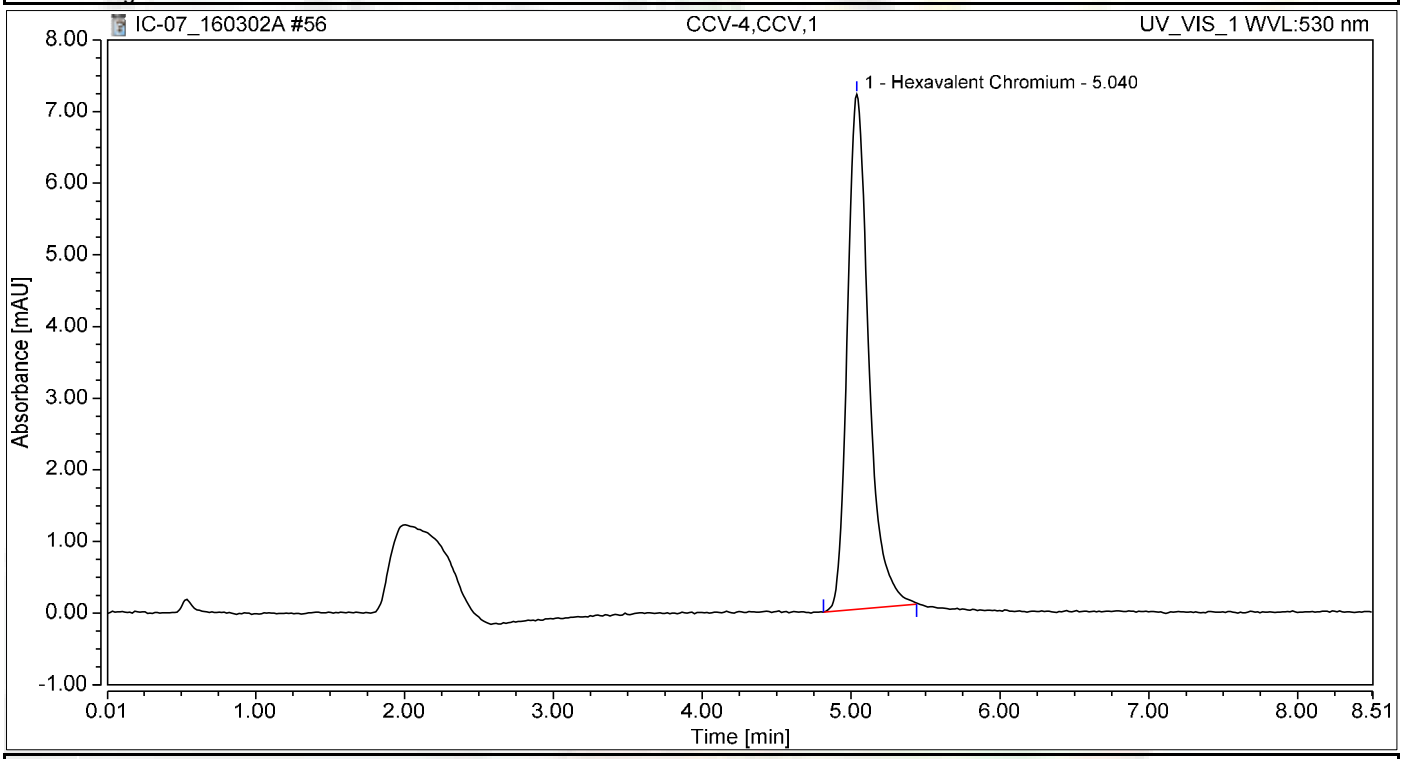
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	2.592	14.682	100.00	100.00	10.7440
Total:			**2.592**	**14.682**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

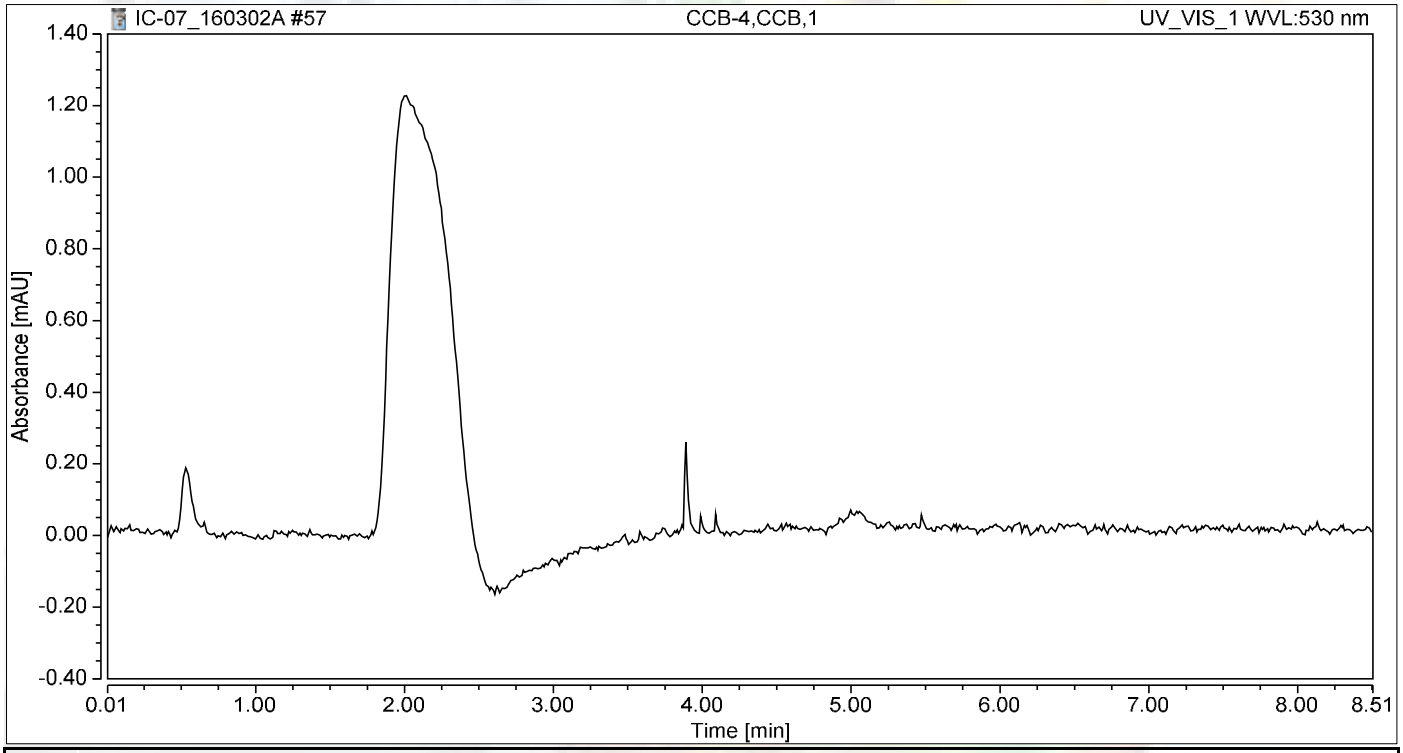
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.190	7.186	100.00	100.00	4.9340
Total:			**1.190**	**7.186**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 3500-Cr B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106391 **Analyst:** QBM

ASSET #: N018845 **Date Analyzed:** 3/10/16

Method: 3500_Cr

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)	X					
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 3/14/2016

2nd Level Reviewer _____ 3/14/2016 Date: _____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 3500-Cr B
TEST NAME: Hexavalent Chromium by Colorimetric Method
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in ug/L, in the original sample as follows:

Hexavalent Chromium, ug/L = A * DF

Where:

A= ug/L, UV-VIS Hexavalent Chromium calculated concentration

DF= dilution factor

For **N018845-003A,** concentration in ug/L is calculated as follows:

Hexavalent Chromium, ug/L = 615.566 * 1

= 615.566 ug/L

Reporting result in 2 significant figures,

Hexavalent Chromium, ug/L = 620

3/14/2016

INITIAL CALIBRATION DATA SUMMARY

THERMO SPECTRONIC ~ VISION32 SOFTWARE V1.25

Operator Name	(None Entered)		
Department	(None Entered)	Date of Report	3/10/2016
Organisation	(None Entered)	Time of Report	9:03:43
Information	(None Entered)		

Calibration - EPA 3500_CRB_03102016.fqc

Operator Name	(None Entered)
Instrument ID	152119

Calibration Method - EPA 3500_CRB_03102016.fqc

Description	Hexavalent Chromium by EPA 3500_CRB (Colorimetric)		
Operator Name	QBM		
Quant Mode	Single Lambda	Standards	5
Lambda 1	540.0 nm	Replicates	1
Lambda 2	Off	Initial Curve Fit	Linear
Lambda 3	Off	Conc. Units	ug/L
Integ. Time	00:00:01	Conc. Dec. Places	3
Lamp Change	325.0 nm	Flier Detection	Off
Bandwidth	2.0 nm	Valid Until	3/10/2017
Method Status	Unlocked		

Standards Table - EPA 3500_CRB_03102016.fqc

Standard	Conc.	Use	540.0nm	Errors
Standard01				
	10.000	Yes	0.008	None
Standard02				
	100.000	Yes	0.081	None
Standard03				
	250.000	Yes	0.202	None
Standard04				
	500.000	Yes	0.401	None
Standard05				
	1000.000	Yes	0.772	None

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.

Errors Key

None : No Errors Detected
I : Invalid Data

Calibration Line / Curve Statistics

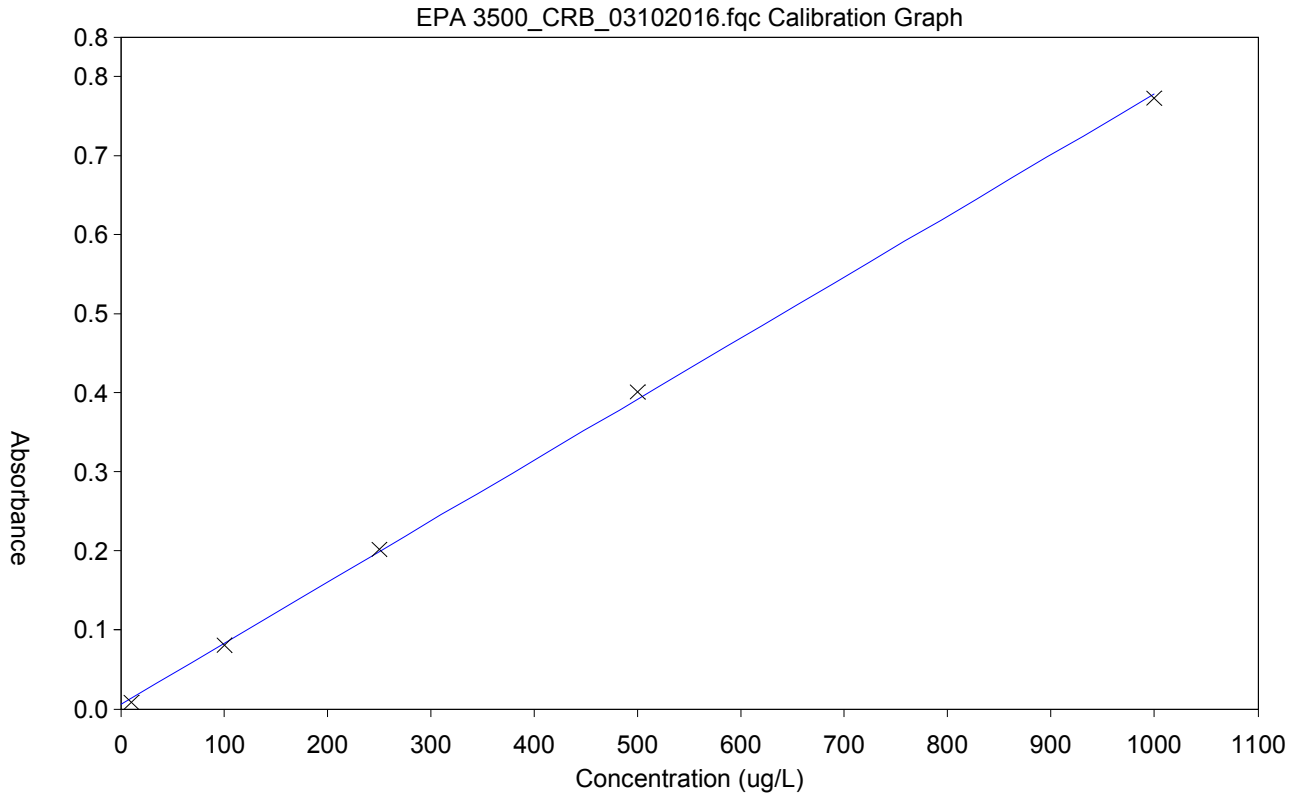
Equation	A = 0.0008 x Conc + 0.0060
Selected Fit	Linear

THERMO SPECTRONIC ~ VISION32 SOFTWARE V1.25

Operator Name	(None Entered)		
Department	(None Entered)	Date of Report	3/10/2016
Organisation	(None Entered)	Time of Report	9:03:43
Information	(None Entered)		

Coefficient	0.999584
Sum of Residuals	0.0002

Calibration Graph



ICAL: IWST160310A
ICV/LCS/MS/MSD: IWST160119A
CCV: ISST150306A
10% H2SO4: R151214G
1,5-Diphenylcarbazide Solution: R160310D

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID **CCV-1** SampType: **CCV** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **CCV** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	513.353	10	500.0	0	103	90	110				

Sample ID **ICV** SampType: **ICV** TestCode: **3500_CrBPG** Units: **µg/L** Prep Date: RunNo: **106391**
Client ID: **ICV** Batch ID: **R106391** TestNo: **SM 3500-Cr B** Analysis Date: **3/10/2016** SeqNo: **2264157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	255.776	10	250.0	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 3500_CrBPGE

Sample ID	CCB-1	SampType:	CCB	TestCode:	3500_CrBPG	Units:	µg/L	Prep Date:		RunNo:	106391
Client ID:	CCB	Batch ID:	R106391	TestNo:	SM 3500-Cr B			Analysis Date:	3/10/2016	SeqNo:	2264154

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	-6.224	10									

Sample ID	ICB	SampType:	ICB	TestCode:	3500_CrBPG	Units:	µg/L	Prep Date:		RunNo:	106391
Client ID:	ICB	Batch ID:	R106391	TestNo:	SM 3500-Cr B			Analysis Date:	3/10/2016	SeqNo:	2264156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	-6.72	10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Calibration Method - EPA 3500_CRB_03102016.fqc 3/10/2016 21:03

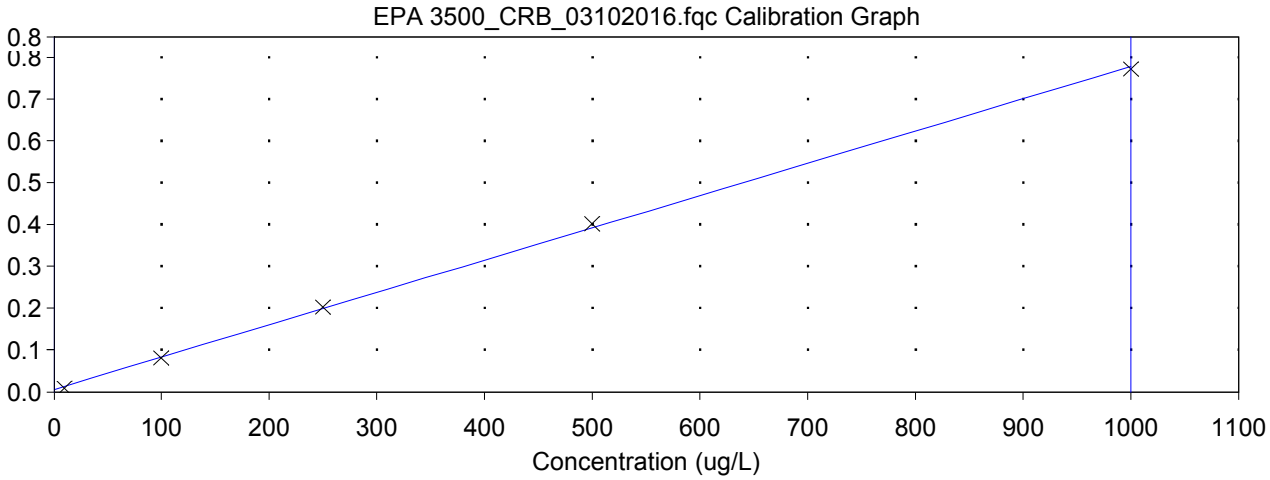
Description	Hexavalent Chromium by EPA 3500_CRB (Colorimetric)		
Operator Name	QBM		
Quant Mode	Single Lambda	Standards	5
Lambda 1	540.0 nm	Replicates	1
Lambda 2	Off	Initial Curve Fit	Linear
Lambda 3	Off	Conc. Units	ug/L
Integ. Time	00:00:01	Conc. Dec. Places	3
Lamp Change	325.0 nm	Flier Detection	Off
Bandwidth	2.0 nm	Valid Until	3/10/2017
Method Status	Unlocked		

Calibration Line / Curve Statistics

Equation	A = 0.0008 x Conc + 0.0060
Selected Fit	Linear
Coefficient	0.999584
Sum of Residuals	0.0002

Standard	Conc.	Use	540.0nm	Errors
Standard01	10.000	Yes	0.008	None
Standard02	100.000	Yes	0.081	None
Standard03	250.000	Yes	0.202	None
Standard04	500.000	Yes	0.401	None
Standard05	1000.000	Yes	0.772	None

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.



Batch : Hexavalent Chromium_03102016001.qre

	Sample	540.0nm	Conc.	Errors
1	,ICV,ICV,1,	0.203	255.776	None
2	,ICB,ICB,1,	0.001	-6.720	I
3	,MB-,MBLK,1,	0.001	-6.706	I
4	,LCS-,LCS,1,	0.082	97.934	None
5	,N018845-003A,SAMP,1,	0.481	615.566	None
6	,N018845-004A,SAMP,1,	0.474	606.558	None
7	,N018845-005A,SAMP,100,	0.292	370.887	None
8	,N018845-005AMS,MS,100,	0.486	622.712	None
9	,N018845-005AMSD,MSD,100,	0.487	623.637	None
10	,N018919-001D,SAMP,1,	0.065	76.803	None
11	,N018919-002D,SAMP,2,	0.324	412.313	None
12	,N018919-002DDUP,DUP,2,	0.323	411.461	None
13	,CCV-1,CCV,1,	0.402	513.353	None
14	,CCB-1,CCB,1,	0.001	-6.224	I

ICAL: IWST160310A
ICV/LCS/MS/MSD: IWST160119A
CCV: ISST150306A
10% H2SO4: R151214G
1,5-Diphenylcarbazide Solution: R160310D

All calculations have been performed to double precision as defined by ANSI/IEEE STD 754-1985 but have been rounded for display purposes.

3/14/2016

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106333 **Analyst:** REB

ASSET #: N018845 **Date Analyzed:** 3/7/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/10/2016 Date: —

2nd Level Reviewer Nancy 3/10/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018845-001C**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 1.4520*1

= 1.4520 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 1.5

Rob 3/10/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

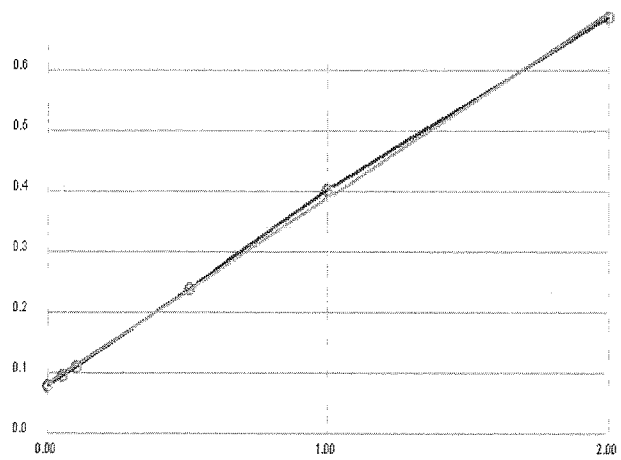
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3062x + 0.0814
Correlation	.999507



Calibrant	Energy	Set	Conc
1	0.0777	0.0000	-0.0122
2	0.0944	0.0500	0.0424
3	0.1086	0.1000	0.0888
4	0.2378	0.5000	0.5107
5	0.4012	1.0000	1.0444
6	0.6864	2.0000	1.9759

Notes:
R1 Buffer - R160217C
R2 Cadmium Rgt - R160217D
2% CuSO4 - R160217B
1° STD - 150206D
2° STD - 150730E

Reb 3/10/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ICV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.551	0.050	0.5000	0	110	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.516	0.050	0.5000	0	103	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.491	0.050	0.5000	0	98.2	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCV** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.483	0.050	0.5000	0	96.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **ICB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106333**
Client ID: **CCB** Batch ID: **R106333** TestNo: **SM4500-NO3** Analysis Date: **3/7/2016** SeqNo: **2258497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-07-2016 18:42
Time end: 03-07-2016 21:34

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	20:54:20	-0.0011		0.0811
2	<BLANK>	20:55:19	-0.0037		0.0803
3	<CAL1>	20:56:14	-0.0122	[0]	0.0777
4	<CAL2>	20:57:16	0.0424	[0.05]	0.0944
5	<CAL3>	20:58:11	0.0888	[0.1]	0.1086
6	<CAL4>	20:59:11	0.5107	[0.5]	0.2378
7	<CAL5>	21:00:07	1.0444	[1]	0.4012
8	<CAL6>	21:01:02	1.9759	[2]	0.6864
9	,BLANK,BLANK,1,	21:02:04	0.0310		0.0909
10	,ICV,ICV,1,	21:02:58	0.5506		0.2500
11	,ICB,ICB,1,	21:03:53	-0.0056		0.0797
12	,MB-H2O,MBLK,1,	21:04:55	-0.0108		0.0781
13	,LCS-H2O,LCS,1,	21:05:49	0.5003		0.2346
14	,N018843-001E,SAMP,1,	21:06:50	0.5604		0.2530
15	,N018843-001EDUP,DUP,1,	21:07:46	0.5391		0.2465
16	,N018843-001EMS,MS,1,	21:08:42	1.0764		0.4110
17	,N018843-001EMSD,MSD,1,	21:09:42	1.0754		0.4107
18	,N018843-002E,SAMP,1,	21:10:37	0.5104		0.2377
19	,N018843-003E,SAMP,1,	21:11:33	0.5196		0.2405
20	,N018843-004E,SAMP,1,	21:12:33	0.5215		0.2411
21	,BLANK,BLANK,1	21:13:28	-0.0024		0.0807
22	,CCV-1,CCV,1,	21:14:30	0.5163		0.2395
23	,CCB-1,CCB,1,	21:15:25	-0.0066		0.0794
24	,N018843-005E,SAMP,1,	21:16:25	0.4761		0.2272
25	,N018843-006E,SAMP,1,	21:17:21	0.5196		0.2405
26	,N018843-007E,SAMP,1,	21:18:16	0.5186		0.2402

			EPA 353.2 NO3 as N ppm	Flags	OD
27	,N018843-008E,SAMP,1,	21:19:04	0.5039		0.2357
28	,N018843-009E,SAMP,1,	21:19:48	1.0640		0.4072
29	,N018843-010E,SAMP,1,	21:20:37	0.5173		0.2398
30	,N018845-001C,SAMP,1,	21:21:19	1.4520		0.5260
31	,N018845-002C,SAMP,1,	21:22:02	0.1012		0.1124
32	,N018845-003C,SAMP,20,	21:22:50	0.9807		0.3817
33	,BLANK,BLANK,1	21:23:34	0.0117		0.0850
34	,CCV-2,CCV,1,	21:24:22	0.4911		0.2318
35	,CCB-2,CCB,1,	21:25:05	-0.0184		0.0758
36	,N018845-004C,SAMP,10,	21:25:47	1.8919		0.6607
37	,N018845-005C,SAMP,50,	21:26:36	0.6224		0.2720
38	,N018845-006C,SAMP,20,	21:27:20	0.5705		0.2561
39	,N018845-007C,SAMP,5,	21:28:02	1.3635		0.4989
40	,N018845-008C,SAMP,1,	21:28:51	0.0087		0.0841
41	,N018845-009C,SAMP,1,	21:29:33	0.1629		0.1313
42	,N018845-010C,SAMP,1,	21:30:17	-0.0020		0.0808
43	,BLANK,BLANK,1	21:31:05	-0.0291		0.0725
44	,CCV-3,CCV,1,	21:31:48	0.4833		0.2294
45	,CCB-3,CCB,1,	21:32:31	-0.0233		0.0743

Reb 3/10/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/7/2016
Time Analyzed: 06:42 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018843-001E		8.77						
2)	N018843-002E		8.57						
3)	N018843-003E		7.48						
4)	N018843-004E		8.31						
5)	N018843-005E		8.43						
6)	N018843-006E		8.40						
7)	N018843-007E		8.70						
8)	N018843-008E		8.76						
9)	N018843-009E		7.90						
10)	N018843-010E		8.84						
11)	N018845-001C		8.04						
12)	N018845-002C		8.79						
13)	N018845-003C		8.52						
14)	N018845-004C		8.76						
15)	N018845-005C		8.84						
16)	N018845-006C		7.94						
17)	N018845-007C		8.47						
18)	N018845-008C		7.62						
19)	N018845-009C		7.86						
20)	N018845-010C		8.56						
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/10/2016

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018845

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)		X				
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X				
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Cr in LLCCV2 failed, high bias. Cr in N018845-001B to 008B for rerun.
%Rec of IS in N018861-007B, PS/MS/MSD & N018845-001B to 008B is failing. As, Mn, Mo & Se for rerun.
%Rec of Cr in N018861-007B PS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date:

2nd Level Reviewer 3/14/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018845

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For N018845-001B run only.
For rerun of Cr in N018845-001B only.
%Rec of Ge [2] & Rh [2] IS in N018845-001B & Rh [2] in N018861-007B PS/MS/MSD failed. For further dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/11/2016 Date: _____

2nd Level Reviewer _____ 3/14/2016 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56426
ASSET #: N018845

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For N018845-009B & 010B only.
%Rec of Ge [2]/[1] & Rh [2] in N018845-009B PS/MS/MSD failed. For rerun.
Mn in N018845-009B & 010B is over linear range. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date:

2nd Level Reviewer 3/14/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018845

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/8/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For As, Cr, Mn, Mo & Se in N018845-002B to 008B rerun only.
For Mo in N018861-007B PS/MS/MSD rerun only.
%Rec of Mo in N018861-007B PS/MSD failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/11/2016 Date: _____

2nd Level Reviewer _____ 3/14/2016 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56426
ASSET #: N018845

Instrument ID: ICPMS-02
Analyst: CEI

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Date Analyzed: 3/8/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Mn in N018845-009B & 010B & As, Se & Mo in N0018845-009B PS/MS/MSD dilution & rerun only.
%Rec of Mn in N018845-009B PS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date: —

2nd Level Reviewer 3/14/2016 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018845

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/9/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits			X			
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Se & Mo in N018845-001B rerun only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/11/2016 Date: –

2nd Level Reviewer 3/14/2016 Date: –

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018845-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 1.61359 * 5 * (25/25)

Chromium , ug/L = 8.067961

Reporting results in two significant figures,

Chromium , ug/L = 8.1

% RSD SUMMARY

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.098	8.75	15	PASS	0.064	6.65	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	1.81	15	PASS	0.46	1.93	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.72	15	PASS	5	0.49	15	PASS
Std4-10/100 ppb	ICAL	1	10.098	0.3	15	PASS	10.0032	0.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.95	0.4	15	PASS	19.68	0.44	15	PASS
Std6-40/400 ppb	ICAL	1	39.77	0.53	15	PASS	39.12	0.31	15	PASS
Std7-100/1000 ppb	ICAL	1	100.69	1.42	15	PASS	98.18	0.5	15	PASS
Std8-200/2000 ppb	ICAL	1	199.7	0.68	15	PASS	201.12	0.47	15	PASS
ICV	ICV	1	10.34	0.46	15	PASS	97.95	0.43	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.045	0.58	20	PASS	0.49	4.81	20	PASS
ICSA1	ICSA	1	0.17	3.069	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.12	0.63	15	PASS	16.46	1.38	15	PASS
CCV1	CCV	1	20.24	0.99	15	PASS	20.07	0.56	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.38	1.42	15	PASS	20.43	1.43	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.015	16.52	15	<PQL
MB-56419	MBLK	1	0.01	79.39	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	9.63	0.64	15	PASS	94.67	0.79	15	PASS
N018861-007B	SAMP	1	5.58	1.46	15	PASS	18.34	0.17	15	PASS
CCV3	CCV	1	20.16	0.062	15	PASS	20.0093	0.26	15	PASS
CCB3	CCB	1	0.0025	310.52	15	<PQL	0.00054	829.95	15	<PQL
N018861-007B	SAMP	5	1.11	2.23	15	PASS	4.76	0.67	15	PASS
N018861-007B-PS	PS	1	13.57	0.18	15	PASS	96.32	0.16	15	PASS
N018861-007B-MS	MS	1	13.9	0.39	15	PASS	97.24	0.51	15	PASS
N018861-007B-MSD	MSD	1	13.71	1.017	15	PASS	97.13	0.83	15	PASS
N018843-001B	SAMP	1	0.058	15.33	15	<PQL	<0.000	N/A	15	<PQL
N018843-002B	SAMP	1	0.014	31.64	15	<PQL	<0.000	N/A	15	<PQL
N018843-003B	SAMP	1	0.058	9.39	15	PASS	<0.000	N/A	15	<PQL
N018843-004B	SAMP	1	0.028	24.28	15	<PQL	<0.000	N/A	15	<PQL
N018843-005B	SAMP	1	0.096	6.52	15	PASS	<0.000	N/A	15	<PQL
N018843-006B	SAMP	1	0.017	37.37	15	<PQL	<0.000	N/A	15	<PQL
CCV4	CCV	1	20.098	1.071	15	PASS	20.005	0.87	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.013	45.073	15	<PQL
LLCCV1	CCV2	1	1.014	2.92	20	PASS	0.49	5.23	20	PASS
ICSA2	ICSA	1	0.16	5.75	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	19.74	0.54	15	PASS	16.35	1.29	15	PASS
N018843-007B	SAMP	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018843-008B	SAMP	1	0.023	17.34	15	<PQL	<0.000	N/A	15	<PQL
N018843-009B	SAMP	1	0.0069	81.59	15	<PQL	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	0.037	25.97	15	<PQL	<0.000	N/A	15	<PQL
N018843-010B-MS	MS	1	9.22	0.74	15	PASS	90.38	1.059	15	PASS
N018844-001B	SAMP	1	0.027	18.2	15	<PQL	0.4	5.47	15	PASS
N018845-001B	SAMP	1	7.2	0.92	15	PASS	9.44	1.29	15	PASS
N018845-002B	SAMP	1	0.4	2.97	15	PASS	73.69	0.55	15	PASS
N018845-003B	SAMP	1	625.83	1.16	15	PASS	2.038	2.39	15	PASS
N018845-004B	SAMP	1	625.71	0.67	15	PASS	1.98	1.46	15	PASS
CCV5	CCV	1	20.09	0.9	15	PASS	19.89	0.53	15	PASS
CCB5	CCB	1	0.032	17.27	15	<PQL	<0.000	N/A	15	<PQL
N018845-006B	SAMP	1	146.96	1.27	15	PASS	8.029	1.41	15	PASS
N018845-007B	SAMP	1	475.68	1.025	15	PASS	26.67	1.064	15	PASS
N018845-008B	SAMP	1	0.27	4.6	15	PASS	210.86	0.24	15	PASS
N018845-005B	SAMP	1	36331.98	0.5	15	PASS	<0.000	N/A	15	<PQL
CCV6	CCV	1	27.92	1.98	15	PASS	20.085	1.63	15	PASS
CCB6	CCB	1	4.053	14.037	15	PASS	0.0032	114.36	15	<PQL
LLCCV2	CCV2	1	3.027	7.16	20	PASS	0.48	4.33	20	PASS
ICSA3	ICSA	1	1.58	10.41	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.66	1.27	15	PASS	16.51	1.12	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	19.59	15	<PQL	0.1	26.28	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.48	5.026	15	PASS	0.47	8.85	15	PASS
Std3-5/50 ppb	ICAL	1	5.053	0.78	15	PASS	4.98	3.95	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	1.91	15	PASS	10.25	2.89	15	PASS
Std5-20/200 ppb	ICAL	1	20.27	0.95	15	PASS	20.73	1.38	15	PASS
Std6-40/400 ppb	ICAL	1	40.24	1.38	15	PASS	40.54	0.69	15	PASS
Std7-100/1000 ppb	ICAL	1	100.75	0.86	15	PASS	100.44	1.19	15	PASS
Std8-200/2000 ppb	ICAL	1	199.53	0.85	15	PASS	199.59	0.88	15	PASS
ICV	ICV	1	9.96	3.61	15	PASS	10.16	3.87	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.025	68.0016	15	<PQL
LLICV	CCV1	1	0.11	9.71	20	PASS	0.49	11.65	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.028	26.29	15	<PQL
ICSAB1	ICSAB	1	20.2	0.5	15	PASS	19.28	1.34	15	PASS
CCV1	CCV	1	20.27	1.71	15	PASS	20.13	1.29	15	PASS
CCB1	CCB	1	0.0063	21.16	15	<PQL	0.019	48.038	15	<PQL
CCV2	CCV	1	20.1	0.93	15	PASS	20.039	1.27	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.0073	195.95	15	<PQL
MB-56419	MBLK	1	0.0039	201.76	15	<PQL	0.0034	356.98	15	<PQL
LCS-56419	LCS	1	9.18	0.63	15	PASS	8.65	3.94	15	PASS
N018861-007B	SAMP	1	14.59	0.43	15	PASS	0.25	18.33	15	<PQL
CCV3	CCV	1	20.31	1.19	15	PASS	20.2	3	15	PASS
CCB3	CCB	1	0.0024	199.86	15	<PQL	0.0051	287.87	15	<PQL
N018861-007B	SAMP	5	3.2	0.74	15	PASS	0.078	20.65	15	<PQL
N018861-007B-PS	PS	1	23.057	0.57	15	PASS	8.47	3.74	15	PASS
N018861-007B-MS	MS	1	23.25	0.29	15	PASS	8.56	4.42	15	PASS
N018861-007B-MSD	MSD	1	23.44	0.35	15	PASS	8.25	5.17	15	PASS
N018843-001B	SAMP	1	2.3	1.24	15	PASS	1.69	9.9	15	PASS
N018843-002B	SAMP	1	2.36	1.94	15	PASS	1.83	3.35	15	PASS
N018843-003B	SAMP	1	2.29	3.16	15	PASS	1.58	4.26	15	PASS
N018843-004B	SAMP	1	2.28	1.83	15	PASS	1.72	9.73	15	PASS
N018843-005B	SAMP	1	2.52	3.28	15	PASS	1.86	4.15	15	PASS
N018843-006B	SAMP	1	2.27	2	15	PASS	1.69	6.77	15	PASS
CCV4	CCV	1	20.37	0.54	15	PASS	20.8	2.25	15	PASS
CCB4	CCB	1	0.0012	56.32	15	<PQL	0.006	179.56	15	<PQL
LLCCV1	CCV2	1	0.098	16.56	20	PASS	0.5	13.31	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.023	80	15	<PQL
ICSAB2	ICSAB	1	20.37	0.37	15	PASS	19.51	1.44	15	PASS
N018843-007B	SAMP	1	2.32	1.26	15	PASS	1.74	5.65	15	PASS
N018843-008B	SAMP	1	2.41	2.52	15	PASS	1.68	6.45	15	PASS
N018843-009B	SAMP	1	2.31	3	15	PASS	1.61	7.92	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	2.21	1.89	15	PASS	1.58	9.043	15	PASS
N018843-010B-MS	MS	1	12.0013	0.62	15	PASS	10.7	1.47	15	PASS
N018844-001B	SAMP	1	2.33	2.17	15	PASS	1.59	5.075	15	PASS
N018845-001B	SAMP	1	5.86	0.31	15	PASS	0.46	13.82	15	PASS
N018845-002B	SAMP	1	5.0056	2.062	15	PASS	0.66	16.86	15	NR!
N018845-003B	SAMP	1	2.38	1.91	15	PASS	12.26	3.033	15	PASS
N018845-004B	SAMP	1	2.34	1.31	15	PASS	11.79	1.35	15	PASS
CCV5	CCV	1	20.62	1.48	15	PASS	20.45	2.34	15	PASS
CCB5	CCB	1	0.00014	4234.47	15	<PQL	0.0051	290.48	15	<PQL
N018845-006B	SAMP	1	0.55	4.9	15	PASS	7.11	5.76	15	PASS
N018845-007B	SAMP	1	2.094	5.48	15	PASS	4.42	4.028	15	PASS
N018845-008B	SAMP	1	14.2	1.47	15	PASS	0.076	34.29	15	<PQL
N018845-005B	SAMP	1	2.74	1.76	15	PASS	17.31	2.37	15	PASS
CCV6	CCV	1	20.39	0.54	15	PASS	20.61	0.84	15	PASS
CCB6	CCB	1	0.0051	292.0053	15	<PQL	0.024	63.98	15	<PQL
LLCCV2	CCV2	1	0.083	24.88	20	<PQL	0.5	3.6	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.024	100.78	15	<PQL
ICSAB3	ICSAB	1	20.35	0.75	15	PASS	19.19	1.78	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	200.0022	1.13	15	PASS
ICV	ICV	1	9.54	0.89	15	PASS
ICB	ICB	1	0.27	4.45	15	PASS
LLICV	CCV1	1	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	23.2	0.96	15	PASS
CCV1	CCV	1	19.89	1.67	15	PASS
CCB1	CCB	1	0.11	5.59	15	PASS
CCV2	CCV	1	19.97	1.33	15	PASS
CCB2	CCB	1	0.11	12.11	15	PASS
MB-56419	MBLK	1	0.23	6.7	15	PASS
LCS-56419	LCS	1	9.93	0.7	15	PASS
N018861-007B	SAMP	1	86.49	0.81	15	PASS
CCV3	CCV	1	20.37	0.56	15	PASS
CCB3	CCB	1	0.17	16.46	15	<PQL
N018861-007B	SAMP	5	16.16	0.96	15	PASS
N018861-007B-PS	PS	1	93.56	0.25	15	PASS
N018861-007B-MS	MS	1	96.13	1.43	15	PASS
N018861-007B-MSD	MSD	1	95.14	1.54	15	PASS
N018843-001B	SAMP	1	5.81	1.68	15	PASS
N018843-002B	SAMP	1	5.63	1.47	15	PASS
N018843-003B	SAMP	1	5.4	0.53	15	PASS
N018843-004B	SAMP	1	5.26	2.46	15	PASS
N018843-005B	SAMP	1	5.84	1.49	15	PASS
N018843-006B	SAMP	1	5.13	1.097	15	PASS
CCV4	CCV	1	20.039	1.18	15	PASS
CCB4	CCB	1	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	23.23	0.89	15	PASS
N018843-007B	SAMP	1	5.33	1.65	15	PASS
N018843-008B	SAMP	1	5.53	2.91	15	PASS
N018843-009B	SAMP	1	5.45	0.54	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	5.25	0.92	15	PASS
N018843-010B-MS	MS	1	16.093	0.54	15	PASS
N018844-001B	SAMP	1	5.35	1.037	15	PASS
N018845-001B	SAMP	1	61.99	1.061	15	PASS
N018845-002B	SAMP	1	82.24	0.6	15	PASS
N018845-003B	SAMP	1	90.83	1.63	15	PASS
N018845-004B	SAMP	1	92.85	0.49	15	PASS
CCV5	CCV	1	20.19	0.37	15	PASS
CCB5	CCB	1	0.12	1.077	15	PASS
N018845-006B	SAMP	1	32.58	0.79	15	PASS
N018845-007B	SAMP	1	38.82	0.97	15	PASS
N018845-008B	SAMP	1	41.68	1.16	15	PASS
N018845-005B	SAMP	1	56.78	0.94	15	PASS
CCV6	CCV	1	20.16	0.61	15	PASS
CCB6	CCB	1	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.091	12.56	15	PASS	0.11	11.33	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	3.7	15	PASS	0.47	5.13	15	PASS
Std3-5/50 ppb	ICAL	1	4.77	0.77	15	PASS	4.83	2.7	15	PASS
Std4-10/100 ppb	ICAL	1	9.67	0.96	15	PASS	9.85	1.16	15	PASS
Std5-20/200 ppb	ICAL	1	19.43	0.53	15	PASS	19.44	0.57	15	PASS
Std6-40/400 ppb	ICAL	1	39.61	0.32	15	PASS	39.61	0.77	15	PASS
Std7-100/1000 ppb	ICAL	1	98.96	1.42	15	PASS	99.78	0.59	15	PASS
Std8-200/2000 ppb	ICAL	1	200.68	1.059	15	PASS	200.26	0.45	15	PASS
ICV	ICV	1	10.3	1.34	15	PASS	100.89	0.77	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.0012	473.087	15	<PQL
LLICV	CCV1	1	0.98	2.35	20	PASS	0.51	2.72	20	PASS
ICSA1	ICSA	1	0.18	11.48	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	21.11	0.63	15	PASS	17.82	1.49	15	PASS
LLICV	CCV1	1	0.95	2.68	20	PASS	0.51	1.89	20	PASS
CCV1	CCV	1	19.35	1.66	15	PASS	19.16	0.86	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	19.46	0.25	15	PASS	19.16	0.67	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.97	0.43	20	PASS	0.52	4.17	20	PASS
ICSA2	ICSA	1	0.18	2.73	15	PASS	<0.000	N/A	15	<PQL
ICSAB	ICSAB	1	22.97	0.87	15	PASS	19.58	0.58	15	PASS
CCV3	CCV	1	19.55	0.94	15	PASS	19.16	1.54	15	PASS
CCB3	CCB	1	0.017	24.72	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	0.0063	23.58	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	10.25	0.95	15	PASS	100.056	0.76	15	PASS
N018861-007B	SAMP	1	5.49	0.67	15	PASS	23.46	1.13	15	PASS
N018861-007B	SAMP	5	1.13	1.84	15	PASS	4.9	0.98	15	PASS
N018861-007B	SAMP	25	0.23	2.11	15	PASS	1.026	3.53	15	PASS
N018861-007B-PS	PS	1	14.15	1.33	15	PASS	106.088	1.78	15	PASS
N018861-007B-PS	PS	5	3.089	0.48	15	PASS	23.29	0.8	15	PASS
CCV4	CCV	1	19.26	1.36	15	PASS	19.17	1.43	15	PASS
CCB4	CCB	1	0.0049	48.31	15	<PQL	<0.000	N/A	15	<PQL
N018861-007B-MS	MS	1	14.29	1.38	15	PASS	108.48	0.35	15	PASS
N018861-007B-MS	MS	5	3.15	1.33	15	PASS	24.057	0.74	15	PASS
N018861-007B-MSD	MSD	1	14.088	0.52	15	PASS	106.24	0.17	15	PASS
N018861-007B-MSD	MSD	5	3.17	0.85	15	PASS	24.1	0.45	15	PASS
N018843-001B	SAMP	1	0.1	6.11	15	PASS	0.037	161.79	15	<PQL
N018843-002B	SAMP	1	0.026	9.66	15	PASS	<0.000	N/A	15	<PQL
N018843-003B	SAMP	1	0.086	5.48	15	PASS	<0.000	N/A	15	<PQL
N018843-004B	SAMP	1	0.057	11.56	15	PASS	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	0.12	9.069	15	PASS	<0.000	N/A	15	<PQL
N018843-006B	SAMP	1	0.033	14.029	15	PASS	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.32	0.61	15	PASS	19.019	0.95	15	PASS
CCB5	CCB	1	0.00096	269.0022	15	<PQL	<0.000	N/A	15	<PQL
N018843-007B	SAMP	1	0.021	15.0079	15	<PQL	<0.000	N/A	15	<PQL
N018843-008B	SAMP	1	0.042	25.72	15	<PQL	<0.000	N/A	15	<PQL
N018843-009B	SAMP	1	0.065	7.48	15	PASS	<0.000	N/A	15	<PQL
N018843-010B	SAMP	1	0.074	8.6	15	PASS	0.064	39.21	15	<PQL
N018843-010B	SAMP	5	0.011	50.94	15	<PQL	0.037	40.29	15	<PQL
N018843-010B-MS	MS	1	10.089	0.52	15	PASS	96.83	0.75	15	PASS
N018843-010B-MSD	MSD	1	2.1	4.18	15	PASS	20.29	2.085	15	PASS
N018844-001B	SAMP	1	0.13	15.034	15	<PQL	0.54	5.93	15	PASS
N018845-001B	SAMP	1	7.93	0.9	15	PASS	10.17	1.46	15	PASS
N018845-001B	SAMP	5	1.61	0.41	15	PASS	2.078	1.63	15	PASS
CCV6	CCV	1	19.29	0.92	15	PASS	19.16	0.48	15	PASS
CCB6	CCB	1	0.001	157.92	15	<PQL	<0.000	N/A	15	<PQL
LLCCV2	CCV2	1	0.98	2.22	20	PASS	0.5	2.83	20	PASS
ICSA3	ICSA	1	0.17	3.89	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	22.31	0.34	15	PASS	19.56	1.073	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	7.61	15	PASS	0.08	14.54	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	5.78	15	PASS	0.45	21.93	15	<PQL
Std3-5/50 ppb	ICAL	1	4.61	0.53	15	PASS	4.89	5.2	15	PASS
Std4-10/100 ppb	ICAL	1	9.34	0.24	15	PASS	9.39	1.53	15	PASS
Std5-20/200 ppb	ICAL	1	19.074	0.36	15	PASS	18.96	1.43	15	PASS
Std6-40/400 ppb	ICAL	1	38.77	1.44	15	PASS	38.14	1.73	15	PASS
Std7-100/1000 ppb	ICAL	1	98.11	0.15	15	PASS	99.74	1.33	15	PASS
Std8-200/2000 ppb	ICAL	1	201.33	0.41	15	PASS	200.64	0.52	15	PASS
ICV	ICV	1	10.19	0.55	15	PASS	10.16	0.99	15	PASS
ICB	ICB	1	0.013	36.76	15	<PQL	0.0022	513.46	15	<PQL
LLICV	CCV1	1	0.11	9.27	20	PASS	0.47	3.67	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.012	69.51	15	<PQL
ICSAB1	ICSAB	1	20.82	0.43	15	PASS	19.099	0.85	15	PASS
LLICV	CCV1	1	0.12	13.99	20	PASS	0.53	9.27	20	PASS
CCV1	CCV	1	18.95	0.74	15	PASS	19.014	0.87	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0023	134.48	15	<PQL
CCV2	CCV	1	19.3	0.33	15	PASS	18.79	2.039	15	PASS
CCB2	CCB	1	0.0018	492.88	15	<PQL	0.0008	1086.091	15	<PQL
LLCCV1	CCV2	1	0.1	16.55	20	PASS	0.53	10.86	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.0071	125.66	15	<PQL
ICSAB	ICSAB	1	21.49	0.75	15	PASS	21.1	2.79	15	PASS
CCV3	CCV	1	19.25	1.74	15	PASS	18.86	1.96	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	10.35	0.37	15	PASS	10.17	2.96	15	PASS
N018861-007B	SAMP	1	14.7	2	15	PASS	0.27	6.36	15	PASS
N018861-007B	SAMP	5	3.26	1.096	15	PASS	0.031	34.69	15	<PQL
N018861-007B	SAMP	25	0.64	4.75	15	PASS	0.0077	123.52	15	<PQL
N018861-007B-PS	PS	1	22.53	1.34	15	PASS	7.98	2.12	15	PASS
N018861-007B-PS	PS	5	5.047	2.45	15	PASS	1.7	4.78	15	PASS
CCV4	CCV	1	18.97	1.4	15	PASS	19.14	0.83	15	PASS
CCB4	CCB	1	0.0028	105.69	15	<PQL	<0.000	N/A	15	<PQL
N018861-007B-MS	MS	1	22.81	1.12	15	PASS	7.95	6.053	15	PASS
N018861-007B-MS	MS	5	5.21	2.18	15	PASS	1.89	14.94	15	PASS
N018861-007B-MSD	MSD	1	22.46	2.25	15	PASS	8.24	4.59	15	PASS
N018861-007B-MSD	MSD	5	5.25	1.82	15	PASS	1.91	11.65	15	PASS
N018843-001B	SAMP	1	2.26	3.92	15	PASS	1.61	4.12	15	PASS
N018843-002B	SAMP	1	2.37	0.7	15	PASS	1.71	3.48	15	PASS
N018843-003B	SAMP	1	2.36	1.2	15	PASS	1.5	7.39	15	PASS
N018843-004B	SAMP	1	2.26	2.66	15	PASS	1.62	10.8	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	2.5	1.82	15	PASS	1.72	1.79	15	PASS
N018843-006B	SAMP	1	2.26	5.15	15	PASS	1.71	8.57	15	PASS
CCV5	CCV	1	19.11	0.99	15	PASS	18.72	4.0011	15	PASS
CCB5	CCB	1	0.0041	47.71	15	<PQL	<0.000	N/A	15	<PQL
N018843-007B	SAMP	1	2.22	2.73	15	PASS	1.72	2.45	15	PASS
N018843-008B	SAMP	1	2.34	2.12	15	PASS	1.84	1.94	15	PASS
N018843-009B	SAMP	1	2.27	1.52	15	PASS	1.63	10.49	15	PASS
N018843-010B	SAMP	1	2.3	1.94	15	PASS	1.73	6.67	15	PASS
N018843-010B	SAMP	5	0.51	2.34	15	PASS	0.39	14.74	15	PASS
N018843-010B-MS	MS	1	12.29	1.82	15	PASS	10.41	0.16	15	PASS
N018843-010B-MSD	MSD	1	2.56	3.12	15	PASS	2.45	4.18	15	PASS
N018844-001B	SAMP	1	2.34	3.4	15	PASS	1.67	15.55	15	NR!
N018845-001B	SAMP	1	5.69	0.18	15	PASS	0.42	5.94	15	PASS
N018845-001B	SAMP	5	1.28	0.92	15	PASS	0.078	23.41	15	<PQL
CCV6	CCV	1	19.086	0.83	15	PASS	18.87	1.59	15	PASS
CCB6	CCB	1	0.0029	151.5	15	<PQL	0.011	93.92	15	<PQL
LLCCV2	CCV2	1	0.1	6.54	20	PASS	0.53	13.83	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.021	86.68	15	<PQL
ICSAB3	ICSAB	1	21.53	1.7	15	PASS	20.039	1.043	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.084	7.039	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.87	15	PASS
Std3-5/50 ppb	ICAL	1	4.73	0.66	15	PASS
Std4-10/100 ppb	ICAL	1	9.51	1.54	15	PASS
Std5-20/200 ppb	ICAL	1	18.97	0.25	15	PASS
Std6-40/400 ppb	ICAL	1	38.98	0.19	15	PASS
Std7-100/1000 ppb	ICAL	1	98.95	0.32	15	PASS
Std8-200/2000 ppb	ICAL	1	200.86	0.078	15	PASS
ICV	ICV	1	10.97	2.027	15	PASS
ICB	ICB	1	0.23	5.02	15	PASS
LLICV	CCV1	1	0.55	3.11	20	PASS
ICSA1	ICSA	1	0.085	13.41	15	PASS
ICSAB1	ICSAB	1	23.94	1.37	15	PASS
LLICV	CCV1	1	0.55	3.24	20	PASS
CCV1	CCV	1	19.83	0.38	15	PASS
CCB1	CCB	1	0.19	4.59	15	PASS
CCV2	CCV	1	18.93	0.68	15	PASS
CCB2	CCB	1	0.072	6.68	15	PASS
LLCCV1	CCV2	1	0.5	3.56	20	PASS
ICSA2	ICSA	1	0.039	21.64	15	<PQL
ICSAB	ICSAB	1	23.54	0.75	15	PASS
CCV3	CCV	1	19.28	1.089	15	PASS
CCB3	CCB	1	0.093	19.67	15	<PQL
MB-56419	MBLK	1	0.071	19.35	15	<PQL
LCS-56419	LCS	1	10.31	0.85	15	PASS
N018861-007B	SAMP	1	89.46	1.76	15	PASS
N018861-007B	SAMP	5	16.65	1.18	15	PASS
N018861-007B	SAMP	25	3.25	3.27	15	PASS
N018861-007B-PS	PS	1	96.3	1.096	15	PASS
N018861-007B-PS	PS	5	18.5	1.044	15	PASS
CCV4	CCV	1	18.99	1.21	15	PASS
CCB4	CCB	1	0.097	7.72	15	PASS
N018861-007B-MS	MS	1	97.85	0.66	15	PASS
N018861-007B-MS	MS	5	19.4	0.76	15	PASS
N018861-007B-MSD	MSD	1	96.4	0.63	15	PASS
N018861-007B-MSD	MSD	5	19.46	1.74	15	PASS
N018843-001B	SAMP	1	5.57	0.69	15	PASS
N018843-002B	SAMP	1	5.63	1.15	15	PASS
N018843-003B	SAMP	1	5.44	2.73	15	PASS
N018843-004B	SAMP	1	5.35	0.44	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N018843-005B	SAMP	1	5.86	0.91	15	PASS
N018843-006B	SAMP	1	5.32	3.091	15	PASS
CCV5	CCV	1	18.98	0.62	15	PASS
CCB5	CCB	1	0.067	5.9	15	PASS
N018843-007B	SAMP	1	5.38	2.41	15	PASS
N018843-008B	SAMP	1	5.56	2.93	15	PASS
N018843-009B	SAMP	1	5.45	1.16	15	PASS
N018843-010B	SAMP	1	5.29	0.99	15	PASS
N018843-010B	SAMP	5	1.037	3.99	15	PASS
N018843-010B-MS	MS	1	16.46	0.89	15	PASS
N018843-010B-MSD	MSD	1	3.28	2.65	15	PASS
N018844-001B	SAMP	1	5.38	1.16	15	PASS
N018845-001B	SAMP	1	62.87	1.23	15	PASS
N018845-001B	SAMP	5	11.89	1.49	15	PASS
CCV6	CCV	1	18.83	0.85	15	PASS
CCB6	CCB	1	0.077	11.44	15	PASS
LLCCV2	CCV2	1	0.5	2.19	20	PASS
ICSA3	ICSA	1	0.043	22.7	15	<PQL
ICSAB3	ICSAB	1	23.54	1.61	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.091	12.56	15	PASS	0.11	11.33	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	3.7	15	PASS	0.47	5.13	15	PASS
Std3-5/50 ppb	ICAL	1	4.77	0.77	15	PASS	4.83	2.7	15	PASS
Std4-10/100 ppb	ICAL	1	9.67	0.96	15	PASS	9.85	1.16	15	PASS
Std5-20/200 ppb	ICAL	1	19.43	0.53	15	PASS	19.44	0.57	15	PASS
Std6-40/400 ppb	ICAL	1	39.61	0.32	15	PASS	39.61	0.77	15	PASS
Std7-100/1000 ppb	ICAL	1	98.96	1.42	15	PASS	99.78	0.59	15	PASS
Std8-200/2000 ppb	ICAL	1	200.68	1.059	15	PASS	200.26	0.45	15	PASS
ICV	ICV	1	10.3	1.34	15	PASS	100.89	0.77	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.0012	473.087	15	<PQL
LLICV	CCV1	1	0.98	2.35	20	PASS	0.51	2.72	20	PASS
ICSA1	ICSA	1	0.18	11.48	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	21.11	0.63	15	PASS	17.82	1.49	15	PASS
LLICV	CCV1	1	0.95	2.68	20	PASS	0.51	1.89	20	PASS
MB-56426	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56426	LCS	1	10.37	0.54	15	PASS	100.8	1.85	15	PASS
N018845-009B	SAMP	1	4.46	0.95	15	PASS	350.23	0.54	15	PASS
N018845-009B	SAMP	5	0.96	1.033	15	PASS	77.16	0.45	15	PASS
N018845-009B-PS	PS	1	13.41	0.65	15	PASS	423.62	0.38	15	PASS
N018845-009B-MS	MS	1	14.76	0.56	15	PASS	433.75	0.8	15	PASS
N018845-009B-MSD	MSD	1	14.74	1.12	15	PASS	435.2	0.4	15	PASS
N018845-010B	SAMP	1	0.099	11.24	15	PASS	216.81	0.52	15	PASS
N018855-001B	SAMP	1	17.83	0.32	15	PASS	9.98	1.74	15	PASS
CCV1	CCV	1	19.35	1.66	15	PASS	19.16	0.86	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018855-002B	SAMP	1	31.29	0.27	15	PASS	33.46	1.28	15	PASS
N018855-003B	SAMP	1	28.43	0.65	15	PASS	5.51	2.3	15	PASS
N018855-004B	SAMP	1	27.24	0.83	15	PASS	5.33	0.82	15	PASS
N018857-019B	SAMP	1	31.23	1.18	15	PASS	<0.000	N/A	15	<PQL
N018833-001B	SAMP	25	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018833-001B-PS	PS	5	2.042	0.57	15	PASS	19.74	1.12	15	PASS
N018833-001B-MS	MS	5	2.059	0.96	15	PASS	20.051	0.96	15	PASS
N018833-001B-MSD	MSD	5	2.068	1.92	15	PASS	19.89	1.67	15	PASS
N018834-001B	SAMP	5	0.0066	110.59	15	<PQL	0.2	4.38	15	PASS
N018834-001B-MS	MS	5	2.031	1.87	15	PASS	20.066	1.071	15	PASS
CCV2	CCV	1	19.46	0.25	15	PASS	19.16	0.67	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.97	0.43	20	PASS	0.52	4.17	20	PASS
ICSA2	ICSA	1	0.18	2.73	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	22.97	0.87	15	PASS	19.58	0.58	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV4	CCV	1	19.26	1.36	15	PASS	19.17	1.43	15	PASS
CCB4	CCB	1	0.0049	48.31	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.32	0.61	15	PASS	19.019	0.95	15	PASS
CCB5	CCB	1	0.00096	269.0022	15	<PQL	<0.000	N/A	15	<PQL
CCV6	CCV	1	19.29	0.92	15	PASS	19.16	0.48	15	PASS
CCB6	CCB	1	0.001	157.92	15	<PQL	<0.000	N/A	15	<PQL
LLCCV2	CCV2	1	0.98	2.22	20	PASS	0.5	2.83	20	PASS
ICSA3	ICSA	1	0.17	3.89	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	22.31	0.34	15	PASS	19.56	1.073	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	7.61	15	PASS	0.08	14.54	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	5.78	15	PASS	0.45	21.93	15	<PQL
Std3-5/50 ppb	ICAL	1	4.61	0.53	15	PASS	4.89	5.2	15	PASS
Std4-10/100 ppb	ICAL	1	9.34	0.24	15	PASS	9.39	1.53	15	PASS
Std5-20/200 ppb	ICAL	1	19.074	0.36	15	PASS	18.96	1.43	15	PASS
Std6-40/400 ppb	ICAL	1	38.77	1.44	15	PASS	38.14	1.73	15	PASS
Std7-100/1000 ppb	ICAL	1	98.11	0.15	15	PASS	99.74	1.33	15	PASS
Std8-200/2000 ppb	ICAL	1	201.33	0.41	15	PASS	200.64	0.52	15	PASS
ICV	ICV	1	10.19	0.55	15	PASS	10.16	0.99	15	PASS
ICB	ICB	1	0.013	36.76	15	<PQL	0.0022	513.46	15	<PQL
LLICV	CCV1	1	0.11	9.27	20	PASS	0.47	3.67	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.012	69.51	15	<PQL
ICSAB1	ICSAB	1	20.82	0.43	15	PASS	19.099	0.85	15	PASS
LLICV	CCV1	1	0.12	13.99	20	PASS	0.53	9.27	20	PASS
MB-56426	MBLK	1	0.0024	82.31	15	<PQL	0.0067	98.45	15	<PQL
LCS-56426	LCS	1	10.27	0.87	15	PASS	10.099	4.92	15	PASS
N018845-009B	SAMP	1	1.4	2.43	15	PASS	1.089	16.91	15	NR!
N018845-009B	SAMP	5	0.31	14.021	15	PASS	0.27	12.87	15	PASS
N018845-009B-PS	PS	1	10.7	0.49	15	PASS	9.4	1.17	15	PASS
N018845-009B-MS	MS	1	11.085	1.2	15	PASS	9.35	1.69	15	PASS
N018845-009B-MSD	MSD	1	10.84	1.66	15	PASS	9.68	4.43	15	PASS
N018845-010B	SAMP	1	14.16	0.83	15	PASS	0.073	17.82	15	<PQL
N018855-001B	SAMP	1	2	2.45	15	PASS	0.54	18.42	15	NR!
CCV1	CCV	1	18.95	0.74	15	PASS	19.014	0.87	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0023	134.48	15	<PQL
N018855-002B	SAMP	1	1.81	1.1	15	PASS	0.065	38.64	15	<PQL
N018855-003B	SAMP	1	5.63	2.58	15	PASS	0.13	17.68	15	<PQL
N018855-004B	SAMP	1	5.47	1.05	15	PASS	0.17	4.53	15	PASS
N018857-019B	SAMP	1	1.24	1.37	15	PASS	14.22	2.48	15	PASS
N018833-001B	SAMP	25	0.11	10.14	15	PASS	0.058	39.41	15	<PQL
N018833-001B-PS	PS	5	2.57	2.47	15	PASS	2.42	9.047	15	PASS
N018833-001B-MS	MS	5	2.6	1.73	15	PASS	2.38	6.25	15	PASS
N018833-001B-MSD	MSD	5	2.56	1.95	15	PASS	2.44	4.36	15	PASS
N018834-001B	SAMP	5	0.48	6.79	15	PASS	0.36	10.36	15	PASS
N018834-001B-MS	MS	5	2.69	2.36	15	PASS	2.46	1.47	15	PASS
CCV2	CCV	1	19.3	0.33	15	PASS	18.79	2.039	15	PASS
CCB2	CCB	1	0.0018	492.88	15	<PQL	0.0008	1086.091	15	<PQL
LLCCV1	CCV2	1	0.1	16.55	20	PASS	0.53	10.86	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.0071	125.66	15	<PQL
ICSAB2	ICSAB	1	21.49	0.75	15	PASS	21.1	2.79	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV4	CCV	1	18.97	1.4	15	PASS	19.14	0.83	15	PASS
CCB4	CCB	1	0.0028	105.69	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.11	0.99	15	PASS	18.72	4.0011	15	PASS
CCB5	CCB	1	0.0041	47.71	15	<PQL	<0.000	N/A	15	<PQL
CCV6	CCV	1	19.086	0.83	15	PASS	18.87	1.59	15	PASS
CCB6	CCB	1	0.0029	151.5	15	<PQL	0.011	93.92	15	<PQL
LLCCV2	CCV2	1	0.1	6.54	20	PASS	0.53	13.83	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.021	86.68	15	<PQL
ICSAB3	ICSAB	1	21.53	1.7	15	PASS	20.039	1.043	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.084	7.039	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.87	15	PASS
Std3-5/50 ppb	ICAL	1	4.73	0.66	15	PASS
Std4-10/100 ppb	ICAL	1	9.51	1.54	15	PASS
Std5-20/200 ppb	ICAL	1	18.97	0.25	15	PASS
Std6-40/400 ppb	ICAL	1	38.98	0.19	15	PASS
Std7-100/1000 ppb	ICAL	1	98.95	0.32	15	PASS
Std8-200/2000 ppb	ICAL	1	200.86	0.078	15	PASS
ICV	ICV	1	10.97	2.027	15	PASS
ICB	ICB	1	0.23	5.02	15	PASS
LLICV	CCV1	1	0.55	3.11	20	PASS
ICSA1	ICSA	1	0.085	13.41	15	PASS
ICSAB1	ICSAB	1	23.94	1.37	15	PASS
LLICV	CCV1	1	0.55	3.24	20	PASS
MB-56426	MBLK	1	0.0069	14.38	15	PASS
LCS-56426	LCS	1	10.29	0.24	15	PASS
N018845-009B	SAMP	1	27.25	0.63	15	PASS
N018845-009B	SAMP	5	5.34	0.89	15	PASS
N018845-009B-PS	PS	1	39.075	1	15	PASS
N018845-009B-MS	MS	1	40.33	0.36	15	PASS
N018845-009B-MSD	MSD	1	40.45	0.93	15	PASS
N018845-010B	SAMP	1	43.21	0.91	15	PASS
N018855-001B	SAMP	1	202.47	0.57	15	PASS
CCV1	CCV	1	19.83	0.38	15	PASS
CCB1	CCB	1	0.19	4.59	15	PASS
N018855-002B	SAMP	1	73.95	1.4	15	PASS
N018855-003B	SAMP	1	100.93	0.95	15	PASS
N018855-004B	SAMP	1	98.38	1.52	15	PASS
N018857-019B	SAMP	1	3.44	1.83	15	PASS
N018833-001B	SAMP	25	0.3	7.048	15	PASS
N018833-001B-PS	PS	5	3.28	1.79	15	PASS
N018833-001B-MS	MS	5	3.25	2.33	15	PASS
N018833-001B-MSD	MSD	5	3.25	2.71	15	PASS
N018834-001B	SAMP	5	1.063	4.052	15	PASS
N018834-001B-MS	MS	5	3.28	2.29	15	PASS
CCV2	CCV	1	18.93	0.68	15	PASS
CCB2	CCB	1	0.072	6.68	15	PASS
LLCCV1	CCV2	1	0.5	3.56	20	PASS
ICSA2	ICSA	1	0.039	21.64	15	<PQL
ICSAB2	ICSAB	1	23.54	0.75	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCV4	CCV	1	18.99	1.21	15	PASS
CCB4	CCB	1	0.097	7.72	15	PASS
CCV5	CCV	1	18.98	0.62	15	PASS
CCB5	CCB	1	0.067	5.9	15	PASS
CCV6	CCV	1	18.83	0.85	15	PASS
CCB6	CCB	1	0.077	11.44	15	PASS
LLCCV2	CCV2	1	0.5	2.19	20	PASS
ICSA3	ICSA	1	0.043	22.7	15	<PQL
ICSAB3	ICSAB	1	23.54	1.61	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.079	11.83	15	PASS	0.095	7.17	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.19	15	PASS	0.48	2.82	15	PASS
Std3-5/50 ppb	ICAL	1	4.62	0.83	15	PASS	4.71	1.41	15	PASS
Std4-10/100 ppb	ICAL	1	9.33	1.17	15	PASS	9.58	1.63	15	PASS
Std5-20/200 ppb	ICAL	1	18.81	0.62	15	PASS	19.3	1.32	15	PASS
Std6-40/400 ppb	ICAL	1	38.67	1.62	15	PASS	39.4	1.36	15	PASS
Std7-100/1000 ppb	ICAL	1	97	0.53	15	PASS	99.1	0.42	15	PASS
Std8-200/2000 ppb	ICAL	1	201.93	0.034	15	PASS	200.67	0.49	15	PASS
ICV	ICV	1	10.0012	1.77	15	PASS	100.92	1.085	15	PASS
ICB	ICB	1	0.0042	76.82	15	<PQL	0.011	11.073	15	PASS
LLICV	CCV1	1	0.93	4.53	20	PASS	0.53	3.64	20	PASS
ICSA1	ICSA	1	0.16	9.72	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.64	1.36	15	PASS	17.66	1.64	15	PASS
LLICV	CCV1	1	0.95	2.31	20	PASS	0.54	4.43	20	PASS
N018845-002B	SAMP	1	0.47	3.095	15	PASS	80.6	0.48	15	PASS
N018845-002B	SAMP	5	0.081	13.62	15	PASS	16.47	0.89	15	PASS
N018845-003B	SAMP	1	650.99	0.59	15	PASS	2.22	5.4	15	PASS
N018845-003B	SAMP	5	133.4	0.85	15	PASS	0.48	5.32	15	PASS
N018845-004B	SAMP	1	655.27	0.22	15	PASS	2.075	1.47	15	PASS
N018845-004B	SAMP	5	131.4	0.58	15	PASS	0.42	6.77	15	PASS
N018845-006B	SAMP	1	152.54	0.6	15	PASS	8.84	0.73	15	PASS
N018845-006B	SAMP	5	30.96	1.35	15	PASS	1.87	1.69	15	PASS
N018845-007B	SAMP	1	489.11	1.058	15	PASS	28.28	0.78	15	PASS
N018845-007B	SAMP	5	98.73	0.35	15	PASS	5.77	0.96	15	PASS
CCV1	CCV	1	18.64	0.5	15	PASS	19.15	1.17	15	PASS
CCB1	CCB	1	0.061	8.086	15	PASS	0.0025	63.98	15	<PQL
N018845-008B	SAMP	1	0.15	3.92	15	PASS	220.35	0.33	15	PASS
N018845-008B	SAMP	5	0.055	23.72	15	<PQL	44.52	1.068	15	PASS
N018845-005B	SAMP	1	36779.36	0.46	15	PASS	<0.000	N/A	15	<PQL
N018845-005B	SAMP	5	7659.51	0.91	15	PASS	<0.000	N/A	15	<PQL
N018845-005B	SAMP	500	83.65	0.61	15	PASS	<0.000	N/A	15	<PQL
N018845-009B	SAMP	25	0.71	10.16	15	PASS	15.74	1.15	15	PASS
N018845-009B-PS	PS	5	3.16	1.94	15	PASS	93.0051	0.87	15	PASS
N018845-009B-MS	MS	5	3.47	1.47	15	PASS	97.7	1.44	15	PASS
CCV2	CCV	1	18.66	0.9	15	PASS	19.043	1.67	15	PASS
CCB2	CCB	1	0.26	14.83	15	PASS	0.0025	117.8	15	<PQL
N018845-009B-MSD	MSD	5	3.3	1.91	15	PASS	96.76	1.12	15	PASS
N018845-010B	SAMP	5	0.22	6.74	15	PASS	45.83	1.32	15	PASS
N018855-001B	SAMP	5	3.74	2.95	15	PASS	2.95	2.73	15	PASS
N018855-002B	SAMP	5	6.85	0.98	15	PASS	7.41	1.8	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018855-003B	SAMP	5	5.96	2.14	15	PASS	1.17	2.63	15	PASS
N018855-004B	SAMP	5	5.85	2.52	15	PASS	1.13	1.85	15	PASS
N018861-004B	SAMP	25	5.44	1.79	15	PASS	1.53	3.68	15	PASS
N018861-005B	SAMP	25	2.29	6.21	15	PASS	0.72	0.71	15	PASS
N018861-006B	SAMP	25	0.11	20.29	15	<PQL	0.77	2.51	15	PASS
CCV3	CCV	1	18.66	0.37	15	PASS	19.13	0.57	15	PASS
CCB3	CCB	1	0.12	6.98	15	PASS	<0.000	N/A	15	<PQL
N018861-007B	SAMP	125	0.17	19.57	15	<PQL	0.21	7.34	15	PASS
N018861-007B-PS	PS	25	0.72	9.49	15	PASS	4.95	2.36	15	PASS
N018861-007B-MS	MS	25	0.75	2.64	15	PASS	4.93	0.9	15	PASS
N018861-007B-MSD	MSD	25	0.72	4.96	15	PASS	4.93	0.88	15	PASS
CCV4	CCV	1	18.74	0.58	15	PASS	19.3	0.61	15	PASS
CCB4	CCB	1	0.087	13.26	15	PASS	0.00079	288.97	15	<PQL
LLCCV1	CCV2	1	1.054	3.56	20	PASS	0.53	5.66	20	PASS
ICSA2	ICSA	1	0.26	4.17	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.95	1.017	15	PASS	17.86	0.71	15	PASS
CCV5	CCV	1	18.55	1.29	15	PASS	18.98	2.13	15	PASS
CCB5	CCB	1	0.057	35.75	15	<PQL	0.005	39.3	15	<PQL
CCV6	CCV	1	18.3	0.49	15	PASS	19.06	0.21	15	PASS
CCB6	CCB	1	0.058	22.85	15	<PQL	<0.000	N/A	15	<PQL
CCV7	CCV	1	18.55	0.86	15	PASS	19.27	0.49	15	PASS
CCB7	CCB	1	0.046	7.34	15	PASS	<0.000	N/A	15	<PQL
CCV8	CCV	1	18.37	0.7	15	PASS	19.57	0.44	15	PASS
CCB8	CCB	1	0.033	32.64	15	<PQL	0.00068	850.36	15	<PQL
LLCCV2	CCV2	1	0.98	6.67	20	PASS	0.54	2.26	20	PASS
ICSA3	ICSA	1	0.18	6.6	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.12	1.22	15	PASS	18.16	2.29	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.084	21.39	15	<PQL	0.15	24.5	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.43	14.12	15	PASS	0.48	10.17	15	PASS
Std3-5/50 ppb	ICAL	1	4.67	2.57	15	PASS	4.61	5.25	15	PASS
Std4-10/100 ppb	ICAL	1	9.37	2.17	15	PASS	9.62	1.71	15	PASS
Std5-20/200 ppb	ICAL	1	18.89	1.26	15	PASS	19.8	3.64	15	PASS
Std6-40/400 ppb	ICAL	1	38.03	1.69	15	PASS	40.53	1.82	15	PASS
Std7-100/1000 ppb	ICAL	1	98.049	0.62	15	PASS	99.88	2.037	15	PASS
Std8-200/2000 ppb	ICAL	1	201.52	0.59	15	PASS	203.97	1.58	15	PASS
ICV	ICV	1	10.09	1.65	15	PASS	10.65	1.093	15	PASS
ICB	ICB	1	0.018	57.86	15	<PQL	0.035	65.98	15	<PQL
LLICV	CCV1	1	0.1	10.19	20	PASS	0.53	10.56	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.022	65.7	15	<PQL
ICSAB1	ICSAB	1	20.86	0.92	15	PASS	19.32	3.13	15	PASS
LLICV	CCV1	1	0.12	10.92	20	PASS	0.53	8.099	20	PASS
N018845-002B	SAMP	1	4.9	4.043	15	PASS	0.64	18.4	15	NR!
N018845-002B	SAMP	5	0.98	3.85	15	PASS	0.12	35.87	15	<PQL
N018845-003B	SAMP	1	2.37	6.53	15	PASS	12.37	1.79	15	PASS
N018845-003B	SAMP	5	0.56	13.012	15	PASS	2.6	6.13	15	PASS
N018845-004B	SAMP	1	2.3	3.4	15	PASS	11.74	0.5	15	PASS
N018845-004B	SAMP	5	0.47	6.99	15	PASS	2.2	1.92	15	PASS
N018845-006B	SAMP	1	0.54	4.32	15	PASS	7.17	3.56	15	PASS
N018845-006B	SAMP	5	0.13	6.82	15	PASS	1.59	9.29	15	PASS
N018845-007B	SAMP	1	2.078	3.49	15	PASS	4.18	1.54	15	PASS
N018845-007B	SAMP	5	0.44	9.05	15	PASS	0.97	9.7	15	PASS
CCV1	CCV	1	18.76	1.52	15	PASS	19.061	0.9	15	PASS
CCB1	CCB	1	0.013	23.65	15	<PQL	0.021	42.72	15	<PQL
N018845-008B	SAMP	1	14.14	0.64	15	PASS	0.1	13.54	15	PASS
N018845-008B	SAMP	5	2.97	1.61	15	PASS	0.016	50.13	15	<PQL
N018845-005B	SAMP	1	2.71	4.61	15	PASS	16.42	0.33	15	PASS
N018845-005B	SAMP	5	0.54	1.23	15	PASS	3.38	8.51	15	PASS
N018845-005B	SAMP	500	0.0026	260.38	15	<PQL	0.054	48.7	15	<PQL
N018845-009B	SAMP	25	0.065	9.47	15	PASS	0.032	63.066	15	<PQL
N018845-009B-PS	PS	5	2.33	0.97	15	PASS	2.11	4.94	15	PASS
N018845-009B-MS	MS	5	2.29	2.85	15	PASS	2.19	5.12	15	PASS
CCV2	CCV	1	18.77	1.96	15	PASS	19.79	3.19	15	PASS
CCB2	CCB	1	0.0033	95.59	15	<PQL	0.014	35.12	15	<PQL
N018845-009B-MSD	MSD	5	2.31	5.74	15	PASS	2.022	14.68	15	PASS
N018845-010B	SAMP	5	3.016	2.74	15	PASS	0.03	33.81	15	<PQL
N018855-001B	SAMP	5	0.46	7.96	15	PASS	0.15	34.75	15	<PQL
N018855-002B	SAMP	5	0.39	6.91	15	PASS	0.014	86.6	15	<PQL

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018855-003B	SAMP	5	1.22	2.73	15	PASS	0.037	69.1	15	<PQL
N018855-004B	SAMP	5	1.13	2.36	15	PASS	0.034	46.83	15	<PQL
N018861-004B	SAMP	25	0.51	2.075	15	PASS	0.07	39.65	15	<PQL
N018861-005B	SAMP	25	0.072	25.78	15	<PQL	0.21	0.91	15	PASS
N018861-006B	SAMP	25	0.3	7.91	15	PASS	0.15	39.31	15	<PQL
CCV3	CCV	1	18.94	1.15	15	PASS	18.2	0.62	15	PASS
CCB3	CCB	1	0.012	25.41	15	<PQL	0.0089	100.38	15	<PQL
N018861-007B	SAMP	125	0.14	17.28	15	NR!	0.012	114.43	15	<PQL
N018861-007B-PS	PS	25	1.065	5.2	15	PASS	0.43	13.25	15	PASS
N018861-007B-MS	MS	25	1.054	1.7	15	PASS	0.35	9.79	15	PASS
N018861-007B-MSD	MSD	25	1.068	8.038	15	PASS	0.35	4.049	15	PASS
CCV4	CCV	1	19.21	0.75	15	PASS	18.8	1.17	15	PASS
CCB4	CCB	1	0.0065	102.65	15	<PQL	0.0091	100.13	15	<PQL
LLCCV1	CCV2	1	0.11	7.084	20	PASS	0.49	0.48	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.023	88.32	15	<PQL
ICSAB2	ICSAB	1	20.86	0.4	15	PASS	19.63	2.42	15	PASS
CCV5	CCV	1	18.79	0.68	15	PASS	18.81	3.47	15	PASS
CCB5	CCB	1	0.029	30.11	15	<PQL	0.0027	173.21	15	<PQL
CCV6	CCV	1	18.72	1.81	15	PASS	18.67	0.97	15	PASS
CCB6	CCB	1	0.023	73.44	15	<PQL	0.008	100.39	15	<PQL
CCV7	CCV	1	18.91	0.99	15	PASS	18.016	1.38	15	PASS
CCB7	CCB	1	0.022	27.39	15	<PQL	0.011	114.9	15	<PQL
CCV8	CCV	1	18.62	1.4	15	PASS	18.63	1.64	15	PASS
CCB8	CCB	1	0.0073	107.54	15	<PQL	0	N/A	15	<PQL
LLCCV2	CCV2	1	0.13	2.14	20	PASS	0.5	2.39	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.023	110.93	15	<PQL
ICSAB3	ICSAB	1	20.58	1.21	15	PASS	20.6	0.36	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.087	8.46	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	6.027	15	PASS
Std3-5/50 ppb	ICAL	1	4.64	1.78	15	PASS
Std4-10/100 ppb	ICAL	1	9.24	1.96	15	PASS
Std5-20/200 ppb	ICAL	1	18.74	1.26	15	PASS
Std6-40/400 ppb	ICAL	1	38.94	1.16	15	PASS
Std7-100/1000 ppb	ICAL	1	98.015	0.51	15	PASS
Std8-200/2000 ppb	ICAL	1	201.38	0.75	15	PASS
ICV	ICV	1	10.99	1.08	15	PASS
ICB	ICB	1	0.22	3.93	15	PASS
LLICV	CCV1	1	0.56	4.078	20	PASS
ICSA1	ICSA	1	0.089	5.14	15	PASS
ICSAB1	ICSAB	1	23.7	1.2	15	PASS
LLICV	CCV1	1	0.65	2.33	20	PASS
N018845-002B	SAMP	1	84.65	1.64	15	PASS
N018845-002B	SAMP	5	15.45	0.76	15	PASS
N018845-003B	SAMP	1	92.12	0.22	15	PASS
N018845-003B	SAMP	5	17.9	0.89	15	PASS
N018845-004B	SAMP	1	94.15	1.026	15	PASS
N018845-004B	SAMP	5	17.66	0.5	15	PASS
N018845-006B	SAMP	1	33.61	0.13	15	PASS
N018845-006B	SAMP	5	6.44	0.98	15	PASS
N018845-007B	SAMP	1	39.46	1.091	15	PASS
N018845-007B	SAMP	5	7.19	2.18	15	PASS
CCV1	CCV	1	19.24	1.12	15	PASS
CCB1	CCB	1	0.087	20.8	15	<PQL
N018845-008B	SAMP	1	43.75	0.77	15	PASS
N018845-008B	SAMP	5	8.35	1.049	15	PASS
N018845-005B	SAMP	1	58.29	1	15	PASS
N018845-005B	SAMP	5	10.99	0.82	15	PASS
N018845-005B	SAMP	500	0.17	3.44	15	PASS
N018845-009B	SAMP	25	1.065	2.55	15	PASS
N018845-009B-PS	PS	5	7.32	1.38	15	PASS
N018845-009B-MS	MS	5	7.72	1.73	15	PASS
CCV2	CCV	1	19.52	0.63	15	PASS
CCB2	CCB	1	0.082	7.32	15	PASS
N018845-009B-MSD	MSD	5	7.59	1.9	15	PASS
N018845-010B	SAMP	5	8.24	0.98	15	PASS
N018855-001B	SAMP	5	37.63	1.15	15	PASS
N018855-002B	SAMP	5	14.54	1.15	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N018855-003B	SAMP	5	19.051	1.83	15	PASS
N018855-004B	SAMP	5	18.25	1.63	15	PASS
N018861-004B	SAMP	25	3.21	1.16	15	PASS
N018861-005B	SAMP	25	0.99	3.29	15	PASS
N018861-006B	SAMP	25	2.38	2.62	15	PASS
CCV3	CCV	1	19.31	0.54	15	PASS
CCB3	CCB	1	0.08	6.0063	15	PASS
N018861-007B	SAMP	125	0.61	6.99	15	PASS
N018861-007B-PS	PS	25	3.54	2.96	15	PASS
N018861-007B-MS	MS	25	3.55	1.44	15	PASS
N018861-007B-MSD	MSD	25	3.5	1.77	15	PASS
CCV4	CCV	1	19.089	0.86	15	PASS
CCB4	CCB	1	0.079	5.57	15	PASS
LLCCV1	CCV2	1	0.52	2.49	20	PASS
ICSA2	ICSA	1	0.047	11.22	15	PASS
ICSAB2	ICSAB	1	23.73	1.53	15	PASS
CCV5	CCV	1	19.66	1.52	15	PASS
CCB5	CCB	1	0.19	2.34	15	PASS
CCV6	CCV	1	19.5	1.31	15	PASS
CCB6	CCB	1	0.12	9.28	15	PASS
CCV7	CCV	1	19.53	0.79	15	PASS
CCB7	CCB	1	0.16	10.19	15	PASS
CCV8	CCV	1	19.18	2.95	15	PASS
CCB8	CCB	1	0.1	5.4	15	PASS
LLCCV2	CCV2	1	0.53	6.4	20	PASS
ICSA3	ICSA	1	0.057	5.11	15	PASS
ICSAB3	ICSAB	1	23.74	1.27	15	PASS

PERCENT RSD SUMMARY: 160309A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.098	52.63	15	<PQL	0.082	16.71	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.37	12.13	15	PASS	0.44	2.63	15	PASS
Std3-5/50 ppb	ICAL	1	4.55	3.77	15	PASS	4.66	1.093	15	PASS
Std4-10/100 ppb	ICAL	1	9.4	4.21	15	PASS	9.36	1.33	15	PASS
Std5-20/200 ppb	ICAL	1	19.11	2.24	15	PASS	18.68	0.55	15	PASS
Std6-40/400 ppb	ICAL	1	39.12	3.63	15	PASS	38.5	0.59	15	PASS
Std7-100/1000 ppb	ICAL	1	98.29	0.9	15	PASS	97.6	0.27	15	PASS
Std8-200/2000 ppb	ICAL	1	201.16	0.84	15	PASS	201.67	0.64	15	PASS
ICV	ICV	1	10.6	0.47	15	PASS	10.77	0.28	15	PASS
ICB	ICB	1	0.032	94.78	15	<PQL	0.2	9.91	15	PASS
LLICV	CCV1	1	0.53	7.3	20	PASS	0.55	5.28	20	PASS
ICSA1	ICSA	1	0.021	123.18	15	<PQL	0.08	4.047	15	PASS
ICSAB1	ICSAB	1	17.8	2.9	15	PASS	20.63	0.88	15	PASS
LLICV	CCV1	1	0.5	9.99	20	PASS	0.56	3.94	20	PASS
N018845-001B	SAMP	25	0.024	48.12	15	<PQL	2.026	1.84	15	PASS
CCV1	CCV	1	19.31	3.16	15	PASS	19.19	1.26	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.011	131.25	15	<PQL
CCV2	CCV	1	19.06	4.49	15	PASS	18.95	0.52	15	PASS
CCB2	CCB	1	0.019	0.64	15	PASS	0.075	5.68	15	PASS
CCV3	CCV	1	19.43	4.78	15	PASS	19.3	2.013	15	PASS
CCB3	CCB	1	0.015	42.28	15	<PQL	0.12	15.74	15	<PQL
LLCCV1	CCV2	1	0.51	2.24	20	PASS	0.5	3.32	20	PASS
ICSA2	ICSA	1	0.016	42.29	15	<PQL	0.056	20.35	15	<PQL
ICSAB2	ICSAB	1	17.61	3.59	15	PASS	21.000034	1.15	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB2	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MS	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM
A0308062.D	MB-56504	MBLK	1	03/08/16 6:45 PM
A0308063.D	LCS-56504	LCS	1	03/08/16 6:51 PM
A0308064.D	N018898-003A	SAMP	1	03/08/16 7:02 PM
A0308065.D	N018910-001B	SAMP	1	03/08/16 7:08 PM
A0308066.D	N018910-002B	SAMP	1	03/08/16 7:13 PM
A0308067.D	N018910-003B	SAMP	1	03/08/16 7:19 PM
A0308068.D	N018918-001C	SAMP	1	03/08/16 7:24 PM
A0308069.D	N018918-002E	SAMP	1	03/08/16 7:30 PM
A0308070.D	N018918-003C	SAMP	1	03/08/16 7:35 PM
A0308071.D	N018918-003C	SAMP	5	03/08/16 7:41 PM
A0308072.D	CCV5	CCV	1	03/08/16 7:47 PM
A0308073.D	CCB5	CCB	1	03/08/16 7:52 PM
A0308074.D	N018919-001B	SAMP	1	03/08/16 7:58 PM
A0308075.D	N018919-002B	SAMP	1	03/08/16 8:03 PM
A0308076.D	N018935-001B	SAMP	1	03/08/16 8:09 PM
A0308077.D	N018936-001A	SAMP	1	03/08/16 8:14 PM
A0308078.D	N018936-002B	SAMP	1	03/08/16 8:20 PM
A0308079.D	N018910-003B	SAMP	1	03/08/16 8:26 PM
A0308080.D	N018910-002B	SAMP	25	03/08/16 8:39 PM
A0308081.D	N018910-003B	SAMP	25	03/08/16 8:45 PM
A0308082.D	N018918-001C	SAMP	5	03/08/16 8:53 PM
A0308083.D	N018918-002E	SAMP	1	03/08/16 8:59 PM
A0308084.D	CCV6	CCV	1	03/08/16 9:05 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308085.D	CCB6	CCB	1	03/08/16 9:10 PM
A0308086.D	N018918-002E	SAMP	5	03/08/16 9:16 PM
A0308087.D	N018918-002E	SAMP	25	03/08/16 9:21 PM
A0308088.D	N018918-003C	SAMP	25	03/08/16 9:41 PM
A0308089.D	N018918-003C	SAMP	125	03/08/16 9:47 PM
A0308090.D	N018918-003C-PS	PS	1	03/08/16 9:53 PM
A0308091.D	N018918-003C-PS	PS	5	03/08/16 9:59 PM
A0308092.D	N018918-003C-PS	PS	25	03/08/16 10:04 PM
A0308093.D	N018918-003C-MS	MS	1	03/08/16 10:10 PM
A0308094.D	N018918-003C-MS	MS	5	03/08/16 10:15 PM
A0308095.D	N018918-003C-MS	MS	25	03/08/16 10:21 PM
A0308096.D	CCV7	CCV	1	03/08/16 10:27 PM
A0308097.D	CCB7	CCB	1	03/08/16 10:32 PM
A0308098.D	N018918-003C-MSD	MSD	1	03/08/16 10:38 PM
A0308099.D	N018918-003C-MSD	MSD	5	03/08/16 10:43 PM
A0308100.D	N018918-003C-MSD	MSD	25	03/08/16 10:49 PM
A0308101.D	N018919-002B	SAMP	5	03/08/16 10:55 PM
A0308102.D	N018919-002B-MS	MS	1	03/08/16 11:00 PM
A0308103.D	N018919-002B-MS	MS	5	03/08/16 11:06 PM
A0308104.D	N018935-001B	SAMP	25	03/08/16 11:11 PM
A0308105.D	N018936-002B	SAMP	5	03/08/16 11:17 PM
A0308106.D	CCV8	CCV	1	03/08/16 11:22 PM
A0308107.D	CCB8	CCB	1	03/08/16 11:28 PM
A0308108.D	LLCCV2	CCV2	1	03/08/16 11:33 PM
A0308109.D	ICSA3	ICSA	1	03/08/16 11:39 PM
A0308110.D	ICSAB3	ICSAB	1	03/08/16 11:45 PM

INJECTION LOG: 160309A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0309001.D	RINSE	RINSE	1	03/09/16 9:07 AM
A0309002.D	Cal Blank	IBLK	1	03/09/16 9:12 AM
A0309003.D	Std1-0.1/1 ppb	ICAL	1	03/09/16 9:18 AM
A0309004.D	Std2-0.5/5 ppb	ICAL	1	03/09/16 9:23 AM
A0309005.D	Std3-5/50 ppb	ICAL	1	03/09/16 9:27 AM
A0309006.D	Std4-10/100 ppb	ICAL	1	03/09/16 9:32 AM
A0309007.D	Std5-20/200 ppb	ICAL	1	03/09/16 9:40 AM
A0309008.D	Std6-40/400 ppb	ICAL	1	03/09/16 9:46 AM
A0309009.D	Std7-100/1000 ppb	ICAL	1	03/09/16 9:51 AM
A0309010.D	Std8-200/2000 ppb	ICAL	1	03/09/16 9:57 AM
A0309011.D	ICV	ICV	1	03/09/16 10:02 AM
A0309012.D	ICB	ICB	1	03/09/16 10:08 AM
A0309013.D	LLICV	CCV1	1	03/09/16 10:13 AM
A0309014.D	ICSA1	ICSA	1	03/09/16 10:19 AM
A0309015.D	ICSAB1	ICSAB	1	03/09/16 10:25 AM
A0309016.D	LLICV	CCV1	1	03/09/16 10:31 AM
A0309017.D	N018845-001B	SAMP	25	03/09/16 10:59 AM
A0309018.D	N018855-002B	SAMP	1	03/09/16 11:05 AM
A0309019.D	N018855-002A	SAMP	1	03/09/16 11:11 AM
A0309020.D	N018867-002B	SAMP	1	03/09/16 11:17 AM
A0309021.D	N018867-002A	SAMP	1	03/09/16 11:22 AM
A0309022.D	N018867-003B	SAMP	1	03/09/16 11:28 AM
A0309023.D	N018867-003A	SAMP	1	03/09/16 11:34 AM
A0309024.D	N018867-005B	SAMP	1	03/09/16 11:39 AM
A0309025.D	N018867-005A	SAMP	1	03/09/16 11:45 AM
A0309026.D	N018867-006B	SAMP	1	03/09/16 11:50 AM
A0309027.D	CCV1	CCV	1	03/09/16 11:54 AM
A0309028.D	CCB1	CCB	1	03/09/16 12:01 PM
A0309029.D	N018867-006A	SAMP	1	03/09/16 12:07 PM
A0309030.D	N018867-007B	SAMP	1	03/09/16 12:13 PM
A0309031.D	N018867-007A	SAMP	1	03/09/16 12:18 PM
A0309032.D	N018867-008B	SAMP	1	03/09/16 12:24 PM
A0309033.D	N018867-008A	SAMP	1	03/09/16 12:29 PM
A0309034.D	N018867-009B	SAMP	1	03/09/16 12:35 PM
A0309035.D	N018867-009A	SAMP	1	03/09/16 12:40 PM
A0309036.D	N018867-010B	SAMP	1	03/09/16 12:46 PM
A0309037.D	N018867-010A	SAMP	1	03/09/16 12:51 PM
A0309038.D	N018855-002B	SAMP	1	03/09/16 12:57 PM
A0309039.D	CCV2	CCV	1	03/09/16 1:01 PM
A0309040.D	CCB2	CCB	1	03/09/16 1:06 PM
A0309041.D	N018855-002B	SAMP	5	03/09/16 1:12 PM
A0309042.D	N018855-002A	SAMP	5	03/09/16 1:17 PM

INJECTION LOG: 160309A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0309043.D	CCV3	CCV	1	03/09/16 1:23 PM
A0309044.D	CCB3	CCB	1	03/09/16 1:29 PM
A0309045.D	LLCCV1	CCV2	1	03/09/16 1:34 PM
A0309046.D	ICSA2	ICSA	1	03/09/16 1:53 PM
A0309047.D	ICSAB2	ICSAB	1	03/09/16 1:59 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05 A**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/9/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56419	Aqueous		25	☐	0	0	25	1.000		
MB-56419	Aqueous		25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05 A**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/9/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018845-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:50:02 A**
Prep End Date: **2/26/2016 1:00:00 P**

Initials/ Date: 3/11/2016

Prep Batch **56426** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-14**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56426	Aqueous		25	☐	0	0	25	1.000		
MB-56426	Aqueous		25	☐	0	0	25	1.000		
N018845-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-009B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-009B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018857-019B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 26 Feb 2016 01:09:35 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	86884.50	0.00	
24 Mg	368440.00	0.00	
25 Mg	49147.30	0.00	
26 Mg	58400.50	0.00	
59 Co	712632.00	0.00	
115 In	1577600.00	0.00	
206 Pb	461718.00	0.00	
207 Pb	404323.00	0.00	
208 Pb	985724.00	0.00	

RSD (%)

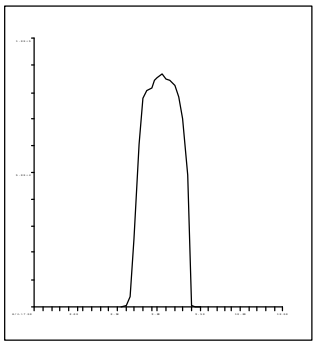
Element	Actual	Required	Flag
9 Be	0.78	5.00	
24 Mg	1.13	5.00	
25 Mg	1.29	5.00	
26 Mg	0.76	5.00	
59 Co	0.84	5.00	
115 In	0.38	5.00	
206 Pb	1.01	5.00	
207 Pb	0.85	5.00	
208 Pb	1.94	5.00	

Ion Ratio

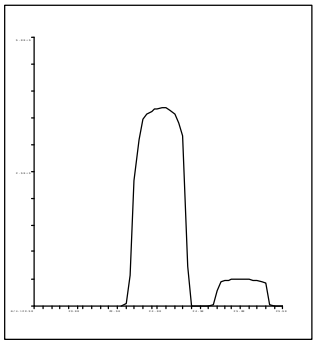
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

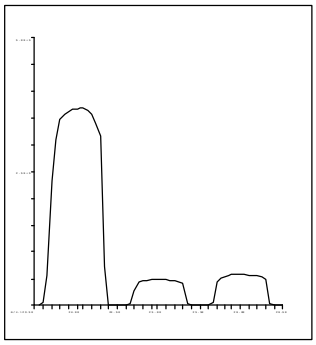
Element	Actual	Required	Flag



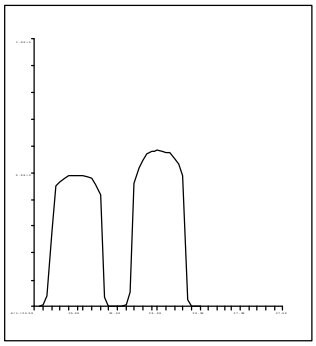
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



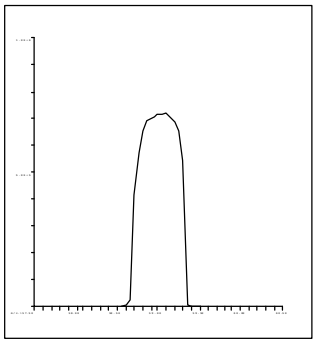
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



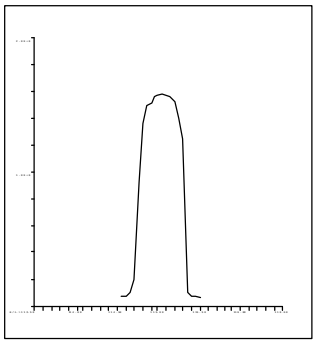
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



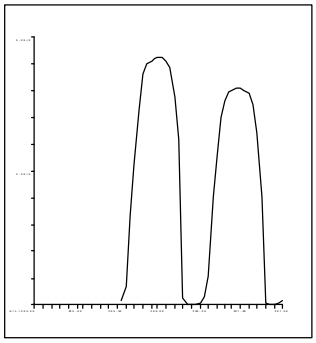
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



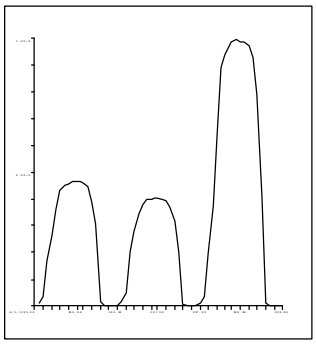
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

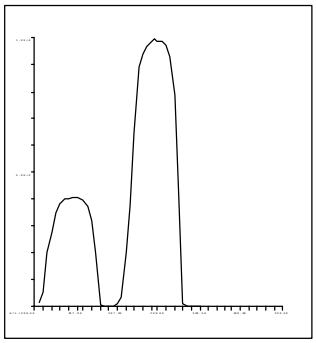


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

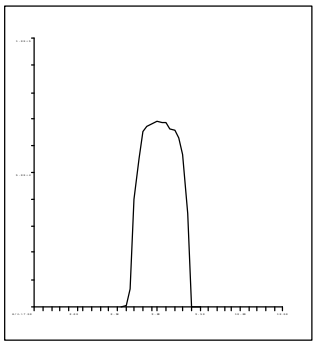
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

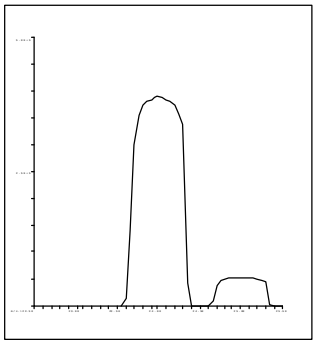
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

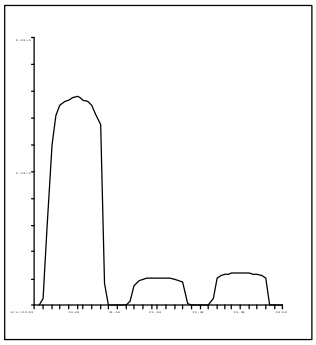
Element	Actual	Required	Flag



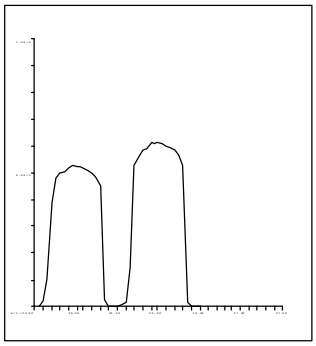
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



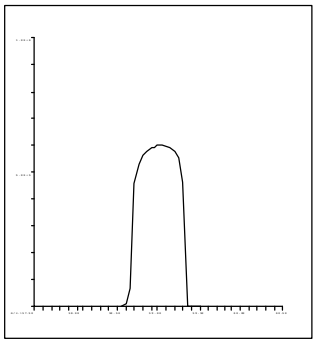
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



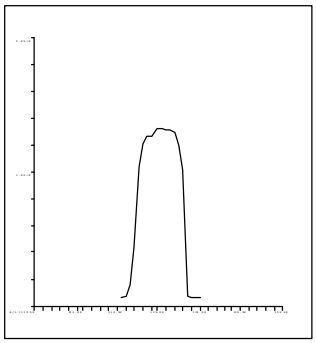
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



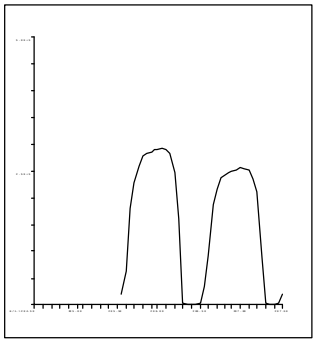
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



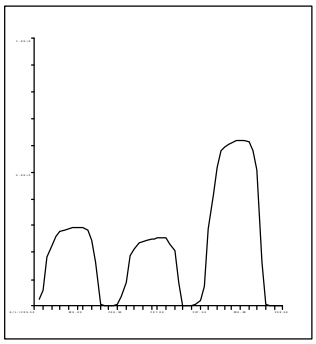
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

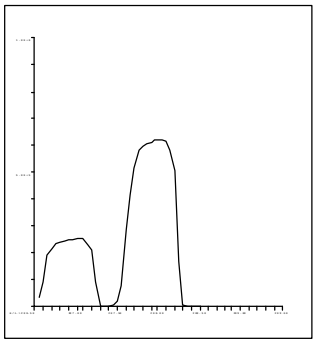


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Mar 2016 10:50:36 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	64030.00	0.00	
24 Mg	356184.00	0.00	
25 Mg	47474.40	0.00	
26 Mg	55352.20	0.00	
59 Co	548784.00	0.00	
115 In	1237250.00	0.00	
206 Pb	284929.00	0.00	
207 Pb	248633.00	0.00	
208 Pb	604949.00	0.00	

RSD (%)

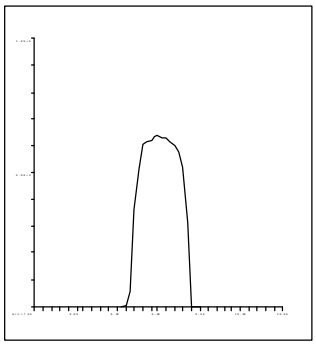
Element	Actual	Required	Flag
9 Be	1.43	5.00	
24 Mg	0.31	5.00	
25 Mg	0.61	5.00	
26 Mg	0.52	5.00	
59 Co	0.99	5.00	
115 In	0.45	5.00	
206 Pb	1.12	5.00	
207 Pb	1.38	5.00	
208 Pb	1.51	5.00	

Ion Ratio

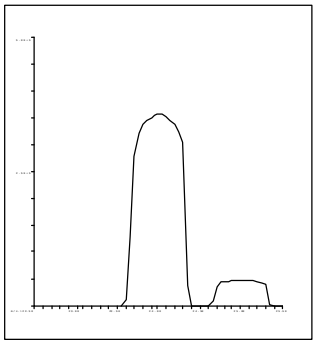
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

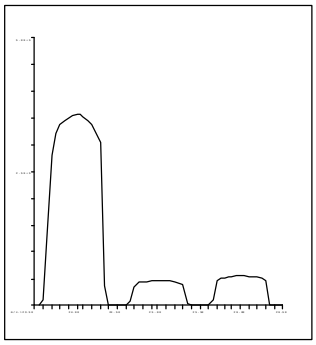
Element	Actual	Required	Flag



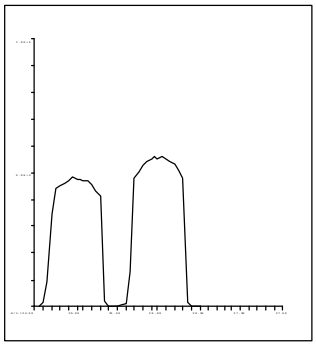
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



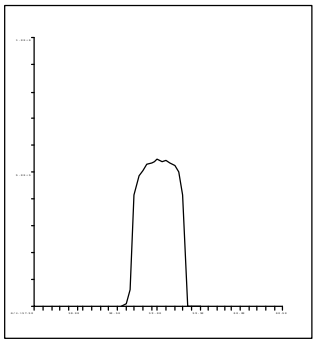
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



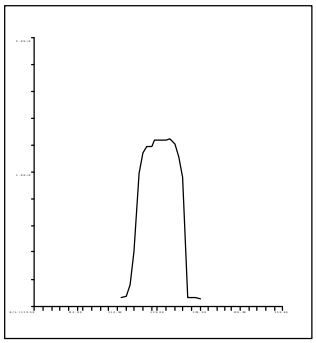
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



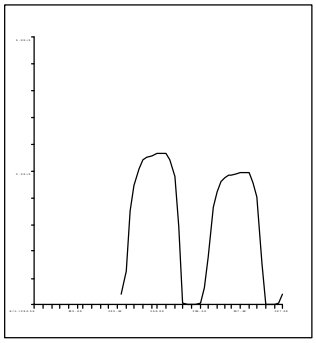
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



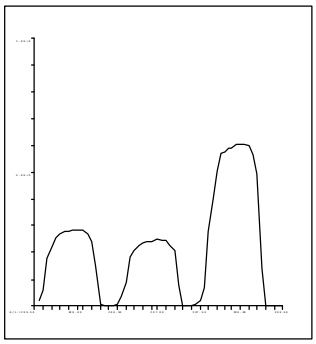
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

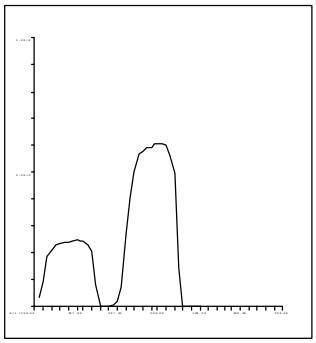


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 9 Mar 2016 08:48:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	50663.90	0.00	
24 Mg	391942.00	0.00	
25 Mg	52209.10	0.00	
26 Mg	61511.20	0.00	
59 Co	452457.00	0.00	
115 In	1087810.00	0.00	
206 Pb	303240.00	0.00	
207 Pb	264224.00	0.00	
208 Pb	646943.00	0.00	

RSD (%)

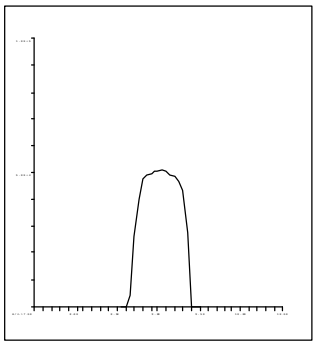
Element	Actual	Required	Flag
9 Be	1.62	5.00	
24 Mg	0.44	5.00	
25 Mg	0.96	5.00	
26 Mg	0.94	5.00	
59 Co	1.31	5.00	
115 In	1.30	5.00	
206 Pb	1.98	5.00	
207 Pb	2.16	5.00	
208 Pb	2.19	5.00	

Ion Ratio

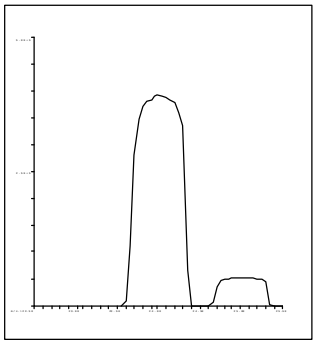
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

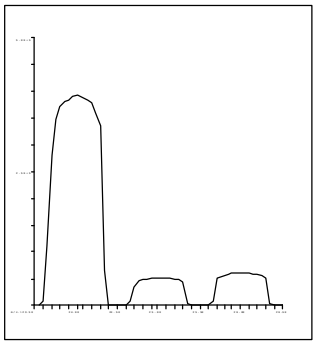
Element	Actual	Required	Flag



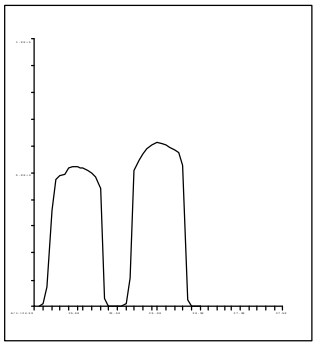
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



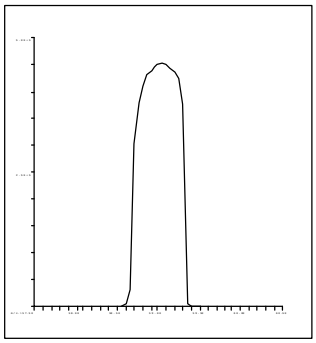
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



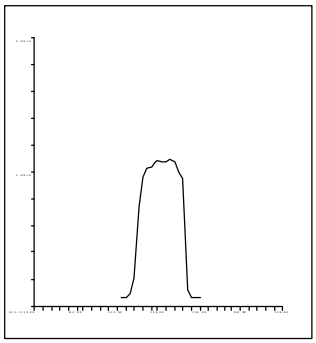
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



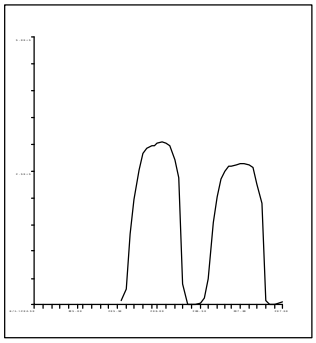
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



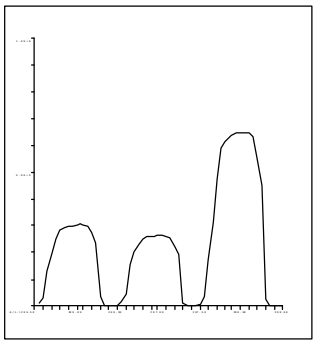
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

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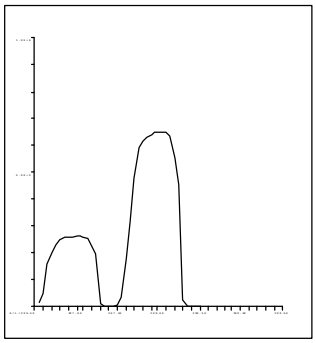

208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160226A1

Instrument ID: ICPMS-02

Analyte	Data File	A0226002.D	A0226003.D	A0226004.D	A0226005.D	A0226006.D	A0226007.D	A0226008.D	A0226009.D	A0226010.D	
	Acq. Date-Time	02/26/2016 07:35 PM	02/26/2016 07:41 PM	02/26/2016 07:47 PM	02/26/2016 07:52 PM	02/26/2016 07:58 PM	02/26/2016 08:03 PM	02/26/2016 08:09 PM	02/26/2016 08:14 PM	02/26/2016 08:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	203921.1		219372.2	216758.8	213499.5	209337.4	209526.9	202738.2	200626.5	
55 Mn [2]	CPS	419.2		4510.6	44194.4	86721.2	166868.5	331604.7	804556.2	1630499.1	0.9999
52 Cr [2]	CPS	430		8290.4	78095.1	155015.8	299802.9	597867.8	1463807.5	2872645.4	1.0000
72 Ge (ISTD) [1]	CPS	164771.4		176991.3	176108.1	171058.3	168702.9	170189.2	166024.5	164349.5	
78 Se [1]	CPS	5.6		363.4	3783.9	7555.4	15064.2	29720.4	71825.8	141288.1	1.0000
72 Ge (ISTD) [2]	CPS	135207	147912.9	146598.5	145259.7	142616.2	139991.3	141092.9	136435.5	135652.3	
75 As [2]	CPS	42.7	212.9	886.3	8740.6	17366.7	33656.5	67293.5	162863.1	320668.9	1.0000
103 Rh (ISTD) [2]	CPS	3649054.4		3919515.8	3891447.1	3870199.5	3833322.2	3850266.1	3726860.3	3690356.2	
95 Mo [2]	CPS	535.6		5023.2	47934.9	93869.6	185151.6	372272.6	909396.3	1797219.2	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307003.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:48 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	171872.1		164481.1	162231.7	158833.7	159849.4	158058.1	154833.5	152727.7	
55 Mn [2]	CPS	160.1		3182.6	30919.3	61545	122150.4	245945.4	606643.3	1200838.7	1.0000
52 Cr [2]	CPS	240.5		5391.7	51963.5	102895.9	207876.3	418756.5	1024609.3	2049143.5	1.0000
72 Ge (ISTD) [1]	CPS	151772		146301.7	143870.9	142366.7	141838.4	138142	136219.5	132719.9	
78 Se [1]	CPS	4.4		294.5	3074.9	5838	11748	23003.7	59319.3	116263.3	1.0000
72 Ge (ISTD) [2]	CPS	114739.3	113154.9	110851.4	109870.7	107891	107005.2	106125.1	103960.2	101544.3	
75 As [2]	CPS	24.4	144	626.2	6010.1	11933.8	24136.6	48628	120525.2	241541.1	0.9999
103 Rh (ISTD) [2]	CPS	3065661.7		2997102.7	2941755.2	2921619.2	2927018.5	2892832.2	2857868.5	2799519.5	
95 Mo [2]	CPS	136.7		3299.4	33462.5	66703.6	133184	270430.5	677899.6	1347873.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICPMS-02

Analyte	Data File	A0308002.D	A0308003.D	A0308004.D	A0308005.D	A0308006.D	A0308007.D	A0308008.D	A0308009.D	A0308010.D	
	Acq. Date-Time	03/08/2016 11:24 AM	03/08/2016 11:30 AM	03/08/2016 11:35 AM	03/08/2016 11:41 AM	03/08/2016 11:46 AM	03/08/2016 11:52 AM	03/08/2016 11:57 AM	03/08/2016 12:03 PM	03/08/2016 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	106194.3		102211	101219.5	99453.2	98731.1	98814.8	96953.2	95851.4	
55 Mn [2]	CPS	62.1		1995.4	18755.8	37406.6	74766.5	152694.5	376809.2	754275.7	1.0000
52 Cr [2]	CPS	182.1		3361.4	33026.5	65379.4	130745.2	268803.2	661307.7	1360970.1	0.9998
72 Ge (ISTD) [1]	CPS	90543.7		88064.6	86784.4	85838.5	84985.3	84090.3	83972.5	81628.4	
78 Se [1]	CPS	0		183.3	1731.3	3570.5	7277.5	14741.6	36279.2	72013	1.0000
72 Ge (ISTD) [2]	CPS	73165.4	70975.8	71114	70269.5	68767.4	68345.6	69433.5	67040.2	65367.9	
75 As [2]	CPS	8.9	79.6	373.3	3904.1	7659.2	15332.2	31349.6	78031.8	156359.3	0.9999
103 Rh (ISTD) [2]	CPS	2123839.9		2046142.4	2046093.3	2033311.7	2029111.6	2021066.6	1990908.3	1961243.2	
95 Mo [2]	CPS	27.8		2190.2	21892.3	43302.7	87618.8	181283.3	449483	909695.9	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160309A

Instrument ID: ICPMS-02

Analyte	Data File	A0309002.D	A0309004.D	A0309005.D	A0309006.D	A0309007.D	A0309008.D	A0309009.D	A0309010.D	
	Acq. Date-Time	03/09/2016 09:12 AM	03/09/2016 09:23 AM	03/09/2016 09:27 AM	03/09/2016 09:32 AM	03/09/2016 09:40 AM	03/09/2016 09:46 AM	03/09/2016 09:51 AM	03/09/2016 09:57 AM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
72 Ge (ISTD) [1]	CPS	82803.2	81383	72094.1	75683.1	80929.4	80810.8	80067.5	79852.7	
78 Se [1]	CPS	1.1	138.9	1484.6	3217.1	6991.8	14295.7	35584.3	72631.5	0.9999
103 Rh (ISTD) [2]	CPS	2080134.6	2042723.5	1874003.3	1899628.5	2074224.4	2084885.2	2052661.7	2056445.4	
95 Mo [2]	CPS	58.9	2081.3	19767.3	40252.4	87617.9	181444.4	452796.3	937205.4	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.958	0.10	10.00	0	99.6	90	110				
Manganese	97.945	0.50	100.0	0	97.9	90	110				
Molybdenum	9.539	0.50	10.00	0	95.4	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.109	0.10	0.1000	0	109	80	120				
Manganese	0.490	0.50	0.5000	0	98.0	80	120				
Molybdenum	0.590	0.50	0.5000	0	118	80	120				
Selenium	0.489	0.50	0.5000	0	97.8	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.269	0.10	20.00	0	101	90	110				
Manganese	20.070	0.50	20.00	0	100	90	110				
Molybdenum	19.888	0.50	20.00	0	99.4	90	110				
Selenium	20.131	0.50	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.100	0.10	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.430	0.50	20.00	0	102	90	110				
Molybdenum	19.971	0.50	20.00	0	99.9	90	110				
Selenium	20.039	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.307	0.10	20.00	0	102	90	110				
Manganese	20.009	0.50	20.00	0	100	90	110				
Molybdenum	20.366	0.50	20.00	0	102	90	110				
Selenium	20.198	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	90	110				
Manganese	20.005	0.50	20.00	0	100	90	110				
Molybdenum	20.039	0.50	20.00	0	100	90	110				
Selenium	20.800	0.50	20.00	0	104	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10	0.1000	0	97.5	70	130				
Manganese	0.492	0.50	0.5000	0	98.4	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.7	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.495	0.50	0.5000	0	99.0	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.621	0.10	20.00	0	103	90	110				
Manganese	19.891	0.50	20.00	0	99.5	90	110				
Molybdenum	20.187	0.50	20.00	0	101	90	110				
Selenium	20.453	0.50	20.00	0	102	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Manganese	20.085	0.50	20.00	0	100	90	110				
Molybdenum	20.162	0.50	20.00	0	101	90	110				
Selenium	20.607	0.50	20.00	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.083	0.10	0.1000	0	82.9	70	130				
Manganese	0.481	0.50	0.5000	0	96.2	70	130				
Molybdenum	0.524	0.50	0.5000	0	105	70	130				
Selenium	0.504	0.50	0.5000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0	102	90	110				
Manganese	100.893	0.50	100.0	0	101	90	110				
Molybdenum	10.973	0.50	10.00	0	110	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.118	0.10	0.1000	0	118	80	120				
Manganese	0.510	0.50	0.5000	0	102	80	120				
Molybdenum	0.555	0.50	0.5000	0	111	80	120				
Selenium	0.528	0.50	0.5000	0	106	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.950	0.10	20.00	0	94.8	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	19.830	0.50	20.00	0	99.1	90	110				
Selenium	19.014	0.50	20.00	0	95.1	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.304	0.10	20.00	0	96.5	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	18.928	0.50	20.00	0	94.6	90	110				
Selenium	18.795	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Manganese	0.520	0.50	0.5000	0	104	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.5	70	130				
Selenium	0.529	0.50	0.5000	0	106	70	130				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.252	0.10	20.00	0	96.3	90	110				
Manganese	19.159	0.50	20.00	0	95.8	90	110				
Molybdenum	19.275	0.50	20.00	0	96.4	90	110				
Selenium	18.855	0.50	20.00	0	94.3	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.971	0.10	20.00	0	94.9	90	110				
Manganese	19.171	0.50	20.00	0	95.9	90	110				
Molybdenum	18.990	0.50	20.00	0	94.9	90	110				
Selenium	19.138	0.50	20.00	0	95.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.105	0.10	20.00	0	95.5	90	110				
Manganese	19.019	0.50	20.00	0	95.1	90	110				
Molybdenum	18.977	0.50	20.00	0	94.9	90	110				
Selenium	18.725	0.50	20.00	0	93.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.086	0.10	20.00	0	95.4	90	110				
Manganese	19.161	0.50	20.00	0	95.8	90	110				
Molybdenum	18.828	0.50	20.00	0	94.1	90	110				
Selenium	18.873	0.50	20.00	0	94.4	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Manganese	0.504	0.50	0.5000	0	101	70	130				
Molybdenum	0.503	0.50	0.5000	0	101	70	130				
Selenium	0.530	0.50	0.5000	0	106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.090	0.10	10.00	0	101	90	110				
Manganese	100.924	0.50	100.0	0	101	90	110				
Molybdenum	10.992	0.50	10.00	0	110	90	110				
Selenium	10.646	0.50	10.00	0	106	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.102	0.10	0.1000	0	102	80	120				
Manganese	0.535	0.50	0.5000	0	107	80	120				
Molybdenum	0.563	0.50	0.5000	0	113	80	120				
Selenium	0.533	0.50	0.5000	0	107	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.764	0.10	20.00	0	93.8	90	110				
Manganese	19.153	0.50	20.00	0	95.8	90	110				
Molybdenum	19.235	0.50	20.00	0	96.2	90	110				
Selenium	19.061	0.50	20.00	0	95.3	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.769	0.10	20.00	0	93.8	90	110				
Manganese	19.043	0.50	20.00	0	95.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.520	0.50	20.00	0	97.6	90	110				
Selenium	19.790	0.50	20.00	0	98.9	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.941	0.10	20.00	0	94.7	90	110				
Manganese	19.129	0.50	20.00	0	95.6	90	110				
Molybdenum	19.306	0.50	20.00	0	96.5	90	110				
Selenium	18.200	0.50	20.00	0	91.0	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255293**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.210	0.10	20.00	0	96.0	90	110				
Manganese	19.298	0.50	20.00	0	96.5	90	110				
Molybdenum	19.089	0.50	20.00	0	95.4	90	110				
Selenium	18.799	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.106	0.10	0.1000	0	106	70	130				
Manganese	0.527	0.50	0.5000	0	105	70	130				
Molybdenum	0.517	0.50	0.5000	0	103	70	130				
Selenium	0.493	0.50	0.5000	0	98.5	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ICV** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.765	0.50	10.00	0	108	90	110				
Selenium	10.598	0.50	10.00	0	106	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ZZZZZZ** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258202**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.560	0.50	0.5000	0	112	80	120				
Selenium	0.502	0.50	0.5000	0	100	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **CCV** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.192	0.50	20.00	0	96.0	90	110				
Selenium	19.307	0.50	20.00	0	96.5	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **CCV** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258225**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	18.946	0.50	20.00	0	94.7	90	110				
Selenium	19.060	0.50	20.00	0	95.3	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **CCV** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258229**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.295	0.50	20.00	0	96.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV3	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106330
Client ID:	CCV	Batch ID:	R106330	TestNo:	EPA 6020			Analysis Date:	3/9/2016	SeqNo:	2258229

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	19.426	0.50	20.00	0	97.1	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106330
Client ID:	ZZZZZZ	Batch ID:	R106330	TestNo:	EPA 6020			Analysis Date:	3/9/2016	SeqNo:	2258231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.499	0.50	0.5000	0	99.8	70	130				
Selenium	0.508	0.50	0.5000	0	102	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.336	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.045	1.0	1.000	0	105	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.382	1.0	20.00	0	102	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.164	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	CCV	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.098	1.0	20.00	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.014	1.0	1.000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.303	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.945	1.0	1.000	0	94.5	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.346	1.0	20.00	0	96.7	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.460	1.0	20.00	0	97.3	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.972	1.0	1.000	0	97.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV3	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.547	1.0	20.00	0	97.7	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV4	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.257	1.0	20.00	0	96.3	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV5	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.318	1.0	20.00	0	96.6	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV6	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.294	1.0	20.00	0	96.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLCCV2	**CCV2**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **ZZZZZZ**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.981	1.0	1.000	0	98.1	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.001	1.0	10.00	0	100	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: ~~2255576~~ 2255573

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	~~0.947~~ 0.934	1.0	1.000	0	~~94.7~~ 93.4	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.638	1.0	20.00	0	93.2	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.662	1.0	20.00	0	93.3	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2256331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.659	1.0	20.00	0	93.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Nancy for 3/14/2016

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCV	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2256337

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.741	1.0	20.00	0	93.7	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2256339

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.054	1.0	1.000	0	105	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.267	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.108	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	0.167	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.124	0.50									
Selenium	ND	0.50									

Sample ID **CCB6** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.142	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.234	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.190	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.072	0.50									
Selenium	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.093	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.097	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.067	0.50									
Selenium	ND	0.50									

Sample ID **CCB6** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.077	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICB	SampType:	ICB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255250

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.018	0.10									
Manganese	ND	0.50									
Molybdenum	0.219	0.50									
Selenium	ND	0.50									

Sample ID	CCB1	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255266

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.087	0.50									
Selenium	ND	0.50									

Sample ID	CCB2	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255276

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.082	0.50									
Selenium	ND	0.50									

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.080	0.50									
Selenium	ND	0.50									

Sample ID	CCB4	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255294

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.079	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ICB** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.202	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **CCB** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **CCB** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.075	0.50									
Selenium	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **CCB** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.119	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.258	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2256332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.115	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2256338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.087	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.057	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	80	120				
Manganese	16.459	0.50	20.00	0	82.3	80	120				
Molybdenum	23.196	0.50	20.00	0	116	80	120				
Selenium	19.281	0.50	20.00	0	96.4	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.347	0.50	20.00	0	81.7	80	120				
Molybdenum	23.232	0.50	20.00	0	116	80	120				
Selenium	19.506	0.50	20.00	0	97.5	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.348	0.10	20.00	0	102	80	120				
Manganese	16.506	0.50	20.00	0	82.5	80	120				
Molybdenum	23.406	0.50	20.00	0	117	80	120				
Selenium	19.192	0.50	20.00	0	96.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.085	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.824	0.10	20.00	0	104	80	120				
Manganese	17.818	0.50	20.00	0	89.1	80	120				
Molybdenum	23.941	0.50	20.00	0	120	80	120				
Selenium	19.099	0.50	20.00	0	95.5	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.039	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.494	0.10	20.00	0	107	80	120				
Manganese	19.579	0.50	20.00	0	97.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.538	0.50	20.00	0	118	80	120				
Selenium	21.101	0.50	20.00	0	106	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSA	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.043	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.531	0.10	20.00	0	108	80	120				
Manganese	19.559	0.50	20.00	0	97.8	80	120				
Molybdenum	23.541	0.50	20.00	0	118	80	120				
Selenium	20.039	0.50	20.00	0	100	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.089	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.865	0.10	20.00	0	104	80	120				
Manganese	17.661	0.50	20.00	0	88.3	80	120				
Molybdenum	23.702	0.50	20.00	0	119	80	120				
Selenium	19.324	0.50	20.00	0	96.6	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.047	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.856	0.10	20.00	0	104	80	120				
Manganese	17.858	0.50	20.00	0	89.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICSAB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255297

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.732	0.50	20.00	0	119	80	120				
Selenium	19.634	0.50	20.00	0	98.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ICSA** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.080	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ICSAB** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258201**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	20.630	0.50	20.00	0	103	80	120				
Selenium	17.803	0.50	20.00	0	89.0	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ICSA** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.056	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106330**
Client ID: **ICSAB** Batch ID: **R106330** TestNo: **EPA 6020** Analysis Date: **3/9/2016** SeqNo: **2258233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	21.000	0.50	20.00	0	105	80	120				
Selenium	17.605	0.50	20.00	0	88.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.172	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.118	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.163	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.744	1.0	20.00	0	98.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.177	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.112	1.0	20.00	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.967	1.0	20.00	0	115	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.175	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.308	1.0	20.00	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.161	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.638	1.0	20.00	0	103	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2256340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.259	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2256341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.953	1.0	20.00	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	203921.1	203921.1	100	PASS	70-130	135207	135207	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	220681.7	203921.1	108.22	PASS	70-130	147912.9	135207	109.4	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	219372.2	203921.1	107.58	PASS	70-130	146598.5	135207	108.43	PASS	70-130
Std3-5/50 ppb	ICAL	1	216758.8	203921.1	106.3	PASS	70-130	145259.7	135207	107.44	PASS	70-130
Std4-10/100 ppb	ICAL	1	213499.5	203921.1	104.7	PASS	70-130	142616.2	135207	105.48	PASS	70-130
Std5-20/200 ppb	ICAL	1	209337.4	203921.1	102.66	PASS	70-130	139991.3	135207	103.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	209526.9	203921.1	102.75	PASS	70-130	141092.9	135207	104.35	PASS	70-130
Std7-100/1000 ppb	ICAL	1	202738.2	203921.1	99.42	PASS	70-130	136435.5	135207	100.91	PASS	70-130
Std8-200/2000 ppb	ICAL	1	200626.5	203921.1	98.38	PASS	70-130	135652.3	135207	100.33	PASS	70-130
ICV	ICV	1	147643.7	203921.1	72.4	PASS	70-130	98316.8	135207	72.72	PASS	70-130
ICB	ICB	1	185314	203921.1	90.88	PASS	70-130	126582.2	135207	93.62	PASS	70-130
LLICV	CCV1	1	191313.1	203921.1	93.82	PASS	70-130	133211.4	135207	98.52	PASS	70-130
ICSA1	ICSA	1	213396.6	203921.1	104.65	PASS	70-130	135652.7	135207	100.33	PASS	70-130
ICSAB1	ICSAB	1	221245.2	203921.1	108.5	PASS	70-130	137509.6	135207	101.7	PASS	70-130
CCV1	CCV	1	195379.1	203921.1	95.81	PASS	70-130	134446.3	135207	99.44	PASS	70-130
CCB1	CCB	1	174751.1	203921.1	85.7	PASS	70-130	120968.8	135207	89.47	PASS	70-130
CCV2	CCV	1	179607.1	203921.1	88.077	PASS	70-130	126298.5	135207	93.41	PASS	70-130
CCB2	CCB	1	160161.7	203921.1	78.54	PASS	70-130	113420.9	135207	83.89	PASS	70-130
MB-56419	MBLK	1	195746.7	203921.1	95.99	PASS	70-130	133237.9	135207	98.54	PASS	70-130
LCS-56419	LCS	1	198779.1	203921.1	97.48	PASS	70-130	132942.6	135207	98.33	PASS	70-130
N018861-007B	SAMP	1	145037.4	203921.1	71.12	PASS	70-130	81790.3	135207	60.49	NR!	70-130
CCV3	CCV	1	218523.1	203921.1	107.16	PASS	70-130	147319.6	135207	108.96	PASS	70-130
CCB3	CCB	1	194355	203921.1	95.31	PASS	70-130	131180.5	135207	97.022	PASS	70-130
N018861-007B	SAMP	5	169755.1	203921.1	83.25	PASS	70-130	106697.1	135207	78.91	PASS	70-130
N018861-007B-PS	PS	1	152670	203921.1	74.87	PASS	70-130	84520.7	135207	62.51	NR!	70-130
N018861-007B-MS	MS	1	154727.3	203921.1	75.88	PASS	70-130	86130.2	135207	63.7	NR!	70-130
N018861-007B-MSD	MSD	1	156559.8	203921.1	76.77	PASS	70-130	85834.3	135207	63.48	NR!	70-130
N018843-001B	SAMP	1	198008.6	203921.1	97.1	PASS	70-130	127497.8	135207	94.3	PASS	70-130
N018843-002B	SAMP	1	192973	203921.1	94.63	PASS	70-130	125360.2	135207	92.72	PASS	70-130
N018843-003B	SAMP	1	191316.2	203921.1	93.82	PASS	70-130	125853.5	135207	93.082	PASS	70-130
N018843-004B	SAMP	1	186670	203921.1	91.54	PASS	70-130	122724.5	135207	90.77	PASS	70-130
N018843-005B	SAMP	1	187770.6	203921.1	92.08	PASS	70-130	121427.1	135207	89.81	PASS	70-130
N018843-006B	SAMP	1	185135.4	203921.1	90.79	PASS	70-130	120717.9	135207	89.28	PASS	70-130
CCV4	CCV	1	202073.9	203921.1	99.094	PASS	70-130	137979.7	135207	102.05	PASS	70-130
CCB4	CCB	1	180430.1	203921.1	88.48	PASS	70-130	123115.4	135207	91.057	PASS	70-130
LLCCV1	CCV2	1	189392	203921.1	92.88	PASS	70-130	129440.7	135207	95.74	PASS	70-130
ICSA2	ICSA	1	207757.1	203921.1	101.88	PASS	70-130	130512.1	135207	96.53	PASS	70-130
ICSAB2	ICSAB	1	212702.2	203921.1	104.31	PASS	70-130	132273.4	135207	97.83	PASS	70-130
N018843-007B	SAMP	1	182536.8	203921.1	89.51	PASS	70-130	118808.5	135207	87.87	PASS	70-130
N018843-008B	SAMP	1	176908.8	203921.1	86.75	PASS	70-130	115177.1	135207	85.19	PASS	70-130
N018843-009B	SAMP	1	178067.7	203921.1	87.32	PASS	70-130	116983.2	135207	86.52	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	178547.2	203921.1	87.56	PASS	70-130	118426.2	135207	87.59	PASS	70-130
N018843-010B-MS	MS	1	179079	203921.1	87.82	PASS	70-130	117237.4	135207	86.71	PASS	70-130
N018844-001B	SAMP	1	172947.3	203921.1	84.81	PASS	70-130	114601.5	135207	84.76	PASS	70-130
N018845-001B	SAMP	1	151931.7	203921.1	74.51	PASS	70-130	91318.1	135207	67.54	NR!	70-130
N018845-002B	SAMP	1	141662.4	203921.1	69.47	NR!	70-130	82787.6	135207	61.23	NR!	70-130
N018845-003B	SAMP	1	176500.7	203921.1	86.55	PASS	70-130	110473.1	135207	81.71	PASS	70-130
N018845-004B	SAMP	1	171517.6	203921.1	84.11	PASS	70-130	105804.5	135207	78.25	PASS	70-130
CCV5	CCV	1	213508.1	203921.1	104.7	PASS	70-130	143851.3	135207	106.39	PASS	70-130
CCB5	CCB	1	190287	203921.1	93.31	PASS	70-130	128120.7	135207	94.76	PASS	70-130
N018845-006B	SAMP	1	170328	203921.1	83.53	PASS	70-130	107112.9	135207	79.22	PASS	70-130
N018845-007B	SAMP	1	142169.3	203921.1	69.72	NR!	70-130	82802.3	135207	61.24	NR!	70-130
N018845-008B	SAMP	1	176078.2	203921.1	86.35	PASS	70-130	113615.6	135207	84.031	PASS	70-130
N018845-005B	SAMP	1	159059.1	203921.1	78	PASS	70-130	98587.6	135207	72.92	PASS	70-130
CCV6	CCV	1	190726	203921.1	93.53	PASS	70-130	130106.5	135207	96.23	PASS	70-130
CCB6	CCB	1	175643	203921.1	86.13	PASS	70-130	119420.7	135207	88.32	PASS	70-130
LLCCV2	CCV2	1	186336.9	203921.1	91.38	PASS	70-130	127750.8	135207	94.49	PASS	70-130
ICSA3	ICSA	1	193457.1	203921.1	94.87	PASS	70-130	123555.9	135207	91.38	PASS	70-130
ICSAB3	ICSAB	1	197474.6	203921.1	96.84	PASS	70-130	124020.1	135207	91.73	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	164771.4	164771.4	100	PASS	70-130	3649054.4	3649054.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	178524.1	164771.4	108.35	PASS	70-130	3936389.5	3649054.4	107.87	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	176991.3	164771.4	107.42	PASS	70-130	3919515.8	3649054.4	107.41	PASS	70-130
Std3-5/50 ppb	ICAL	1	176108.1	164771.4	106.88	PASS	70-130	3891447.1	3649054.4	106.64	PASS	70-130
Std4-10/100 ppb	ICAL	1	171058.3	164771.4	103.82	PASS	70-130	3870199.5	3649054.4	106.06	PASS	70-130
Std5-20/200 ppb	ICAL	1	168702.9	164771.4	102.39	PASS	70-130	3833322.2	3649054.4	105.05	PASS	70-130
Std6-40/400 ppb	ICAL	1	170189.2	164771.4	103.29	PASS	70-130	3850266.1	3649054.4	105.51	PASS	70-130
Std7-100/1000 ppb	ICAL	1	166024.5	164771.4	100.76	PASS	70-130	3726860.3	3649054.4	102.13	PASS	70-130
Std8-200/2000 ppb	ICAL	1	164349.5	164771.4	99.74	PASS	70-130	3690356.2	3649054.4	101.13	PASS	70-130
ICV	ICV	1	116781.5	164771.4	70.87	PASS	70-130	3036599.5	3649054.4	83.22	PASS	70-130
ICB	ICB	1	149925.6	164771.4	90.99	PASS	70-130	3466105.7	3649054.4	94.99	PASS	70-130
LLICV	CCV1	1	159338.6	164771.4	96.7	PASS	70-130	3608489	3649054.4	98.89	PASS	70-130
ICSA1	ICSA	1	156599	164771.4	95.04	PASS	70-130	3377494.3	3649054.4	92.56	PASS	70-130
ICSAB1	ICSAB	1	162406	164771.4	98.56	PASS	70-130	3395422	3649054.4	93.049	PASS	70-130
CCV1	CCV	1	166758.6	164771.4	101.21	PASS	70-130	3637663.8	3649054.4	99.69	PASS	70-130
CCB1	CCB	1	144543.2	164771.4	87.72	PASS	70-130	3292290.8	3649054.4	90.22	PASS	70-130
CCV2	CCV	1	156637.1	164771.4	95.063	PASS	70-130	3429982.5	3649054.4	94	PASS	70-130
CCB2	CCB	1	136446.8	164771.4	82.81	PASS	70-130	3110562	3649054.4	85.24	PASS	70-130
MB-56419	MBLK	1	160968.4	164771.4	97.69	PASS	70-130	3536710.9	3649054.4	96.92	PASS	70-130
LCS-56419	LCS	1	163545.2	164771.4	99.26	PASS	70-130	3578821.9	3649054.4	98.075	PASS	70-130
N018861-007B	SAMP	1	92172.8	164771.4	55.94	NR!	70-130	1849419.4	3649054.4	50.68	NR!	70-130
CCV3	CCV	1	180298.9	164771.4	109.42	PASS	70-130	3895709.1	3649054.4	106.76	PASS	70-130
CCB3	CCB	1	158917.8	164771.4	96.45	PASS	70-130	3505563	3649054.4	96.068	PASS	70-130
N018861-007B	SAMP	5	126139	164771.4	76.55	PASS	70-130	2630783.5	3649054.4	72.095	PASS	70-130
N018861-007B-PS	PS	1	97455.4	164771.4	59.15	NR!	70-130	1922403.9	3649054.4	52.68	NR!	70-130
N018861-007B-MS	MS	1	97479.9	164771.4	59.16	NR!	70-130	1950060	3649054.4	53.44	NR!	70-130
N018861-007B-MSD	MSD	1	97669.1	164771.4	59.28	NR!	70-130	1960540.1	3649054.4	53.73	NR!	70-130
N018843-001B	SAMP	1	154505	164771.4	93.77	PASS	70-130	3201090.1	3649054.4	87.72	PASS	70-130
N018843-002B	SAMP	1	153001.9	164771.4	92.86	PASS	70-130	3082537.6	3649054.4	84.47	PASS	70-130
N018843-003B	SAMP	1	152606.6	164771.4	92.62	PASS	70-130	3088205.7	3649054.4	84.63	PASS	70-130
N018843-004B	SAMP	1	148205.7	164771.4	89.95	PASS	70-130	3041807.1	3649054.4	83.36	PASS	70-130
N018843-005B	SAMP	1	149713.4	164771.4	90.86	PASS	70-130	3027730.7	3649054.4	82.97	PASS	70-130
N018843-006B	SAMP	1	146394.4	164771.4	88.85	PASS	70-130	3000338.5	3649054.4	82.22	PASS	70-130
CCV4	CCV	1	173239.7	164771.4	105.14	PASS	70-130	3640849	3649054.4	99.78	PASS	70-130
CCB4	CCB	1	148965.3	164771.4	90.41	PASS	70-130	3275233.4	3649054.4	89.76	PASS	70-130
LLCCV1	CCV2	1	155869.7	164771.4	94.6	PASS	70-130	3446043.8	3649054.4	94.44	PASS	70-130
ICSA2	ICSA	1	150867.6	164771.4	91.56	PASS	70-130	3213929.4	3649054.4	88.076	PASS	70-130
ICSAB2	ICSAB	1	158271.8	164771.4	96.055	PASS	70-130	3224762.2	3649054.4	88.37	PASS	70-130
N018843-007B	SAMP	1	142975.8	164771.4	86.77	PASS	70-130	2995327.3	3649054.4	82.085	PASS	70-130
N018843-008B	SAMP	1	141168.5	164771.4	85.68	PASS	70-130	2872974.6	3649054.4	78.73	PASS	70-130
N018843-009B	SAMP	1	141702.9	164771.4	86	PASS	70-130	2919941.9	3649054.4	80.019	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-010B	SAMP	1	142570.5	164771.4	86.53	PASS	70-130	2942353.9	3649054.4	80.63	PASS	70-130
N018843-010B-MS	MS	1	142060.1	164771.4	86.22	PASS	70-130	2932205.3	3649054.4	80.36	PASS	70-130
N018844-001B	SAMP	1	139722.8	164771.4	84.8	PASS	70-130	2876373.1	3649054.4	78.83	PASS	70-130
N018845-001B	SAMP	1	108610.4	164771.4	65.92	NR!	70-130	2128330.6	3649054.4	58.33	NR!	70-130
N018845-002B	SAMP	1	95869.5	164771.4	58.18	NR!	70-130	1942286.2	3649054.4	53.23	NR!	70-130
N018845-003B	SAMP	1	128511.8	164771.4	77.99	PASS	70-130	2649370.4	3649054.4	72.6	PASS	70-130
N018845-004B	SAMP	1	125067.9	164771.4	75.9	PASS	70-130	2557456.8	3649054.4	70.085	PASS	70-130
CCV5	CCV	1	179680.3	164771.4	109.05	PASS	70-130	3748949.6	3649054.4	102.74	PASS	70-130
CCB5	CCB	1	159505.7	164771.4	96.8	PASS	70-130	3364377.4	3649054.4	92.2	PASS	70-130
N018845-006B	SAMP	1	125078.4	164771.4	75.91	PASS	70-130	2575526.2	3649054.4	70.58	PASS	70-130
N018845-007B	SAMP	1	96905.6	164771.4	58.81	NR!	70-130	1907283.2	3649054.4	52.27	NR!	70-130
N018845-008B	SAMP	1	135908.1	164771.4	82.48	PASS	70-130	2804713.8	3649054.4	76.86	PASS	70-130
N018845-005B	SAMP	1	117850.1	164771.4	71.52	PASS	70-130	2381565	3649054.4	65.27	NR!	70-130
CCV6	CCV	1	161230.3	164771.4	97.85	PASS	70-130	3441226.2	3649054.4	94.3	PASS	70-130
CCB6	CCB	1	146286.4	164771.4	88.78	PASS	70-130	3180107.3	3649054.4	87.15	PASS	70-130
LLCCV2	CCV2	1	154368	164771.4	93.69	PASS	70-130	3364032	3649054.4	92.19	PASS	70-130
ICSA3	ICSA	1	146304.2	164771.4	88.79	PASS	70-130	3007549.2	3649054.4	82.42	PASS	70-130
ICSAB3	ICSAB	1	148570.5	164771.4	90.17	PASS	70-130	3002123.9	3649054.4	82.27	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	171872.1	171872.1	100	PASS	70-130	114739.3	114739.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	166885.6	171872.1	97.099	PASS	70-130	113154.9	114739.3	98.62	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	164481.1	171872.1	95.7	PASS	70-130	110851.4	114739.3	96.61	PASS	70-130
Std3-5/50 ppb	ICAL	1	162231.7	171872.1	94.39	PASS	70-130	109870.7	114739.3	95.76	PASS	70-130
Std4-10/100 ppb	ICAL	1	158833.7	171872.1	92.41	PASS	70-130	107891	114739.3	94.031	PASS	70-130
Std5-20/200 ppb	ICAL	1	159849.4	171872.1	93.005	PASS	70-130	107005.2	114739.3	93.26	PASS	70-130
Std6-40/400 ppb	ICAL	1	158058.1	171872.1	91.96	PASS	70-130	106125.1	114739.3	92.49	PASS	70-130
Std7-100/1000 ppb	ICAL	1	154833.5	171872.1	90.086	PASS	70-130	103960.2	114739.3	90.61	PASS	70-130
Std8-200/2000 ppb	ICAL	1	152727.7	171872.1	88.86	PASS	70-130	101544.3	114739.3	88.5	PASS	70-130
ICV	ICV	1	169671.3	171872.1	98.72	PASS	70-130	113930.8	114739.3	99.3	PASS	70-130
ICB	ICB	1	161352	171872.1	93.88	PASS	70-130	109872.1	114739.3	95.76	PASS	70-130
LLICV	CCV1	1	162638.9	171872.1	94.63	PASS	70-130	106883.6	114739.3	93.15	PASS	70-130
ICSA1	ICSA	1	165823.9	171872.1	96.48	PASS	70-130	104594.7	114739.3	91.16	PASS	70-130
ICSAB1	ICSAB	1	155734.6	171872.1	90.61	PASS	70-130	97742.6	114739.3	85.19	PASS	70-130
LLICV	CCV1	1	177090.1	171872.1	103.04	PASS	70-130	114372.4	114739.3	99.68	PASS	70-130
CCV1	CCV	1	165901.8	171872.1	96.53	PASS	70-130	109469.2	114739.3	95.41	PASS	70-130
CCB1	CCB	1	163804.8	171872.1	95.31	PASS	70-130	109342.2	114739.3	95.3	PASS	70-130
CCV2	CCV	1	155556.3	171872.1	90.51	PASS	70-130	102231.9	114739.3	89.099	PASS	70-130
CCB2	CCB	1	157102.8	171872.1	91.41	PASS	70-130	104574.2	114739.3	91.14	PASS	70-130
LLCCV1	CCV2	1	157849.7	171872.1	91.84	PASS	70-130	102750.8	114739.3	89.55	PASS	70-130
ICSA2	ICSA	1	169212.6	171872.1	98.45	PASS	70-130	106011.6	114739.3	92.39	PASS	70-130
ICSAB	ICSAB	1	152714.6	171872.1	88.85	PASS	70-130	98577.6	114739.3	85.91	PASS	70-130
CCV3	CCV	1	153037.7	171872.1	89.042	PASS	70-130	100796.8	114739.3	87.85	PASS	70-130
CCB3	CCB	1	148270.4	171872.1	86.27	PASS	70-130	98954.3	114739.3	86.24	PASS	70-130
MB-56419	MBLK	1	153280.5	171872.1	89.18	PASS	70-130	102190.6	114739.3	89.063	PASS	70-130
LCS-56419	LCS	1	161470.8	171872.1	93.95	PASS	70-130	105443.2	114739.3	91.9	PASS	70-130
N018861-007B	SAMP	1	107626.7	171872.1	62.62	NR!	70-130	61963.8	114739.3	54.004	NR!	70-130
N018861-007B	SAMP	5	139931.1	171872.1	81.42	PASS	70-130	85832.7	114739.3	74.81	PASS	70-130
N018861-007B	SAMP	25	147151.9	171872.1	85.62	PASS	70-130	96711	114739.3	84.29	PASS	70-130
N018861-007B-PS	PS	1	115884.6	171872.1	67.42	NR!	70-130	65106.7	114739.3	56.74	NR!	70-130
N018861-007B-PS	PS	5	143156.6	171872.1	83.29	PASS	70-130	88045.5	114739.3	76.74	PASS	70-130
CCV4	CCV	1	153911.3	171872.1	89.55	PASS	70-130	101146.1	114739.3	88.15	PASS	70-130
CCB4	CCB	1	149834.3	171872.1	87.18	PASS	70-130	101093.8	114739.3	88.11	PASS	70-130
N018861-007B-MS	MS	1	116288.3	171872.1	67.66	NR!	70-130	66165.7	114739.3	57.67	NR!	70-130
N018861-007B-MS	MS	5	142234.7	171872.1	82.76	PASS	70-130	86770.1	114739.3	75.62	PASS	70-130
N018861-007B-MSD	MSD	1	120049.1	171872.1	69.85	NR!	70-130	67568.3	114739.3	58.89	NR!	70-130
N018861-007B-MSD	MSD	5	143043.2	171872.1	83.23	PASS	70-130	87883.8	114739.3	76.59	PASS	70-130
N018843-001B	SAMP	1	143101.4	171872.1	83.26	PASS	70-130	93414	114739.3	81.41	PASS	70-130
N018843-002B	SAMP	1	138294.9	171872.1	80.46	PASS	70-130	90858.4	114739.3	79.19	PASS	70-130
N018843-003B	SAMP	1	133971.5	171872.1	77.95	PASS	70-130	90197.3	114739.3	78.61	PASS	70-130
N018843-004B	SAMP	1	131403.8	171872.1	76.45	PASS	70-130	88164	114739.3	76.84	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	133001.7	171872.1	77.38	PASS	70-130	88120.4	114739.3	76.8	PASS	70-130
N018843-006B	SAMP	1	130116.3	171872.1	75.71	PASS	70-130	86799	114739.3	75.65	PASS	70-130
CCV5	CCV	1	138521.4	171872.1	80.6	PASS	70-130	91764.9	114739.3	79.98	PASS	70-130
CCB5	CCB	1	138681.8	171872.1	80.69	PASS	70-130	91960	114739.3	80.15	PASS	70-130
N018843-007B	SAMP	1	128697.6	171872.1	74.88	PASS	70-130	85767.1	114739.3	74.75	PASS	70-130
N018843-008B	SAMP	1	124792.6	171872.1	72.61	PASS	70-130	82876.8	114739.3	72.23	PASS	70-130
N018843-009B	SAMP	1	125473.5	171872.1	73.004	PASS	70-130	83642.8	114739.3	72.9	PASS	70-130
N018843-010B	SAMP	1	125801	171872.1	73.19	PASS	70-130	84701.6	114739.3	73.82	PASS	70-130
N018843-010B	SAMP	5	130323.7	171872.1	75.83	PASS	70-130	89559.4	114739.3	78.055	PASS	70-130
N018843-010B-MS	MS	1	127364.2	171872.1	74.1	PASS	70-130	85640.9	114739.3	74.64	PASS	70-130
N018843-010B-MSD	MSD	1	132060.2	171872.1	76.84	PASS	70-130	89504.6	114739.3	78.007	PASS	70-130
N018844-001B	SAMP	1	121935.3	171872.1	70.95	PASS	70-130	83423.8	114739.3	72.71	PASS	70-130
N018845-001B	SAMP	1	107644.1	171872.1	62.63	NR!	70-130	67051.2	114739.3	58.44	NR!	70-130
N018845-001B	SAMP	5	130910.2	171872.1	76.17	PASS	70-130	83409.2	114739.3	72.69	PASS	70-130
CCV6	CCV	1	140105.1	171872.1	81.52	PASS	70-130	92720.3	114739.3	80.81	PASS	70-130
CCB6	CCB	1	137384.6	171872.1	79.93	PASS	70-130	91840.9	114739.3	80.043	PASS	70-130
LLCCV2	CCV2	1	136439.8	171872.1	79.38	PASS	70-130	89468.7	114739.3	77.98	PASS	70-130
ICSA3	ICSA	1	139750.5	171872.1	81.31	PASS	70-130	88581.9	114739.3	77.2	PASS	70-130
ICSAB3	ICSAB	1	162057	171872.1	94.29	PASS	70-130	103010.5	114739.3	89.78	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	151772	151772	100	PASS	70-130	3065661.7	3065661.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	146962.5	151772	96.83	PASS	70-130	3012633.5	3065661.7	98.27	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146301.7	151772	96.4	PASS	70-130	2997102.7	3065661.7	97.76	PASS	70-130
Std3-5/50 ppb	ICAL	1	143870.9	151772	94.79	PASS	70-130	2941755.2	3065661.7	95.96	PASS	70-130
Std4-10/100 ppb	ICAL	1	142366.7	151772	93.8	PASS	70-130	2921619.2	3065661.7	95.3	PASS	70-130
Std5-20/200 ppb	ICAL	1	141838.4	151772	93.45	PASS	70-130	2927018.5	3065661.7	95.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	138142	151772	91.019	PASS	70-130	2892832.2	3065661.7	94.36	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136219.5	151772	89.75	PASS	70-130	2857868.5	3065661.7	93.22	PASS	70-130
Std8-200/2000 ppb	ICAL	1	132719.9	151772	87.45	PASS	70-130	2799519.5	3065661.7	91.32	PASS	70-130
ICV	ICV	1	145029.5	151772	95.56	PASS	70-130	3118126.4	3065661.7	101.71	PASS	70-130
ICB	ICB	1	142122.4	151772	93.64	PASS	70-130	3000190.3	3065661.7	97.86	PASS	70-130
LLICV	CCV1	1	138927.8	151772	91.54	PASS	70-130	3013514.1	3065661.7	98.3	PASS	70-130
ICSA1	ICSA	1	132052.7	151772	87.007	PASS	70-130	2625999.5	3065661.7	85.66	PASS	70-130
ICSAB1	ICSAB	1	124666.6	151772	82.14	PASS	70-130	2429414.3	3065661.7	79.25	PASS	70-130
LLICV	CCV1	1	150707.1	151772	99.3	PASS	70-130	3143402.4	3065661.7	102.54	PASS	70-130
CCV1	CCV	1	143042.9	151772	94.25	PASS	70-130	2914783.7	3065661.7	95.078	PASS	70-130
CCB1	CCB	1	140510.1	151772	92.58	PASS	70-130	2897607	3065661.7	94.52	PASS	70-130
CCV2	CCV	1	128575.5	151772	84.72	PASS	70-130	2805985.1	3065661.7	91.53	PASS	70-130
CCB2	CCB	1	134516.8	151772	88.63	PASS	70-130	2846550.3	3065661.7	92.85	PASS	70-130
LLCCV1	CCV2	1	133473.7	151772	87.94	PASS	70-130	2835229	3065661.7	92.48	PASS	70-130
ICSA2	ICSA	1	127789.1	151772	84.2	PASS	70-130	2600319.2	3065661.7	84.82	PASS	70-130
ICSAB	ICSAB	1	114090.2	151772	75.17	PASS	70-130	2667953.6	3065661.7	87.027	PASS	70-130
CCV3	CCV	1	131560.2	151772	86.68	PASS	70-130	2686495.3	3065661.7	87.63	PASS	70-130
CCB3	CCB	1	126508.4	151772	83.35	PASS	70-130	2634925.7	3065661.7	85.95	PASS	70-130
MB-56419	MBLK	1	133126	151772	87.71	PASS	70-130	2704909.5	3065661.7	88.23	PASS	70-130
LCS-56419	LCS	1	134847.4	151772	88.85	PASS	70-130	2823509	3065661.7	92.1	PASS	70-130
N018861-007B	SAMP	1	73439.7	151772	48.39	NR!	70-130	1399640.5	3065661.7	45.66	NR!	70-130
N018861-007B	SAMP	5	107925.6	151772	71.11	PASS	70-130	2106210.7	3065661.7	68.7	NR!	70-130
N018861-007B	SAMP	25	123461	151772	81.35	PASS	70-130	2427565.5	3065661.7	79.19	PASS	70-130
N018861-007B-PS	PS	1	77612.5	151772	51.14	NR!	70-130	1493594.9	3065661.7	48.72	NR!	70-130
N018861-007B-PS	PS	5	111354.5	151772	73.37	PASS	70-130	2182119.3	3065661.7	71.18	PASS	70-130
CCV4	CCV	1	130942.4	151772	86.28	PASS	70-130	2716989.8	3065661.7	88.63	PASS	70-130
CCB4	CCB	1	127959.2	151772	84.31	PASS	70-130	2699916.1	3065661.7	88.07	PASS	70-130
N018861-007B-MS	MS	1	77888.9	151772	51.32	NR!	70-130	1503820.5	3065661.7	49.054	NR!	70-130
N018861-007B-MS	MS	5	111806.9	151772	73.67	PASS	70-130	2128237.7	3065661.7	69.42	NR!	70-130
N018861-007B-MSD	MSD	1	81696.3	151772	53.83	NR!	70-130	1522774.8	3065661.7	49.67	NR!	70-130
N018861-007B-MSD	MSD	5	110005.7	151772	72.48	PASS	70-130	2153217.9	3065661.7	70.24	PASS	70-130
N018843-001B	SAMP	1	118695.3	151772	78.21	PASS	70-130	2374852.8	3065661.7	77.47	PASS	70-130
N018843-002B	SAMP	1	116264	151772	76.6	PASS	70-130	2309486.9	3065661.7	75.33	PASS	70-130
N018843-003B	SAMP	1	113949.5	151772	75.079	PASS	70-130	2285971.3	3065661.7	74.57	PASS	70-130
N018843-004B	SAMP	1	113486	151772	74.77	PASS	70-130	2258287.9	3065661.7	73.66	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018843-005B	SAMP	1	111466.7	151772	73.44	PASS	70-130	2225034	3065661.7	72.58	PASS	70-130
N018843-006B	SAMP	1	112715.4	151772	74.27	PASS	70-130	2204002.7	3065661.7	71.89	PASS	70-130
CCV5	CCV	1	119334.6	151772	78.63	PASS	70-130	2489512.8	3065661.7	81.21	PASS	70-130
CCB5	CCB	1	117380.6	151772	77.34	PASS	70-130	2533105.9	3065661.7	82.63	PASS	70-130
N018843-007B	SAMP	1	107922.4	151772	71.11	PASS	70-130	2193481.6	3065661.7	71.55	PASS	70-130
N018843-008B	SAMP	1	105241.6	151772	69.34	NR!	70-130	2143677.1	3065661.7	69.93	NR!	70-130
N018843-009B	SAMP	1	106605.2	151772	70.24	PASS	70-130	2174854.7	3065661.7	70.94	PASS	70-130
N018843-010B	SAMP	1	107896.7	151772	71.091	PASS	70-130	2182438.9	3065661.7	71.19	PASS	70-130
N018843-010B	SAMP	5	113032.1	151772	74.47	PASS	70-130	2319156.9	3065661.7	75.65	PASS	70-130
N018843-010B-MS	MS	1	106355.2	151772	70.076	PASS	70-130	2202663.6	3065661.7	71.85	PASS	70-130
N018843-010B-MSD	MSD	1	116575.5	151772	76.81	PASS	70-130	2330678.3	3065661.7	76.025	PASS	70-130
N018844-001B	SAMP	1	105792.8	151772	69.71	NR!	70-130	2168983.8	3065661.7	70.75	PASS	70-130
N018845-001B	SAMP	1	82526.2	151772	54.38	NR!	70-130	1574607.9	3065661.7	51.36	NR!	70-130
N018845-001B	SAMP	5	105388.5	151772	69.44	NR!	70-130	2105662.7	3065661.7	68.69	NR!	70-130
CCV6	CCV	1	119369.2	151772	78.65	PASS	70-130	2504572.7	3065661.7	81.7	PASS	70-130
CCB6	CCB	1	117770.8	151772	77.6	PASS	70-130	2514564.6	3065661.7	82.024	PASS	70-130
LLCCV2	CCV2	1	114732.8	151772	75.6	PASS	70-130	2486822.8	3065661.7	81.12	PASS	70-130
ICSA3	ICSA	1	108470.5	151772	71.47	PASS	70-130	2195659.5	3065661.7	71.62	PASS	70-130
ICSAB3	ICSAB	1	122164.3	151772	80.49	PASS	70-130	2767708.7	3065661.7	90.28	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	171872.1	171872.1	100	PASS	70-130	114739.3	114739.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	166885.6	171872.1	97.099	PASS	70-130	113154.9	114739.3	98.62	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	164481.1	171872.1	95.7	PASS	70-130	110851.4	114739.3	96.61	PASS	70-130
Std3-5/50 ppb	ICAL	1	162231.7	171872.1	94.39	PASS	70-130	109870.7	114739.3	95.76	PASS	70-130
Std4-10/100 ppb	ICAL	1	158833.7	171872.1	92.41	PASS	70-130	107891	114739.3	94.031	PASS	70-130
Std5-20/200 ppb	ICAL	1	159849.4	171872.1	93.005	PASS	70-130	107005.2	114739.3	93.26	PASS	70-130
Std6-40/400 ppb	ICAL	1	158058.1	171872.1	91.96	PASS	70-130	106125.1	114739.3	92.49	PASS	70-130
Std7-100/1000 ppb	ICAL	1	154833.5	171872.1	90.086	PASS	70-130	103960.2	114739.3	90.61	PASS	70-130
Std8-200/2000 ppb	ICAL	1	152727.7	171872.1	88.86	PASS	70-130	101544.3	114739.3	88.5	PASS	70-130
ICV	ICV	1	169671.3	171872.1	98.72	PASS	70-130	113930.8	114739.3	99.3	PASS	70-130
ICB	ICB	1	161352	171872.1	93.88	PASS	70-130	109872.1	114739.3	95.76	PASS	70-130
LLICV	CCV1	1	162638.9	171872.1	94.63	PASS	70-130	106883.6	114739.3	93.15	PASS	70-130
ICSA1	ICSA	1	165823.9	171872.1	96.48	PASS	70-130	104594.7	114739.3	91.16	PASS	70-130
ICSAB1	ICSAB	1	155734.6	171872.1	90.61	PASS	70-130	97742.6	114739.3	85.19	PASS	70-130
LLICV	CCV1	1	177090.1	171872.1	103.04	PASS	70-130	114372.4	114739.3	99.68	PASS	70-130
MB-56426	MBLK	1	151858.8	171872.1	88.36	PASS	70-130	103204.4	114739.3	89.95	PASS	70-130
LCS-56426	LCS	1	163882	171872.1	95.35	PASS	70-130	109307.8	114739.3	95.27	PASS	70-130
N018845-009B	SAMP	1	135633.9	171872.1	78.92	PASS	70-130	79083.7	114739.3	68.92	NR!	70-130
N018845-009B	SAMP	5	144770.5	171872.1	84.23	PASS	70-130	93027.5	114739.3	81.077	PASS	70-130
N018845-009B-PS	PS	1	137056.6	171872.1	79.74	PASS	70-130	80124	114739.3	69.83	NR!	70-130
N018845-009B-MS	MS	1	135797.4	171872.1	79.011	PASS	70-130	77343.2	114739.3	67.41	NR!	70-130
N018845-009B-MSD	MSD	1	136375.4	171872.1	79.35	PASS	70-130	78509.7	114739.3	68.42	NR!	70-130
N018845-010B	SAMP	1	144856.2	171872.1	84.28	PASS	70-130	92055.4	114739.3	80.23	PASS	70-130
N018855-001B	SAMP	1	116691.4	171872.1	67.89	NR!	70-130	63395.8	114739.3	55.25	NR!	70-130
CCV1	CCV	1	165901.8	171872.1	96.53	PASS	70-130	109469.2	114739.3	95.41	PASS	70-130
CCB1	CCB	1	163804.8	171872.1	95.31	PASS	70-130	109342.2	114739.3	95.3	PASS	70-130
N018855-002B	SAMP	1	135547.8	171872.1	78.87	PASS	70-130	75376.6	114739.3	65.69	NR!	70-130
N018855-003B	SAMP	1	139798.6	171872.1	81.34	PASS	70-130	77954.6	114739.3	67.94	NR!	70-130
N018855-004B	SAMP	1	146499.2	171872.1	85.24	PASS	70-130	80828.9	114739.3	70.45	PASS	70-130
N018857-019B	SAMP	1	162512.7	171872.1	94.55	PASS	70-130	98131.3	114739.3	85.53	PASS	70-130
N018833-001B	SAMP	25	162773.2	171872.1	94.71	PASS	70-130	108379	114739.3	94.46	PASS	70-130
N018833-001B-PS	PS	5	162399.9	171872.1	94.49	PASS	70-130	105957.5	114739.3	92.35	PASS	70-130
N018833-001B-MS	MS	5	161266.1	171872.1	93.83	PASS	70-130	106792.7	114739.3	93.074	PASS	70-130
N018833-001B-MSD	MSD	5	162080.6	171872.1	94.3	PASS	70-130	106418.2	114739.3	92.75	PASS	70-130
N018834-001B	SAMP	5	158726.4	171872.1	92.35	PASS	70-130	105262.7	114739.3	91.74	PASS	70-130
N018834-001B-MS	MS	5	156788.8	171872.1	91.22	PASS	70-130	103521.1	114739.3	90.22	PASS	70-130
CCV2	CCV	1	155556.3	171872.1	90.51	PASS	70-130	102231.9	114739.3	89.099	PASS	70-130
CCB2	CCB	1	157102.8	171872.1	91.41	PASS	70-130	104574.2	114739.3	91.14	PASS	70-130
LLCCV1	CCV2	1	157849.7	171872.1	91.84	PASS	70-130	102750.8	114739.3	89.55	PASS	70-130
ICSA2	ICSA	1	169212.6	171872.1	98.45	PASS	70-130	106011.6	114739.3	92.39	PASS	70-130
ICSAB2	ICSAB	1	152714.6	171872.1	88.85	PASS	70-130	98577.6	114739.3	85.91	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV4	CCV	1	153911.3	171872.1	89.55	PASS	70-130	101146.1	114739.3	88.15	PASS	70-130
CCB4	CCB	1	149834.3	171872.1	87.18	PASS	70-130	101093.8	114739.3	88.11	PASS	70-130
CCV5	CCV	1	138521.4	171872.1	80.6	PASS	70-130	91764.9	114739.3	79.98	PASS	70-130
CCB5	CCB	1	138681.8	171872.1	80.69	PASS	70-130	91960	114739.3	80.15	PASS	70-130
CCV6	CCV	1	140105.1	171872.1	81.52	PASS	70-130	92720.3	114739.3	80.81	PASS	70-130
CCB6	CCB	1	137384.6	171872.1	79.93	PASS	70-130	91840.9	114739.3	80.043	PASS	70-130
LLCCV2	CCV2	1	136439.8	171872.1	79.38	PASS	70-130	89468.7	114739.3	77.98	PASS	70-130
ICSA3	ICSA	1	139750.5	171872.1	81.31	PASS	70-130	88581.9	114739.3	77.2	PASS	70-130
ICSAB3	ICSAB	1	162057	171872.1	94.29	PASS	70-130	103010.5	114739.3	89.78	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	151772	151772	100	PASS	70-130	3065661.7	3065661.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	146962.5	151772	96.83	PASS	70-130	3012633.5	3065661.7	98.27	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146301.7	151772	96.4	PASS	70-130	2997102.7	3065661.7	97.76	PASS	70-130
Std3-5/50 ppb	ICAL	1	143870.9	151772	94.79	PASS	70-130	2941755.2	3065661.7	95.96	PASS	70-130
Std4-10/100 ppb	ICAL	1	142366.7	151772	93.8	PASS	70-130	2921619.2	3065661.7	95.3	PASS	70-130
Std5-20/200 ppb	ICAL	1	141838.4	151772	93.45	PASS	70-130	2927018.5	3065661.7	95.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	138142	151772	91.019	PASS	70-130	2892832.2	3065661.7	94.36	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136219.5	151772	89.75	PASS	70-130	2857868.5	3065661.7	93.22	PASS	70-130
Std8-200/2000 ppb	ICAL	1	132719.9	151772	87.45	PASS	70-130	2799519.5	3065661.7	91.32	PASS	70-130
ICV	ICV	1	145029.5	151772	95.56	PASS	70-130	3118126.4	3065661.7	101.71	PASS	70-130
ICB	ICB	1	142122.4	151772	93.64	PASS	70-130	3000190.3	3065661.7	97.86	PASS	70-130
LLICV	CCV1	1	138927.8	151772	91.54	PASS	70-130	3013514.1	3065661.7	98.3	PASS	70-130
ICSA1	ICSA	1	132052.7	151772	87.007	PASS	70-130	2625999.5	3065661.7	85.66	PASS	70-130
ICSAB1	ICSAB	1	124666.6	151772	82.14	PASS	70-130	2429414.3	3065661.7	79.25	PASS	70-130
LLICV	CCV1	1	150707.1	151772	99.3	PASS	70-130	3143402.4	3065661.7	102.54	PASS	70-130
MB-56426	MBLK	1	132096	151772	87.036	PASS	70-130	2822782.4	3065661.7	92.077	PASS	70-130
LCS-56426	LCS	1	140038.8	151772	92.27	PASS	70-130	3008646	3065661.7	98.14	PASS	70-130
N018845-009B	SAMP	1	99103.8	151772	65.3	NR!	70-130	1910375.8	3065661.7	62.32	NR!	70-130
N018845-009B	SAMP	5	120113.7	151772	79.14	PASS	70-130	2376910	3065661.7	77.53	PASS	70-130
N018845-009B-PS	PS	1	99195.7	151772	65.36	NR!	70-130	1916926.3	3065661.7	62.53	NR!	70-130
N018845-009B-MS	MS	1	97937.7	151772	64.53	NR!	70-130	1863429.7	3065661.7	60.78	NR!	70-130
N018845-009B-MSD	MSD	1	97537.8	151772	64.27	NR!	70-130	1862138.7	3065661.7	60.74	NR!	70-130
N018845-010B	SAMP	1	117935.3	151772	77.71	PASS	70-130	2309358.5	3065661.7	75.33	PASS	70-130
N018855-001B	SAMP	1	79742.4	151772	52.54	NR!	70-130	1450590.1	3065661.7	47.32	NR!	70-130
CCV1	CCV	1	143042.9	151772	94.25	PASS	70-130	2914783.7	3065661.7	95.078	PASS	70-130
CCB1	CCB	1	140510.1	151772	92.58	PASS	70-130	2897607	3065661.7	94.52	PASS	70-130
N018855-002B	SAMP	1	92660.1	151772	61.052	NR!	70-130	1739512.6	3065661.7	56.74	NR!	70-130
N018855-003B	SAMP	1	97353.5	151772	64.14	NR!	70-130	1812153.2	3065661.7	59.11	NR!	70-130
N018855-004B	SAMP	1	99865.2	151772	65.8	NR!	70-130	1870497.2	3065661.7	61.014	NR!	70-130
N018857-019B	SAMP	1	127660.9	151772	84.11	PASS	70-130	2429739.8	3065661.7	79.26	PASS	70-130
N018833-001B	SAMP	25	140035	151772	92.27	PASS	70-130	2850081.8	3065661.7	92.97	PASS	70-130
N018833-001B-PS	PS	5	136738.1	151772	90.094	PASS	70-130	2728286.1	3065661.7	89	PASS	70-130
N018833-001B-MS	MS	5	137008.7	151772	90.27	PASS	70-130	2760205.9	3065661.7	90.036	PASS	70-130
N018833-001B-MSD	MSD	5	138935.6	151772	91.54	PASS	70-130	2788916.1	3065661.7	90.97	PASS	70-130
N018834-001B	SAMP	5	134463.3	151772	88.6	PASS	70-130	2736397.2	3065661.7	89.26	PASS	70-130
N018834-001B-MS	MS	5	133253.4	151772	87.8	PASS	70-130	2703355.2	3065661.7	88.18	PASS	70-130
CCV2	CCV	1	128575.5	151772	84.72	PASS	70-130	2805985.1	3065661.7	91.53	PASS	70-130
CCB2	CCB	1	134516.8	151772	88.63	PASS	70-130	2846550.3	3065661.7	92.85	PASS	70-130
LLCCV1	CCV2	1	133473.7	151772	87.94	PASS	70-130	2835229	3065661.7	92.48	PASS	70-130
ICSA2	ICSA	1	127789.1	151772	84.2	PASS	70-130	2600319.2	3065661.7	84.82	PASS	70-130
ICSAB2	ICSAB	1	114090.2	151772	75.17	PASS	70-130	2667953.6	3065661.7	87.027	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV4	CCV	1	130942.4	151772	86.28	PASS	70-130	2716989.8	3065661.7	88.63	PASS	70-130
CCB4	CCB	1	127959.2	151772	84.31	PASS	70-130	2699916.1	3065661.7	88.07	PASS	70-130
CCV5	CCV	1	119334.6	151772	78.63	PASS	70-130	2489512.8	3065661.7	81.21	PASS	70-130
CCB5	CCB	1	117380.6	151772	77.34	PASS	70-130	2533105.9	3065661.7	82.63	PASS	70-130
CCV6	CCV	1	119369.2	151772	78.65	PASS	70-130	2504572.7	3065661.7	81.7	PASS	70-130
CCB6	CCB	1	117770.8	151772	77.6	PASS	70-130	2514564.6	3065661.7	82.024	PASS	70-130
LLCCV2	CCV2	1	114732.8	151772	75.6	PASS	70-130	2486822.8	3065661.7	81.12	PASS	70-130
ICSA3	ICSA	1	108470.5	151772	71.47	PASS	70-130	2195659.5	3065661.7	71.62	PASS	70-130
ICSAB3	ICSAB	1	122164.3	151772	80.49	PASS	70-130	2767708.7	3065661.7	90.28	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	106194.3	106194.3	100	PASS	70-130	73165.4	73165.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	101729	106194.3	95.8	PASS	70-130	70975.8	73165.4	97.007	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	102211	106194.3	96.25	PASS	70-130	71114	73165.4	97.2	PASS	70-130
Std3-5/50 ppb	ICAL	1	101219.5	106194.3	95.32	PASS	70-130	70269.5	73165.4	96.042	PASS	70-130
Std4-10/100 ppb	ICAL	1	99453.2	106194.3	93.65	PASS	70-130	68767.4	73165.4	93.99	PASS	70-130
Std5-20/200 ppb	ICAL	1	98731.1	106194.3	92.97	PASS	70-130	68345.6	73165.4	93.41	PASS	70-130
Std6-40/400 ppb	ICAL	1	98814.8	106194.3	93.051	PASS	70-130	69433.5	73165.4	94.9	PASS	70-130
Std7-100/1000 ppb	ICAL	1	96953.2	106194.3	91.3	PASS	70-130	67040.2	73165.4	91.63	PASS	70-130
Std8-200/2000 ppb	ICAL	1	95851.4	106194.3	90.26	PASS	70-130	65367.9	73165.4	89.34	PASS	70-130
ICV	ICV	1	105496.6	106194.3	99.34	PASS	70-130	73270.1	73165.4	100.14	PASS	70-130
ICB	ICB	1	103401.5	106194.3	97.37	PASS	70-130	72630.6	73165.4	99.27	PASS	70-130
LLICV	CCV1	1	105899.2	106194.3	99.72	PASS	70-130	71685.3	73165.4	97.98	PASS	70-130
ICSA1	ICSA	1	100565.3	106194.3	94.7	PASS	70-130	66440.1	73165.4	90.81	PASS	70-130
ICSAB1	ICSAB	1	97152.4	106194.3	91.49	PASS	70-130	61762.8	73165.4	84.42	PASS	70-130
LLICV	CCV1	1	108359.9	106194.3	102.04	PASS	70-130	72621.6	73165.4	99.26	PASS	70-130
N018845-002B	SAMP	1	76040.4	106194.3	71.6	PASS	70-130	48583.1	73165.4	66.4	NR!	70-130
N018845-002B	SAMP	5	94578.7	106194.3	89.062	PASS	70-130	61382.7	73165.4	83.9	PASS	70-130
N018845-003B	SAMP	1	94418	106194.3	88.91	PASS	70-130	62761.2	73165.4	85.78	PASS	70-130
N018845-003B	SAMP	5	104500.5	106194.3	98.4	PASS	70-130	69406.9	73165.4	94.86	PASS	70-130
N018845-004B	SAMP	1	90901.9	106194.3	85.6	PASS	70-130	59787.8	73165.4	81.72	PASS	70-130
N018845-004B	SAMP	5	105987.5	106194.3	99.81	PASS	70-130	71105.2	73165.4	97.18	PASS	70-130
N018845-006B	SAMP	1	95105.9	106194.3	89.56	PASS	70-130	62588.5	73165.4	85.54	PASS	70-130
N018845-006B	SAMP	5	104525.2	106194.3	98.43	PASS	70-130	69935.7	73165.4	95.59	PASS	70-130
N018845-007B	SAMP	1	82671.4	106194.3	77.85	PASS	70-130	49696.5	73165.4	67.92	NR!	70-130
N018845-007B	SAMP	5	106369.7	106194.3	100.17	PASS	70-130	67599.1	73165.4	92.39	PASS	70-130
CCV1	CCV	1	114506.5	106194.3	107.83	PASS	70-130	77348.5	73165.4	105.72	PASS	70-130
CCB1	CCB	1	113537.4	106194.3	106.91	PASS	70-130	77588.6	73165.4	106.05	PASS	70-130
N018845-008B	SAMP	1	102891	106194.3	96.89	PASS	70-130	69283.9	73165.4	94.69	PASS	70-130
N018845-008B	SAMP	5	110510	106194.3	104.06	PASS	70-130	74447.5	73165.4	101.75	PASS	70-130
N018845-005B	SAMP	1	92777.8	106194.3	87.37	PASS	70-130	58797.7	73165.4	80.36	PASS	70-130
N018845-005B	SAMP	5	100257.2	106194.3	94.41	PASS	70-130	66231.4	73165.4	90.52	PASS	70-130
N018845-005B	SAMP	500	114006.1	106194.3	107.36	PASS	70-130	78694.1	73165.4	107.56	PASS	70-130
N018845-009B	SAMP	25	100407.1	106194.3	94.55	PASS	70-130	66666.5	73165.4	91.12	PASS	70-130
N018845-009B-PS	PS	5	99095.6	106194.3	93.32	PASS	70-130	63460.5	73165.4	86.74	PASS	70-130
N018845-009B-MS	MS	5	99793.9	106194.3	93.97	PASS	70-130	64108.5	73165.4	87.62	PASS	70-130
CCV2	CCV	1	105426.2	106194.3	99.28	PASS	70-130	71274.5	73165.4	97.42	PASS	70-130
CCB2	CCB	1	104728.2	106194.3	98.62	PASS	70-130	71417.7	73165.4	97.61	PASS	70-130
N018845-009B-MSD	MSD	5	97162.3	106194.3	91.49	PASS	70-130	63046.5	73165.4	86.17	PASS	70-130
N018845-010B	SAMP	5	100412.6	106194.3	94.56	PASS	70-130	67746.1	73165.4	92.59	PASS	70-130
N018855-001B	SAMP	5	93272.5	106194.3	87.83	PASS	70-130	58465.3	73165.4	79.91	PASS	70-130
N018855-002B	SAMP	5	93644.4	106194.3	88.18	PASS	70-130	60392.3	73165.4	82.54	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018855-003B	SAMP	5	97451.9	106194.3	91.77	PASS	70-130	62478.8	73165.4	85.39	PASS	70-130
N018855-004B	SAMP	5	95558.5	106194.3	89.98	PASS	70-130	62036.5	73165.4	84.79	PASS	70-130
N018861-004B	SAMP	25	98587.2	106194.3	92.84	PASS	70-130	65738.3	73165.4	89.85	PASS	70-130
N018861-005B	SAMP	25	98028.4	106194.3	92.31	PASS	70-130	66453.5	73165.4	90.83	PASS	70-130
N018861-006B	SAMP	25	96534	106194.3	90.9	PASS	70-130	64352.8	73165.4	87.96	PASS	70-130
CCV3	CCV	1	101489.8	106194.3	95.57	PASS	70-130	68493	73165.4	93.61	PASS	70-130
CCB3	CCB	1	101413.8	106194.3	95.5	PASS	70-130	69526.8	73165.4	95.027	PASS	70-130
N018861-007B	SAMP	125	98003.8	106194.3	92.29	PASS	70-130	66816.1	73165.4	91.32	PASS	70-130
N018861-007B-PS	PS	25	94114.9	106194.3	88.63	PASS	70-130	63742.8	73165.4	87.12	PASS	70-130
N018861-007B-MS	MS	25	94635.7	106194.3	89.12	PASS	70-130	64139.6	73165.4	87.66	PASS	70-130
N018861-007B-MSD	MSD	25	95179.8	106194.3	89.63	PASS	70-130	64011.4	73165.4	87.49	PASS	70-130
CCV4	CCV	1	99476	106194.3	93.67	PASS	70-130	68261.7	73165.4	93.3	PASS	70-130
CCB4	CCB	1	99751.8	106194.3	93.93	PASS	70-130	68994.7	73165.4	94.3	PASS	70-130
LLCCV1	CCV2	1	100900.9	106194.3	95.015	PASS	70-130	67758.9	73165.4	92.61	PASS	70-130
ICSA2	ICSA	1	98014.4	106194.3	92.3	PASS	70-130	64707.4	73165.4	88.44	PASS	70-130
ICSAB2	ICSAB	1	96492.2	106194.3	90.86	PASS	70-130	62212.4	73165.4	85.03	PASS	70-130
CCV5	CCV	1	113489.4	106194.3	106.87	PASS	70-130	77161.1	73165.4	105.46	PASS	70-130
CCB5	CCB	1	110358.4	106194.3	103.92	PASS	70-130	75341.6	73165.4	102.97	PASS	70-130
CCV6	CCV	1	115049.7	106194.3	108.34	PASS	70-130	78527.6	73165.4	107.33	PASS	70-130
CCB6	CCB	1	110068.1	106194.3	103.65	PASS	70-130	75776	73165.4	103.57	PASS	70-130
CCV7	CCV	1	105941.3	106194.3	99.76	PASS	70-130	73439.8	73165.4	100.38	PASS	70-130
CCB7	CCB	1	106576.7	106194.3	100.36	PASS	70-130	74235.9	73165.4	101.46	PASS	70-130
CCV8	CCV	1	102516.9	106194.3	96.54	PASS	70-130	70791.7	73165.4	96.76	PASS	70-130
CCB8	CCB	1	102178.6	106194.3	96.22	PASS	70-130	70155.5	73165.4	95.89	PASS	70-130
LLCCV2	CCV2	1	101259.5	106194.3	95.35	PASS	70-130	67141.5	73165.4	91.77	PASS	70-130
ICSA3	ICSA	1	103484.3	106194.3	97.45	PASS	70-130	67286.5	73165.4	91.96	PASS	70-130
ICSAB3	ICSAB	1	104127.1	106194.3	98.053	PASS	70-130	67392.9	73165.4	92.11	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	90543.7	90543.7	100	PASS	70-130	2123839.9	2123839.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	88372.7	90543.7	97.6	PASS	70-130	2056633.4	2123839.9	96.84	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	88064.6	90543.7	97.26	PASS	70-130	2046142.4	2123839.9	96.34	PASS	70-130
Std3-5/50 ppb	ICAL	1	86784.4	90543.7	95.85	PASS	70-130	2046093.3	2123839.9	96.34	PASS	70-130
Std4-10/100 ppb	ICAL	1	85838.5	90543.7	94.8	PASS	70-130	2033311.7	2123839.9	95.74	PASS	70-130
Std5-20/200 ppb	ICAL	1	84985.3	90543.7	93.86	PASS	70-130	2029111.6	2123839.9	95.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	84090.3	90543.7	92.87	PASS	70-130	2021066.6	2123839.9	95.16	PASS	70-130
Std7-100/1000 ppb	ICAL	1	83972.5	90543.7	92.74	PASS	70-130	1990908.3	2123839.9	93.74	PASS	70-130
Std8-200/2000 ppb	ICAL	1	81628.4	90543.7	90.15	PASS	70-130	1961243.2	2123839.9	92.34	PASS	70-130
ICV	ICV	1	87997.5	90543.7	97.19	PASS	70-130	2161188.7	2123839.9	101.76	PASS	70-130
ICB	ICB	1	88272.5	90543.7	97.49	PASS	70-130	2151314	2123839.9	101.29	PASS	70-130
LLICV	CCV1	1	88642	90543.7	97.9	PASS	70-130	2165445.2	2123839.9	101.96	PASS	70-130
ICSA1	ICSA	1	81062.2	90543.7	89.53	PASS	70-130	1809989.7	2123839.9	85.22	PASS	70-130
ICSAB1	ICSAB	1	75116.1	90543.7	82.96	PASS	70-130	1683332.9	2123839.9	79.26	PASS	70-130
LLICV	CCV1	1	91785	90543.7	101.37	PASS	70-130	2159885.6	2123839.9	101.7	PASS	70-130
N018845-002B	SAMP	1	57810.7	90543.7	63.85	NR!	70-130	1219141.1	2123839.9	57.4	NR!	70-130
N018845-002B	SAMP	5	78319.9	90543.7	86.5	PASS	70-130	1675927	2123839.9	78.91	PASS	70-130
N018845-003B	SAMP	1	76104.1	90543.7	84.052	PASS	70-130	1644574.9	2123839.9	77.43	PASS	70-130
N018845-003B	SAMP	5	87004.8	90543.7	96.092	PASS	70-130	1891392.1	2123839.9	89.055	PASS	70-130
N018845-004B	SAMP	1	72098.4	90543.7	79.63	PASS	70-130	1568671.6	2123839.9	73.86	PASS	70-130
N018845-004B	SAMP	5	87187.9	90543.7	96.29	PASS	70-130	1921365.8	2123839.9	90.47	PASS	70-130
N018845-006B	SAMP	1	78387.1	90543.7	86.57	PASS	70-130	1632791.1	2123839.9	76.88	PASS	70-130
N018845-006B	SAMP	5	87469.4	90543.7	96.6	PASS	70-130	1888023.3	2123839.9	88.9	PASS	70-130
N018845-007B	SAMP	1	60003.1	90543.7	66.27	NR!	70-130	1253635.9	2123839.9	59.027	NR!	70-130
N018845-007B	SAMP	5	84673.7	90543.7	93.52	PASS	70-130	1793237.5	2123839.9	84.43	PASS	70-130
CCV1	CCV	1	98521.5	90543.7	108.81	PASS	70-130	2169330.9	2123839.9	102.14	PASS	70-130
CCB1	CCB	1	97956.2	90543.7	108.19	PASS	70-130	2196696	2123839.9	103.43	PASS	70-130
N018845-008B	SAMP	1	86079.7	90543.7	95.07	PASS	70-130	1817139.7	2123839.9	85.56	PASS	70-130
N018845-008B	SAMP	5	95056.4	90543.7	104.98	PASS	70-130	2009551.1	2123839.9	94.62	PASS	70-130
N018845-005B	SAMP	1	72233.3	90543.7	79.78	PASS	70-130	1520787.8	2123839.9	71.61	PASS	70-130
N018845-005B	SAMP	5	83926.6	90543.7	92.69	PASS	70-130	1808357	2123839.9	85.15	PASS	70-130
N018845-005B	SAMP	500	95758.7	90543.7	105.76	PASS	70-130	2177798.4	2123839.9	102.54	PASS	70-130
N018845-009B	SAMP	25	81130.2	90543.7	89.6	PASS	70-130	1852266.2	2123839.9	87.21	PASS	70-130
N018845-009B-PS	PS	5	78732.2	90543.7	86.95	PASS	70-130	1699107.4	2123839.9	80.002	PASS	70-130
N018845-009B-MS	MS	5	78417.1	90543.7	86.61	PASS	70-130	1706509.9	2123839.9	80.35	PASS	70-130
CCV2	CCV	1	89564.8	90543.7	98.92	PASS	70-130	2009935.1	2123839.9	94.64	PASS	70-130
CCB2	CCB	1	88784.2	90543.7	98.057	PASS	70-130	2025804.1	2123839.9	95.38	PASS	70-130
N018845-009B-MSD	MSD	5	76796.3	90543.7	84.82	PASS	70-130	1682126.8	2123839.9	79.2	PASS	70-130
N018845-010B	SAMP	5	85266.7	90543.7	94.17	PASS	70-130	1854561.3	2123839.9	87.32	PASS	70-130
N018855-001B	SAMP	5	71693.6	90543.7	79.18	PASS	70-130	1530470.6	2123839.9	72.061	PASS	70-130
N018855-002B	SAMP	5	71898.6	90543.7	79.41	PASS	70-130	1569196.3	2123839.9	73.88	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018855-003B	SAMP	5	77143.5	90543.7	85.2	PASS	70-130	1630698.1	2123839.9	76.78	PASS	70-130
N018855-004B	SAMP	5	76032.5	90543.7	83.97	PASS	70-130	1608885.7	2123839.9	75.75	PASS	70-130
N018861-004B	SAMP	25	80373.2	90543.7	88.77	PASS	70-130	1736394	2123839.9	81.76	PASS	70-130
N018861-005B	SAMP	25	83277.9	90543.7	91.98	PASS	70-130	1773970	2123839.9	83.53	PASS	70-130
N018861-006B	SAMP	25	80196.9	90543.7	88.57	PASS	70-130	1722104.7	2123839.9	81.084	PASS	70-130
CCV3	CCV	1	86449.6	90543.7	95.48	PASS	70-130	1944448.1	2123839.9	91.55	PASS	70-130
CCB3	CCB	1	86727.4	90543.7	95.79	PASS	70-130	1998227.2	2123839.9	94.086	PASS	70-130
N018861-007B	SAMP	125	84330.6	90543.7	93.14	PASS	70-130	1862943.8	2123839.9	87.72	PASS	70-130
N018861-007B-PS	PS	25	77284.2	90543.7	85.36	PASS	70-130	1714053.7	2123839.9	80.71	PASS	70-130
N018861-007B-MS	MS	25	78753	90543.7	86.98	PASS	70-130	1727986.3	2123839.9	81.36	PASS	70-130
N018861-007B-MSD	MSD	25	79609.7	90543.7	87.92	PASS	70-130	1754014.7	2123839.9	82.59	PASS	70-130
CCV4	CCV	1	85295.3	90543.7	94.2	PASS	70-130	1947126.3	2123839.9	91.68	PASS	70-130
CCB4	CCB	1	84745	90543.7	93.6	PASS	70-130	1975849.4	2123839.9	93.032	PASS	70-130
LLCCV1	CCV2	1	85012.9	90543.7	93.89	PASS	70-130	1996379.3	2123839.9	94	PASS	70-130
ICSA2	ICSA	1	77384.7	90543.7	85.47	PASS	70-130	1721848.6	2123839.9	81.072	PASS	70-130
ICSAB2	ICSAB	1	74009.9	90543.7	81.74	PASS	70-130	1678560.7	2123839.9	79.034	PASS	70-130
CCV5	CCV	1	97876.4	90543.7	108.1	PASS	70-130	2152401.7	2123839.9	101.34	PASS	70-130
CCB5	CCB	1	96681.9	90543.7	106.78	PASS	70-130	2121941.9	2123839.9	99.91	PASS	70-130
CCV6	CCV	1	101857.2	90543.7	112.5	PASS	70-130	2140680.5	2123839.9	100.79	PASS	70-130
CCB6	CCB	1	96762	90543.7	106.87	PASS	70-130	2097932.5	2123839.9	98.78	PASS	70-130
CCV7	CCV	1	94531.7	90543.7	104.4	PASS	70-130	2036985.5	2123839.9	95.91	PASS	70-130
CCB7	CCB	1	95435.7	90543.7	105.4	PASS	70-130	2066639.9	2123839.9	97.31	PASS	70-130
CCV8	CCV	1	88295.4	90543.7	97.52	PASS	70-130	2010966.6	2123839.9	94.69	PASS	70-130
CCB8	CCB	1	88875.1	90543.7	98.16	PASS	70-130	2021292.5	2123839.9	95.17	PASS	70-130
LLCCV2	CCV2	1	84281.9	90543.7	93.084	PASS	70-130	1983588.3	2123839.9	93.4	PASS	70-130
ICSA3	ICSA	1	82140.9	90543.7	90.72	PASS	70-130	1772888.2	2123839.9	83.48	PASS	70-130
ICSAB3	ICSAB	1	84576.3	90543.7	93.41	PASS	70-130	1762275.3	2123839.9	82.98	PASS	70-130

INTERNAL STANDARD: 160309A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	82803.2	82803.2	100	PASS	70-130	2080134.6	2080134.6	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	81956.1	82803.2	98.98	PASS	70-130	2054374.2	2080134.6	98.76	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	81383	82803.2	98.28	PASS	70-130	2042723.5	2080134.6	98.2	PASS	70-130
Std3-5/50 ppb	ICAL	1	72094.1	82803.2	87.067	PASS	70-130	1874003.3	2080134.6	90.09	PASS	70-130
Std4-10/100 ppb	ICAL	1	75683.1	82803.2	91.4	PASS	70-130	1899628.5	2080134.6	91.32	PASS	70-130
Std5-20/200 ppb	ICAL	1	80929.4	82803.2	97.74	PASS	70-130	2074224.4	2080134.6	99.72	PASS	70-130
Std6-40/400 ppb	ICAL	1	80810.8	82803.2	97.59	PASS	70-130	2084885.2	2080134.6	100.23	PASS	70-130
Std7-100/1000 ppb	ICAL	1	80067.5	82803.2	96.7	PASS	70-130	2052661.7	2080134.6	98.68	PASS	70-130
Std8-200/2000 ppb	ICAL	1	79852.7	82803.2	96.44	PASS	70-130	2056445.4	2080134.6	98.86	PASS	70-130
ICV	ICV	1	87849.2	82803.2	106.09	PASS	70-130	2245790	2080134.6	107.96	PASS	70-130
ICB	ICB	1	85304.7	82803.2	103.02	PASS	70-130	2157518.7	2080134.6	103.72	PASS	70-130
LLICV	CCV1	1	79684.2	82803.2	96.23	PASS	70-130	2102991.9	2080134.6	101.1	PASS	70-130
ICSA1	ICSA	1	70837.2	82803.2	85.55	PASS	70-130	1666680.4	2080134.6	80.12	PASS	70-130
ICSAB1	ICSAB	1	58436.3	82803.2	70.57	PASS	70-130	1478239.3	2080134.6	71.065	PASS	70-130
LLICV	CCV1	1	75425.6	82803.2	91.09	PASS	70-130	1971180.4	2080134.6	94.76	PASS	70-130
N018845-001B	SAMP	25	74133.9	82803.2	89.53	PASS	70-130	1688650.9	2080134.6	81.18	PASS	70-130
CCV1	CCV	1	66810.5	82803.2	80.69	PASS	70-130	1706346	2080134.6	82.031	PASS	70-130
CCB1	CCB	1	74454.2	82803.2	89.92	PASS	70-130	1771727.8	2080134.6	85.17	PASS	70-130
CCV2	CCV	1	64657.8	82803.2	78.086	PASS	70-130	1671928.9	2080134.6	80.38	PASS	70-130
CCB2	CCB	1	67102.8	82803.2	81.039	PASS	70-130	1712035.1	2080134.6	82.3	PASS	70-130
CCV3	CCV	1	68779.7	82803.2	83.064	PASS	70-130	1723568.3	2080134.6	82.86	PASS	70-130
CCB3	CCB	1	68110	82803.2	82.26	PASS	70-130	1717205.6	2080134.6	82.55	PASS	70-130
LLCCV1	CCV2	1	67309.3	82803.2	81.29	PASS	70-130	1753630.7	2080134.6	84.3	PASS	70-130
ICSA2	ICSA	1	63472.9	82803.2	76.66	PASS	70-130	1540251.7	2080134.6	74.046	PASS	70-130
ICSAB2	ICSAB	1	61707.4	82803.2	74.52	PASS	70-130	1456273	2080134.6	70.009	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018845
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 5X	Chromium	ug/L	5.551185	NA	5.575755	0.44%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018845
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 25X	Arsenic	ug/L	15.99961	PASS	16.30795	1.89%	10
N018861-007B DT 25X	Manganese	ug/L	25.65824	PASS	24.48796	4.78%	10
N018861-007B DT 25X	Selenium	ug/L	~~1.961576~~ 0	NA	0		10

Note: NA - Not applicable

Mary 3/14/2016
for

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018845
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56426

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018845-009B DT 5X	Chromium	ug/L	4.821356	NA	4.464715	7.99%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018845
Test Method: EPA 6020
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 125X	Molybdenum	ug/L	75.84905	PASS	81.14314	6.52%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018845
Test Method: EPA 6020
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56426

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As & Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018845-009B DT 25X	Arsenic	ug/L	1.628013	NA	1.530963	6.34%	10
N018845-009B DT 25X	Manganese	ug/L	393.3965	PASS	385.7804	1.97%	10
N018845-009B DT 25X	Molybdenum	ug/L	26.61699	PASS	26.68051	0.24%	10
N018845-009B DT 25X	Selenium	ug/L	0	NA	1.364555	100.00%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.233	0.50	10.00	16.31	89.2	80	120				
Manganese	116.471	2.5	100.0	24.49	92.0	80	120				
Selenium	8.502	2.5	10.00	0	85.0	80	120				

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.498	12	10.00	81.14	73.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	N018845-009B-PS	SampType:	PS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	56426	TestNo:	EPA 6020		EPA 3010A	Analysis Date:	3/8/2016	SeqNo:	2255273

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.654	0.50	10.00	1.531	101	80	120				
Manganese	465.026	2.5	100.0	385.8	79.2	80	120				S
Molybdenum	36.602	2.5	10.00	26.68	99.2	80	120				
Selenium	10.525	2.5	10.00	1.365	91.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246851**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.566	1.0	10.00	5.576	79.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018845
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018845-009B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2255148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.414	1.0	10.00	4.465	89.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

Laboratory Report

ASSET Laboratories

Project #: Topock – N018845

APPL SDG: 79150

APPL, Inc.

Number of pages in report: _____

Data Validation Package

for

Topock - N18845

ARF 79150

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CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 79150

Project: Topock – N018845

State Certification Number: CA1312 (DW, WW & HW)

NELAP Certification number: CA00046 (HW)

Arizona Certification Number: AZ0474

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

One water sample was received on March 29, 2016, at 3.5°C. The sample was assigned Analytical Request Form (ARF) number 79150. The sample number and requested analyses were compared to the chain of custody and email communication. No exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
N018845-001/MW-55-120-Q116	AZ31646	WATER	02/24/16	03/29/16

EPA Method 6020A
Metals

Sample Preparation Information

The water sample was digested according to EPA method 3015. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The sample was analyzed for dissolved metals according to EPA method 6020A using an Agilent 7700X ICP-MS.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard. All calibration acceptance criteria were met. Manganese was detected above the LOD in the ICS-A. It is a trace impurity listed by the manufacturer.

Blanks:

No target compound was detected at or above one-half the PQL in the method blank.

Spikes:

A Laboratory Control Spike (LCS) was used for quality assurance. All acceptance criteria were met in the LCS.

No sample was designated by the client for MS/MSD analysis.

Internal Standards:

All method acceptance criteria were met for the internal standards.

Summary:

No analytical exception is noted. All data are acceptable.

Inorganic Analyses

Sample Preparation Information:

The water sample was prepared according to the methods.

Analysis Information:

Samples:

The sample was analyzed according to EPA methods 218.7 using a Dionex DX500 ion chromatograph and according to EPA 353.2 using a AQ2 Seal Discrete Analyzer. The sample was received more than 28 days after collection. It was analyzed for Hexavalent Chromium and Nitrate-Nitrite-N after the EPA recommended holding time.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

No target compound was detected at or above one-half the PQL in the method blanks.

Spikes:

Laboratory Control Spikes (LCS and/or LCS/LCSD) were used for quality assurance. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Summary:

No other analytical exception is noted. All data are acceptable.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney 4/6/16

Paula McCartney, Laboratory Director / Date

CHAIN OF CUSTODY, ARF, CRF, AND CLIENT COMMUNICATION

APPL - Analysis Request Form

79150

Client: **ASSET Laboratories**
Address: **3151-3153 W. Post Rd.**
Las Vegas, NV 89118
Attn: **Marlon Cartin**
Phone: **702-307-2659** Fax: **702-307-2691**
Job: **NA**
PO #: **N18845A**
Chain of Custody (Y/N): **Y** # **032816**
RAD Screen (Y/N): **Y** pH (Y/N): **Y**
Turn Around Type: **5 DAYS**

Received by: **CM**
Date Received: **03/29/16** Time: **12:00**
Delivered by: **GSO**
Shuttle Custody Seals (Y/N): **N** Time Zone: **-6**
Chest Temp(s): **3.5°C**
Color: **A-GRN/R-ORGYL**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Cynthia Clark**
QC Report Type: **DVP4/EDD/AZ**
Due Date: **04/04/16**

Comments:
std TAT is 2 weeks, no later than 3 weeks

email report to marlon@, reports.lv@assetlaboratories.com;
EDD: excel to marlon@assetlaboratories.com;
Analyze samples passed hold time; use AZ certified methods

TAT change to 1 week for FINAL DVP4 per Marlon 3/31/16
Report due Tuesday 4/5/16

Sample Distribution:
Metals: 1-$62A14WD(As,Cr,Mo,Se,Mn)
Wetlab: 1-$2187, 1-$35OF
Other: 1- M3015F

Charges:

Invoice To:
ATL/ASSET
edrom@assetlaboratories.com

Client ID	APPL ID	Sampled	Analyses Requested
1. N018845-001/MW-55-120-Q116	AZ31646W	02/24/16 13:08	$2187, $35OF, $62A14WD(As,Cr,Mo,Se,Mn)

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -6 UTC

Cynthia Clark

From: Marlon B. Cartin <marlon@assetlaboratories.com>
Sent: Thursday, March 31, 2016 10:34 AM
To: 'Cynthia Clark'
Subject: RE: Water Samples

Yup. That's the one that needs Az Certification.

Thanks,

Marlon B. Cartin
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 Ext. 410 | F: 702.307.2691 | M: 702.439.0421

From: Cynthia Clark [mailto:cclark@applinc.com]
Sent: Thursday, March 31, 2016 10:30 AM
To: 'Marlon B. Cartin'
Subject: RE: Water Samples

Oh, so you want the samples received Tuesday bumped up to a rush.

Sincerely,

Cynthia Clark
Project Manager

Agriculture & Priority Pollutants Laboratories, Inc.
WOSB. NELAP Accredited.

t. 559.275-2175 f. 559.275-4422
a. 908 N. Temperance Ave., Clovis, CA 93611

Website • Email

DoD accredited for ISM, Dioxins and PCB congeners.

This is a PRIVATE and CONFIDENTIAL message. If you are not the intended recipient, please delete without copying and kindly advise us by e-mail of the mistake in delivery. NOTE: Regardless of content, this e-mail shall not operate to bind APPL, Inc. to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of e-mail for such purpose.

From: Marlon B. Cartin [mailto:marlon@assetlaboratories.com]
Sent: Thursday, March 31, 2016 10:10 AM

APPL Sample Receipt Form

ARF# **79150**

Sample	Container Type	Count	pH
AZ31646	6 PL 500mL - HNO3	1	1.7
	10 PL 250mL - H2SO4	1	1.7
	26 Other	1	NA

Sample	Container Type	Count	pH

79150

3.5

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

APPL, Inc.
908 N. Temperance Ave.
Clovis, CA 93611

TEL: (559) 275-2175
FAX: (209) 275-4422
Acct #:

Field Sampler:

28-Mar-16

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests EPA 218.6	EPA 6020	SM4500-NO3F
N018845-001A / MW-55-120-Q116	Groundwater	2/24/2016 1:08:00 PM	8OZP	1		
N018845-001B / MW-55-120-Q116	Groundwater	2/24/2016 1:08:00 PM	8OZP		1	
N018845-001C / MW-55-120-Q116	Groundwater	2/24/2016 1:08:00 PM	4OZP			1

Needs Arizona Certification

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N18845A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Normal TAT

Please analyze for Cr(VI) by 218.6, Dissolved Metals (As, Cr, Mo, Se, Mn) by 6020 and Nitrate/Nitrite by SM4500NO3. Please analyze even if past holding time.

650 #: 531386111

		Date/Time			Date/Time
Relinquished by:	Yoandra Rodriguez	3/28/16 17:00	**Received by:**	Yang Zo	3/29/16 12:00
Relinquished by:			**Received by:**		

COOLER RECEIPT FORM **ARF: 79150**

1) Project: NA Date Received: 03/29/16

2) Coolers: Number of Coolers: 1

3) No Were custody seals present and intact?
How many? 0 Name/Date on seal? ____

4) YES Was there a shipping slip? Carrier name: GSO

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam __ plastic bags
X wet ice __ dry ice __ no ice __ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use J5297

8) Cooler temp(s): In °C
1: 3.5 2: ____ 3: ____ 4: ____ 5: ____ 6: ____
7: ____ 8: ____ 9: ____ 10: ____ 11: ____ 12: ____

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: ____
Smaller than a pea: ____

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate: ____

Notes/Deficiencies:

Personnel receiving samples: YL Second reviewer: Renée
Personnel labeling samples: ____
Project manager notified: ____ Date/Time of notification ____
Name of client notified: ____ Date/Time of notification ____

Revision: 22, November 5, 2013

METALS

APPL, INC.

METALS
QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020A	ARSENIC (AS) (DISSOLVED)	Not detected	5.0	0.31	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	CHROMIUM (CR) (DISSOLV	Not detected	10.0	0.45	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	MANGANESE (MN) (DISSOL	Not detected	3.5	0.30	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	MOLYBDENUM (MO) (DISSO	Not detected	2.0	0.12	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	SELENIUM (SE) (DISSOLVE	Not detected	5.0	0.50	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646

Metals SC-Blank-REG MDLs
Printed: 04/05/16 4:14:22 PM

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	ARSENIC (AS) (DISSOLVED)	50.0	40.9	81.8	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	CHROMIUM (CR) (DISSOLVED)	50.0	44.8	89.6	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	MANGANESE (MN) (DISSOLVED	50.0	44.4	88.8	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	MOLYBDENUM (MO) (DISSOLVE	50.0	42.3	84.6	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	SELENIUM (SE) (DISSOLVED)	50.0	41.1	82.2	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646

Comments: _____

METALS
Sample Data

APPL, INC.

Metals Analysis

ASSET Laboratories
3151-3153 W. Post Rd.
Las Vegas, NV 89118

Attn: Marlon Cartin

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 79150

Sample ID: N018845-001/MW-55-120-Q116
Sample Collection Date: 02/24/16

APPL ID: AZ31646

Method	Analyte	Result	PQL	MDL	Units	DF	Prep Date	Analysis Date
6020A/3015^	ARSENIC (AS) (DISSOLVED)	5.8	5.0	0.31	ug/L	1	04/04/16	04/05/16
6020A/3015^	CHROMIUM (CR) (DISSOLV	7.7 J	10.0	0.45	ug/L	1	04/04/16	04/05/16
6020A/3015^	MANGANESE (MN) (DISSOL	7.8	3.5	0.30	ug/L	1	04/04/16	04/05/16
6020A/3015^	MOLYBDENUM (MO) (DISSO	45.0	2.0	0.12	ug/L	1	04/04/16	04/05/16
6020A/3015^	SELENIUM (SE) (DISSOLVE	0.59 J	5.0	0.50	ug/L	1	04/04/16	04/05/16

J = Estimated value.

Printed: 04/05/16 4:14:31 PM

APPL-F1-SC-NoMC-REG MDLs

Sample Report

Sample Table

Sample Name	AZ31646W03 DF5
Data File Name	037SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T15:14:33-07:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	014CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.001	-0.005	-872.38	260	23.08	10000	
B	11	45	NoGas	242.418	1346.765	2.64	1375843	2.13	10000	
Na	23	45	He	267758.961	1487549.782	0.71	72955828	0.58	1000000	
Mg	24	45	He	300.333	1668.514	1.54	32664	2.04	1000000	
Al	27	45	He	23.497	130.541	10.06	568	6.55	1000000	
K	39	45	He	3214.644	17859.132	0.60	124544	0.40	500000	
Ca	44	45	He	13557.502	75319.454	0.41	40165	0.90	500000	
Ti	47	45	He	0.426	2.366	116.58	16	98.94	10000	
V	51	45	He	0.517	2.871	5.30	1186	4.91	10000	
Cr	52	45	He	1.386	7.698	4.85	5364	3.94	10000	
Mn	55	45	He	1.398	7.766	3.80	1500	2.89	50000	
Fe	56	45	He	8.641	48.008	3.18	27298	2.60	1000000	
Co	59	45	He	0.009	0.052	41.58	246	12.90	10000	
Ni	60	45	He	-0.834	-4.635	-12.47	3006	8.67	10000	
Cu	63	45	He	0.416	2.309	14.22	18028	2.10	10000	
Zn	66	115	He	1.283	7.127	3.43	2082	0.24	50000	
As	75	115	He	1.050	5.832	1.80	314	1.77	2000	
Se	78	72	H2	0.106	0.591	17.85	46	11.51	10000	
Se	78	115	He	0.210	1.167	183.27	2	107.85	10000	
Sr	88	115	NoGas	344.625	1914.581	0.22	35408232	1.00	50000	
Mo	95	115	NoGas	8.109	45.047	1.29	183236	1.47	10000	
Ag	107	115	NoGas	0.007	0.038	27.70	680	16.96	5000	
Cd	111	115	He	0.002	0.014	241.75	17	29.04	10000	
Sn	118	115	He	0.055	0.305	57.09	326	10.95	10000	
Sn	118	115	NoGas	0.067	0.372	3.80	10727	1.23	10000	
Sb	121	115	NoGas	0.396	2.199	2.28	21511	2.60	10000	
Ba	137	165	NoGas	8.358	46.432	2.48	133803	2.14	50000	
Tl	205	165	NoGas	0.024	0.131	24.16	3494	13.31	5000	
Pb	208	165	NoGas	0.054	0.298	0.86	15137	1.66	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	-12955	-10.65	31261	-41.44	70	120	ISTD Failed
Sc	45	H2	331762	4.64	334067	99.31	70	120	
Sc	45	He	20526	0.52	19867	103.31	70	120	
Sc	45	NoGas	4938180	0.44	4924313	100.28	70	120	
Ge	72	H2	77336	4.85	82805	93.40	70	120	
Ge	72	He	23027	2.11	23156	99.44	70	120	
Ge	72	NoGas	1237645	0.31	1270190	97.44	70	120	
In	115	H2	3008644	5.29	3188652	94.35	70	120	
In	115	He	145405	1.10	152086	95.61	70	120	
In	115	NoGas	7692624	0.78	8074799	95.27	70	120	
Tb	159	H2	8689727	4.60	9099175	95.50	70	120	
Tb	159	He	1105358	0.65	1136778	97.24	70	120	
Tb	159	NoGas	10627942	1.20	10816962	98.25	70	120	
Ho	165	H2	8177200	4.77	8681321	94.19	70	120	
Ho	165	He	1090228	0.36	1110225	98.20	70	120	
Ho	165	NoGas	10080051	1.42	10258627	98.26	70	120	

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories
ARF No: 79150 SDG: 79150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/05/16 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 14:11	%R(1)	True CCV1	Found 15:31	%R(1)	True	Found	%R(1)	
Arsenic (As)	100	94.2966	94.3	50	50.9204	102				P
Chromium (Cr)	100	100.346	100	50	48.5199	97.0				P
Manganese (Mn)	100	100.465	100	50	47.7933	95.6				P
Molybdenum (Mo)	100	97.4174	97.4	50	48.5699	97.1				P
Selenium (Se)	100	102.462	102	50	51.3337	103				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories

ARF No.: 79150 SDG: 79150

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 04/05/16

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	14:42		15:38						15:04		
Arsenic (As)	5.00	U	5.00	U					5.00	U	P
Chromium (Cr)	10.00	U	10.00	U					10.00	U	P
Manganese (Mn)	3.50	U	3.50	U					3.50	U	P
Molybdenum (Mo)	2.00	U	2.00	U					2.00	U	P
Selenium (Se)	5.00	U	5.00	U					5.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC.
Contract: ASSET Laboratories
ARF No.: 79150
SDG: 79150
ICP ID Number: Megatron
ICS Source: Environmental Express

Analysis Date: 04/05/16
Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 14:45	Sol AB 14:49	%R(1)
Arsenic (As)		50	0.196318	52.216105	104
Chromium (Cr)		50	0.481239	50.980187	102
Manganese (Mn)		50	2.533025	54.133238	108
Molybdenum (Mo)		1000	957.324983	992.152568	99.2
Selenium (Se)		50	0.043305	52.5322	105

(1) Control Limits: Metals 80-120

Calibration Blank Report

Sample Table

Sample Name	Calibration Blank 04/05/16
Data File Name	014CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T13:34:02-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD
Be	9	45	NoGas	267	13.17
B	11	45	NoGas	91106	2.37
Na	23	45	He	16938	1.81
Mg	24	45	He	133	11.46
Al	27	45	He	179	17.31
K	39	45	He	2631	8.60
Ca	44	45	He	76	10.19
Ti	47	45	He	2	173.21
V	51	45	He	20	28.87
Cr	52	45	He	438	4.95
Mn	55	45	He	376	7.75
Fe	56	45	He	5705	3.59
Co	59	45	He	163	28.93
Ni	60	45	He	5043	1.68
Cu	63	45	He	14247	0.54
Zn	66	115	He	1365	2.11
As	75	115	He	6	26.96
Se	78	72	H2	5	50.44
Se	78	115	He	1	100.00
Sr	88	115	NoGas	9903	7.03
Mo	95	115	NoGas	1080	10.02
Ag	107	115	NoGas	293	8.58
Cd	111	115	He	16	62.50
Sn	118	115	He	281	15.48
Sn	118	115	NoGas	8891	1.23
Sb	121	115	NoGas	2654	10.57
Ba	137	165	NoGas	787	7.23
Tl	205	165	NoGas	1400	3.78
[Pb]	206	165	NoGas	2257	6.30
[Pb]	207	165	NoGas	2020	3.01
Pb	208	165	NoGas	8655	1.57

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD
Li	6	NoGas	31261	1.02
Sc	45	H2	334067	3.37
Sc	45	He	19867	0.93
Sc	45	NoGas	4924313	1.80
Ge	72	H2	82805	3.36
Ge	72	He	23156	1.44
Ge	72	NoGas	1270190	1.57
In	115	H2	3188652	4.45
In	115	He	152086	0.60
In	115	NoGas	8074799	0.31
Tb	159	H2	9099175	3.86
Tb	159	He	1136778	1.33
Tb	159	NoGas	10816962	1.49
Ho	165	H2	8681321	3.35
Ho	165	He	1110225	1.24
Ho	165	NoGas	10258627	0.73

Calibration Standard Report

Sample Table

Sample Name	Standard 1 04/05/16
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T13:37:30-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	1077	16.88	1.0000
B	11	45	NoGas	89792	0.79	-1.0000
Na	23	45	He	18784	3.53	1.0000
Mg	24	45	He	762	10.73	1.0000
Al	27	45	He	179	17.61	-1.0000
K	39	45	He	2602	6.97	-1.0000
Ca	44	45	He	146	24.70	1.0000
Ti	47	45	He	7	50.03	1.0000
V	51	45	He	249	13.01	1.0000
Cr	52	45	He	826	9.09	1.0000
Mn	55	45	He	452	2.25	1.0000
Fe	56	45	He	11030	0.50	1.0000
Co	59	45	He	1276	4.00	1.0000
Ni	60	45	He	6330	6.17	1.0000
Cu	63	45	He	15048	1.25	1.0000
Zn	66	115	He	2075	6.82	1.0000
As	75	115	He	33	13.21	1.0000
Se	78	72	H2	49	7.48	1.0000
Se	78	115	He	1	173.21	1.0000
Sr	88	115	NoGas	25366	2.24	1.0000
Mo	95	115	NoGas	3177	5.86	1.0000
Ag	107	115	NoGas	3377	6.37	1.0000
Cd	111	115	He	151	17.04	1.0000
Sn	118	115	He	351	2.74	1.0000
Sn	118	115	NoGas	11317	1.40	1.0000
Sb	121	115	NoGas	7715	3.60	1.0000
Ba	137	165	NoGas	3497	3.21	1.0000
Tl	205	165	NoGas	14077	1.86	1.0000
[Pb]	206	165	NoGas	5691	3.18	
[Pb]	207	165	NoGas	5011	6.91	
Pb	208	165	NoGas	22998	0.72	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	31314	2.03	31261	100.17	70	120	
Sc	45	H2	338344	2.54	334067	101.28	70	120	
Sc	45	He	19983	2.56	19867	100.58	70	120	
Sc	45	NoGas	4907117	0.26	4924313	99.65	70	120	
Ge	72	H2	82872	3.06	82805	100.08	70	120	
Ge	72	He	23100	1.67	23156	99.76	70	120	
Ge	72	NoGas	1266246	0.25	1270190	99.69	70	120	
In	115	H2	3237490	3.57	3188652	101.53	70	120	
In	115	He	151273	1.42	152086	99.47	70	120	
In	115	NoGas	7971027	0.63	8074799	98.71	70	120	
Tb	159	H2	9129020	2.83	9099175	100.33	70	120	
Tb	159	He	1137315	0.76	1136778	100.05	70	120	
Tb	159	NoGas	10915552	1.33	10816962	100.91	70	120	
Ho	165	H2	8683777	2.68	8681321	100.03	70	120	
Ho	165	He	1113166	0.88	1110225	100.26	70	120	
Ho	165	NoGas	10250046	1.32	10258627	99.92	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 2 04/05/16
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T13:40:57-07:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	7689	8.60	1.0000
B	11	45	NoGas	94679	2.03	0.9588
Na	23	45	He	25230	2.14	0.9923
Mg	24	45	He	5519	3.84	0.9998
Al	27	45	He	431	9.16	0.9955
K	39	45	He	3276	2.98	0.9881
Ca	44	45	He	252	19.26	0.9497
Ti	47	45	He	17	34.64	0.9753
V	51	45	He	2179	3.14	1.0000
Cr	52	45	He	3834	3.02	0.9999
Mn	55	45	He	1195	13.14	1.0000
Fe	56	45	He	53979	0.81	0.9999
Co	59	45	He	8455	1.03	0.9994
Ni	60	45	He	9932	3.38	0.9856
Cu	63	45	He	21834	1.58	1.0000
Zn	66	115	He	2786	5.08	0.9091
As	75	115	He	285	14.50	1.0000
Se	78	72	H2	387	2.11	0.9999
Se	78	115	He	8	19.92	0.9988
Sr	88	115	NoGas	117160	1.44	0.9989
Mo	95	115	NoGas	23270	1.47	1.0000
Ag	107	115	NoGas	30371	2.89	1.0000
Cd	111	115	He	879	2.84	0.9985
Sn	118	115	He	1271	6.32	0.9996
Sn	118	115	NoGas	42269	2.55	0.9998
Sb	121	115	NoGas	49723	3.16	1.0000
Ba	137	165	NoGas	17313	2.34	0.9979
Tl	205	165	NoGas	91830	2.25	0.9992
[Pb]	206	165	NoGas	33469	2.01	
[Pb]	207	165	NoGas	28456	0.38	
Pb	208	165	NoGas	132926	2.06	0.9999

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	31739	0.91	31261	101.53	70	120	
Sc	45	H2	339690	2.87	334067	101.68	70	120	
Sc	45	He	20309	0.57	19867	102.22	70	120	
Sc	45	NoGas	4911938	1.28	4924313	99.75	70	120	
Ge	72	H2	82204	4.02	82805	99.27	70	120	
Ge	72	He	23218	1.21	23156	100.27	70	120	
Ge	72	NoGas	1270695	0.46	1270190	100.04	70	120	
In	115	H2	3232429	1.93	3188652	101.37	70	120	
In	115	He	150521	1.02	152086	98.97	70	120	
In	115	NoGas	8101307	0.86	8074799	100.33	70	120	
Tb	159	H2	9255424	2.43	9099175	101.72	70	120	
Tb	159	He	1143793	0.39	1136778	100.62	70	120	
Tb	159	NoGas	10741798	1.24	10816962	99.31	70	120	
Ho	165	H2	8816919	3.62	8681321	101.56	70	120	
Ho	165	He	1110613	0.88	1110225	100.03	70	120	
Ho	165	NoGas	10342488	0.42	10258627	100.82	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 3 04/05/16
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T13:44:25-07:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	386833	0.55	1.0000
B	11	45	NoGas	352859	1.33	1.0000
Na	23	45	He	354122	0.25	1.0000
Mg	24	45	He	268197	0.65	1.0000
Al	27	45	He	15866	1.83	1.0000
K	39	45	He	39773	1.41	1.0000
Ca	44	45	He	7329	1.90	1.0000
Ti	47	45	He	1581	2.32	0.9999
V	51	45	He	110067	0.91	1.0000
Cr	52	45	He	174066	0.99	1.0000
Mn	55	45	He	39104	0.77	1.0000
Fe	56	45	He	2485622	0.51	1.0000
Co	59	45	He	402347	0.57	1.0000
Ni	60	45	He	135957	0.66	0.9999
Cu	63	45	He	405325	0.65	1.0000
Zn	66	115	He	32993	1.73	0.9997
As	75	115	He	15023	0.42	1.0000
Se	78	72	H2	20174	1.51	1.0000
Se	78	115	He	350	4.64	1.0000
Sr	88	115	NoGas	5309295	0.86	1.0000
Mo	95	115	NoGas	1156762	0.37	1.0000
Ag	107	115	NoGas	1548353	1.31	1.0000
Cd	111	115	He	42338	1.08	1.0000
Sn	118	115	He	53247	1.00	1.0000
Sn	118	115	NoGas	1772356	1.14	1.0000
Sb	121	115	NoGas	2536134	0.43	1.0000
Ba	137	165	NoGas	804718	1.23	1.0000
Tl	205	165	NoGas	4740903	0.36	1.0000
[Pb]	206	165	NoGas	1630054	1.49	
[Pb]	207	165	NoGas	1399978	0.59	
Pb	208	165	NoGas	6440382	0.45	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	31377	2.58	31261	100.37	70	120	
Sc	45	H2	334002	3.27	334067	99.98	70	120	
Sc	45	He	20148	1.56	19867	101.41	70	120	
Sc	45	NoGas	4926925	1.06	4924313	100.05	70	120	
Ge	72	H2	81531	3.12	82805	98.46	70	120	
Ge	72	He	23499	0.96	23156	101.48	70	120	
Ge	72	NoGas	1278480	0.69	1270190	100.65	70	120	
In	115	H2	3168628	2.86	3188652	99.37	70	120	
In	115	He	150690	1.65	152086	99.08	70	120	
In	115	NoGas	8040893	0.43	8074799	99.58	70	120	
Tb	159	H2	9084039	3.20	9099175	99.83	70	120	
Tb	159	He	1146071	0.54	1136778	100.82	70	120	
Tb	159	NoGas	10829660	0.49	10816962	100.12	70	120	
Ho	165	H2	8591816	3.69	8681321	98.97	70	120	
Ho	165	He	1111518	0.87	1110225	100.12	70	120	
Ho	165	NoGas	10331558	1.10	10258627	100.71	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 4 04/05/16
Data File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T13:47:48-07:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	779751	0.85	1.0000
B	11	45	NoGas	623140	0.88	1.0000
Na	23	45	He	681855	0.55	1.0000
Mg	24	45	He	528614	0.40	1.0000
Al	27	45	He	32247	0.56	0.9999
K	39	45	He	76837	0.90	1.0000
Ca	44	45	He	14538	3.35	1.0000
Ti	47	45	He	3028	3.40	0.9998
V	51	45	He	220823	1.12	1.0000
Cr	52	45	He	347436	0.42	1.0000
Mn	55	45	He	78357	0.92	1.0000
Fe	56	45	He	4827062	0.28	0.9999
Co	59	45	He	797376	0.89	1.0000
Ni	60	45	He	262835	1.31	1.0000
Cu	63	45	He	793608	1.13	1.0000
Zn	66	115	He	63237	0.75	0.9999
As	75	115	He	30175	0.77	1.0000
Se	78	72	H2	40308	2.04	0.9999
Se	78	115	He	674	0.54	0.9999
Sr	88	115	NoGas	10540619	0.44	1.0000
Mo	95	115	NoGas	2306731	0.53	1.0000
Ag	107	115	NoGas	2988985	0.55	1.0000
Cd	111	115	He	83952	0.10	1.0000
Sn	118	115	He	105679	0.44	1.0000
Sn	118	115	NoGas	3449363	0.97	1.0000
Sb	121	115	NoGas	4890665	0.62	1.0000
Ba	137	165	NoGas	1626969	0.56	1.0000
Tl	205	165	NoGas	9122666	1.01	0.9999
[Pb]	206	165	NoGas	3165162	0.92	
[Pb]	207	165	NoGas	2766993	0.92	
Pb	208	165	NoGas	12526085	0.78	0.9999

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	33224	0.32	31261	106.28	70	120	
Sc	45	H2	327504	3.27	334067	98.04	70	120	
Sc	45	He	20079	1.12	19867	101.06	70	120	
Sc	45	NoGas	4942799	0.71	4924313	100.38	70	120	
Ge	72	H2	79386	3.84	82805	95.87	70	120	
Ge	72	He	23192	1.53	23156	100.15	70	120	
Ge	72	NoGas	1265767	1.06	1270190	99.65	70	120	
In	115	H2	3049264	4.82	3188652	95.63	70	120	
In	115	He	148737	1.72	152086	97.80	70	120	
In	115	NoGas	7862146	0.86	8074799	97.37	70	120	
Tb	159	H2	8922186	4.59	9099175	98.05	70	120	
Tb	159	He	1140100	1.55	1136778	100.29	70	120	
Tb	159	NoGas	10738855	0.49	10816962	99.28	70	120	
Ho	165	H2	8455982	3.88	8681321	97.40	70	120	
Ho	165	He	1114215	1.18	1110225	100.36	70	120	
Ho	165	NoGas	10261378	1.36	10258627	100.03	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV 160405
Data File Name	025_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T14:11:55-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	101.002	1.843	795041	0.28	100	101.0	89.6	110.4	
B	11	45	NoGas	101.643	1.667	637160	0.45	100	101.6	89.6	110.4	
Na	23	45	He	2570.018	1.322	706571	0.45	2500	102.8	89.6	110.4	
Mg	24	45	He	2594.784	1.535	276816	0.51	2500	103.8	89.6	110.4	
Al	27	45	He	2560.031	1.696	41296	1.90	2500	102.4	89.6	110.4	
K	39	45	He	2560.372	1.838	98213	0.28	2500	102.4	89.6	110.4	
Ca	44	45	He	3107.338	3.037	9122	2.03	2500	124.3	89.6	110.4	>+\- 10%
Ti	47	45	He	102.606	4.127	3154	5.55	100	102.6	89.6	110.4	
V	51	45	He	100.391	2.257	222846	0.81	100	100.4	89.6	110.4	
Cr	52	45	He	100.347	2.131	350739	0.63	100	100.3	89.6	110.4	
Mn	55	45	He	100.466	2.027	79077	0.60	100	100.5	89.6	110.4	
Fe	56	45	He	2544.835	2.370	6211720	0.85	2500	101.8	89.6	110.4	
Co	59	45	He	101.572	2.216	816086	0.80	100	101.6	89.6	110.4	
Ni	60	45	He	102.393	2.027	271422	1.35	100	102.4	89.6	110.4	
Cu	63	45	He	103.911	1.549	829483	0.65	100	103.9	89.6	110.4	
Zn	66	115	He	104.064	0.789	66326	0.51	100	104.1	89.6	110.4	
As	75	115	He	94.297	1.323	28549	1.19	100	94.3	89.6	110.4	
Se	78	72	H2	102.462	6.453	41861	1.77	100	102.5	89.6	110.4	
Se	78	115	He	102.723	3.494	701	4.39	100	102.7	89.6	110.4	
Sr	88	115	NoGas	103.985	0.629	11037387	0.89	100	104.0	89.6	110.4	
Mo	95	115	NoGas	97.417	1.410	2261114	1.14	100	97.4	89.6	110.4	
Ag	107	115	NoGas	49.789	0.509	3014555	0.29	50	99.6	89.6	110.4	
Cd	111	115	He	100.876	0.495	85184	0.39	100	100.9	89.6	110.4	
Sn	118	115	He	50.270	1.175	53538	0.31	100	50.3	89.6	110.4	>+\- 10%
Sn	118	115	NoGas	50.956	0.767	1780719	0.73	100	51.0	89.6	110.4	>+\- 10%
Sb	121	115	NoGas	94.213	0.362	4667561	0.63	100	94.2	89.6	110.4	
Ba	137	165	NoGas	102.758	0.605	1668090	2.15	100	102.8	89.6	110.4	
Tl	205	165	NoGas	103.897	2.047	9550346	1.52	100	103.9	89.6	110.4	
Pb	208	165	NoGas	104.246	1.488	13126648	1.02	100	104.2	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	31612	2.47	31261	101.12	70	120	
Sc	45	H2	333647	3.34	334067	99.87	70	120	
Sc	45	He	20213	1.55	19867	101.74	70	120	
Sc	45	NoGas	4995425	1.78	4924313	101.44	70	120	
Ge	72	H2	80931	4.66	82805	97.74	70	120	
Ge	72	He	23680	0.88	23156	102.26	70	120	
Ge	72	NoGas	1265171	0.82	1270190	99.60	70	120	
In	115	H2	3160947	3.04	3188652	99.13	70	120	
In	115	He	149722	0.89	152086	98.45	70	120	
In	115	NoGas	7942277	0.34	8074799	98.36	70	120	
Tb	159	H2	9102176	4.47	9099175	100.03	70	120	
Tb	159	He	1146198	0.74	1136778	100.83	70	120	
Tb	159	NoGas	10816781	1.32	10816962	100.00	70	120	
Ho	165	H2	8573582	4.00	8681321	98.76	70	120	
Ho	165	He	1113964	0.74	1110225	100.34	70	120	
Ho	165	NoGas	10273646	1.58	10258627	100.15	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB 160405
Data File Name	029_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T14:42:13-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.003	-274.6	240	29.2	0.1	
B	11	45	NoGas	0.530	97.5	92975	1.4	8	
Na	23	45	He	-7.754	-31.3	15548	2.1	50	
Mg	24	45	He	0.210	95.1	162	12.6	20	
Al	27	45	He	-3.497	-17.2	129	6.0	10	
K	39	45	He	-6.675	-29.4	2494	4.8	40	
Ca	44	45	He	5.134	199.1	94	33.4	150	
Ti	47	45	He	0.030	346.3	3	100.1	0.5	
V	51	45	He	0.002	596.6	24	90.8	0.4	
Cr	52	45	He	-0.021	-41.1	383	6.8	0.2	
Mn	55	45	He	-0.067	-82.5	339	14.8	0.3	
Fe	56	45	He	-0.206	-49.6	5443	5.4	30	
Co	59	45	He	0.005	92.2	210	19.2	0.4	
Ni	60	45	He	0.275	25.4	6004	4.6	0.4	
Cu	63	45	He	-0.138	-37.1	13766	1.4	0.4	
Zn	66	115	He	-0.365	-37.5	1156	9.2	15	
As	75	115	He	0.010	89.2	9	33.3	0.2	
Se	78	72	H2	0.009	47.6	9	18.1	0.4	
Se	78	115	He	-0.051	-313.1	1	173.2	0.4	
Sr	88	115	NoGas	-0.006	-57.9	9316	4.0	0.1	
Mo	95	115	NoGas	-0.005	-137.9	970	18.0	0.3	
Ag	107	115	NoGas	0.000	-1058.9	293	11.0	0.1	
Cd	111	115	He	0.005	32.3	21	5.6	0.1	
Sn	118	115	He	-0.077	-13.0	202	5.3	0.1	
Sn	118	115	NoGas	-0.042	-7.7	7468	2.1	0.1	
Sb	121	115	NoGas	0.009	43.3	3130	5.9	0.5	
Ba	137	165	NoGas	0.004	285.1	850	21.4	0.4	
Tl	205	165	NoGas	-0.001	-182.4	1290	15.1	0.2	
Pb	208	165	NoGas	-0.005	-46.3	8021	3.6	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	31443	4.24	31261	100.58	70	120	
Sc	45	H2	327249	3.40	334067	97.96	70	120	
Sc	45	He	20754	2.26	19867	104.46	70	120	
Sc	45	NoGas	4877221	1.75	4924313	99.04	70	120	
Ge	72	H2	80683	4.06	82805	97.44	70	120	
Ge	72	He	24008	2.54	23156	103.68	70	120	
Ge	72	NoGas	1256228	2.04	1270190	98.90	70	120	
In	115	H2	3117622	3.17	3188652	97.77	70	120	
In	115	He	155023	1.61	152086	101.93	70	120	
In	115	NoGas	8147954	0.74	8074799	100.91	70	120	
Tb	159	H2	8751692	4.12	9099175	96.18	70	120	
Tb	159	He	1145001	1.55	1136778	100.72	70	120	
Tb	159	NoGas	10837680	1.00	10816962	100.19	70	120	
Ho	165	H2	8292793	3.19	8681321	95.52	70	120	
Ho	165	He	1119705	1.65	1110225	100.85	70	120	
Ho	165	NoGas	10274336	1.62	10258627	100.15	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA 160403
Data File Name	030ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T14:45:39-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	0.021	118.1	393	44.2	0.1	
B	11	45	NoGas	-0.234	-129.6	82584	2.2	8	
Na	23	45	He	49457.716	0.9	13145018	0.2	60000	
Mg	24	45	He	45948.797	1.2	4848780	0.4	60000	
Al	27	45	He	46760.371	1.1	743292	0.2	60000	
K	39	45	He	47494.240	2.0	1756555	1.9	60000	
Ca	44	45	He	37582.608	0.9	108357	0.5	60000	>RL
Ti	47	45	He	998.230	1.5	30331	2.2	1200	
V	51	45	He	0.033	1.3	93	0.0	0.2	
Cr	52	45	He	0.481	8.4	2103	6.8	30	
Mn	55	45	He	2.533	4.1	2341	2.5	24	
Fe	56	45	He	45742.423	1.8	110403525	0.9	60000	
Co	59	45	He	0.095	7.4	916	5.9	5	
Ni	60	45	He	-0.512	-15.2	3759	4.5	20	
Cu	63	45	He	0.173	43.1	15690	4.5	25	
Zn	66	115	He	0.951	7.1	1821	1.7	60	
As	75	115	He	0.196	32.3	61	28.8	0.4	
Se	78	72	H2	0.043	30.7	21	21.4	0.4	
Se	78	115	He	0.117	78.9	2	34.6	0.4	
Sr	88	115	NoGas	0.585	1.2	64699	1.6	5	
Mo	95	115	NoGas	957.325	0.4	20027765	0.6	1200	
Ag	107	115	NoGas	0.096	4.6	5478	4.7	5	
Cd	111	115	He	0.112	12.6	103	9.9	0.5	
Sn	118	115	He	0.133	73.3	392	24.0	5	
Sn	118	115	NoGas	0.176	1.8	13395	1.0	5	
Sb	121	115	NoGas	0.154	6.3	9213	3.9	5	
Ba	137	165	NoGas	0.388	4.8	6712	4.6	1.5	
Tl	205	165	NoGas	0.017	19.1	2804	9.8	0.2	
Pb	208	165	NoGas	0.307	3.7	44756	2.0	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	25835	3.61	31261	82.64	70	120	
Sc	45	H2	320989	3.64	334067	96.09	70	120	
Sc	45	He	20002	1.00	19867	100.68	70	120	
Sc	45	NoGas	4525165	0.65	4924313	91.89	70	120	
Ge	72	H2	73566	4.94	82805	88.84	70	120	
Ge	72	He	23061	1.81	23156	99.59	70	120	
Ge	72	NoGas	1191848	0.57	1270190	93.83	70	120	
In	115	H2	2828666	3.96	3188652	88.71	70	120	
In	115	He	140753	0.91	152086	92.55	70	120	
In	115	NoGas	7161696	0.99	8074799	88.69	70	120	
Tb	159	H2	8373457	5.04	9099175	92.02	70	120	
Tb	159	He	1085726	0.28	1136778	95.51	70	120	
Tb	159	NoGas	10241857	0.94	10816962	94.68	70	120	
Ho	165	H2	7987179	4.87	8681321	92.00	70	120	
Ho	165	He	1065672	1.13	1110225	95.99	70	120	
Ho	165	NoGas	9726107	0.99	10258627	94.81	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB 160403
Data File Name	031ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T14:49:02-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	44.766	1.637	323642	1.13	50	89.5	80	120	
B	11	45	NoGas	-1.034	-9.786	79742	0.65	-8	12.9	80	120	
Na	23	45	He	50789.633	3.232	13049770	0.33	50000	101.6	80	120	
Mg	24	45	He	46558.692	4.660	4748691	1.98	50000	93.1	80	120	
Al	27	45	He	47347.863	2.969	727669	0.71	50000	94.7	80	120	
K	39	45	He	47170.615	3.408	1686795	2.24	50000	94.3	80	120	
Ca	44	45	He	38323.941	3.187	106820	0.62	50000	76.6	80	120	>+\- 20%
Ti	47	45	He	1013.089	3.156	29757	1.21	1000	101.3	80	120	
V	51	45	He	52.390	4.085	111264	1.31	50	104.8	80	120	
Cr	52	45	He	50.980	3.483	170699	1.13	50	102.0	80	120	
Mn	55	45	He	54.133	2.972	40938	0.04	50	108.3	80	120	
Fe	56	45	He	47150.905	2.719	110035845	0.36	50000	94.3	80	120	
Co	59	45	He	51.051	3.144	392546	0.56	50	102.1	80	120	
Ni	60	45	He	98.461	3.172	249899	0.28	100	98.5	80	120	
Cu	63	45	He	50.547	3.248	393174	0.81	50	101.1	80	120	
Zn	66	115	He	104.698	2.300	60848	1.32	100	104.7	80	120	
As	75	115	He	52.216	2.880	14418	1.17	50	104.4	80	120	
Se	78	72	H2	52.532	8.093	18902	2.66	50	105.1	80	120	
Se	78	115	He	48.298	7.031	301	5.30	50	96.6	80	120	
Sr	88	115	NoGas	0.596	0.773	66890	0.76	-5	-11.9	80	120	
Mo	95	115	NoGas	992.153	0.761	21103782	1.15	1050	94.5	80	120	
Ag	107	115	NoGas	89.888	1.094	4989667	1.92	100	89.9	80	120	
Cd	111	115	He	104.456	1.568	80444	0.43	100	104.5	80	120	
Sn	118	115	He	0.162	29.943	409	12.26	50	0.3	80	120	>+\- 20%
Sn	118	115	NoGas	0.164	4.417	13253	1.65	50	0.3	80	120	>+\- 20%
Sb	121	115	NoGas	47.883	1.542	2175842	0.65	50	95.8	80	120	
Ba	137	165	NoGas	50.657	1.286	784918	0.41	50	101.3	80	120	
Tl	205	165	NoGas	49.355	1.607	4329841	0.54	50	98.7	80	120	
Pb	208	165	NoGas	100.432	1.359	12067870	0.30	100	100.4	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	25377	2.89	31261	81.18	70	120	
Sc	45	H2	310642	5.80	334067	92.99	70	120	
Sc	45	He	19348	2.93	19867	97.39	70	120	
Sc	45	NoGas	4585437	0.65	4924313	93.12	70	120	
Ge	72	H2	71332	5.36	82805	86.14	70	120	
Ge	72	He	22723	4.45	23156	98.13	70	120	
Ge	72	NoGas	1187030	1.13	1270190	93.45	70	120	
In	115	H2	2777735	4.99	3188652	87.11	70	120	
In	115	He	136566	1.76	152086	89.80	70	120	
In	115	NoGas	7281621	1.32	8074799	90.18	70	120	
Tb	159	H2	8281086	5.92	9099175	91.01	70	120	
Tb	159	He	1060886	2.30	1136778	93.32	70	120	
Tb	159	NoGas	10206203	0.73	10816962	94.35	70	120	
Ho	165	H2	7924350	5.04	8681321	91.28	70	120	
Ho	165	He	1052228	2.94	1110225	94.78	70	120	
Ho	165	NoGas	9803381	1.40	10258627	95.56	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV 160405
Data File Name	042_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T15:31:34-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	46.233	2.600	354158	0.55	50	92.5	89.6	110.4	
B	11	45	NoGas	50.951	3.287	355525	1.05	50	101.9	89.6	110.4	
Na	23	45	He	1278.816	1.984	372094	0.45	1250	102.3	89.6	110.4	
Mg	24	45	He	2423.495	0.975	267096	0.99	2500	96.9	89.6	110.4	
Al	27	45	He	962.041	1.813	16146	0.77	1000	96.2	89.6	110.4	
K	39	45	He	988.890	1.535	40891	2.50	1000	98.9	89.6	110.4	
Ca	44	45	He	2401.659	2.799	7302	2.06	2500	96.1	89.6	110.4	
Ti	47	45	He	47.659	3.333	1515	5.28	50	95.3	89.6	110.4	
V	51	45	He	49.197	0.399	112843	1.60	50	98.4	89.6	110.4	
Cr	52	45	He	48.520	1.532	175438	1.13	50	97.0	89.6	110.4	
Mn	55	45	He	47.793	2.288	39064	0.44	50	95.6	89.6	110.4	
Fe	56	45	He	976.037	1.630	2464878	0.45	1000	97.6	89.6	110.4	
Co	59	45	He	48.578	0.764	403333	1.17	50	97.2	89.6	110.4	
Ni	60	45	He	47.581	1.251	133130	1.01	50	95.2	89.6	110.4	
Cu	63	45	He	49.373	1.310	414990	0.71	50	98.7	89.6	110.4	
Zn	66	115	He	50.052	1.053	33107	0.55	50	100.1	89.6	110.4	
As	75	115	He	50.920	1.008	15660	0.62	50	101.8	89.6	110.4	
Se	78	72	H2	51.334	5.842	20419	1.98	50	102.7	89.6	110.4	
Se	78	115	He	50.914	14.547	353	15.12	50	101.8	89.6	110.4	
Sr	88	115	NoGas	49.037	1.119	5134054	1.36	50	98.1	89.6	110.4	
Mo	95	115	NoGas	48.570	1.270	1111492	1.92	50	97.1	89.6	110.4	
Ag	107	115	NoGas	24.550	1.031	1464865	0.96	25	98.2	89.6	110.4	
Cd	111	115	He	48.857	0.302	41909	0.29	50	97.7	89.6	110.4	
Sn	118	115	He	49.575	1.403	53629	1.50	50	99.2	89.6	110.4	
Sn	118	115	NoGas	49.107	3.357	1690928	1.86	50	98.2	89.6	110.4	
Sb	121	115	NoGas	51.495	1.367	2514940	0.40	50	103.0	89.6	110.4	
Ba	137	165	NoGas	49.403	0.433	770165	0.83	50	98.8	89.6	110.4	
Tl	205	165	NoGas	49.616	0.797	4379153	0.83	50	99.2	89.6	110.4	
Pb	208	165	NoGas	49.758	0.799	6019464	1.08	50	99.5	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	29436	2.05	31261	94.16	70	120	
Sc	45	H2	321568	5.36	334067	96.26	70	120	
Sc	45	He	20881	1.93	19867	105.10	70	120	
Sc	45	NoGas	4860319	2.36	4924313	98.70	70	120	
Ge	72	H2	78751	4.07	82805	95.10	70	120	
Ge	72	He	24306	3.16	23156	104.97	70	120	
Ge	72	NoGas	1245885	1.34	1270190	98.09	70	120	
In	115	H2	3003007	4.76	3188652	94.18	70	120	
In	115	He	152058	0.59	152086	99.98	70	120	
In	115	NoGas	7827022	1.75	8074799	96.93	70	120	
Tb	159	H2	8671201	4.60	9099175	95.30	70	120	
Tb	159	He	1116171	0.92	1136778	98.19	70	120	
Tb	159	NoGas	10390597	1.01	10816962	96.06	70	120	
Ho	165	H2	8213309	4.55	8681321	94.61	70	120	
Ho	165	He	1099462	1.21	1110225	99.03	70	120	
Ho	165	NoGas	9861865	0.93	10258627	96.13	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB 160405
Data File Name	044_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T15:38:25-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	014CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.004	-156.6	240	20.8	0.1	
B	11	45	NoGas	2.381	4.5	105680	1.3	8	
Na	23	45	He	26.020	6.4	24666	0.4	50	
Mg	24	45	He	0.640	15.2	208	4.0	20	
Al	27	45	He	-1.595	-114.7	159	17.6	10	
K	39	45	He	-1.856	-182.8	2656	3.4	40	
Ca	44	45	He	4.728	83.7	92	11.6	150	
Ti	47	45	He	0.105	213.8	6	124.9	0.5	
V	51	45	He	0.001	149.6	22	8.7	0.4	
Cr	52	45	He	-0.013	-62.9	406	6.2	0.2	
Mn	55	45	He	-0.051	-103.0	349	11.9	0.3	
Fe	56	45	He	0.040	256.8	6013	5.0	30	
Co	59	45	He	0.005	89.4	208	16.1	0.4	
Ni	60	45	He	-0.686	-9.0	3410	4.1	0.4	
Cu	63	45	He	1.071	13.1	23320	4.0	0.4	>LOD
Zn	66	115	He	-0.161	-28.9	1301	1.9	15	
As	75	115	He	0.009	112.8	9	37.1	0.2	
Se	78	72	H2	0.008	31.6	9	14.3	0.4	
Se	78	115	He	-0.051	-316.5	1	173.2	0.4	
Sr	88	115	NoGas	0.008	23.8	10887	2.6	0.1	
Mo	95	115	NoGas	0.021	51.6	1590	15.7	0.3	
Ag	107	115	NoGas	0.003	9.5	453	2.5	0.1	
Cd	111	115	He	-0.006	-60.3	11	27.0	0.1	
Sn	118	115	He	-0.024	-79.0	263	7.7	0.1	
Sn	118	115	NoGas	0.024	151.8	9846	14.0	0.1	
Sb	121	115	NoGas	0.113	10.5	8439	6.4	0.5	
Ba	137	165	NoGas	0.012	88.5	990	16.3	0.4	
Tl	205	165	NoGas	0.007	23.9	2107	6.9	0.2	
Pb	208	165	NoGas	0.001	292.7	8941	7.4	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	31947	0.28	31261	102.19	70	120	
Sc	45	H2	335632	3.42	334067	100.47	70	120	
Sc	45	He	20596	1.49	19867	103.67	70	120	
Sc	45	NoGas	5019033	0.92	4924313	101.92	70	120	
Ge	72	H2	80683	3.60	82805	97.44	70	120	
Ge	72	He	24104	1.06	23156	104.09	70	120	
Ge	72	NoGas	1291046	0.75	1270190	101.64	70	120	
In	115	H2	3204483	3.46	3188652	100.50	70	120	
In	115	He	156777	0.45	152086	103.08	70	120	
In	115	NoGas	8158401	0.78	8074799	101.04	70	120	
Tb	159	H2	9122183	3.93	9099175	100.25	70	120	
Tb	159	He	1162873	0.76	1136778	102.30	70	120	
Tb	159	NoGas	10979855	1.77	10816962	101.51	70	120	
Ho	165	H2	8680824	2.94	8681321	99.99	70	120	
Ho	165	He	1142235	0.90	1110225	102.88	70	120	
Ho	165	NoGas	10391187	1.90	10258627	101.29	70	120	

METALS
Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020A	ARSENIC (AS) (DISSOLVED)	Not detected	5.0	0.31	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	CHROMIUM (CR) (DISSOLV	Not detected	10.0	0.45	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	MANGANESE (MN) (DISSOL	Not detected	3.5	0.30	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	MOLYBDENUM (MO) (DISSO	Not detected	2.0	0.12	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646
6020A	SELENIUM (SE) (DISSOLVE	Not detected	5.0	0.50	ug/L	04/04/16	04/05/16	#62A14-160404A-AZ31646

Metals SC-Blank-REG MDLs
Printed: 04/05/16 4:16:01 PM

Sample Report

Sample Table

Sample Name	160404A BLK
Data File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T15:04:17-07:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	014CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.007	-0.008	-72.37	237	19.97	10000	
B	11	45	NoGas	0.764	0.849	24.43	107678	1.65	10000	
Na	23	45	He	8.489	9.432	12.58	20802	2.20	1000000	
Mg	24	45	He	2.865	3.183	14.22	471	11.76	1000000	
Al	27	45	He	12.886	14.318	10.79	414	5.36	1000000	
K	39	45	He	-13.273	-14.748	-7.75	2327	3.94	500000	
Ca	44	45	He	1.496	1.662	296.22	87	16.77	500000	
Ti	47	45	He	0.497	0.552	74.06	19	66.81	10000	
V	51	45	He	0.015	0.016	19.09	57	11.76	10000	
Cr	52	45	He	0.062	0.069	34.39	703	9.23	10000	
Mn	55	45	He	0.187	0.208	46.39	564	14.58	50000	
Fe	56	45	He	3.461	3.846	11.03	15178	4.72	1000000	
Co	59	45	He	0.040	0.045	6.42	520	3.57	10000	
Ni	60	45	He	-0.858	-0.953	-3.82	3091	1.92	10000	
Cu	63	45	He	0.384	0.426	21.04	18673	5.58	10000	
Zn	66	115	He	0.190	0.211	62.44	1568	3.50	50000	
As	75	115	He	0.010	0.012	78.69	9	26.96	2000	
Se	78	72	H2	0.006	0.007	29.10	8	12.80	10000	
Se	78	115	He	-0.005	-0.005	-4950.66	1	173.21	10000	
Sr	88	115	NoGas	-0.009	-0.010	-46.73	10043	5.48	50000	
Mo	95	115	NoGas	0.067	0.075	6.01	3017	4.76	10000	
Ag	107	115	NoGas	0.000	0.001	167.83	363	15.16	5000	
Cd	111	115	He	-0.008	-0.008	-85.82	10	60.00	10000	
Sn	118	115	He	-0.101	-0.112	-31.37	182	18.68	10000	
Sn	118	115	NoGas	-0.090	-0.100	-6.67	6441	2.93	10000	
Sb	121	115	NoGas	0.011	0.012	90.24	3591	13.79	10000	
Ba	137	165	NoGas	0.268	0.298	126.93	5962	108.45	50000	
Tl	205	165	NoGas	0.008	0.009	35.74	2440	11.56	5000	
Pb	208	165	NoGas	0.055	0.061	3.46	17895	1.83	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	37584	4.88	31261	120.23	70	120	ISTD Failed
Sc	45	H2	338243	3.43	334067	101.25	70	120	
Sc	45	He	21554	2.26	19867	108.49	70	120	
Sc	45	NoGas	5573166	1.09	4924313	113.18	70	120	
Ge	72	H2	81927	3.08	82805	98.94	70	120	
Ge	72	He	24568	1.00	23156	106.10	70	120	
Ge	72	NoGas	1413164	2.35	1270190	111.26	70	120	
In	115	H2	3238460	3.19	3188652	101.56	70	120	
In	115	He	160656	1.71	152086	105.64	70	120	
In	115	NoGas	9117396	1.32	8074799	112.91	70	120	
Tb	159	H2	9208920	4.06	9099175	101.21	70	120	
Tb	159	He	1225925	0.89	1136778	107.84	70	120	
Tb	159	NoGas	12438545	2.42	10816962	114.99	70	120	
Ho	165	H2	8776279	4.40	8681321	101.09	70	120	
Ho	165	He	1215753	1.24	1110225	109.51	70	120	
Ho	165	NoGas	11842434	2.43	10258627	115.44	70	120	

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	ARSENIC (AS) (DISSOLVED)	50.0	40.9	81.8	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	CHROMIUM (CR) (DISSOLVED)	50.0	44.8	89.6	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	MANGANESE (MN) (DISSOLVED	50.0	44.4	88.8	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	MOLYBDENUM (MO) (DISSOLVE	50.0	42.3	84.6	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646
EPA 6020A	SELENIUM (SE) (DISSOLVED)	50.0	41.1	82.2	80-120	04/04/16	04/05/16	#62A14-160404A-AZ31646

Comments: _____

Sample Report

Sample Table

Sample Name	160404A LCS
Data File Name	035SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\160405A.b
Acq Date Time	2016-04-05T15:07:43-07:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	014CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	7.868	8.742	1.94	64430	1.27	10000	
B	11	45	NoGas	39.751	44.167	1.33	316485	0.03	10000	
Na	23	45	He	4005.657	4450.730	3.63	1095410	1.23	1000000	
Mg	24	45	He	4066.430	4518.255	1.52	435397	1.24	1000000	
Al	27	45	He	336.576	373.973	4.60	5605	2.11	1000000	
K	39	45	He	790.411	878.234	5.24	32276	2.46	500000	
Ca	44	45	He	3593.888	3993.209	1.78	10580	1.34	500000	
Ti	47	45	He	42.881	47.645	6.48	1323	5.94	10000	
V	51	45	He	40.735	45.261	2.84	90772	1.39	10000	
Cr	52	45	He	40.323	44.804	2.42	141735	0.59	10000	
Mn	55	45	He	39.944	44.382	1.11	31794	1.42	50000	
Fe	56	45	He	164.794	183.105	1.63	409267	1.12	1000000	
Co	59	45	He	40.284	44.760	1.64	325014	0.84	10000	
Ni	60	45	He	38.491	42.768	1.85	105631	0.88	10000	
Cu	63	45	He	39.552	43.946	2.14	325907	0.44	10000	
Zn	66	115	He	70.736	78.596	1.58	46979	0.63	50000	
As	75	115	He	36.817	40.907	2.19	11508	0.83	2000	
Se	78	72	H2	37.014	41.127	5.23	15380	1.16	10000	
Se	78	115	He	34.422	38.247	3.73	243	3.93	10000	
Sr	88	115	NoGas	40.497	44.997	1.99	4528727	1.13	50000	
Mo	95	115	NoGas	38.097	42.330	1.30	931077	0.42	10000	
Ag	107	115	NoGas	15.344	17.049	1.31	977681	0.50	5000	
Cd	111	115	He	7.450	8.278	4.65	6508	3.86	10000	
Sn	118	115	He	39.832	44.258	2.61	43844	1.44	10000	
Sn	118	115	NoGas	38.760	43.066	1.09	1427377	0.19	10000	
Sb	121	115	NoGas	36.167	40.186	0.69	1887026	0.32	10000	
Ba	137	165	NoGas	39.535	43.928	0.79	671760	0.57	50000	
Tl	205	165	NoGas	41.117	45.686	1.02	3954830	0.84	5000	
Pb	208	165	NoGas	41.297	45.885	0.50	5445421	0.24	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	34991	2.16	31261	111.93	70	120	
Sc	45	H2	342110	4.78	334067	102.41	70	120	
Sc	45	He	20292	2.49	19867	102.14	70	120	
Sc	45	NoGas	5175407	0.94	4924313	105.10	70	120	
Ge	72	H2	82239	3.96	82805	99.32	70	120	
Ge	72	He	23530	1.38	23156	101.61	70	120	
Ge	72	NoGas	1303265	0.53	1270190	102.60	70	120	
In	115	H2	3245710	5.41	3188652	101.79	70	120	
In	115	He	154556	1.35	152086	101.62	70	120	
In	115	NoGas	8357118	0.90	8074799	103.50	70	120	
Tb	159	H2	9421675	4.62	9099175	103.54	70	120	
Tb	159	He	1192452	1.16	1136778	104.90	70	120	
Tb	159	NoGas	11467462	1.03	10816962	106.01	70	120	
Ho	165	H2	9020712	4.39	8681321	103.91	70	120	
Ho	165	He	1169340	0.97	1110225	105.32	70	120	
Ho	165	NoGas	10746297	0.27	10258627	104.75	70	120	

US EPA Tune Check Sample Report

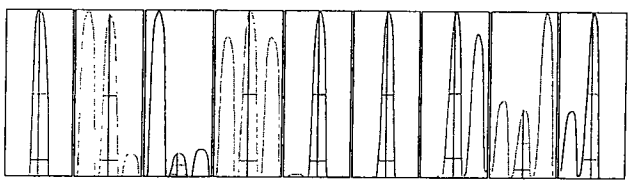
Batch Folder C:\Agilent\ICPMH\1\DATA\160405A.b
Report Comment C:\Agilent\ICPMH\Report Templates\en\Letter\Tune Report\New and Improved 200_8TuneCheckSampleReport.xltx
Instrument Name G3281A JP12101628

[NoGas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	591435	0.91	5.00	
24	3085572	0 74	5.00	
25	441394	0.53	5.00	
26	524208	0.28	5.00	
59	6695559	0.43	5.00	
115	9709885	0.63	5.00	
206	2204514	0.30	5.00	
207	1955117	0.69	5.00	
208	4571189	0.23	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	589493	597445	584734	596494	589009
24	3103649	3054894	3071486	3087584	3110245
25	441732	443228	444015	438528	439465
26	525184	525842	524649	522352	523013
59	6703129	6685324	6721903	6716369	6651070
115	9723190	9802786	9636556	9691319	9695576
206	2203398	2201582	2215385	2197980	2204225
207	1949098	1976609	1958141	1940739	1950995
208	4556454	4582094	4573589	4565379	4578428

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	88438	9.00	8.9 - 9.1		0.781	0.900	
24	502072	24.05	23.9 - 24.1		0.770	0.900	
25	71361	25.00	24.9 - 25.1		0.737	0.900	
26	83904	26.00	25.9 - 26.1		0.765	0.900	
59	1111944	59.05	58.9 - 59.1		0.730	0.900	
115	1721750	115.05	114.9 - 115.1		0.733	0.900	
206	397576	206.00	205.9 - 206.1		0.755	0.900	
207	347072	207.00	206.9 - 207.1		0.733	0.900	
208	842283	208.00	207.9 - 208.1		0.740	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min			
RF Matching	1.30	V	Option Gas	0.0	%			
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	°C						

Lenses Parameters

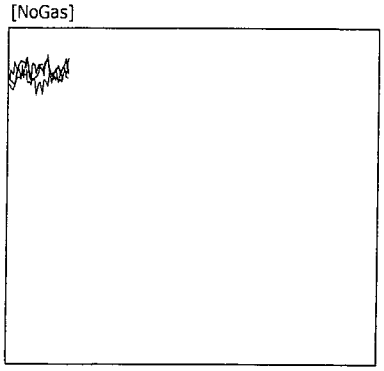
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	10.5	V			
Extract 2	-200.0	V	Cell Entrance	-30	V			
Omega Bias	-95	V	Cell Exit	-50	V			
Deflect	14.8	V						

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	130	V			
Energy Discrimination	5.0	V						

Current Signal

[NoGas]



Mass	Range	Count	Avg. Count	RSD [%]
7	5000	4559	4333.4	2.43
59	20000	17001	16909.6	2.51
89	50000	26308	25948.5	2.63
140	50000	26458	26341.1	2.46
205	20000	17307	17649.5	2.12
156/140	1	0.718 %	0.799 %	10.85
70/140	10	4.563 %	4.735 %	4.46
115	1000	609	526.2	5.54
165	1000	582	554.1	6.45
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	W	Carrier Gas	0.75	L/min
RF Matching	1.30	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	10.5	V
Extract 2	-200.0	V	Cell Entrance	-30	V
Omega Bias	-95	V	Cell Exit	-50	V
Deflect	14.8	V			

Cell Parameters

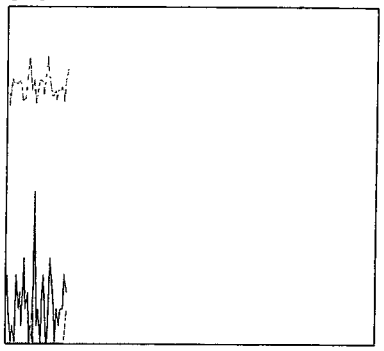
Use Gas	false		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-8.0	V
H2 Flow	0.0	mL/min	OctP RF	130	V
Energy Discrimination	5.0	V			

Meters

IF/BK Press	2.26E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	2.05E-4	Pa	Reflected Power	1	W
Forward Power	1550	W			

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	2000	1639	1534.6	4.78
89	500	429	370.4	7.84
140	5000	2143	2090.4	4.66
205	5000	3751	3688.2	3.49
156/140	1	0.467 %	0.198 %	53.66
75	20	3	2.2	91.28
78	20	2	0.2	408.23
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	W	Carrier Gas	0.75	L/min
RF Matching	1.30	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	10.5	V
Extract 2	-200.0	V	Cell Entrance	-40	V
Omega Bias	-95	V	Cell Exit	-60	V
Deflect	1.2	V			

Cell Parameters

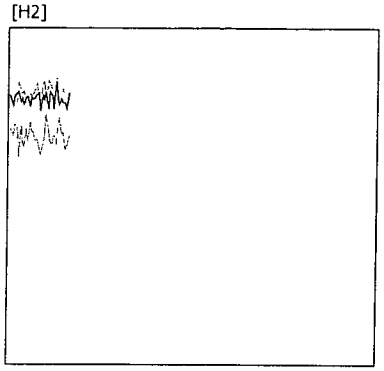
Use Gas	true		3rd Gas Flow	0	%
He Flow	6.0	mL/min	OctP Bias	-19.0	V
H2 Flow	0.0	mL/min	OctP RF	130	V
Energy Discrimination	5.0	V			

Meters

IF/BK Press	2.29E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	3.68E-4	Pa	Reflected Power	1	W
Forward Power	1550	W			

Current Signal

[H2]



Mass	Range	Count	Avg. Count	RSD [%]
59	1000	678	678.2	4.57
89	10000	8120	8075.5	3.31
140	2000	1899	1747.2	4.31
205	20000	16146	15802.6	2.46
56	10000	6776	7110.0	3.87
78	20	2	0.5	172.05
80	50	32	23.5	24.84
Integration Time [sec]			0.10	

Plasma Parameters

RF Power	1550	W	Carrier Gas	0.75	L/min
RF Matching	1.30	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	10.5	V
Extract 2	-200.0	V	Cell Entrance	-30	V
Omega Bias	-95	V	Cell Exit	-60	V
Deflect	-0.2	V			

Cell Parameters

Use Gas	true		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-18.0	V
H2 Flow	7.0	mL/min	OctP RF	130	V
Energy Discrimination	3.0	V			

Meters

IF/BK Press	2.34E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	1.46E-3	Pa	Reflected Power	1	W
Forward Power	1550	W			

ICP-MS STANDARDS Prep'd by: MM
Prep Date: 04/05/16
Expires: 1 week

Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL Di Water
prep: 4/3/16
20 mL HCL / 2000mL Di Water
prep: 4/3/16

Internal Standard Mix: Prep 03/23/16

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	ENV Express	1602141-36120
50 uL	CCV-B	ENV Express	1602140-36119
50 uL	CCV-C	ENV Express	1602139-36118

Prepared in 100 mL of 1% HNO3/1.0% HCL

Standard 3

Amount	STD
25 mL	Standard 4

Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 2

Amount	STD
500 uL	Standard 4

Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 1

Amount	STD
50 uL	Standard 4

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICP-MS ICV

Amount	STD		
50 uL	QCS ICV A	CPI	15C180-34943
50 uL	QCS ICV B	CPI	15C181-34944

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICSA Prep: 04/03/16

1 mL	ICSA - DF2	O2Si	1086199

Prepared in 10 mL of 1% HNO3/1.0% HCL

ICSAB Prep: 04/03/16

1mL	ICSA - DF2	O2Si	1070255
100uL	INT - DF10	O2Si	1086199

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source-Se Prep: 03/21/16
40 uL of Custom Spike Mix A o2si lot 1084254-35999

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source-Ca Prep: 03/30/16
25 uL ENV Express Spike Mix B
Lot 1428119
Prepared in 100 mL of 1% HNO3/1.0% HCL

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#		Final Conc. in Std		Expires
25 uL	1001 ug/mL	Li	BDH	F2-L102140-33279		200 ug/L		02/01/15
125 uL	1000 ug/mL	Sc	o2si	1074112-35159		500ug/L		10/21/16
125 uL	1000 ug/mL	Ge	CPI	15A047-35039		500ug/L		10/17/16
125 uL	1000 ug/mL	In	CPI	15B179-35042		500ug/L		10/17/16
125 uL	1000 ug/mL	Tb	CPI	15C302-35040		500ug/L		10/17/16
125 uL	1000 ug/mL	Ho	CPI	13G236-35041		500ug/L		10/17/16

Prep:	03/23/16	By: MM	Prep in - 1%HNO3/1.0%HCL:	1:1 prep: 3/16/16	in 250 mL
Expires:	04/21/16				

Metals Digestion Worksheet

Method Name 3015 Digestion (Field Filter) **Prep Method** M3015F **Set** 160404A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT # 1084254-35999
Spiked ID 2	LCSW LOT # 1084325-36000
Spiked ID 3	
Spiked ID 4	
Spiked By	MM Date: 04/04/16 10:00:00 AM
Witnessed By	TH Date: 04/04/16 10:00:00 AM

Starting Temp:	21c
Ending Temp:	170c
Temperature Type:	Microwave
Sufficient Vol for Matrix QC:	Yes
End Date/Time	04/04/16 11:50

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	160404A Blk				45mL	50mL	04/04/16 10:00	equip: MultiWave
2	160404A LCS		90uL	1+2	45mL	50mL	04/04/16 10:00	equip: MultiWave
3	AZ30868	AZ30868W07			45mL	50mL	04/04/16 10:00	equip: MultiWave
4	AZ30869	AZ30869W05			45mL	50mL	04/04/16 10:00	equip: MultiWave
5	AZ30870	AZ30870W05			45mL	50mL	04/04/16 10:00	equip: MultiWave
6	AZ30871	AZ30871W05			45mL	50mL	04/04/16 10:00	equip: MultiWave
7	AZ30872	AZ30872W05			45mL	50mL	04/04/16 10:00	equip: MultiWave
8	AZ31501	AZ31501W14			45mL	50mL	04/04/16 10:00	equip: MultiWave
9	AZ31646	AZ31646W03			45mL	50mL	04/04/16 10:00	equip: MultiWave
10	AZ31646 MS	AZ31646W03	90uL	1+2	45mL	50mL	04/04/16 10:00	equip: MultiWave
11	AZ31646 MSD	AZ31646W03	90uL	1+2	45mL	50mL	04/04/16 10:00	equip: MultiWave

Solvent and Lot#
HNO3 MERCK 55280 6014

Sample COC Transfer	
Sample prep employee Initials	mm
Analyst's initials	mm
Date	4/5/16
Time	11⁰⁰
Moved to	Metals

Technician's Initials	
Scanned By	mm
Sample Preparation	mm
Digestion	mm
Bring up to volume	
Modified	04/04/16 8:47:15 AM

Reviewed By: mm **Date:** 4/5/16

6020/200.8 Injection Log

Directory: K:\ICP-MS Megatron\raw data output csv\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Apr 2016	13:34	Calibration Blank 04/05/16		160405A	1.
2	05 Apr 2016	13:37	Standard 1 04/05/16		160405A	1.
3	05 Apr 2016	13:40	Standard 2 04/05/16		160405A	1.
4	05 Apr 2016	13:44	Standard 3 04/05/16		160405A	1.
5	05 Apr 2016	13:47	Standard 4 04/05/16		160405A	1.
11	05 Apr 2016	14:11	ICV 160405		160405A	1.
12	05 Apr 2016	14:42	ICB 160405		160405A	1.
13	05 Apr 2016	14:45	ICSA 160403		160405A	1.
14	05 Apr 2016	14:49	ICSAB 160403		160405A	1.
15	05 Apr 2016	15:04	160404A BLK		160405A	1.
16	05 Apr 2016	15:07	160404A LCS		160405A	1.
18	05 Apr 2016	15:14	AZ31646W03 DF5		160405A	5.
23	05 Apr 2016	15:31	CCV 160405		160405A	1.
24	05 Apr 2016	15:38	CCB 160405		160405A	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
EPA 218.7	HEXAVALENT CHROMIUM	Not detected	0.50	0.090	ug/L	04/04/16	04/04/16	#2187- 160404A-AZ31373
EPA 353.2	NITRATE-NITRITE-N	Not detected	0.10	0.028	mg/L	04/01/16	04/01/16	#35OF-160401A-AZ31646

Wetlab SC-Blank-REG MDLs
Printed: 04/06/16 7:56:04 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 218.7	HEXAVALENT CHROMIUM	10.00	9.64	96.4	90-110	04/04/16	04/04/16	#2187- 160404A-AZ31373

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	2.5	2.69	2.68	108	107	0.37	20	90-110	04/01/16	04/01/16	04/01/16	04/01/16	#35OF-160401A-AZ31646

Comments:

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

ASSET Laboratories
3151-3153 W. Post Rd.
Las Vegas, NV 89118

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Marlon Cartin

Sample ID: N018845-001/MW-55-120-Q116
Sample Collection Date: 02/24/16

APPL ID: AZ31646
ARF: 79150

Method	Analyte	Result	PQL	MDL	Units	DF	Prep Date	Analysis Date
EPA 218.7	HEXAVALENT CHROMIUM	7.2	0.50	0.090	ug/L	1	04/04/16	04/04/16
EPA 353.2	NITRATE-NITRITE-N	1.3	0.10	0.028	mg/L	1	04/01/16	04/01/16

Printed: 04/06/16 7:55:57 AM

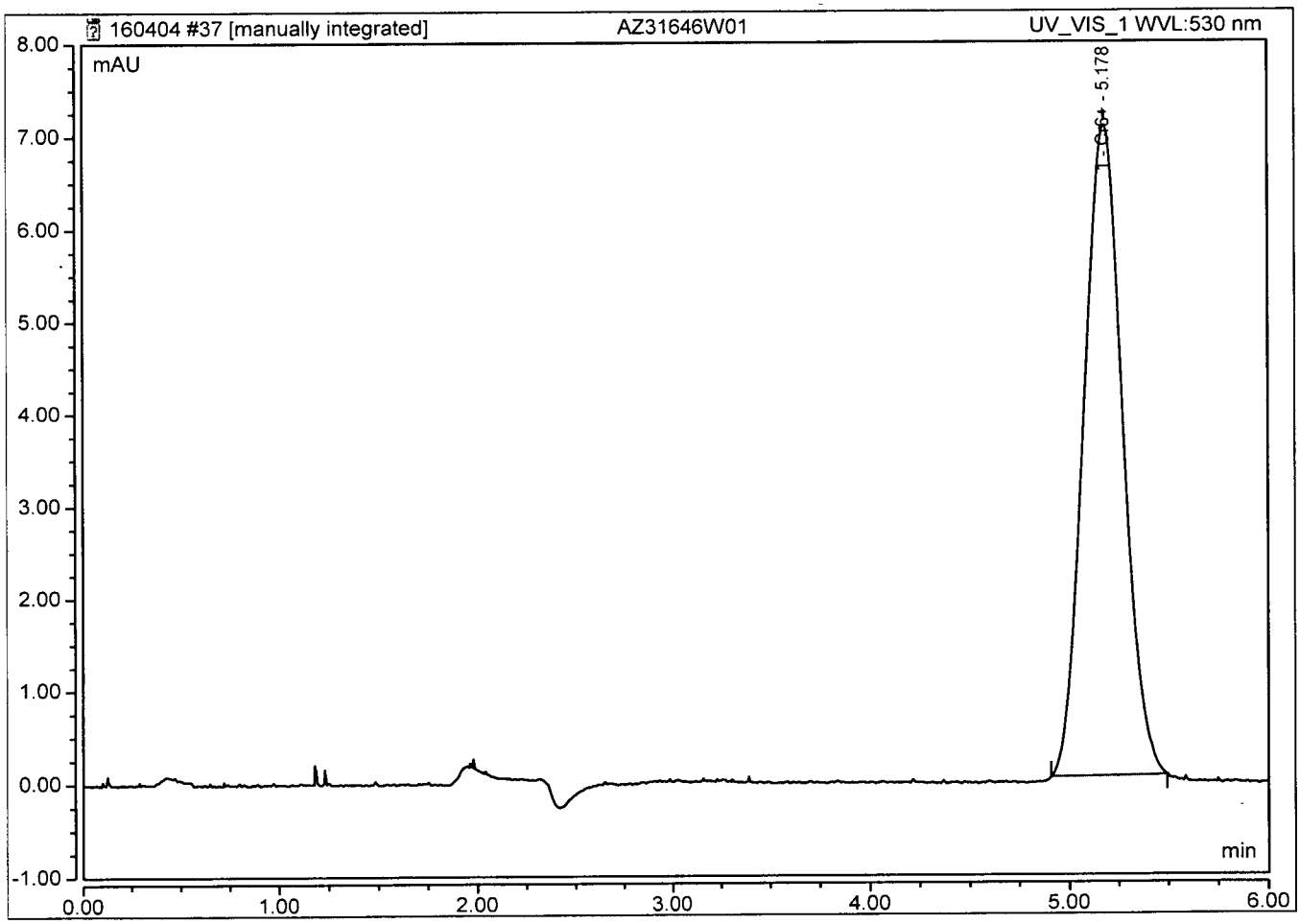
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

TMI MM 4/6/16
LF 4/6/16

Sample Name:	**AZ31646W01**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 14:20**	*Run Time:*	**6.00**

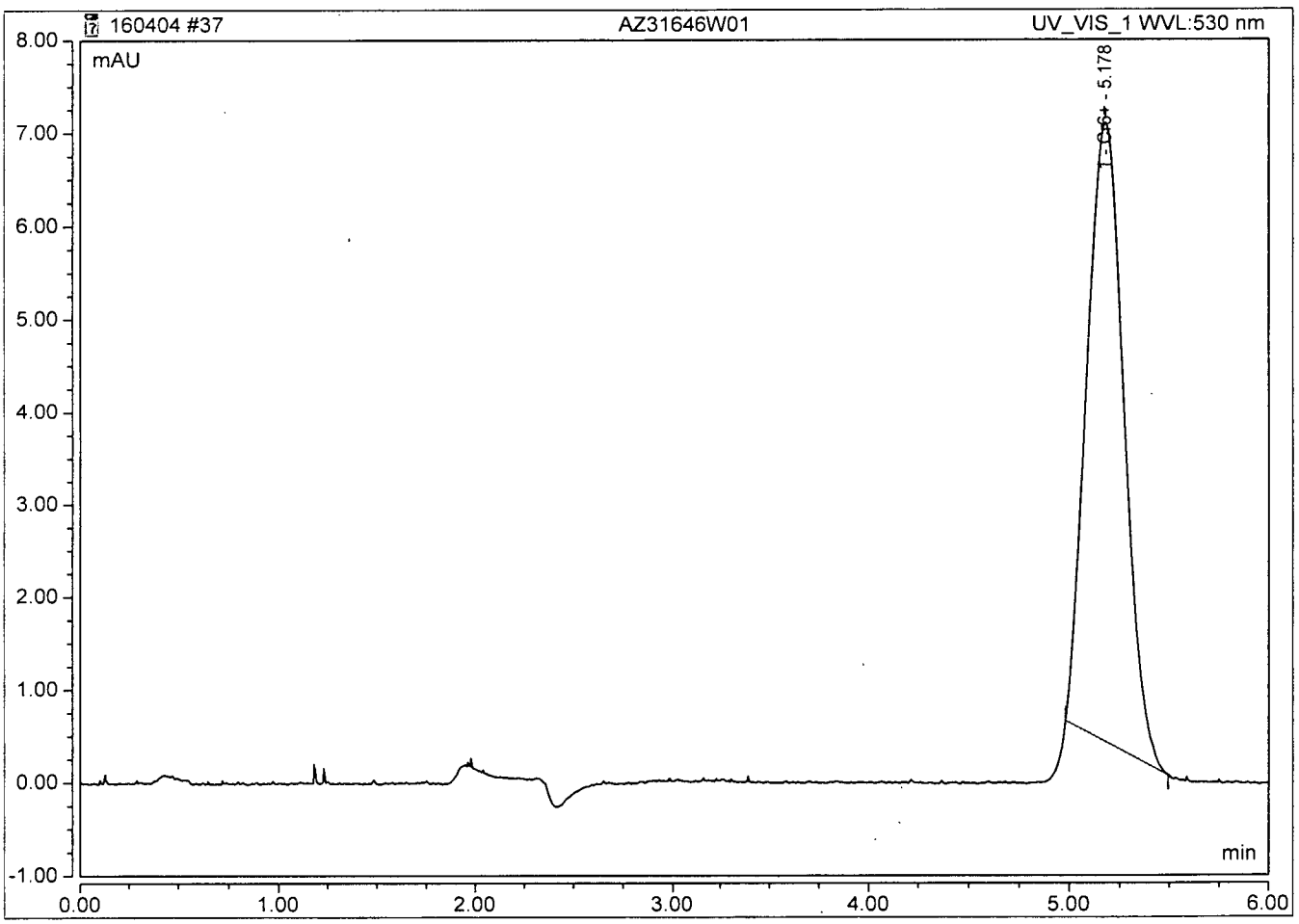
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.18	Cr6+	BMB*	1.600	7.043	7.2470
		TOTAL:		1.60	7.04	7.25



Peak Integration Report

Sample Name:	**AZ31646W01**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 14:20**	*Run Time:*	**6.00**

No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.18	Cr6+	BMB	1.430	6.671	6.4242
		TOTAL:		1.43	6.67	6.42



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories
ARF No: 79150 SDG: 79150
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 04/04/16

Analyte	Calibration Verification									M
	True ICV	Found 11:51	%R(1)	True CCV1	Found 13:54	%R(1)	True CCV1	Found 15:18	%R(1)	
Hex Chrome	10	9.9479	99.5	10	10.1658	102	10	9.3326	93.3	

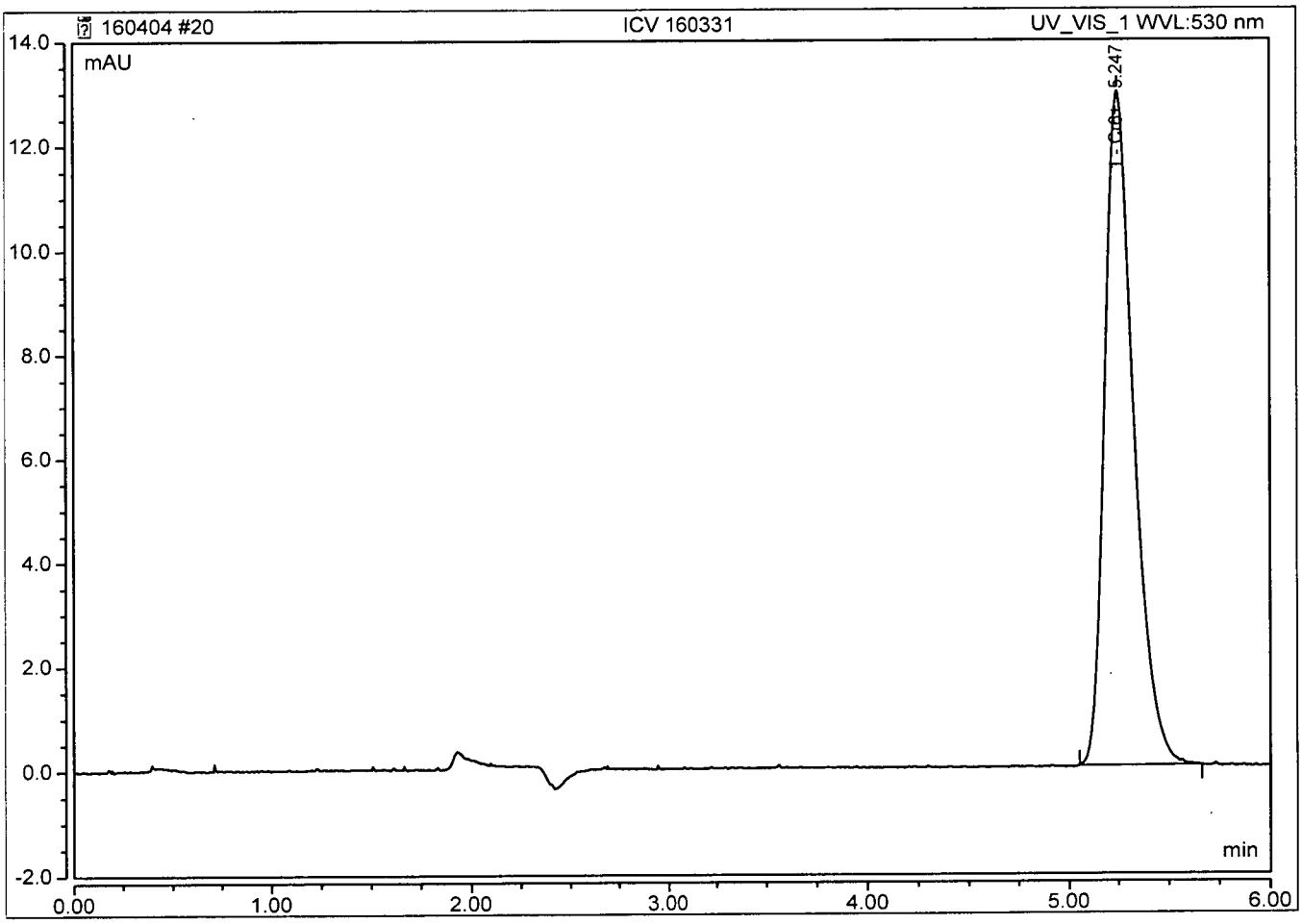
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 160331**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:51**	*Run Time:*	**6.00**

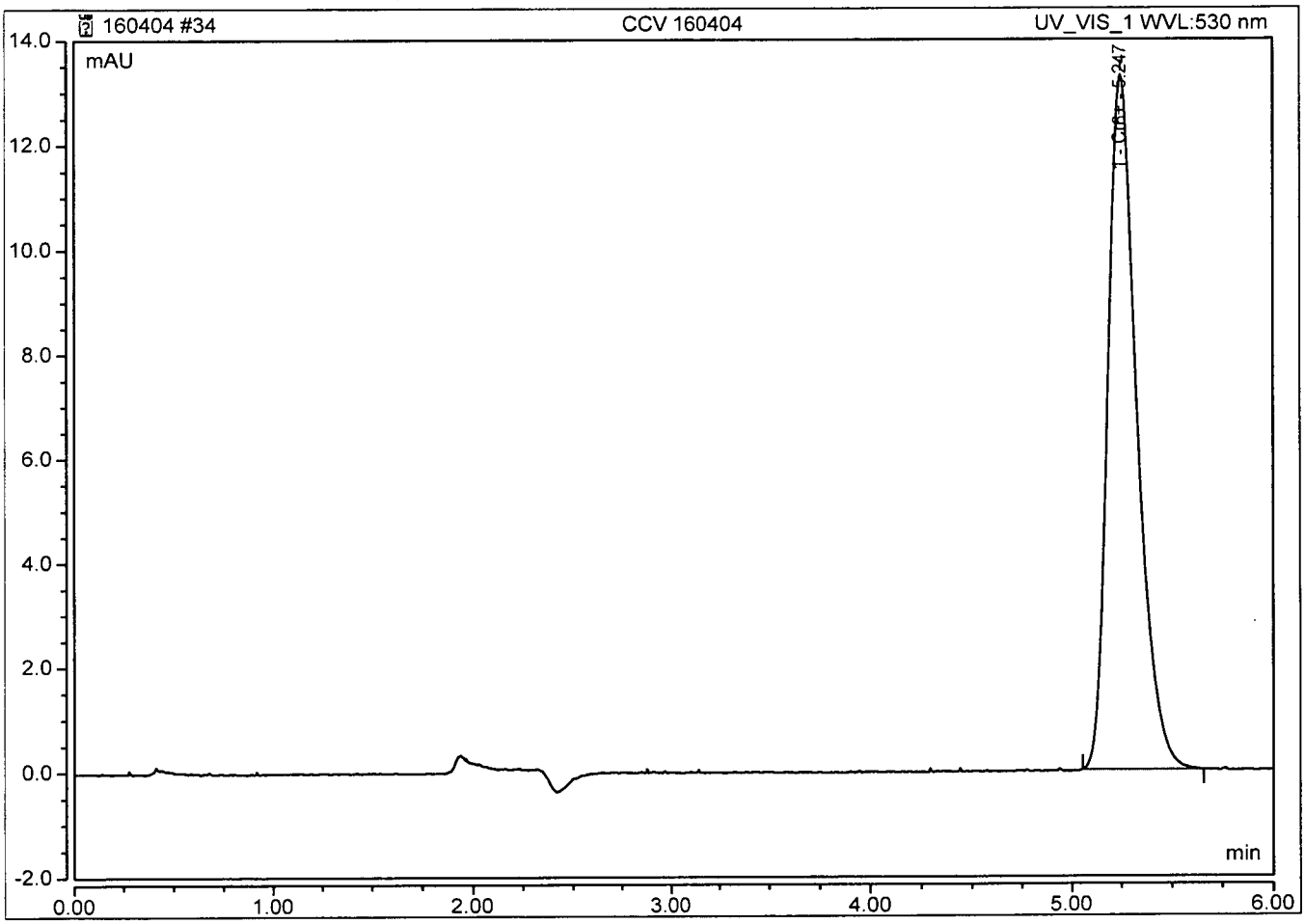
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.25	Cr6+	BMB	2.196	12.938	9.9479
		TOTAL:		2.20	12.94	9.95



Peak Integration Report

Sample Name:	**CCV 160404**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 13:54**	*Run Time:*	**6.00**

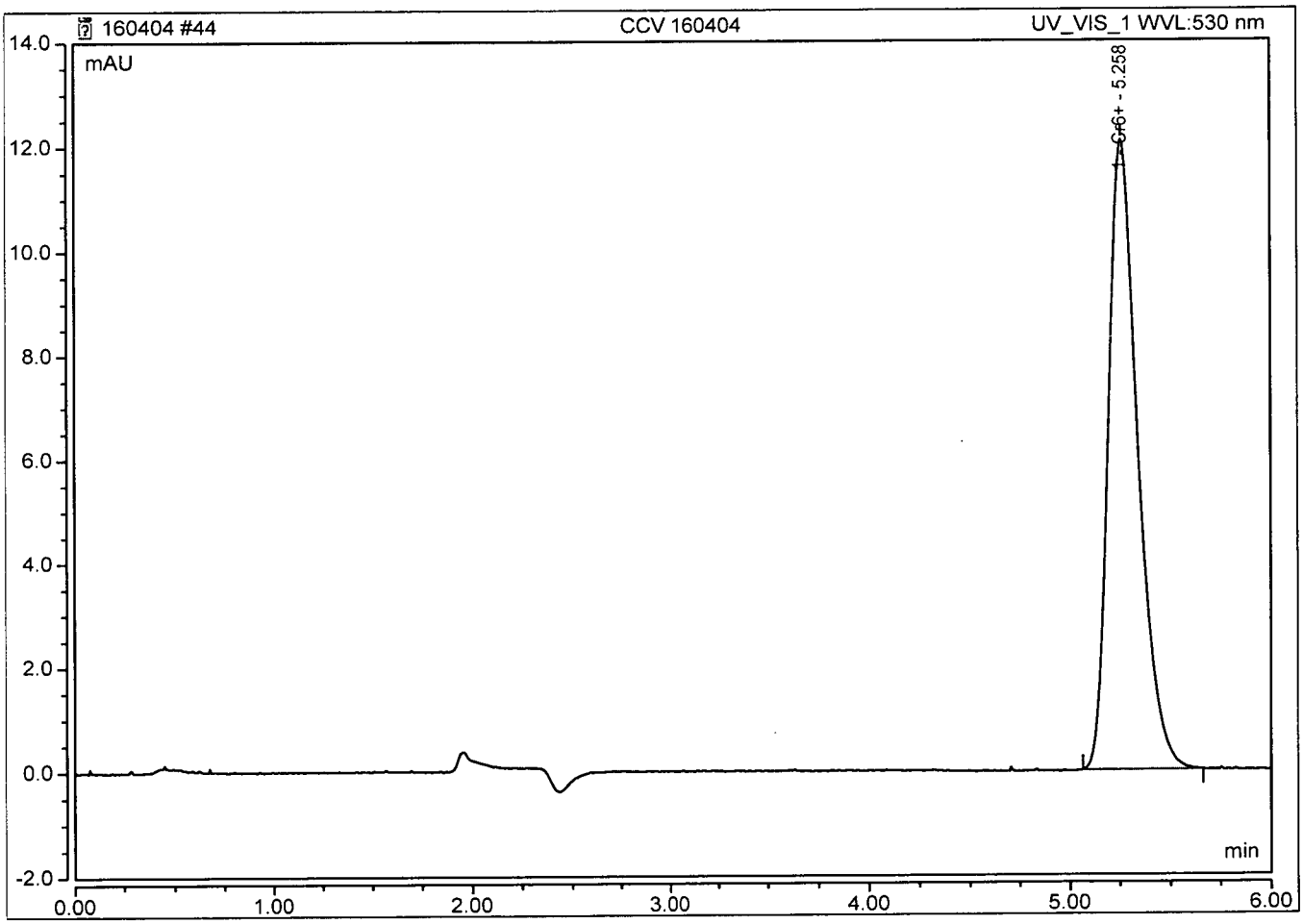
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.25	Cr6+	BMB	2.244	13.285	10.1658
		TOTAL:		2.24	13.28	10.17



Peak Integration Report

Sample Name:	**CCV 160404**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 15:18**	*Run Time:*	**6.00**

No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.26	Cr6+	BMB	2.060	12.094	9.3326
		TOTAL:		2.06	12.09	9.33



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories

ARF No.: 79150 SDG: 79150

Preparation Blank Matrix (soil/water): water

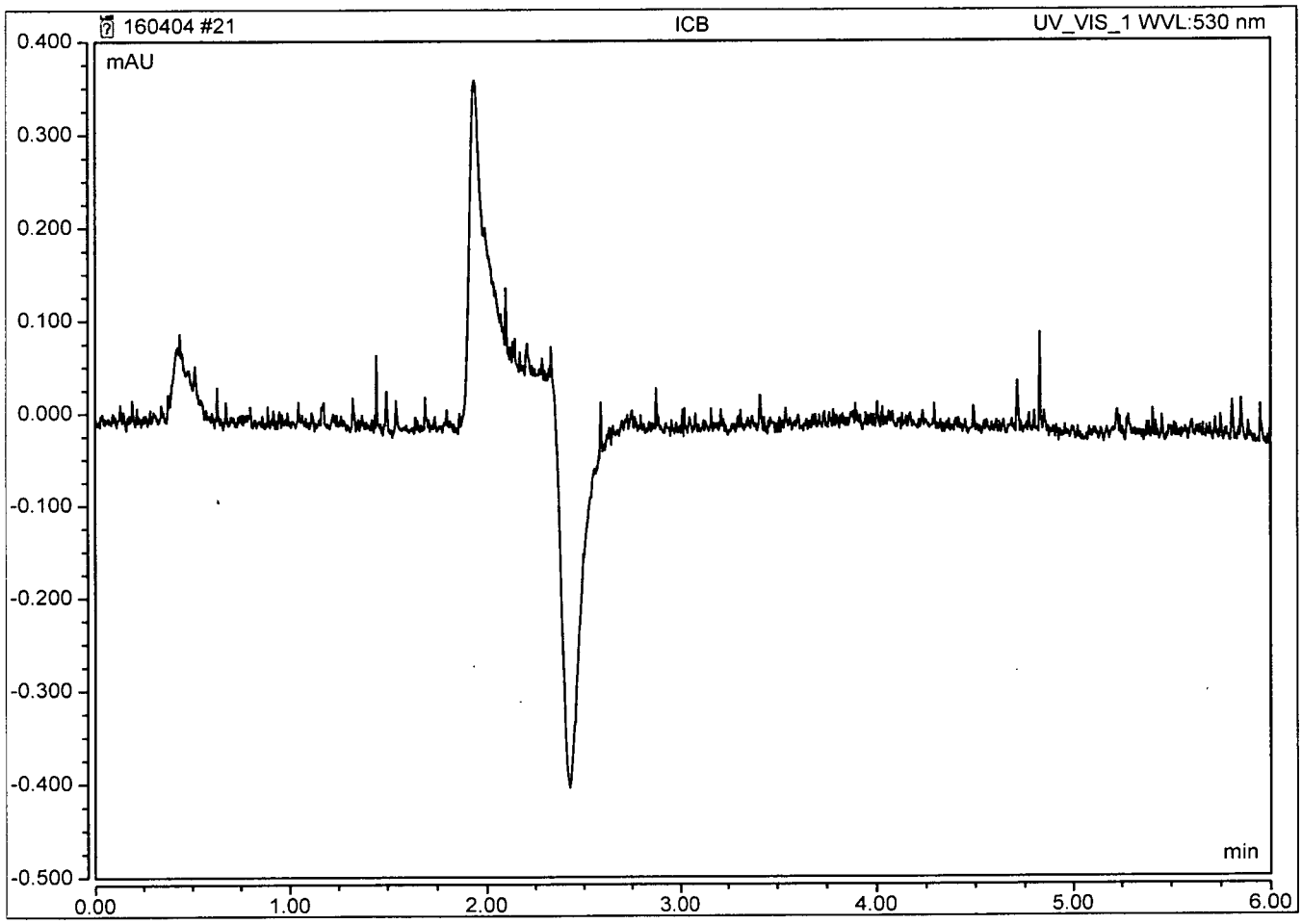
Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Calibration Blanks										M
	ICB 04/04/16 11:59	C	CCB 04/04/16 14:03	C	CCB 04/04/16 15:27	C		C		C	
Hex Chrome	.000	U	.000	U	.000	U					

Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	1000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	HexChrom Method	*Operator:*	chemist_wetlab
Inj. Date / Time:	04-Apr-2016 / 11:59	*Run Time:*	6.00

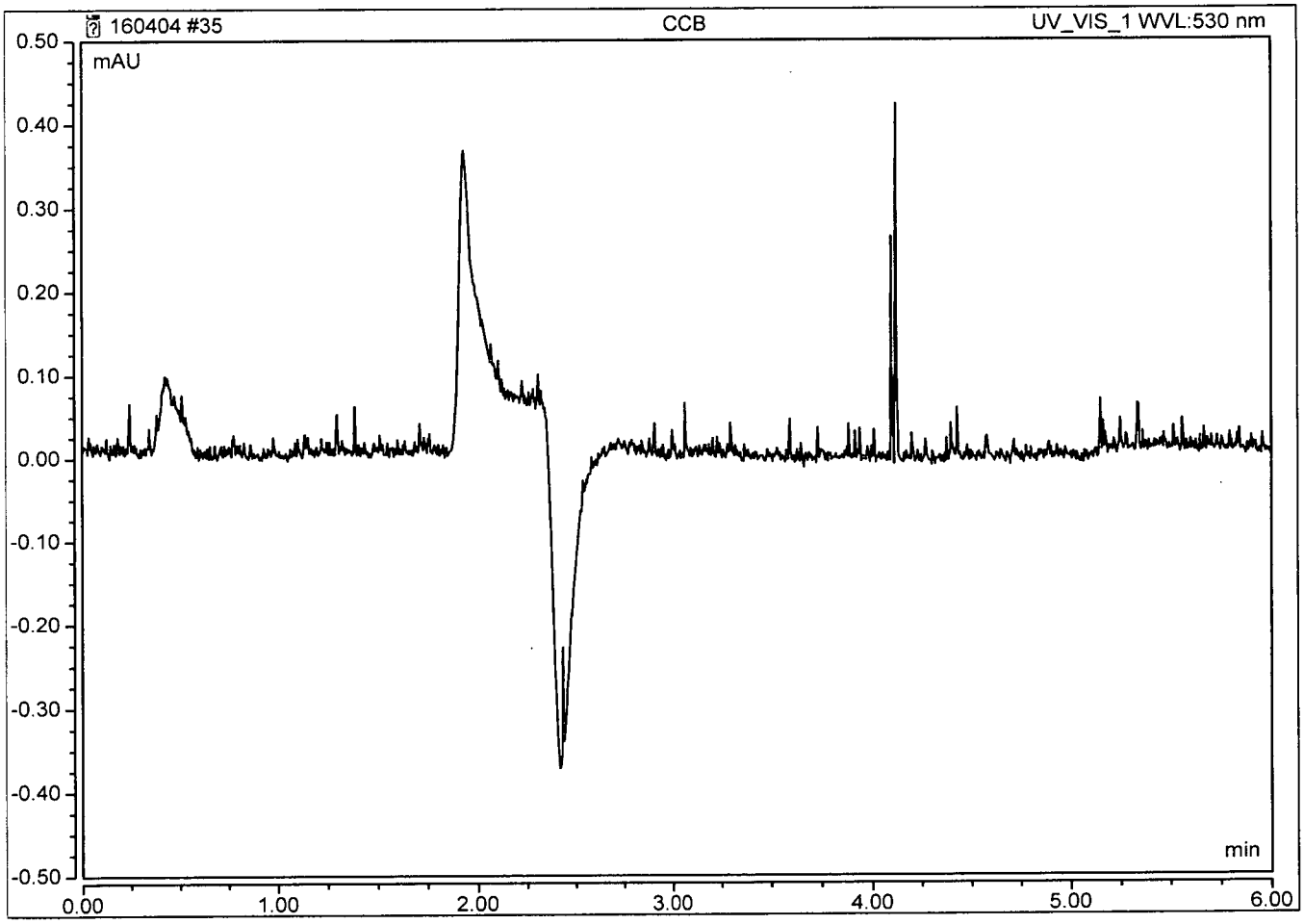
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 14:03**	*Run Time:*	**6.00**

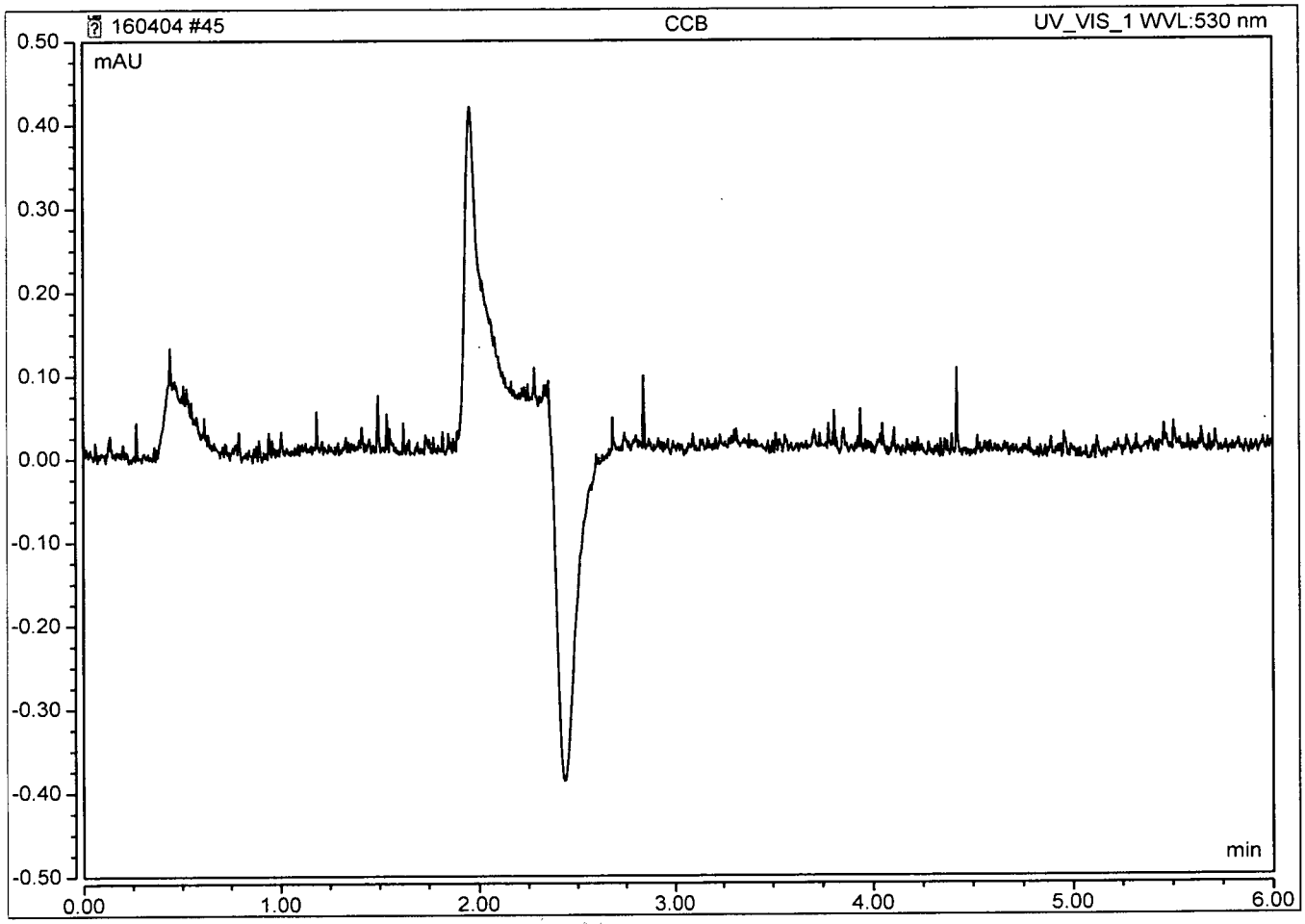
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 15:27**	*Run Time:*	**6.00**

No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount n.a.
		TOTAL:		0.00	0.00	0.00



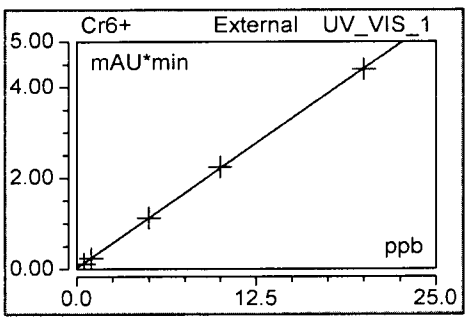
Calibration Batch Report

Sequence:	**160404**	*Injection Volume:*	**1,000.00**
Instrument Method:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:09**	*Run Time:*	**6.0015833**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Cr6+	Area	in, WithOffse	5.000	0.022	0.219	0.000	99.9885
		AVERAGE:		0.0220	0.2192	0.0000	99.9885

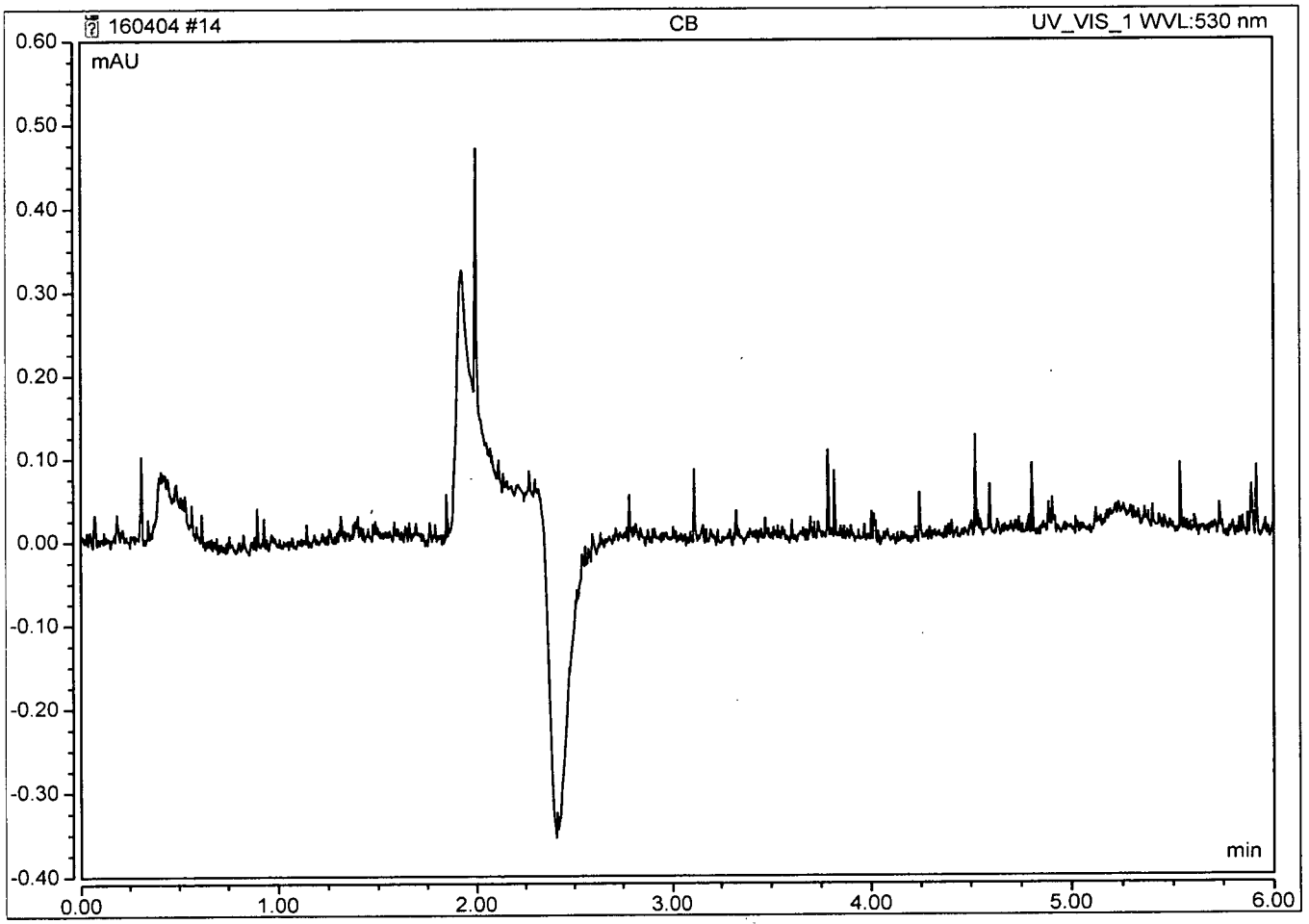
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount ppb UV_VIS_1
	Cr6+	Cr6+	Cr6+	Cr6+
I Cal 0.5	5.235	0.1173	0.710	0.435
I Cal 1.0	5.250	0.2355	1.430	0.974
I Cal 5.0	5.243	1.1237	6.658	5.026
I Cal 10	5.245	2.2445	13.285	10.138
I Cal 20	5.248	4.3907	25.895	19.928
Average	5.244			
Rel. Std. Dev.	0.111 %			



Peak Integration Report

Sample Name:	**CB**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:00**	*Run Time:*	**6.00**

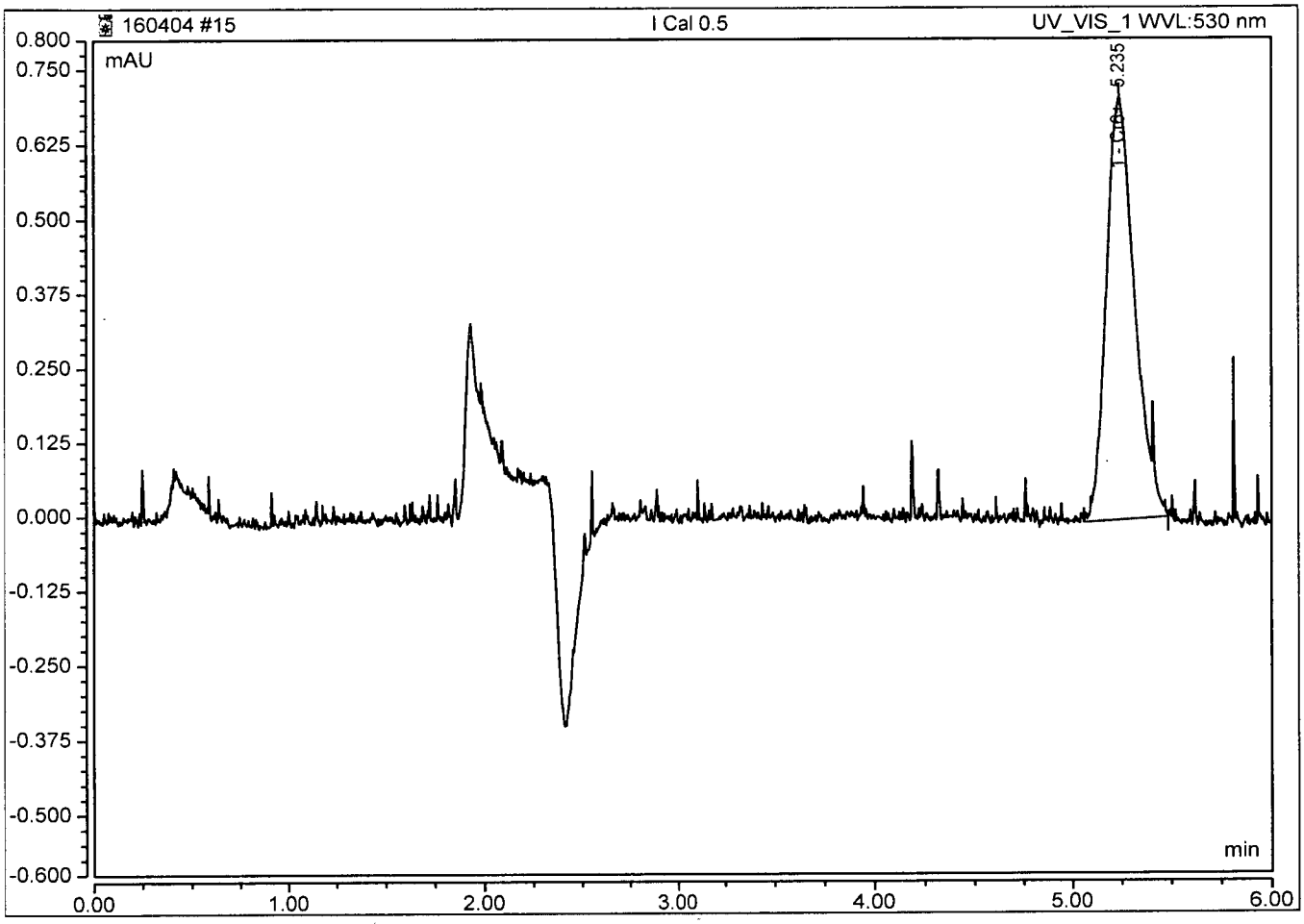
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**I Cal 0.5**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:09**	*Run Time:*	**6.00**

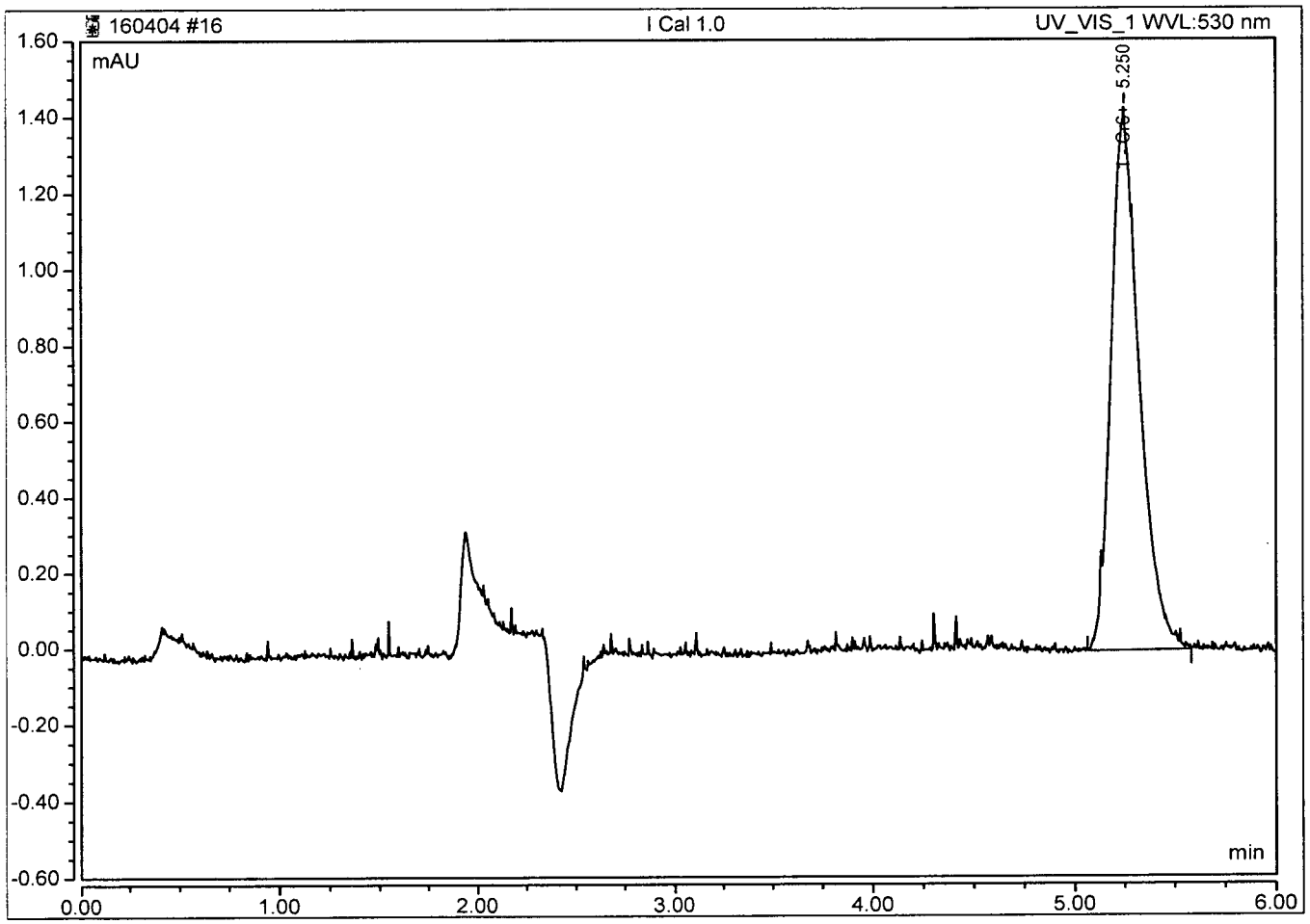
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.23	Cr6+	BMB	0.117	0.710	0.5314
		TOTAL:		0.12	0.71	0.53



Peak Integration Report

Sample Name:	**I Cal 1.0**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:17**	*Run Time:*	**6.00**

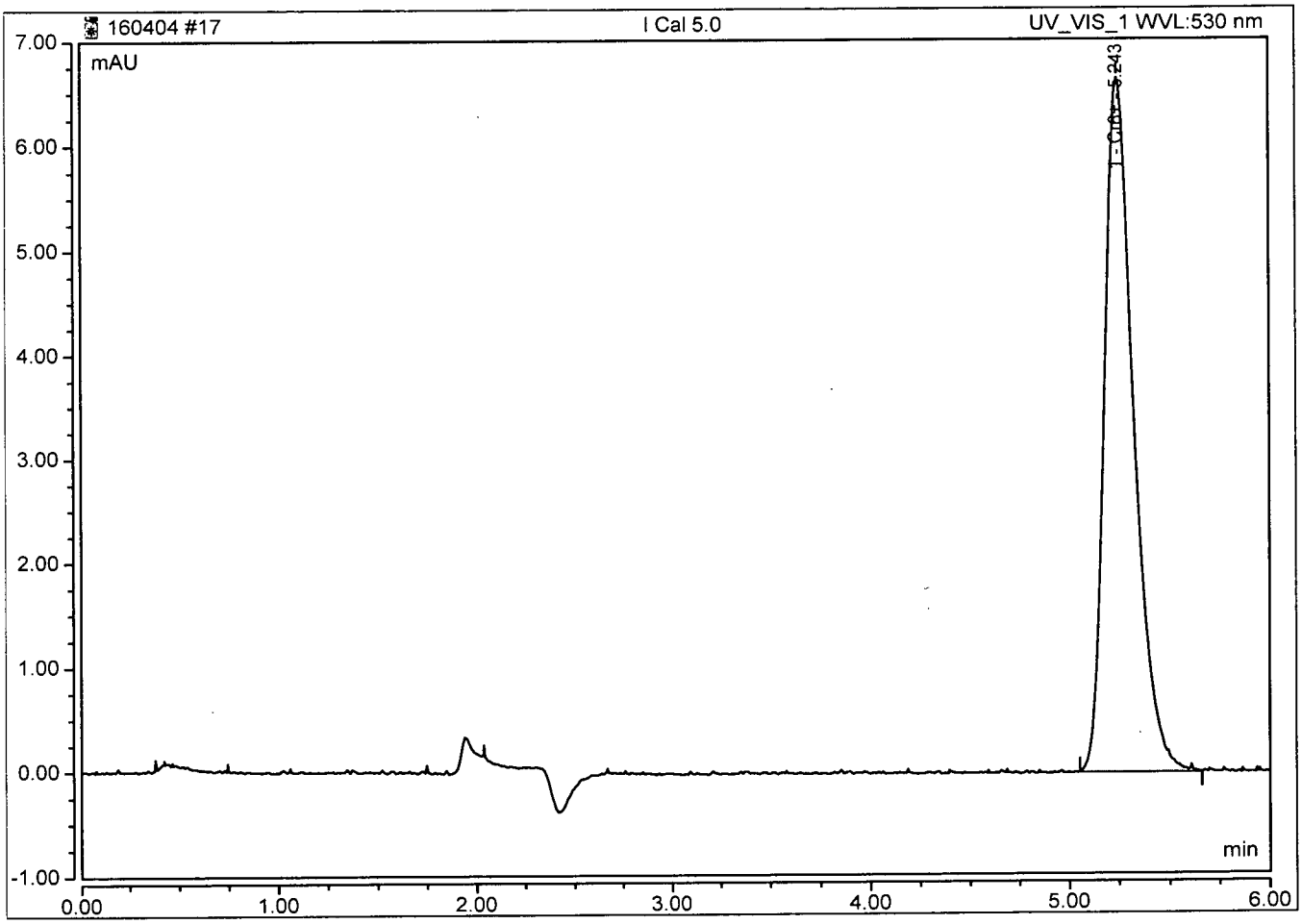
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.25	Cr6+	BMB	0.235	1.430	1.0668
		TOTAL:		0.24	1.43	1.07



Peak Integration Report

Sample Name:	**I Cal 5.0**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:25**	*Run Time:*	**6.00**

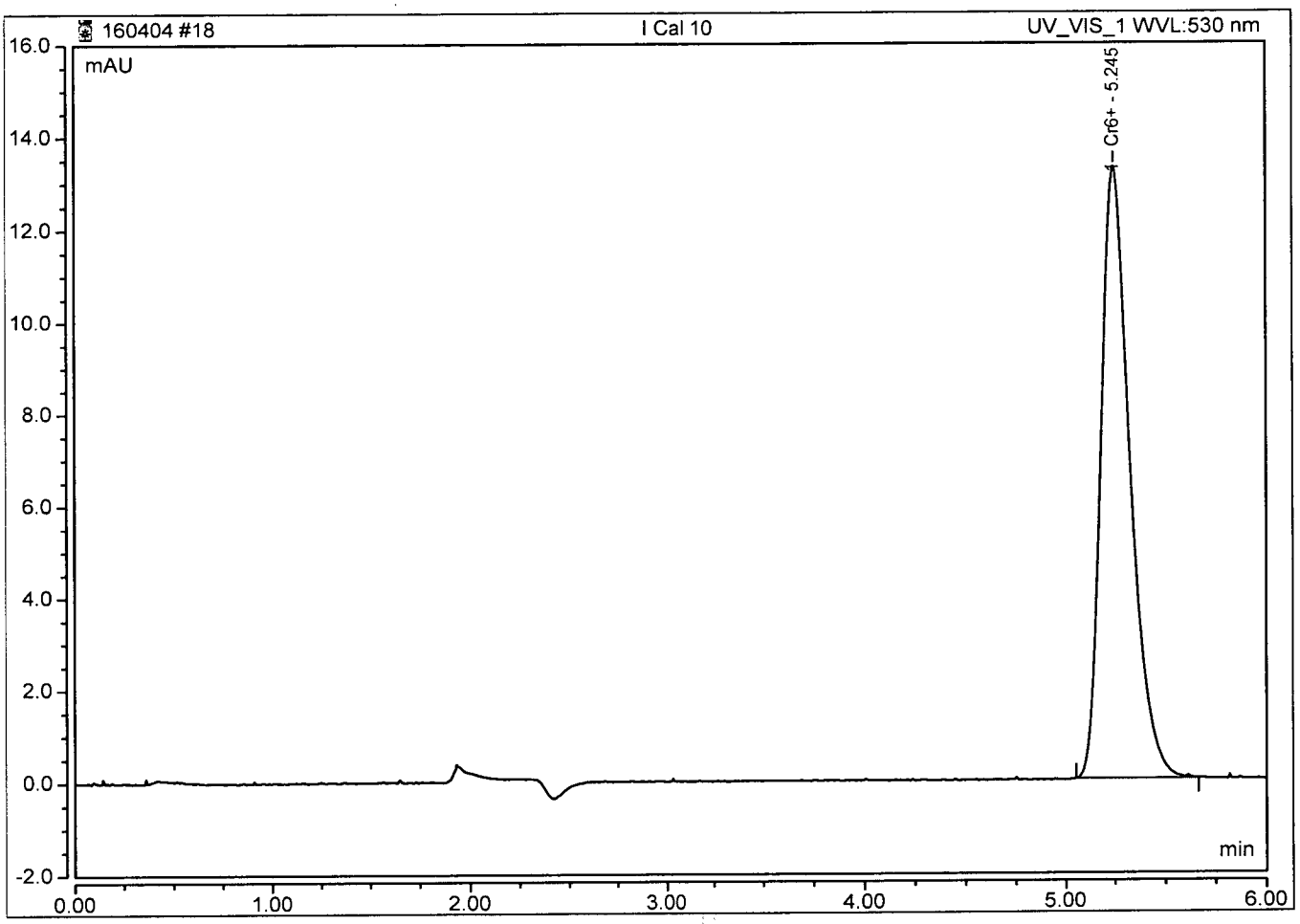
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.24	Cr6+	BMB	1.124	6.658	5.0903
		TOTAL:		1.12	6.66	5.09



Peak Integration Report

Sample Name:	I Cal 10	*Inj. Vol.:*	1000.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	HexChrom Method	*Operator:*	chemist_wetlab
Inj. Date / Time:	04-Apr-2016 / 11:34	*Run Time:*	6.00

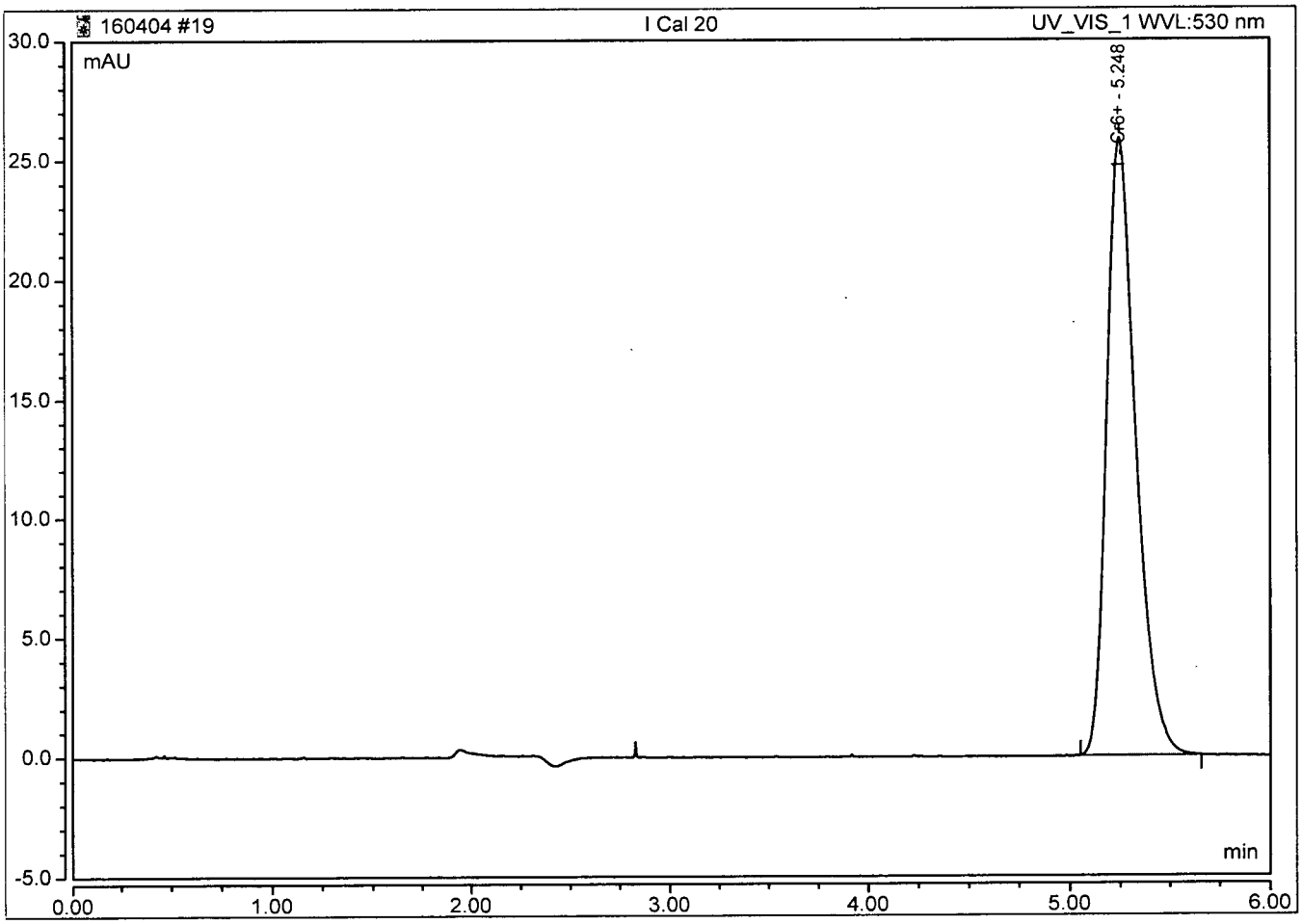
No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.24	Cr6+	BMB	2.244	13.285	10.1673
		TOTAL:		2.24	13.28	10.17



Peak Integration Report

Sample Name:	**I Cal 20**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 11:42**	*Run Time:*	**6.00**

No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.25	Cr6+	BMB	4.391	25.895	19.8897
		TOTAL:		4.39	25.90	19.89



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories
ARF No: 79150 SDG: 79150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/01/16

Analyte	Calibration Verification									M
	True ICV	Found 15:21	%R(1)	True CCV1	Found 15:26	%R(1)	True CCV1	Found 15:53	%R(1)	
TOXN	2.5	2.4716	98.9	2.5	2.5285	101	2.5	2.473	98.9	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories
ARF No: 79150 SDG: 79150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/01/16

Analyte	Calibration Verification									M
	True CCV1	Found 16:09	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
TOXN	2.5	2.4811	99.2							

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: ASSET Laboratories

ARF No.: 79150 SDG: 79150

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 04/01/16 15:23	C	CCB 04/01/16 15:28	C	CCB 04/01/16 15:56	C	CCB 04/01/16 16:10	C		C	
TOXN	.100	U	.100	U	.100	U	.100	U			

AQ2 Tray Report

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Bree
Date & Time:	2016-04-06 06:56:08
Tray Number:	6
Tray Name:	160401A TOXN

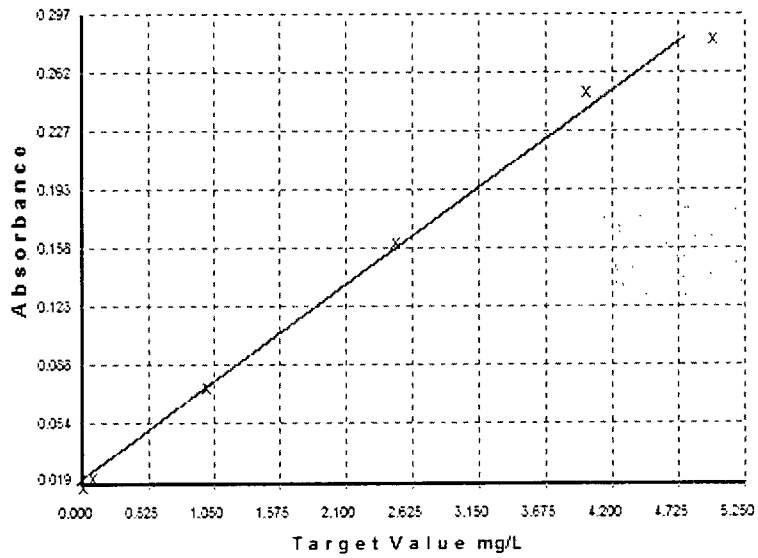
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0188	-0.0590	0.0000	
S90	0.0240	0.0375	0.0833	-54.98
S91	0.0778	1.0221	1.0000	2.21
S92	0.1631	2.5849	2.5000	3.40
S93	0.2523	4.2194	4.0000	5.48
S94	0.2828	4.7784	5.0000	-4.43
S0	0.0184	-0.0664	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9975
Carryover(%):	-0.2
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-4.027768E-001
b =:	1.831842E+001
Date & Time:	2016-04-01 15:19:08

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
NO3 W Buffer			
Sulfa-NEDD			
DI Water (Blank)			

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0188			0.018769			LF	2016-04-01 15:05:18
	S1	Standard 1	0.0181			0.018097			LF	2016-04-01 13:48:09
	S90	Standard 90	0.0240			0.024036			LF	2016-04-01 15:07:38
	S90	Standard 90	0.0215			0.021485			LF	2016-04-01 13:50:28
	S91	Standard 91	0.0778			0.077785			LF	2016-04-01 15:09:56
	S91	Standard 91	0.0313			0.031282			LF	2016-04-01 13:52:46
	S92	Standard 92	0.1631			0.163096			LF	2016-04-01 15:12:14
	S92	Standard 92	0.1358			0.135793			LF	2016-04-01 13:55:04
	S93	Standard 93	0.2523			0.252323			LF	2016-04-01 15:14:32
	S93	Standard 93	0.2346			0.234554			LF	2016-04-01 13:57:22
	S94	Standard 94	0.2828			0.282839			LF	2016-04-01 15:16:50
	S94	Standard 94	0.2902			0.290169			LF	2016-04-01 13:59:39
	S0	Standard 0	0.0184			0.018362			LF	2016-04-01 15:19:08
	S0	Standard 0	0.0191			0.019081			LF	2016-04-01 14:01:57
3	ICV	ICV	2.4716	mg/L ✓		0.156910			LF	2016-04-01 15:21:25
3	ICV	ICV	2.8784	mg/L		0.165757			LF	2016-04-01 14:04:15

Algorithm Check
y = 18.318x - .4028
= 2.47 ✓ mm 4/6/16

4	ICB	ICB	-0.0666	mg/L	0.018352	LF	2016-04-01 15:23:43
4	ICB	ICB	0.2643	mg/L	0.018986	LF	2016-04-01 14:06:33
	CCV	CCV	2.5285	mg/L	0.160018	LF	2016-04-01 15:26:01
	CCV	CCV	2.7961	mg/L	0.161134	LF	2016-04-01 14:08:52
	CCB	CCB	-0.0730	mg/L	0.018002	LF	2016-04-01 15:28:19
	CCB	CCB	0.2750	mg/L	0.019583	LF	2016-04-01 14:11:10
5	U1	160401a blk	-0.0823ELL	mg/L	0.017492	LF	2016-04-01 15:30:37
6	U2	160401a lcs	2.6917	mg/L	0.168929	LF	2016-04-01 15:32:57
7	U3	160401a lcsd	2.6768	mg/L	0.168114	LF	2016-04-01 15:35:17
8	U4	AZ31228W01	0.8035	mg/L	0.065848	LF	2016-04-01 15:37:35
9	U5	AZ31229W01	0.8866	mg/L	0.070388	LF	2016-04-01 15:39:52
10	U6	AZ30654W06	-0.0808ELL	mg/L	0.017577	LF	2016-04-01 15:42:10
11	U7	AZ30655W06	-0.0737ELL	mg/L	0.017965	LF	2016-04-01 15:44:28
12	U8	AZ30727W09	-0.0584	mg/L	0.018797	LF	2016-04-01 15:46:46
13	U9	AZ30728W09	-0.0022	mg/L	0.021866	LF	2016-04-01 15:49:04
14	U10	AZ30729W09	-0.0642ELL	mg/L	0.018485	LF	2016-04-01 15:51:24
	CCV	CCV	2.4730	mg/L	0.156988	LF	2016-04-01 15:53:43
	CCB	CCB	-0.0701	mg/L	0.018163	LF	2016-04-01 15:56:04
15	U11	AZ30730W09	0.3069	mg/L	0.038742	LF	2016-04-01 15:58:24
16	U12	AZ30731W09	-0.0061	mg/L	0.021656	LF	2016-04-01 16:00:44
17	U13	AZ31501W09	0.0472	mg/L	0.024563	LF	2016-04-01 16:03:04
18	U14	AZ31646W02	1.2560	mg/L	0.090551	LF	2016-04-01 16:05:24
19	U15	AZ31646W02 ms	4.0825	mg/L	0.244851	LF	2016-04-01 16:07:43
20	U16	AZ31646W02 msd	4.0516	mg/L	0.243165	LF	2016-04-01 16:08:51
	CCV	CCV	2.4811	mg/L	0.157431	LF	2016-04-01 16:09:47
	CCB	CCB	-0.0725	mg/L	0.018031	LF	2016-04-01 16:10:44
	CCV	CCV	2.4342	mg/L	0.154872		2016-04-01 16:11:42
	CCB	CCB	-0.0856	mg/L	0.017313		2016-04-01 16:12:39
	CCV	CCV	2.5206	mg/L	0.159586		2016-04-01 16:13:36
	CCB	CCB	-0.0836	mg/L	0.017426		2016-04-01 16:14:33
	CCV	CCV	2.7143	mg/L	0.156546		2016-04-01 15:00:38
	CCB	CCB	0.2488	mg/L	0.018116		2016-04-01 15:02:57
	CCV	CCV	2.2571	mg/L	0.145202		2016-04-01 16:15:30
	CCB	CCB	-0.0815	mg/L	0.017540		2016-04-01 16:16:27

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
EPA 218.7	HEXAVALENT CHROMIUM	Not detected	0.50	0.090	ug/L	04/04/16	04/04/16	#2187- 160404A-AZ31373
EPA 353.2	NITRATE-NITRITE-N	Not detected	0.10	0.028	mg/L	04/01/16	04/01/16	#35OF-160401A-AZ31646

Wetlab SC-Blank-REG MDLs
Printed: 04/06/16 7:56:04 AM

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	2.5	2.69	2.68	108	107	0.37	20	90-110	04/01/16	04/01/16	04/01/16	04/01/16	#35OF-160401A-AZ31646

Comments:

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

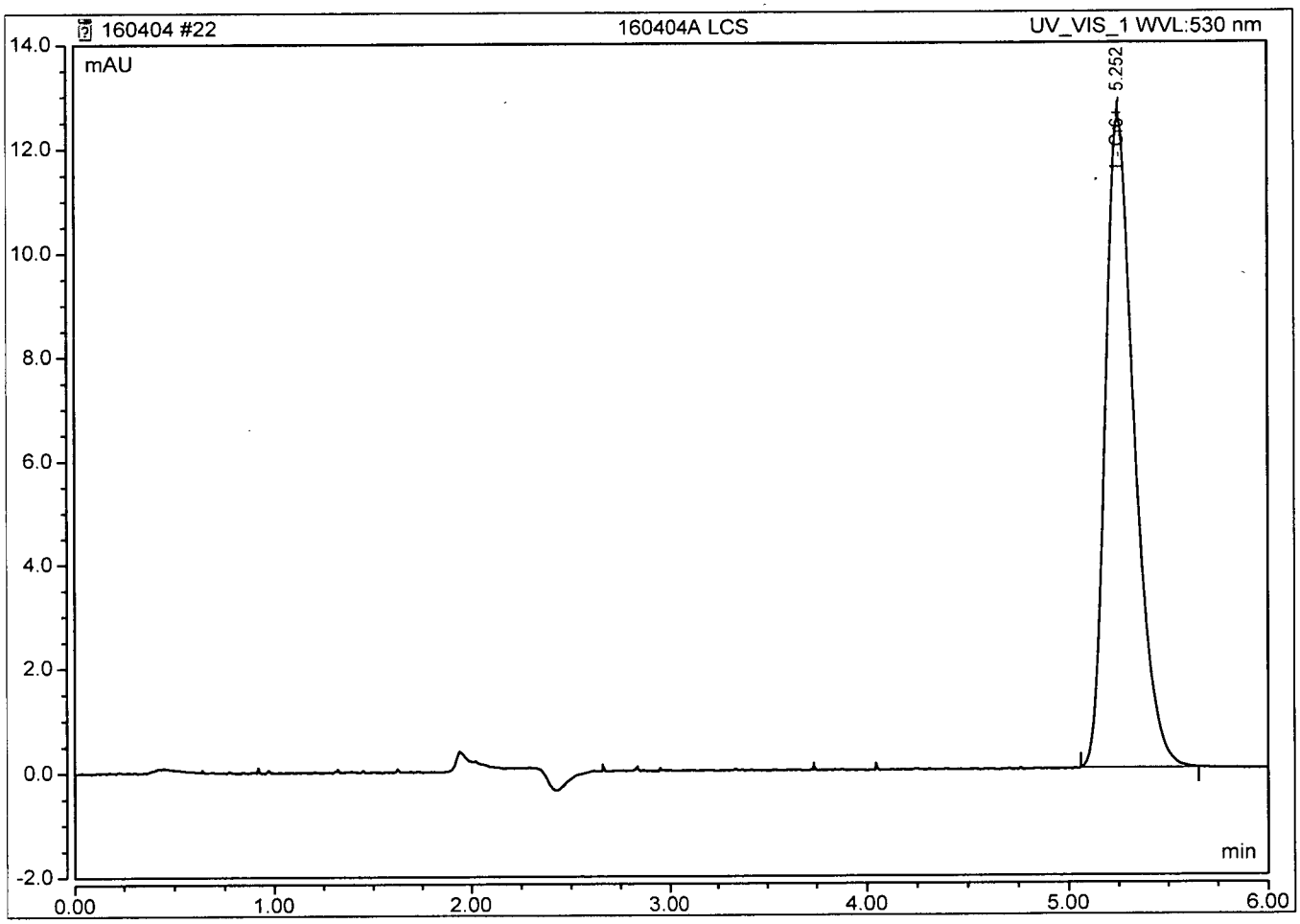
Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 218.7	HEXAVALENT CHROMIUM	10.00	9.64	96.4	90-110	04/04/16	04/04/16	#2187- 160404A-AZ31373

Comments:

Peak Integration Report

Sample Name:	**160404A LCS**	*Inj. Vol.:*	**1000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**HexChrom Method**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2016 / 12:08**	*Run Time:*	**6.00**

No.	Time min	Peak Name	Peak Type	Area mAU*min	Height mAU	Amount ppb
1	5.25	Cr6+	BMB	2.128	12.541	9.6401
		TOTAL:		2.13	12.54	9.64



Algorithm Check

$y = .1005x +$

$$\frac{(2.128 - .0220)}{.2192} = 9.6$$

Nitrite

High Point @ 1.5 mg/L

0.075 mL NO2 O2Si lot 1062905-33877
50 mL DI Water

CCV @ 0.75 mg/L

0.0375 mL NO2 O2Si lot 1062905-33877
50 mL DI Water

ICV @ 0.73 mg/L

0.12mL NO2 CPI lot 15J001-36257
50 mL DI Water

Nitrate

High Point @ 5 mg/L

0.25 mL NO3 O2Si lot 1078397-35587
50 mL DI Water

CCV @ 2.5 mg/L

0.125 mL NO3 O2Si lot 1078397-35587
50 mL DI Water

ICV @ 2.5 mg/L

0.125 mL NO3 CPI lot 14J321-34555
50 mL DI Water

Prep 03/30/16
Exp 04/06/16
BB 03/30/16

Hexavalent Chromium - EPA Method 7199/218.6 prepared 04/04/16

Intermediate Stock Standards

mL	stock (mg/L)	stock	into DI H2O (mL)		conc (ug/L Cr+6)
1	100	Cr+6 intermediate 4/4/16 exp 10/4/16	100	->	1000
1	100	Cr+6 intermediate 4/4/16 exp 10/4/16 ICV	100	->	1000

standards

	(mL)	stock (ug/L)	intermediate stock	into DI H2O (mL)		conc (ug/L Cr+6)
CCV	1	1000	Cr+6 intermediate prep 4/4/16	100	->	10
LCS/LCSD	0.25	1000	Cr+6 ICV intermediate prep: 4/4/16	25	->	10
				into sample (mL)		
MS/MSD	0.25	1000	Cr+6 intermediate prep 4/4/16	25	->	10
2.0 for DOC	0.2	1000	Cr+6 intermediate prep 4/4/16	100	->	2

All standards expire: 04/07/16

353.2 Injection Log

Directory: I:\EVE\Export\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	01 Apr 2016	15:05	Standard 1 TOXN/NO3		160401a TO	1.
4	01 Apr 2016	15:07	Standard 90 TOXN/NO3		160401a TO	1.
5	01 Apr 2016	15:09	Standard 91 TOXN/NO3		160401a TO	1.
6	01 Apr 2016	15:12	Standard 92 TOXN/NO3		160401a TO	1.
7	01 Apr 2016	15:14	Standard 93 TOXN/NO3		160401a TO	1.
8	01 Apr 2016	15:16	Standard 94 TOXN/NO3		160401a TO	1.
9	01 Apr 2016	15:19	Standard 0 TOXN/NO3		160401a TO	1.
10	01 Apr 2016	15:21	ICV TOXN/NO3		160401a TO	1.
11	01 Apr 2016	15:23	ICB TOXN/NO3		160401a TO	1.
12	01 Apr 2016	15:26	CCV TOXN/NO3		160401a TO	1.
13	01 Apr 2016	15:28	CCB TOXN/NO3		160401a TO	1.
14	01 Apr 2016	15:30	160401a blk TOXN/NO3		160401a TO	1.
15	01 Apr 2016	15:32	160401a lcs TOXN/NO3		160401a TO	1.
24	01 Apr 2016	15:53	CCV TOXN/NO3		160401a TO	1.
25	01 Apr 2016	15:56	CCB TOXN/NO3		160401a TO	1.
29	01 Apr 2016	16:05	AZ31646W/02 TOXN/NO3		160401a TO	1.
32	01 Apr 2016	16:09	CCV TOXN/NO3		160401a TO	1.
33	01 Apr 2016	16:10	CCB TOXN/NO3		160401a TO	1.

7199 Injection Log

Directory: I:\Dionex\Charlie\HexaChrome\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	04 Apr 2016	11:00	CB		160404	1.
15	04 Apr 2016	11:09	I Cal 0.5		160404	1.
16	04 Apr 2016	11:17	I Cal 1.0		160404	1.
17	04 Apr 2016	11:25	I Cal 5.0		160404	1.
18	04 Apr 2016	11:34	I Cal 10		160404	1.
19	04 Apr 2016	11:42	I Cal 20		160404	1.
20	04 Apr 2016	11:51	ICV 160331		160404	1.
21	04 Apr 2016	11:59	ICB		160404	1.
22	04 Apr 2016	12:08	160404A LCS		160404	1.
34	04 Apr 2016	13:54	CCV 160404		160404	1.
35	04 Apr 2016	14:03	CCB		160404	1.
37	04 Apr 2016	14:20	AZ31646W01		160404	1.
44	04 Apr 2016	15:18	CCV 160404		160404	1.
45	04 Apr 2016	15:27	CCB		160404	1.

ARCADIS

Project: PG&E Topock – GMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018855

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

RAW DATA

PRIVILEGED AND CONFIDENTIAL

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March 14, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018855

RE: PG&E Topock - GMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 25, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *14-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.0801
Lab Order: N018855

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (31 ug/L) and hexavalent chromium (41 ug/L) for sample N018855-002 (MW-34-100-Q116) are discrepant, sample re-analysis and Matrix Spike protocol were performed and the spike recovery within criteria.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary on some analytes for samples N018855-001, N018855-002, N018855-003 and N018855-004 due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meet internal standard recovery limit.

Because the results for total dissolved chromium (31 ug/L) and hexavalent chromium (41 ug/L) for sample N018855-002 (MW-34-100-Q116) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 29 and 36 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET LABORATORIES
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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *14-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.0801
Lab Order: N018855
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018855-001A	MW-46-175-Q116	Groundwater	2/25/2016 8:25:00 AM	2/25/2016	3/14/2016
N018855-001B	MW-46-175-Q116	Groundwater	2/25/2016 8:25:00 AM	2/25/2016	3/14/2016
N018855-001C	MW-46-175-Q116	Groundwater	2/25/2016 8:25:00 AM	2/25/2016	3/14/2016
N018855-002A	MW-34-100-Q116	Groundwater	2/25/2016 8:13:00 AM	2/25/2016	3/14/2016
N018855-002B	MW-34-100-Q116	Groundwater	2/25/2016 8:13:00 AM	2/25/2016	3/14/2016
N018855-002C	MW-34-100-Q116	Groundwater	2/25/2016 8:13:00 AM	2/25/2016	3/14/2016
N018855-003A	MW-44-115-Q116	Groundwater	2/25/2016 8:55:00 AM	2/25/2016	3/14/2016
N018855-003B	MW-44-115-Q116	Groundwater	2/25/2016 8:55:00 AM	2/25/2016	3/14/2016
N018855-003C	MW-44-115-Q116	Groundwater	2/25/2016 8:55:00 AM	2/25/2016	3/14/2016
N018855-004A	MW-120-Q116	Groundwater	2/25/2016 9:05:00 AM	2/25/2016	3/14/2016
N018855-004B	MW-120-Q116	Groundwater	2/25/2016 9:05:00 AM	2/25/2016	3/14/2016
N018855-004C	MW-120-Q116	Groundwater	2/25/2016 9:05:00 AM	2/25/2016	3/14/2016
N018855-005A	MW-208A-Q116	Groundwater	2/26/2016 8:35:00 AM	2/25/2016	3/14/2016
N018855-006A	MW-207A-Q116	Groundwater	2/26/2016 9:15:00 AM	2/25/2016	3/14/2016

ASSET LABORATORIES
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ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:25:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B** QC Batch: **R106240**				PrepDate			Analyst: **RB**
Hexavalent Chromium	18	0.075	1.0		µg/L	5	3/2/2016 04:56 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160308A** QC Batch: **56426**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	19	0.43	5.0		µg/L	5	3/8/2016 03:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B** QC Batch: **R106240**				PrepDate			Analyst: **RB**
Hexavalent Chromium	41	0.075	1.0		µg/L	5	3/2/2016 07:10 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160307A** QC Batch: **56426**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	31	0.086	1.0		µg/L	1	3/7/2016 10:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:55:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B** QC Batch: **R106240**				PrepDate			Analyst: **RB**
Hexavalent Chromium	30	0.075	1.0		µg/L	5	3/2/2016 05:35 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160307A** QC Batch: **56426**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	28	0.086	1.0		µg/L	1	3/7/2016 10:17 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-120-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 9:05:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160302B** QC Batch: **R106240**				PrepDate			Analyst: **RB**
Hexavalent Chromium	29	0.075	1.0		µg/L	5	3/2/2016 07:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160307A** QC Batch: **56426**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	27	0.086	1.0		µg/L	1	3/7/2016 10:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-208A-Q116
Lab Order:	N018855	**Collection Date:**	2/26/2016 8:35:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160302B**	QC Batch: **R106240**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	3/2/2016 06:13 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-207A-Q116
Lab Order:	N018855	**Collection Date:**	2/26/2016 9:15:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160302B**	QC Batch: **R106240**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	3/2/2016 06:51 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **LCS-R106240** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **LCSW** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.841	0.20	5.000	0	96.8	90	110				

Sample ID **MB-R106240** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **PBW** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **N018857-019CDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.673	1.0						32.75	0.234	20	

Sample ID **N018857-019CMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.704	1.0	25.00	32.75	99.8	90	110				

Sample ID **N018857-019CMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.627	1.0	25.00	32.75	99.5	90	110	57.70	0.134	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018845-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.074	1.0	5.000	0	101	90	110				

Sample ID **N018845-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	242.412	4.0	100.0	143.6	98.8	90	110				

Sample ID **N018845-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	752.830	10	250.0	510.8	96.8	90	110				

Sample ID **N018845-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.043	0.20	1.000	0.03930	100	90	110				

Sample ID **N018845-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.018	0.20	5.000	4.115	98.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018845-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.137	0.20	1.000	0.07200	106	90	110				

Sample ID **N018855-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.736	1.0	25.00	18.37	97.5	90	110				

Sample ID **N018855-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.795	1.0	25.00	29.80	96.0	90	110				

Sample ID **N018855-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID **N018855-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.044	0.20	1.000	0.05610	98.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018855-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.803	1.0	25.00	40.78	100	90	110				

Sample ID **N018855-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.720	1.0	25.00	29.36	97.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-56426	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	PBW	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255144

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-56426	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	LCSW	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255145

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.370	1.0	10.00	0	104	85	115				

Sample ID	N018845-009B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255149

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	14.761	1.0	10.00	4.465	103	75	125				

Sample ID	N018845-009B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	2/26/2016	RunNo:	106294
Client ID:	ZZZZZZ	Batch ID:	56426	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	3/7/2016	SeqNo:	2255150

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	14.745	1.0	10.00	4.465	103	75	125	14.76	0.113	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:25:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160308F** QC Batch: **R106334** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	1.2	0.022	0.050		mg/L	1	3/8/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160308F** QC Batch: **R106334** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.13	0.022	0.050		mg/L	1	3/8/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:55:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160308F** QC Batch: **R106334** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.17	0.022	0.050		mg/L	1	3/8/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-120-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 9:05:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160308F** QC Batch: **R106334** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.20	0.022	0.050		mg/L	1	3/8/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106334** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **PBW** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106334** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **LCSW** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.518	0.050	0.5000	0	104	85	115				

Sample ID **N018844-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.495	0.050						0.5301	6.91	20	

Sample ID **N018844-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.073	0.050	0.5000	0.5301	109	75	125				

Sample ID **N018844-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.090	0.050	0.5000	0.5301	112	75	125	1.073	1.59	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:25:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160308A**	QC Batch: **56426**			PrepDate	**2/26/2016**		Analyst: **CEI**
Molybdenum	190	0.15	2.5		µg/L	5	3/8/2016 03:25 PM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 03:25 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:13:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56426**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	1.9	0.079	0.50		µg/L	5	3/8/2016 03:31 PM
Manganese	33	0.023	0.50		µg/L	1	3/7/2016 10:12 PM
Molybdenum	73	0.15	2.5		µg/L	5	3/8/2016 03:31 PM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 8:55:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160308A**	QC Batch: **56426**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	6.1	0.079	0.50		µg/L	5	3/8/2016 03:37 PM
Manganese	5.5	0.023	0.50		µg/L	1	3/7/2016 10:17 PM
Molybdenum	95	0.15	2.5		µg/L	5	3/8/2016 03:37 PM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 03:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *14-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-120-Q116
Lab Order:	N018855	**Collection Date:**	2/25/2016 9:05:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018855-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56426**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	5.5	0.016	0.10		µg/L	1	3/7/2016 10:23 PM
Manganese	5.3	0.023	0.50		µg/L	1	3/7/2016 10:23 PM
Molybdenum	91	0.15	2.5		µg/L	5	3/8/2016 03:42 PM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

Date: *14-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56426** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **PBW** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56426** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **LCSW** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2254559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.266	0.10	10.00	0	103	85	115				
Manganese	100.802	0.50	100.0	0	101	85	115				
Molybdenum	10.293	0.50	10.00	0	103	85	115				
Selenium	10.099	0.50	10.00	0	101	85	115				

Sample ID **N018845-009B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.464	0.50	10.00	1.531	99.3	75	125				
Manganese	488.520	2.5	100.0	385.8	103	75	125				
Molybdenum	38.617	2.5	10.00	26.68	119	75	125				
Selenium	10.947	2.5	10.00	1.365	95.8	75	125				

Sample ID **N018845-009B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.557	0.50	10.00	1.531	100	75	125	11.46	0.808	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018845-009B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	483.808	2.5	100.0	385.8	98.0	75	125	488.5	0.969	20	
Molybdenum	37.964	2.5	10.00	26.68	113	75	125	38.62	1.71	20	
Selenium	10.110	2.5	10.00	1.365	87.5	75	125	10.95	7.95	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Gary Clift		Phone: 949-727-1400, ext 200	Fax:
Title: SR. Technician	Phone: 916-786-3302 / Fax:		
Signature: [signature] Date: 2-25-16	Sampled By: Jason Mahn		
I hereby authorize ASSET Labs to perform the tests indicated below	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - GMP	Signature: [signature] Date: 2/25/16		
Project Number: RC000753.0801			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact		
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number #1		
		Regulatory		6. Method of Cooling: ICE		
Global ID:		Specify State:		Sample Temp: 5-9°C		

Courier:

Tracking No.:

Matrix		
Ground	x	Sediment
Potable		Soil
NPDES		Other Solid
Surface		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Dissolved (6020AFF) As, HNO3 (500 mL poly)	Metals Dissolved (6020AFF) Cr, HNO3 (500 mL poly)	Dissolved ICP metals (SW6010B/SW6020A) FF (Mo, Se); HNO3 (500 mL poly)	Dissolved ICP metals (SW6010B/SW6020A) FF (Mo, Se, Mn); HNO3 (500 mL poly)	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N018855-1	MW-46-175-Q116	2/25/2016	825		X			X	X		X	E	3	P	BN	
2	-2	MW-34-100-Q116	2/25/2016	813		X		X	X		X	X	E	3	P	BN	
3	-3	MW-44-115-Q116	2/25/2016	855		X		X	X		X	X	E	3	P	BN	
4	-4	MW-120-Q116	2/25/2016	905		X		X	X		X	X	E	3	P	BN	
5	-5	MW-208A-Q116	2/26/2016	835		X							E	1	P	BN	
6	-6	MW-207A-Q116	2/26/2016	915		X							E	1	P	BN	
7																	
8																	
9																	
10																	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
[signature]	2-25-16 1301	[signature]	2/25/16 1301
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/25/2016	Workorder:	N018855
Rep sample Temp (Deg C):	5.9	IR Gun ID:	1
Temp Blank:	☐ Yes ☑ No		
Carrier name:	Client		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: HG 2/29/2016

Reviewed By: 02/29/2016

ASSET Laboratories

WORK ORDER Summary

02-Mar-16

WorkOrder: N018855

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/25/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018855-001A	MW-46-175-Q116	2/25/2016 8:25:00 AM	3/10/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018855-001B			3/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018855-001C			3/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018855-002A	MW-34-100-Q116	2/25/2016 8:13:00 AM	3/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018855-002B			3/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018855-002C			3/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018855-003A	MW-44-115-Q116	2/25/2016 8:55:00 AM	3/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018855-003B			3/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018855-003C			3/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018855-004A	MW-120-Q116	2/25/2016 9:05:00 AM	3/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018855-004B			3/10/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/10/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018855-004C			3/10/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018855-005A	MW-208A-Q116	2/26/2016 8:35:00 AM	3/10/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

02-Mar-16

WorkOrder: N018855

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/25/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018855-006A	MW-207A-Q116	2/26/2016 9:15:00 AM	3/10/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018855-007A	FOLDER		3/10/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/10/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018855**

NAME	TEST METHOD
Claire Ignacio	EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106240
ASSET #: N018855

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 3/2/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/10/2016 Date: —

2nd Level Reviewer Nancy 3/10/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018855-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 3.6732* 5

= 18.366

Reporting result in two significant figures,

Cr^{+6}, µg/L = 18

ANALYSIS RUN LOG

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/26/16
Time Prepared: 11:30 AM
Prepared By: MEB

SLOPE 98.5%
pH 4 - 4.01
7 - 7.01
10 - 10.03
LCS - 7.00

Reagent ID:
Sulfuric Acid: C1M-151130D
Diphenylcarbazide: C1M-151130F
NH4OH + NH4SO4 eluent: R160302D
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018855-001A	9.48	-	-	-	-	R160219D
2)	2A	9.38	-	-	-	-	
3)	3A	9.43	-	-	-	-	
4)	4A	9.45	-	-	-	-	
5)	5A	9.58	-	-	-	-	
6)	6A	9.58	-	-	-	-	
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							
							MEB 2/26/16

Sample Preparation

Date Prepared: _____
Time Prepared: _____
Prepared By: _____

Reagent ID:
Sulfuric Acid: _____
Diphenylcarbazide: _____
NH4OH + NH4SO4 eluent: _____
NH4OH + NH4SO4 buffer: _____

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)							
2)							
3)							
4)							
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							

Logbook No. 10

Reb 3/10/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 3/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0507	0.2490	1.1983	2.3757	3.6209	4.8423	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ICV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	0.20	5.000	0	97.0	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ZZZZZZ** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.216	0.20	0.2000	0	108	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.960	0.20	10.00	0	99.6	95	105				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	100	95	105				

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.872	0.20	10.00	0	98.7	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCV** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.934	0.20	5.000	0	98.7	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **ICB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106240**
Client ID: **CCB** Batch ID: **R106240** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2251925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/2/2016

Sample Name	Retention Time	Evaluation
ICV	5.040	
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
LCS-R106240	5.040	PASS
MB-R106240	N.A.	N.A.
N018857-019C	5.040	PASS
N018857-019CDUP	5.040	PASS
N018857-019CMS	5.040	PASS
N018857-019CMSD	5.040	PASS
N018867-010A	N.A.	N.A.
N018845-002A	N.A.	N.A.
N018845-002AMS	4.998	PASS
N018845-006A	5.040	PASS
N018845-006AMS	5.040	PASS
N018845-007A	5.031	PASS
N018845-007AMS	5.031	PASS
N018845-008A	5.040	PASS
N018845-008AMS	5.023	PASS
N018845-009A	4.890	PASS
N018845-009AMS	4.890	PASS
N018845-010A	5.040	PASS
N018845-010AMS	5.023	PASS
N018855-001A	4.981	PASS
N018855-001AMS	4.981	PASS
N018855-002A	5.031	PASS
N018855-002AMS	5.031	PASS
N018855-003A	5.006	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/2/2016

Sample Name	Retention Time	Evaluation
ICV	5.040	
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
N018855-003AMS	5.006	PASS
N018855-004A	4.815	FAIL
N018855-004AMS	4.815	FAIL
N018855-005A	N.A.	N.A.
N018855-005AMS	5.040	PASS
N018855-006A	5.040	PASS
N018855-006AMS	5.040	PASS
N018855-002A	4.998	PASS
N018855-002AMS	4.998	PASS
N018855-004A	5.006	PASS
N018855-004AMS	5.006	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

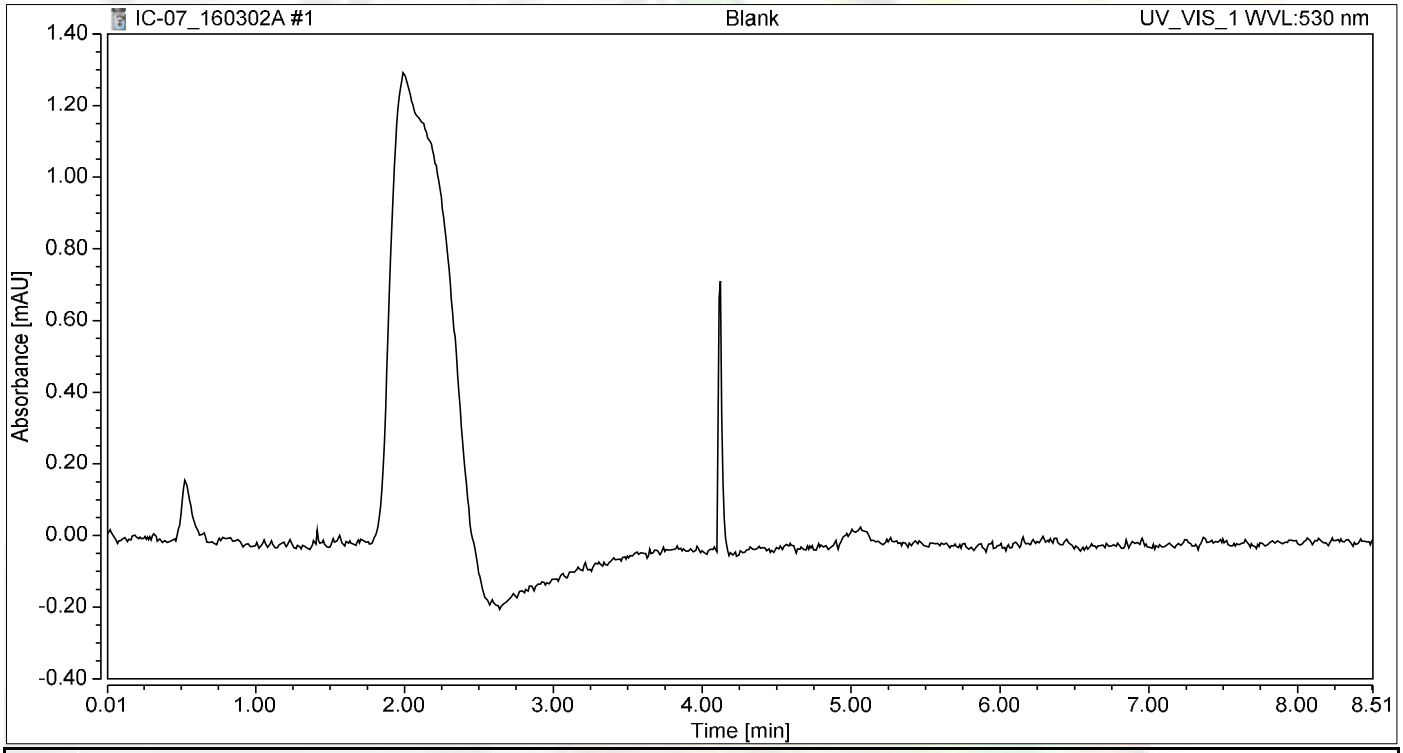
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

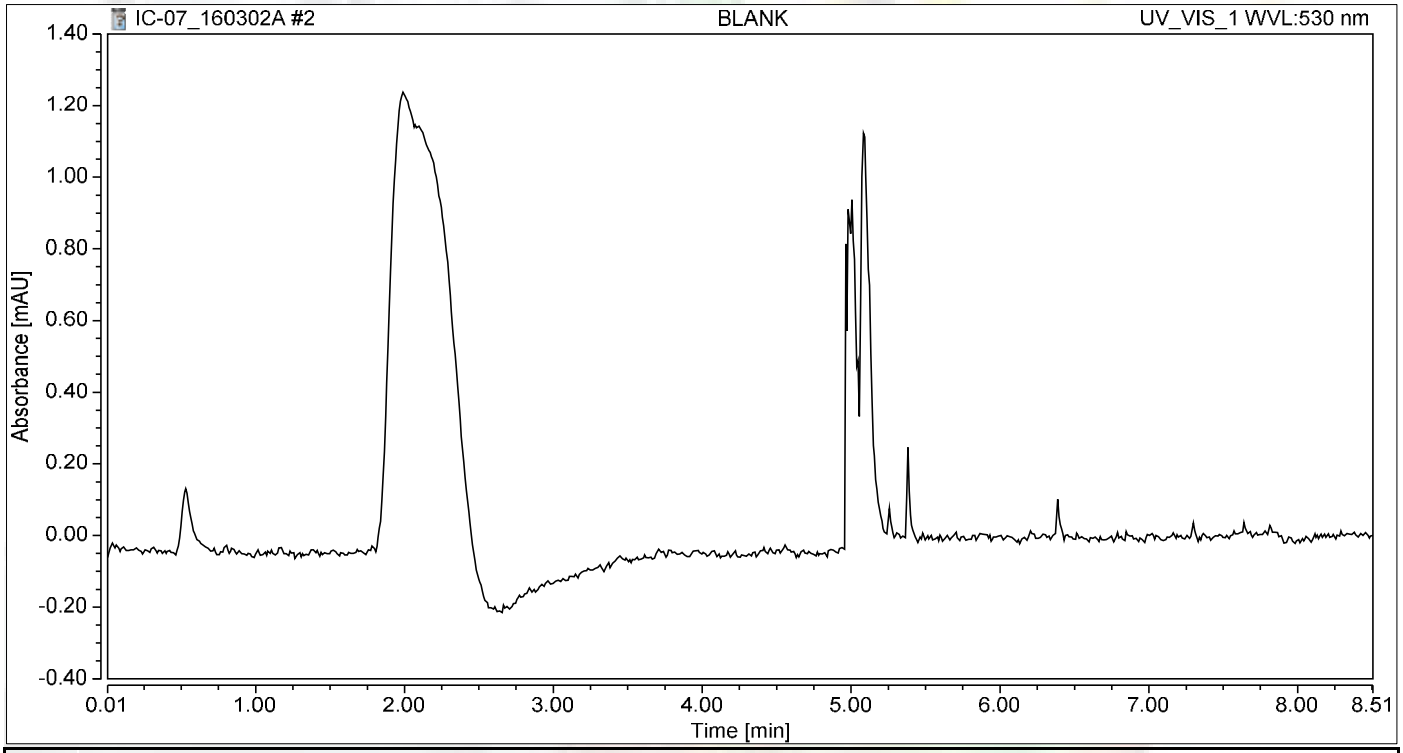
not reported

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

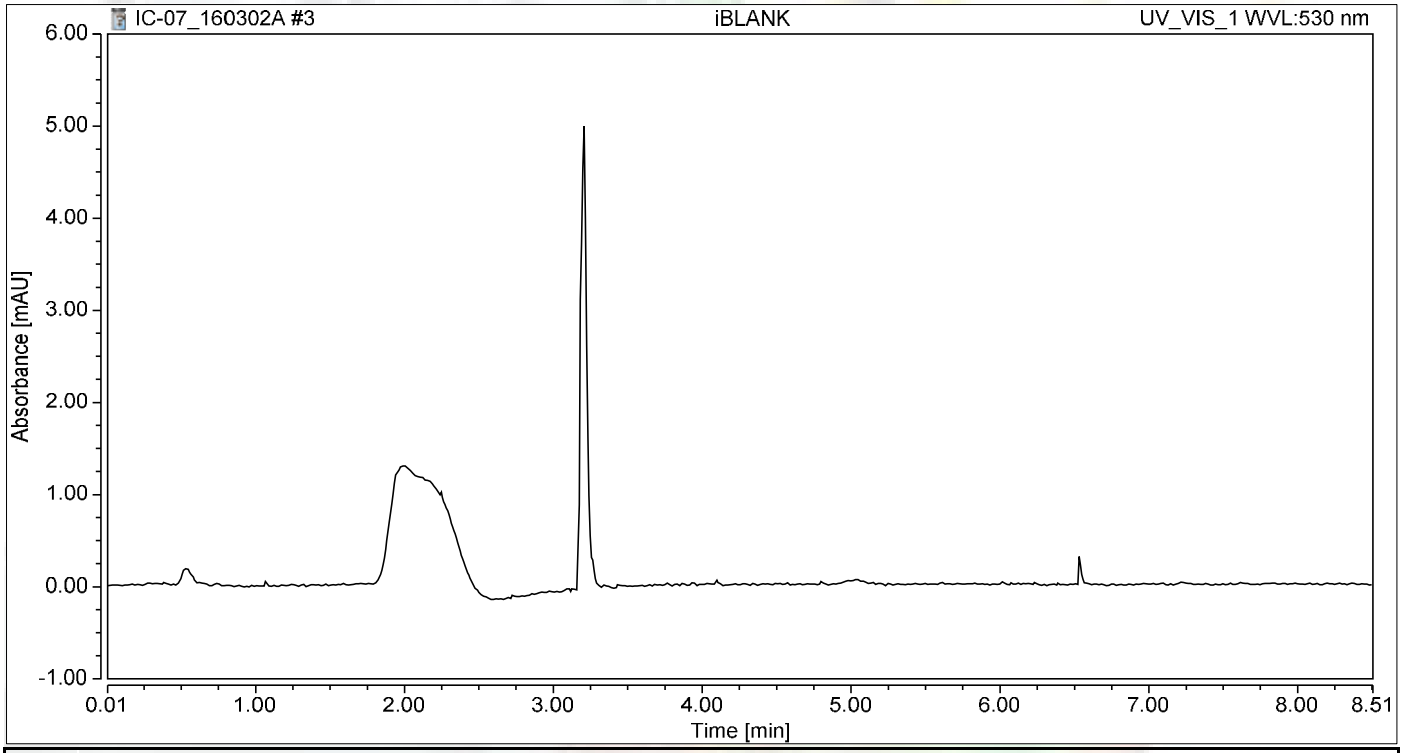
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

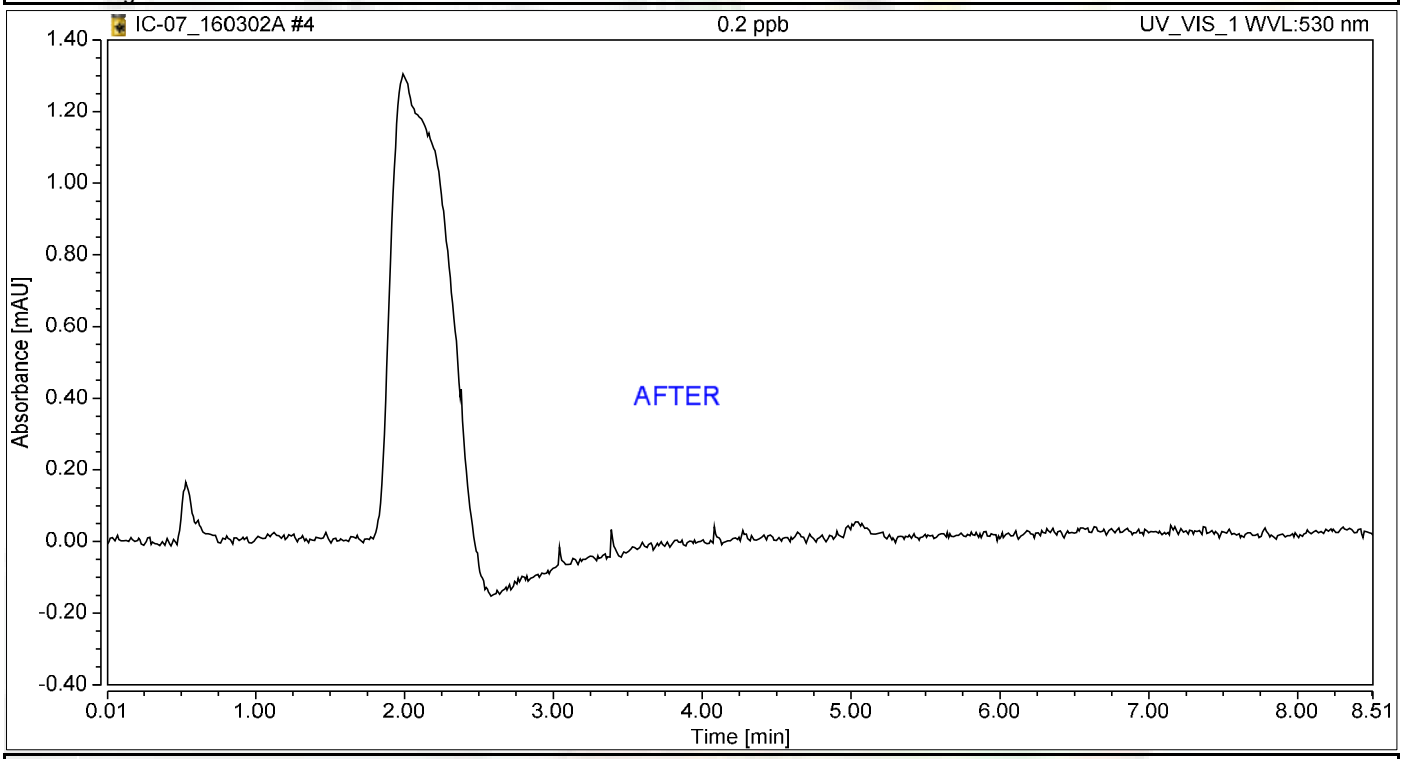
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

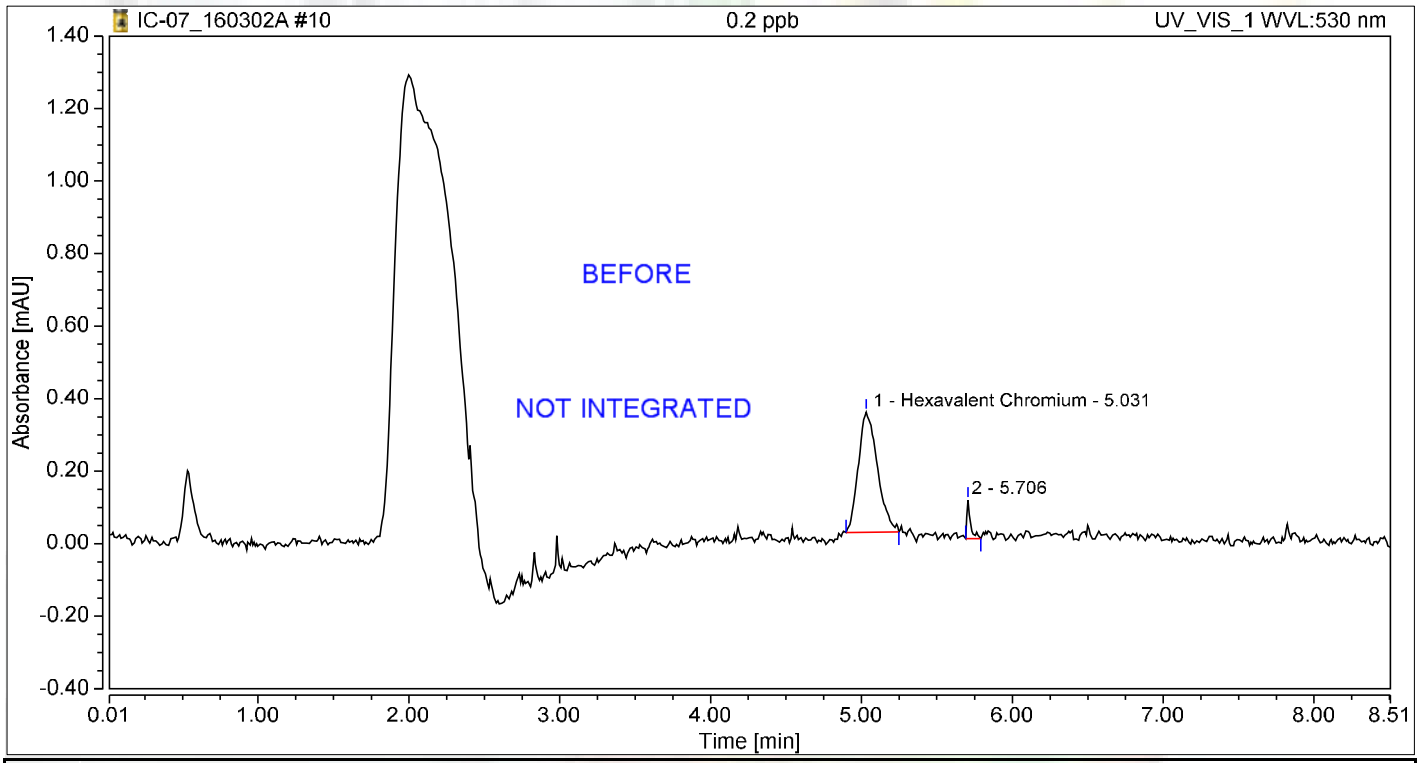
not reported

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.049	0.331	94.14	75.72	0.2023
2		5.706	0.003	0.106	5.86	24.28	n.a.
Total:			**0.052**	**0.437**	**100.00**	**100.00**	

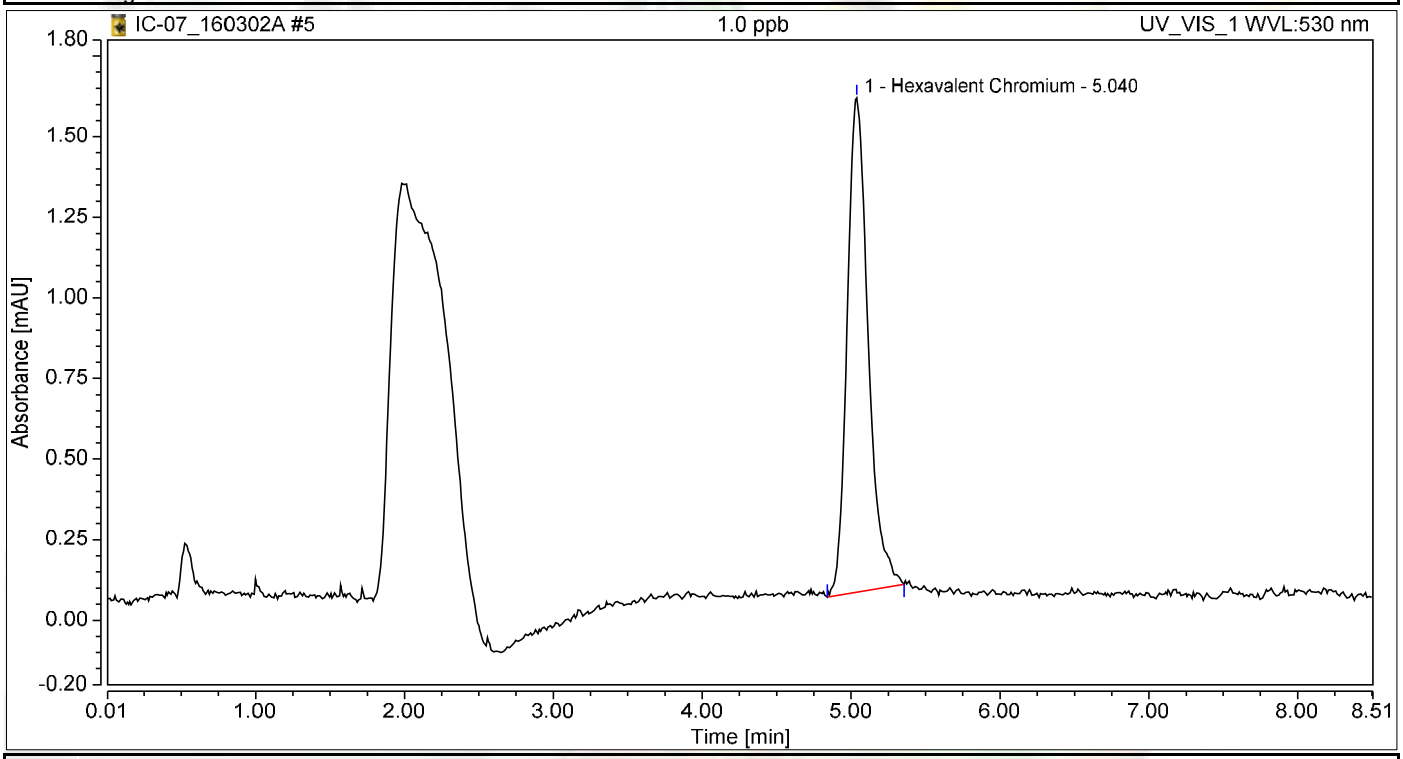
not reported

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

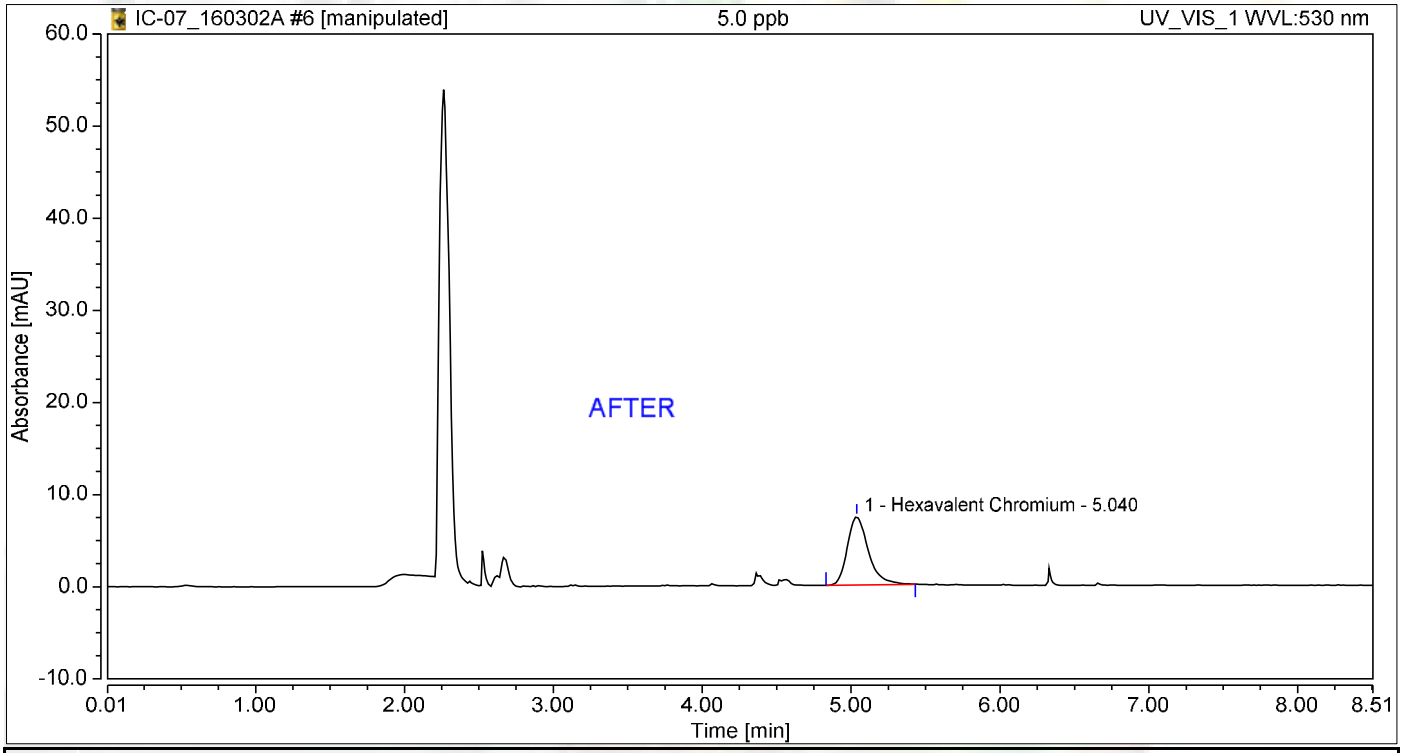
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.249	1.533	100.00	100.00	1.0323
Total:			**0.249**	**1.533**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.198	7.374	100.00	100.00	4.9678
Total:			**1.198**	**7.374**	**100.00**	**100.00**	

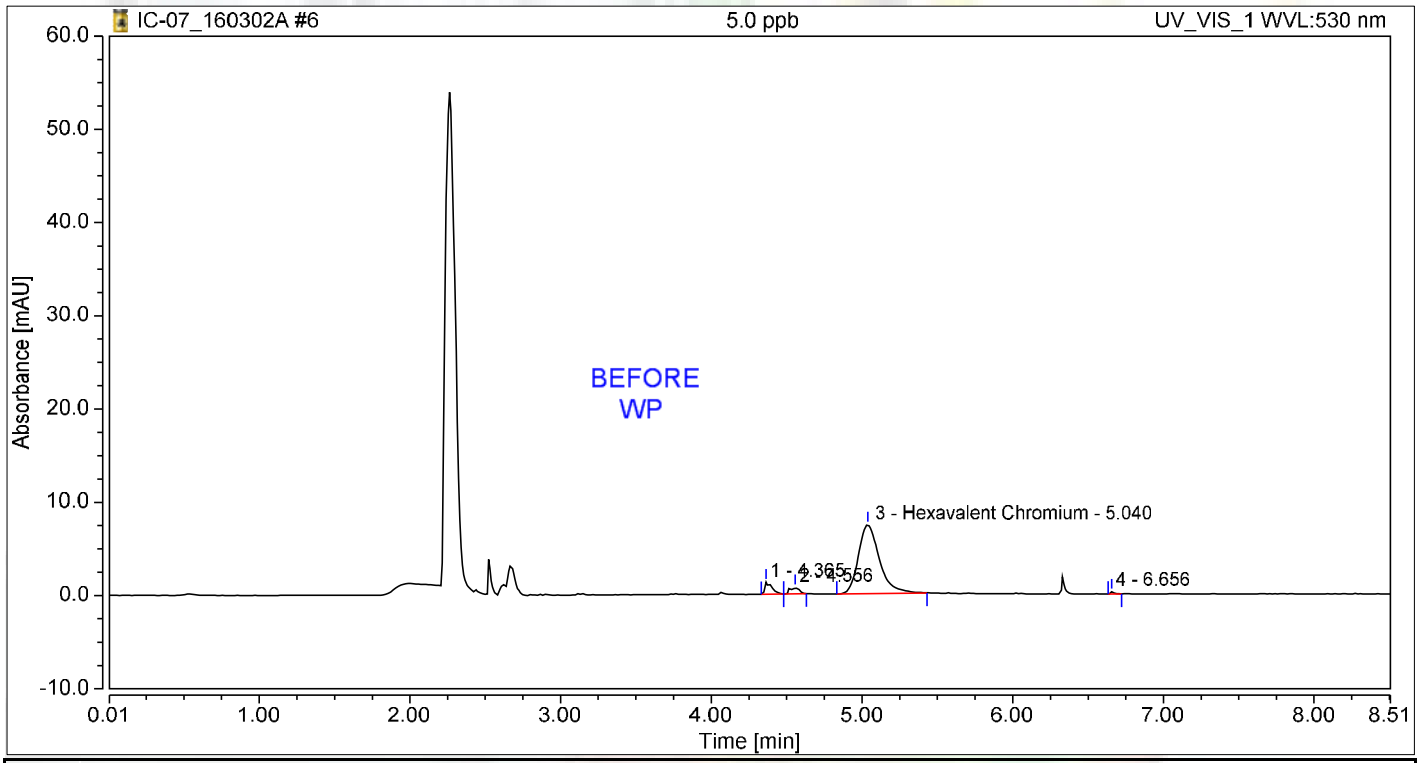
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

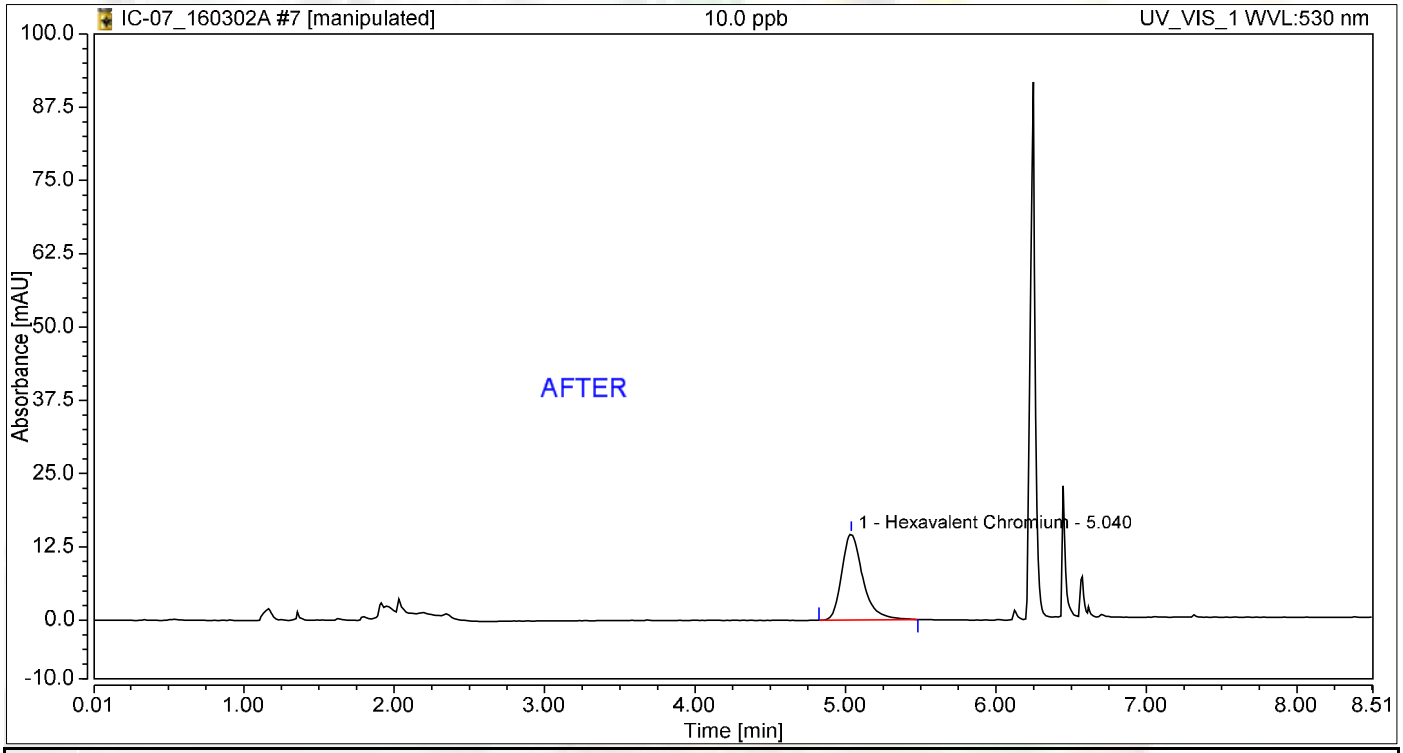
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.365	0.067	1.305	5.11	13.54	n.a.
2		4.556	0.047	0.689	3.58	7.15	n.a.
3	Hexavalent Chromium	5.040	1.198	7.374	90.83	76.51	4.9678
4		6.656	0.006	0.270	0.48	2.80	n.a.
Total:			**1.319**	**9.638**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	100.00	100.00	9.8485
Total:			**2.376**	**14.635**	**100.00**	**100.00**	

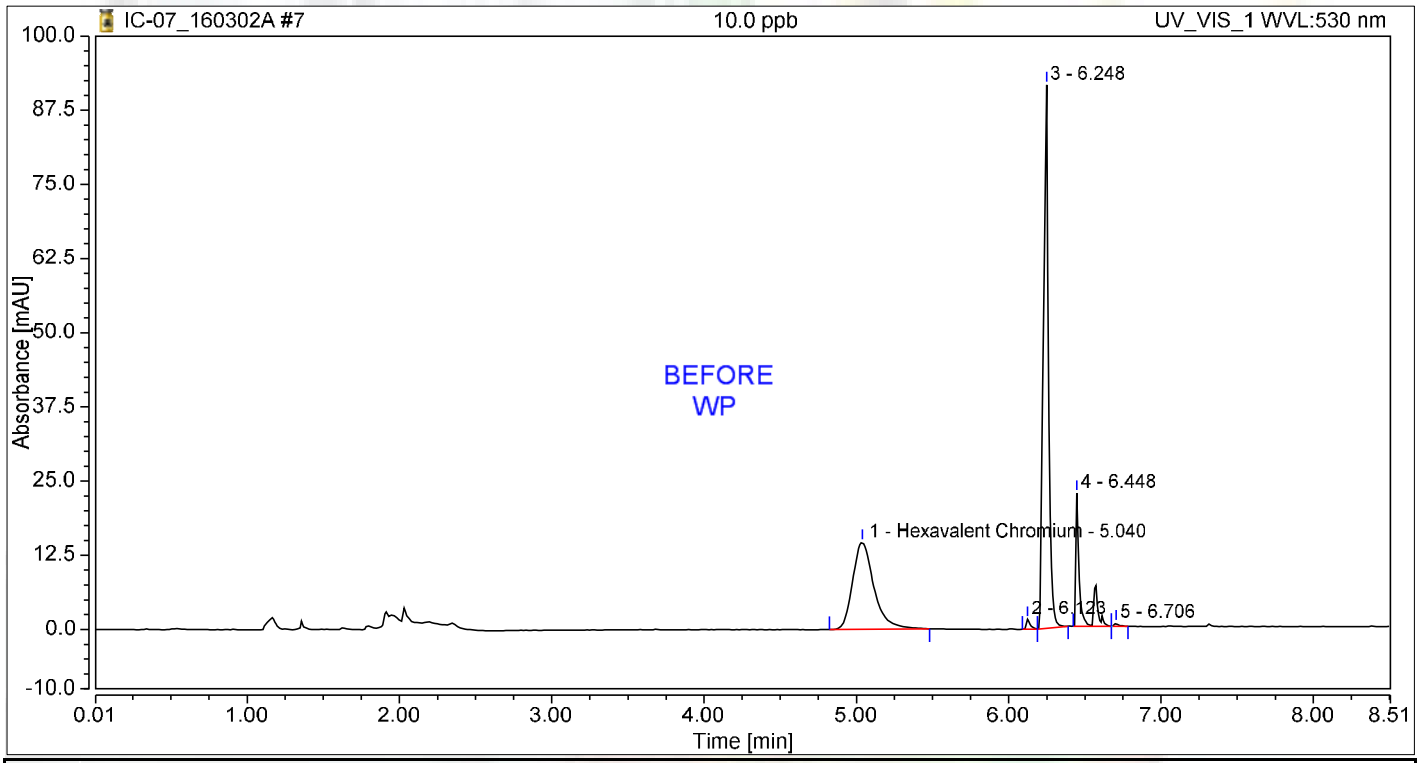
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

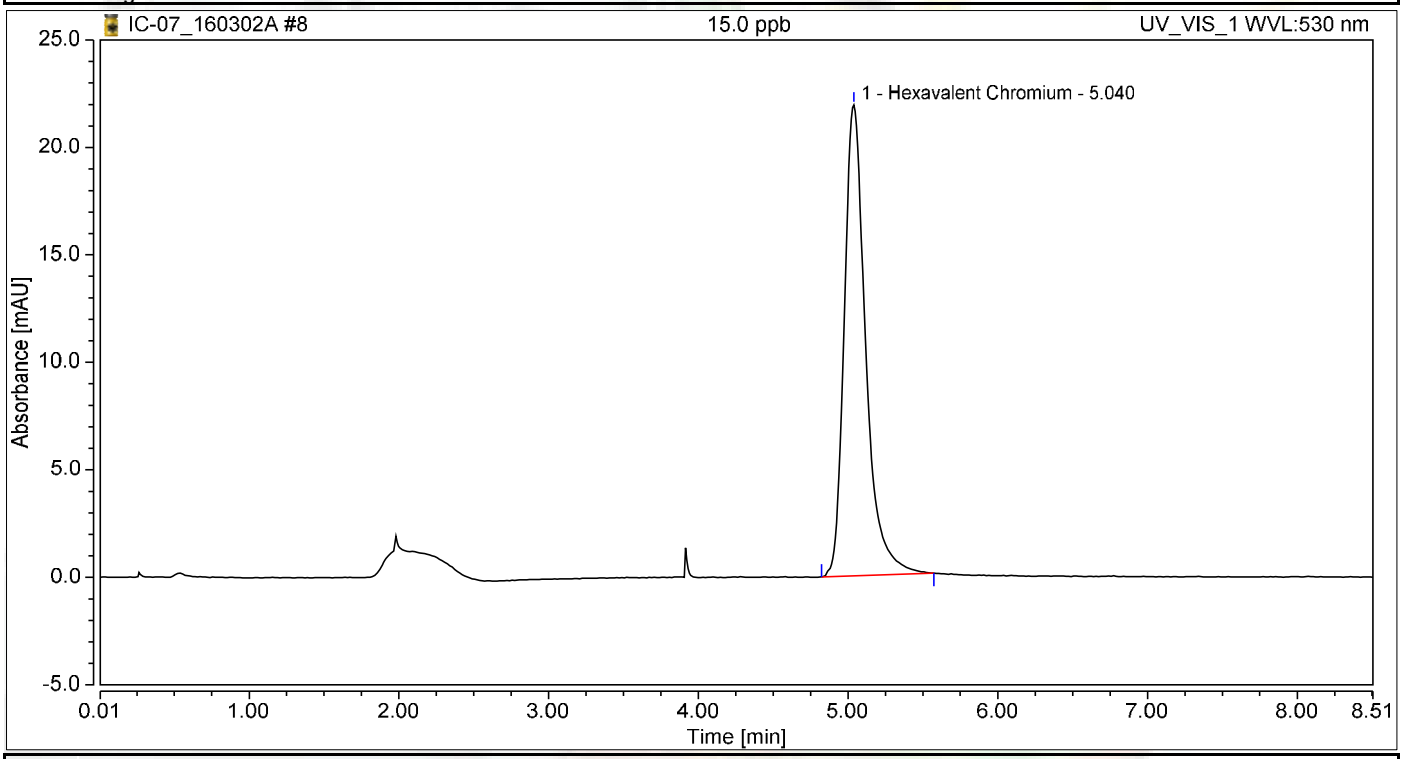
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	35.13	11.19	9.8486
2		6.123	0.044	1.639	0.65	1.25	n.a.
3		6.248	3.570	91.547	52.80	69.99	n.a.
4		6.448	0.753	22.451	11.14	17.16	n.a.
5		6.706	0.019	0.535	0.28	0.41	n.a.
Total:			**6.762**	**130.808**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

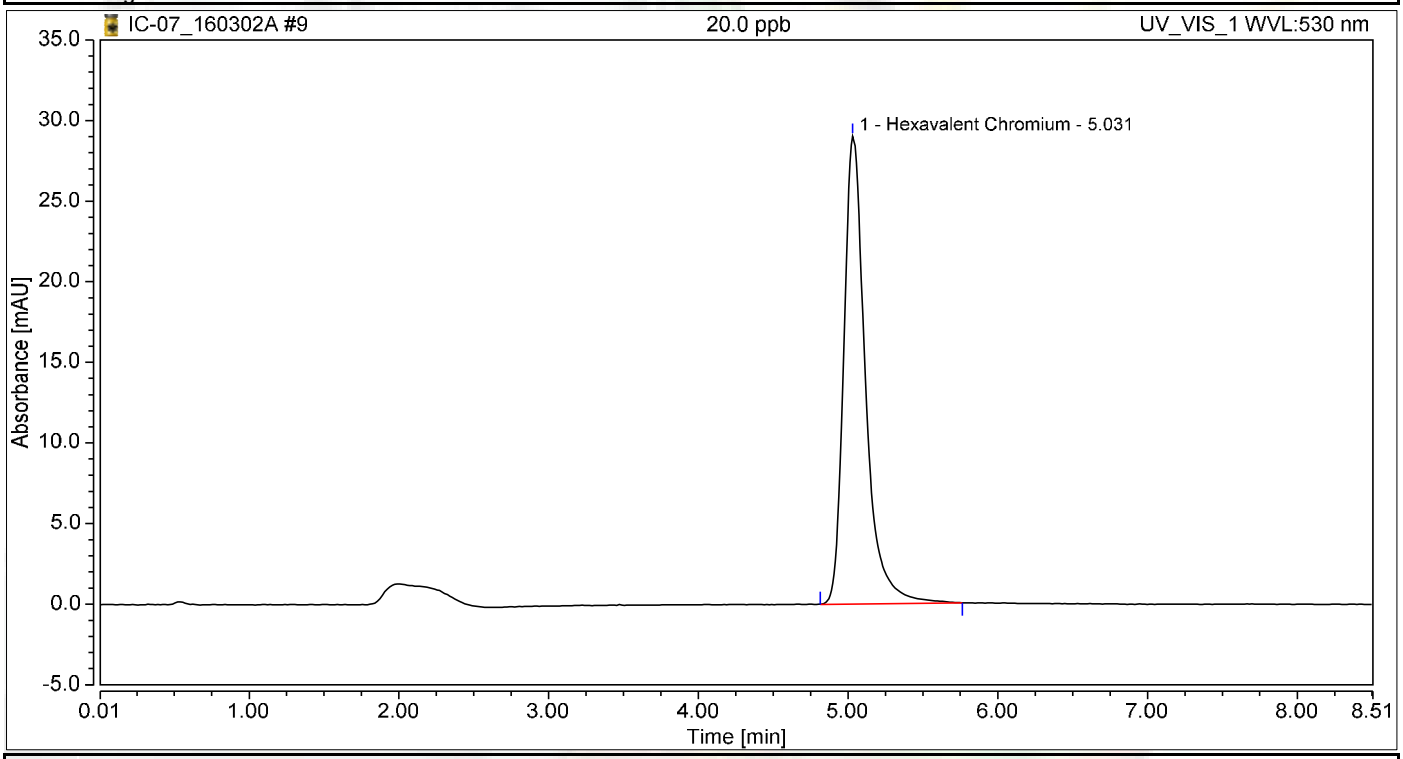
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.621	21.921	100.00	100.00	15.0105
Total:			**3.621**	**21.921**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

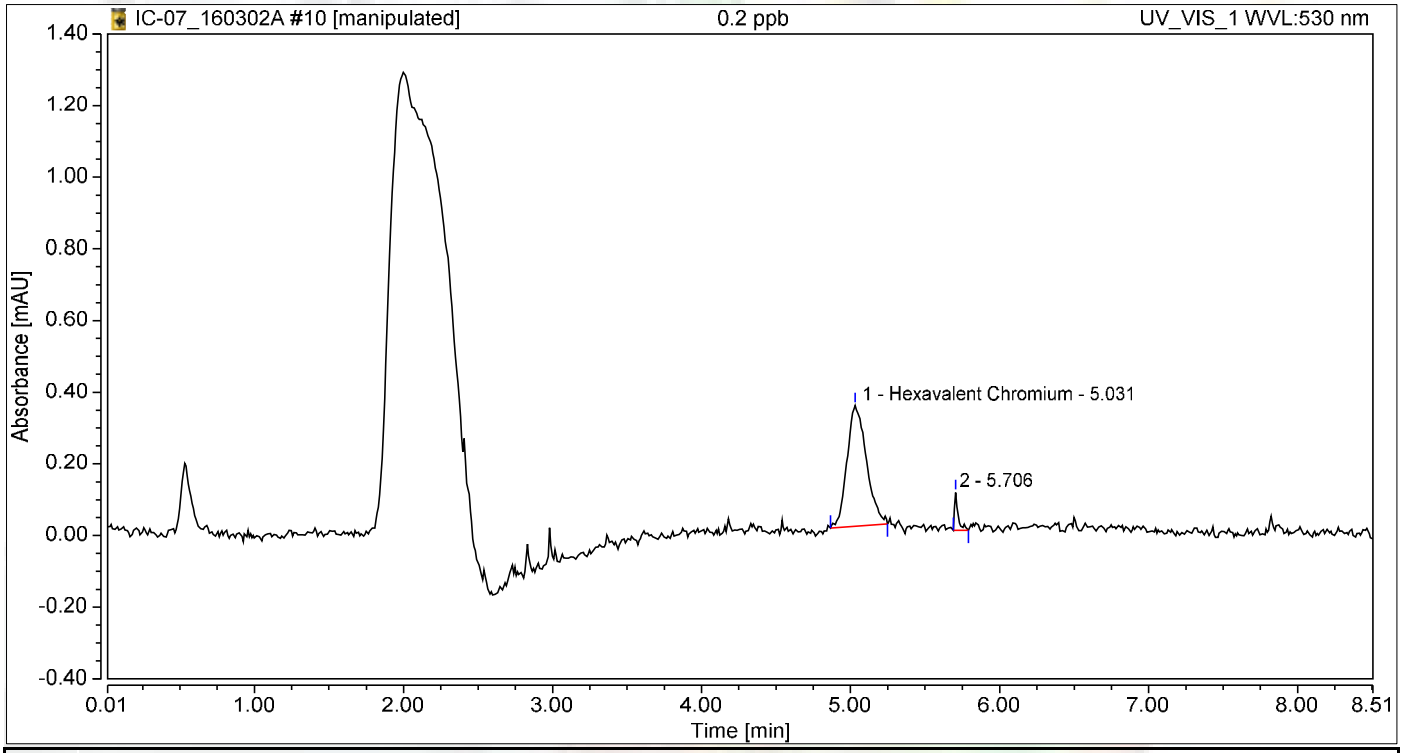
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	4.842	29.016	100.00	100.00	20.0742
Total:			**4.842**	**29.016**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



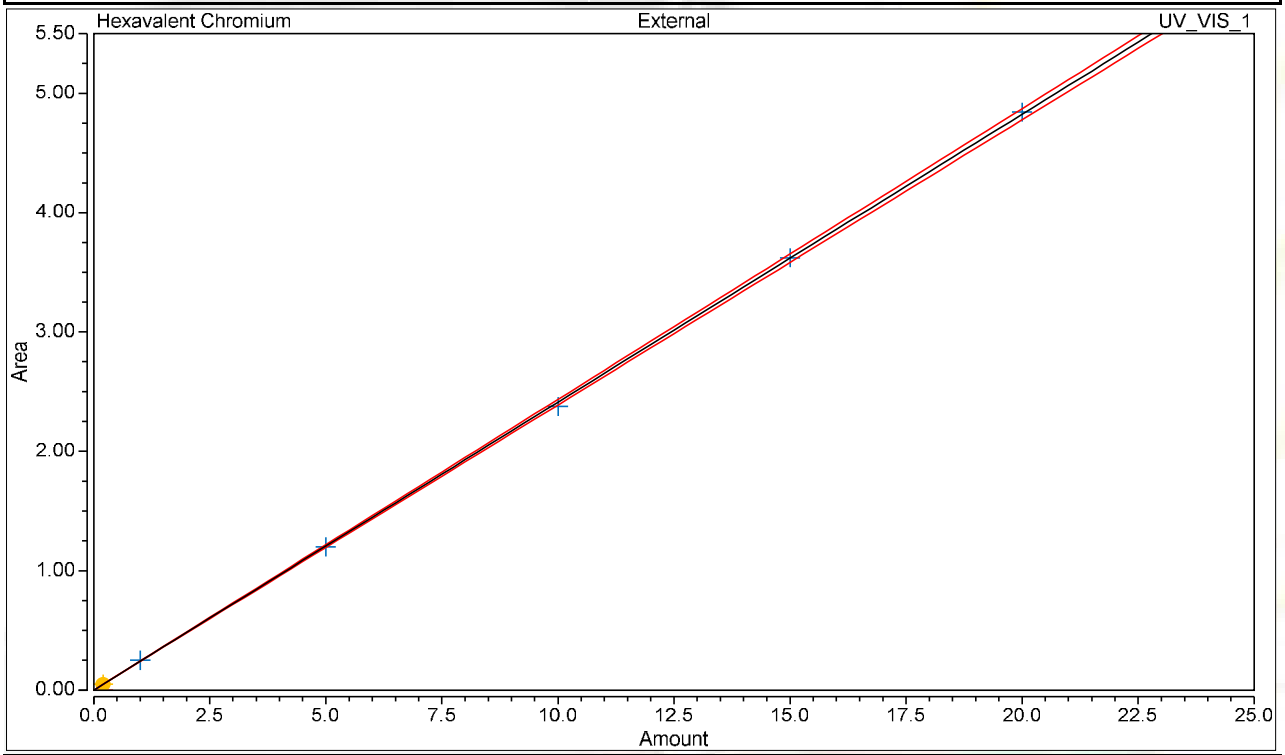
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.051	0.337	94.34	76.03	0.2102
2		5.706	0.003	0.106	5.66	23.97	n.a.
Total:			**0.054**	**0.443**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	1	*R-Square*	0.99990

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

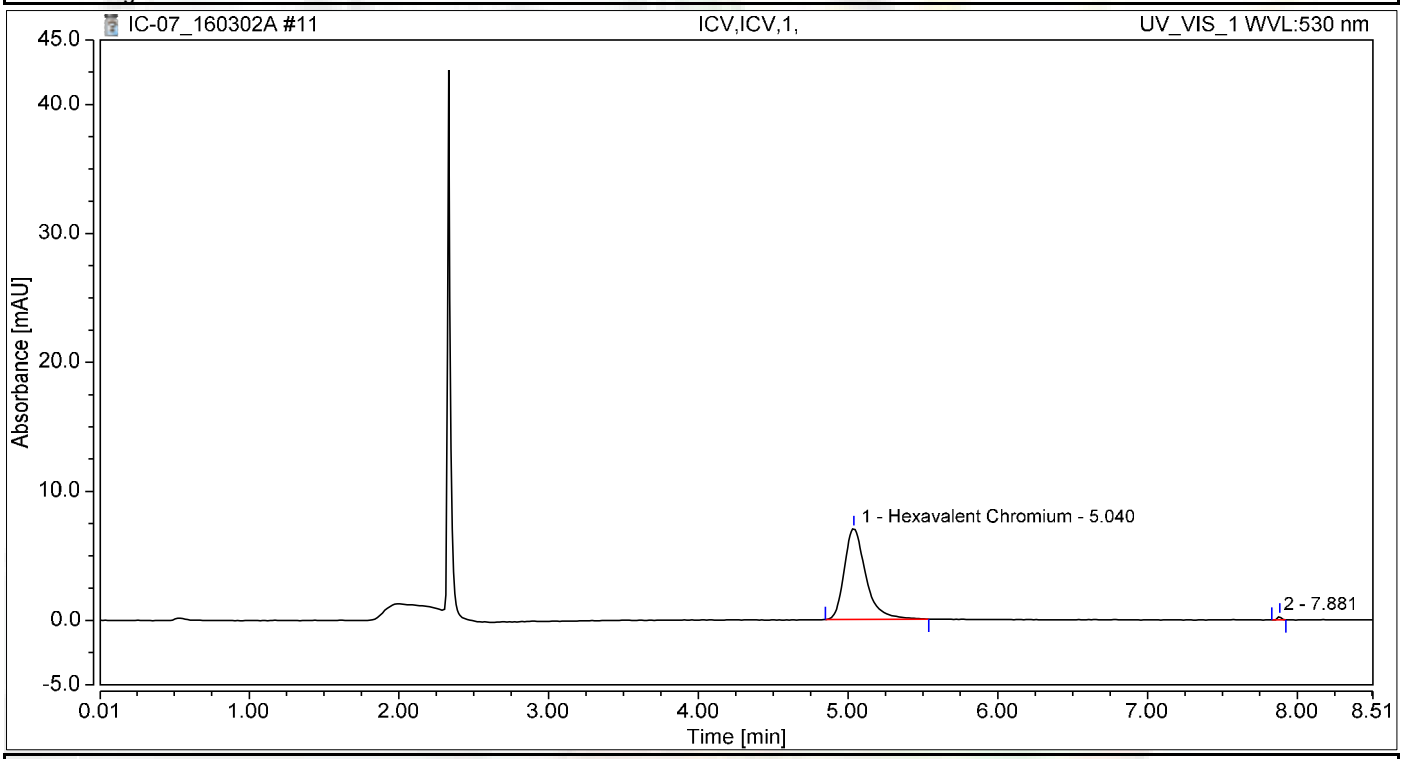
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	n.a.	n.a.	n.a.
5	1.0 ppb	02	1.0000	0.2490	0.249	1.533
6	5.0 ppb	03	5.0000	1.1983	1.198	7.374
7	10.0 ppb	04	10.0000	2.3757	2.376	14.635
8	15.0 ppb	05	15.0000	3.6209	3.621	21.921
9	20.0 ppb	06	20.0000	4.8423	4.842	29.016
10	0.2 ppb	01	0.2000	0.0507	0.051	0.337

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

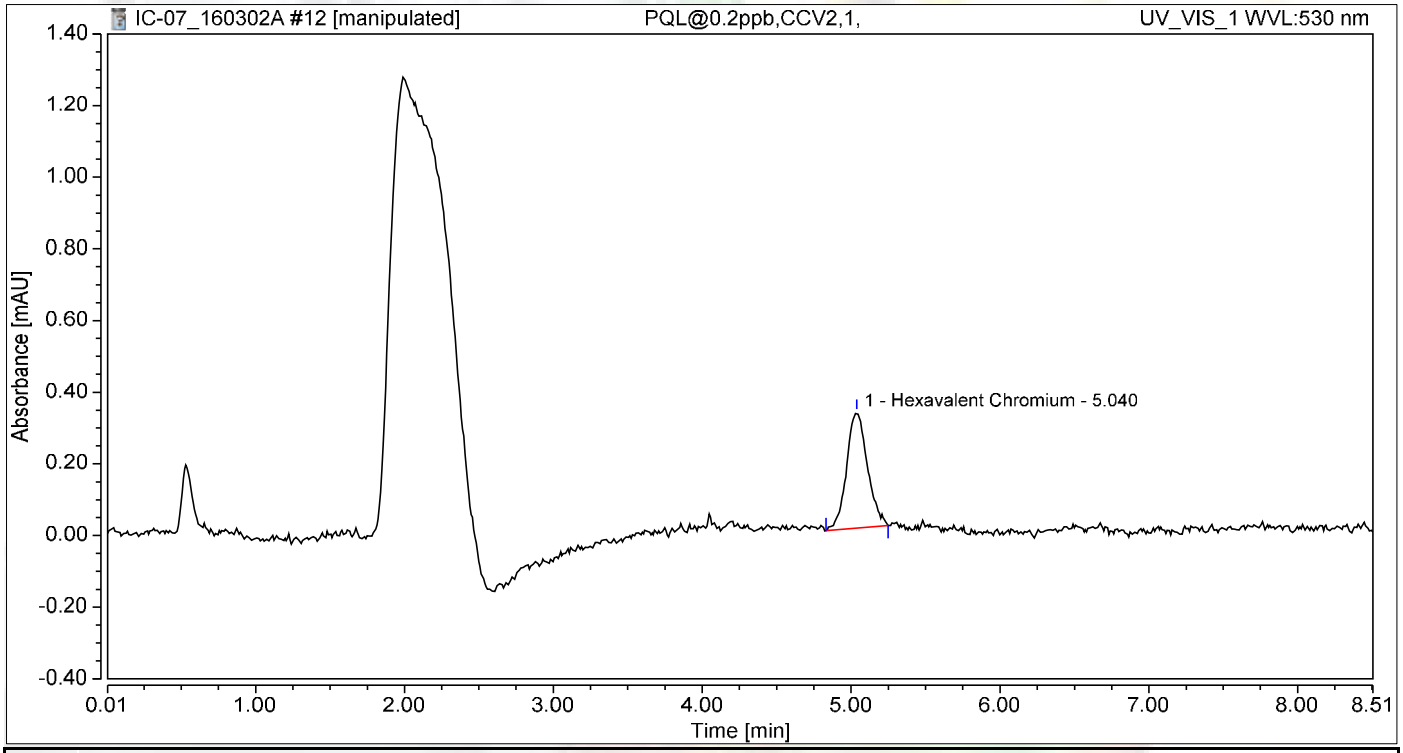
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.170	7.047	99.36	95.77	4.8510
2		7.881	0.008	0.311	0.64	4.23	n.a.
Total:			**1.178**	**7.359**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

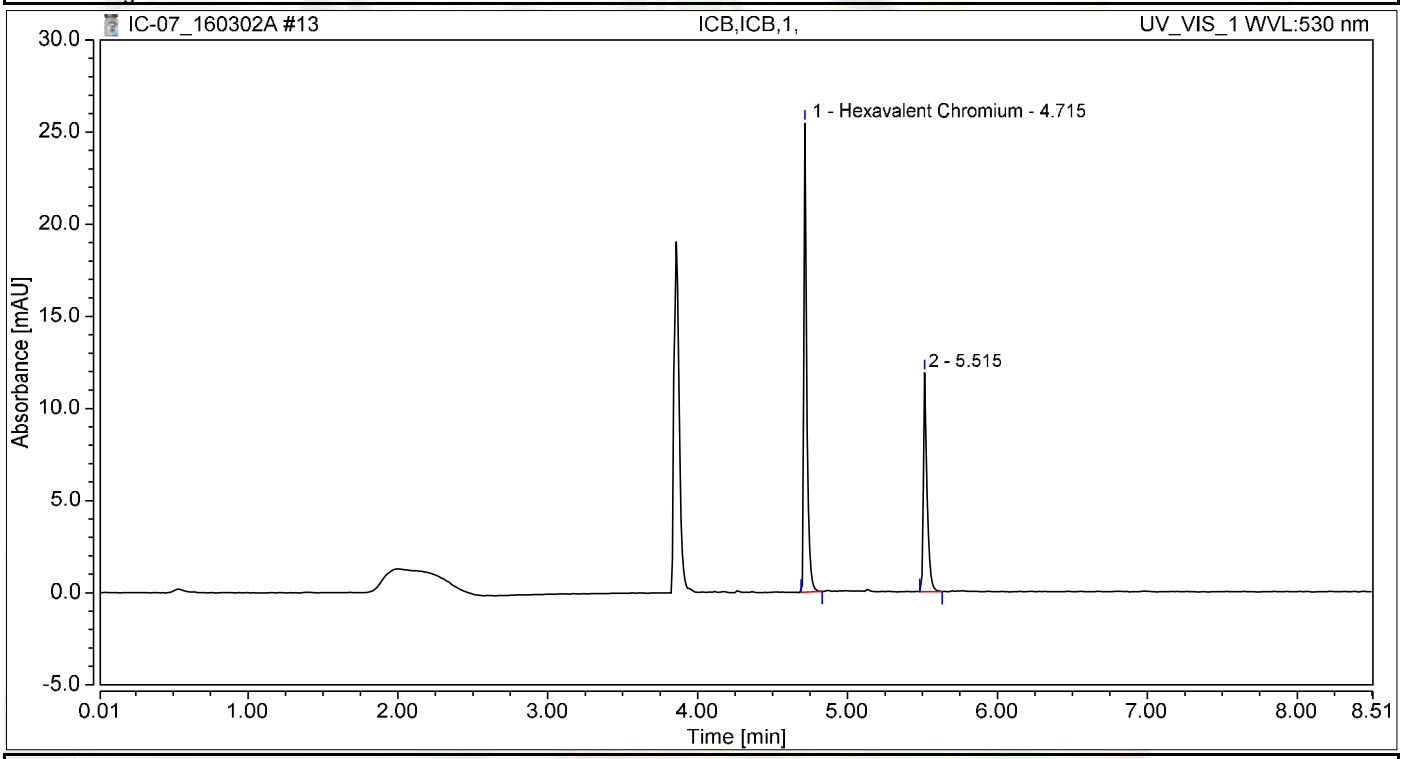
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.052	0.323	100.00	100.00	0.2155
Total:			**0.052**	**0.323**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.715	0.593	25.475	64.78	68.20	2.4601
2		5.515	0.323	11.876	35.22	31.80	n.a.
Total:			**0.916**	**37.350**	**100.00**	**100.00**	

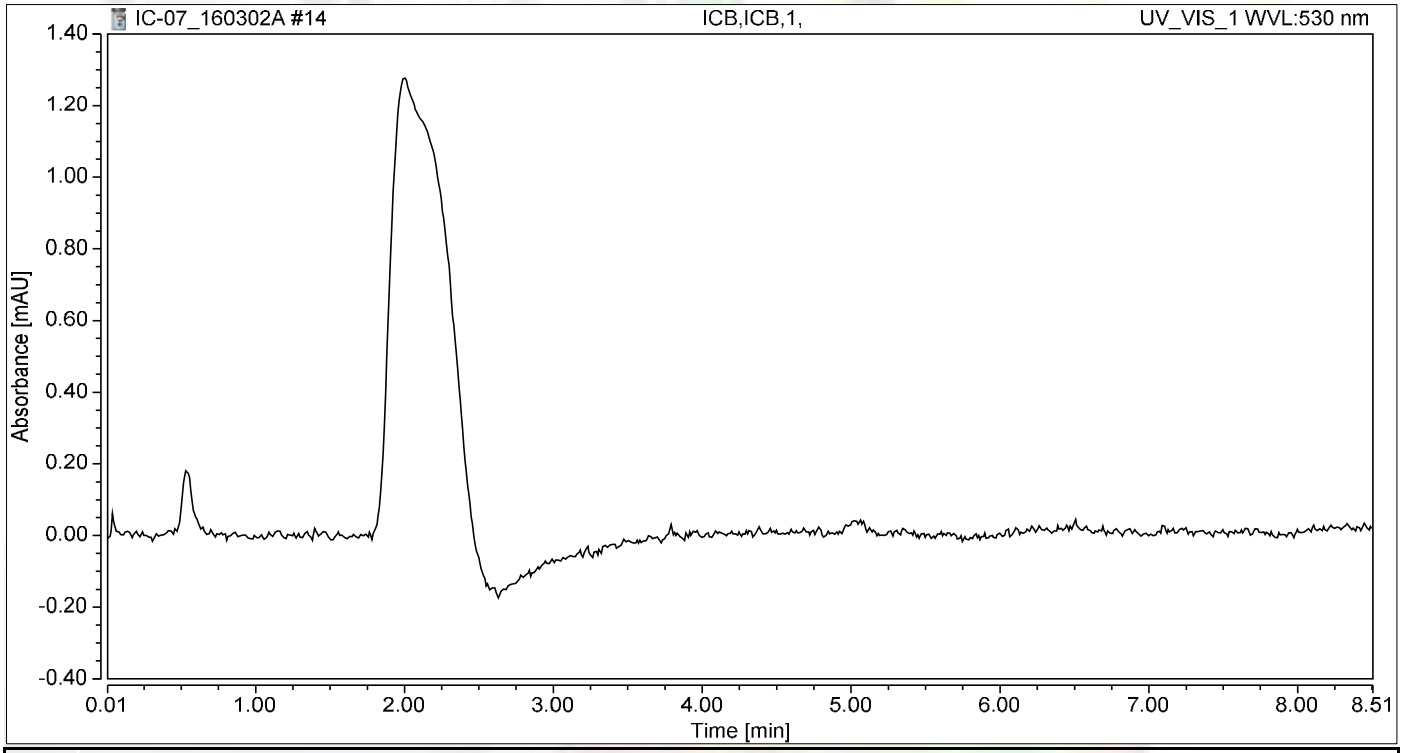
not reported

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

Reb 3/10/2016

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

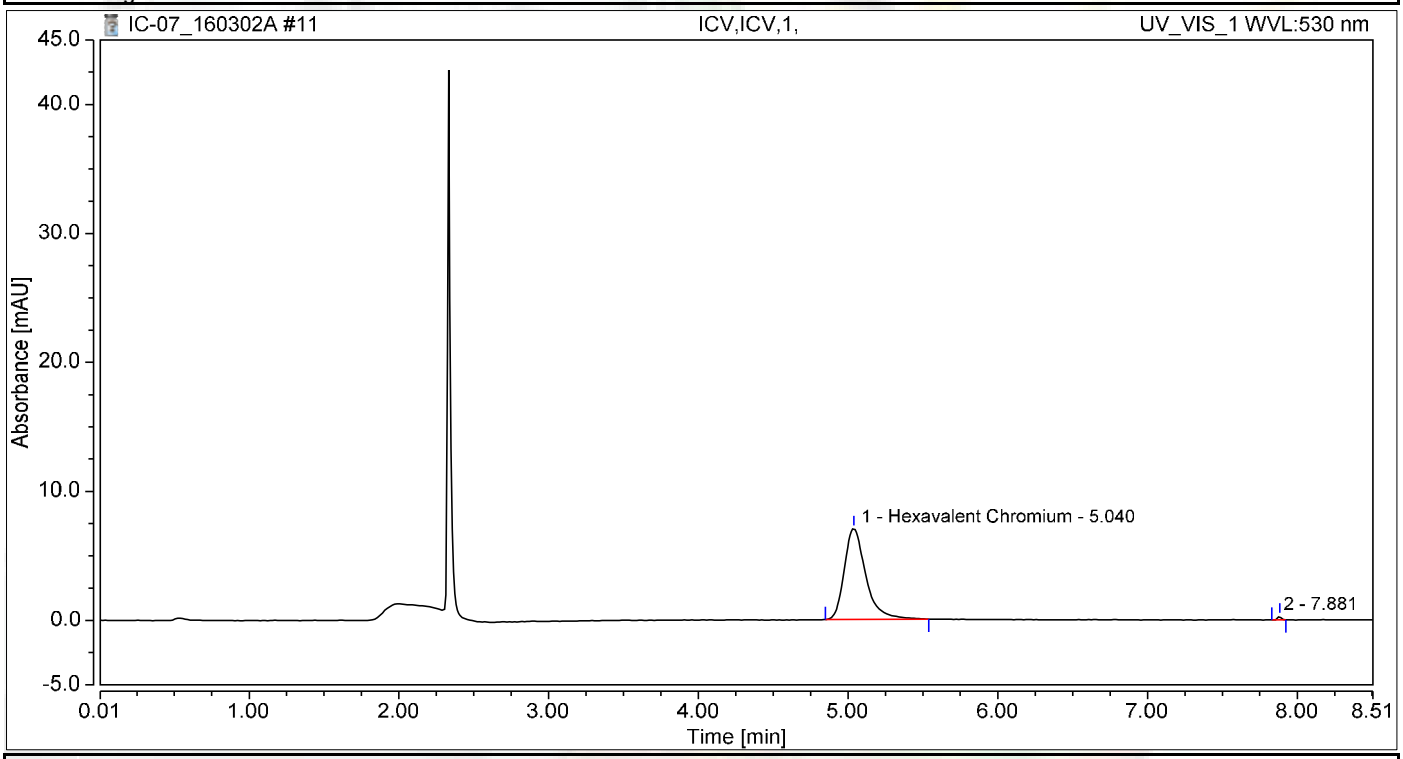
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

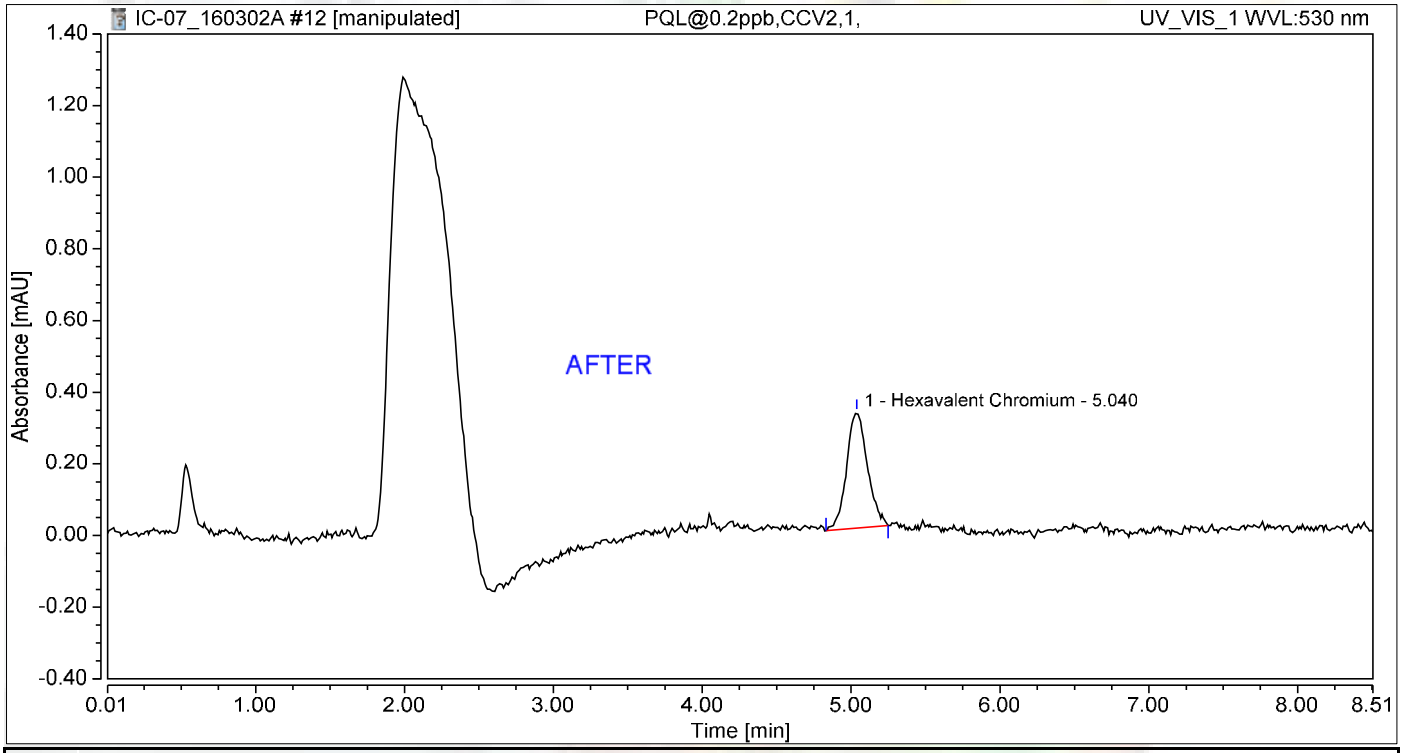
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.170	7.047	99.36	95.77	4.8510
2		7.881	0.008	0.311	0.64	4.23	n.a.
Total:			**1.178**	**7.359**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.052	0.323	100.00	100.00	0.2155
Total:			**0.052**	**0.323**	**100.00**	**100.00**	

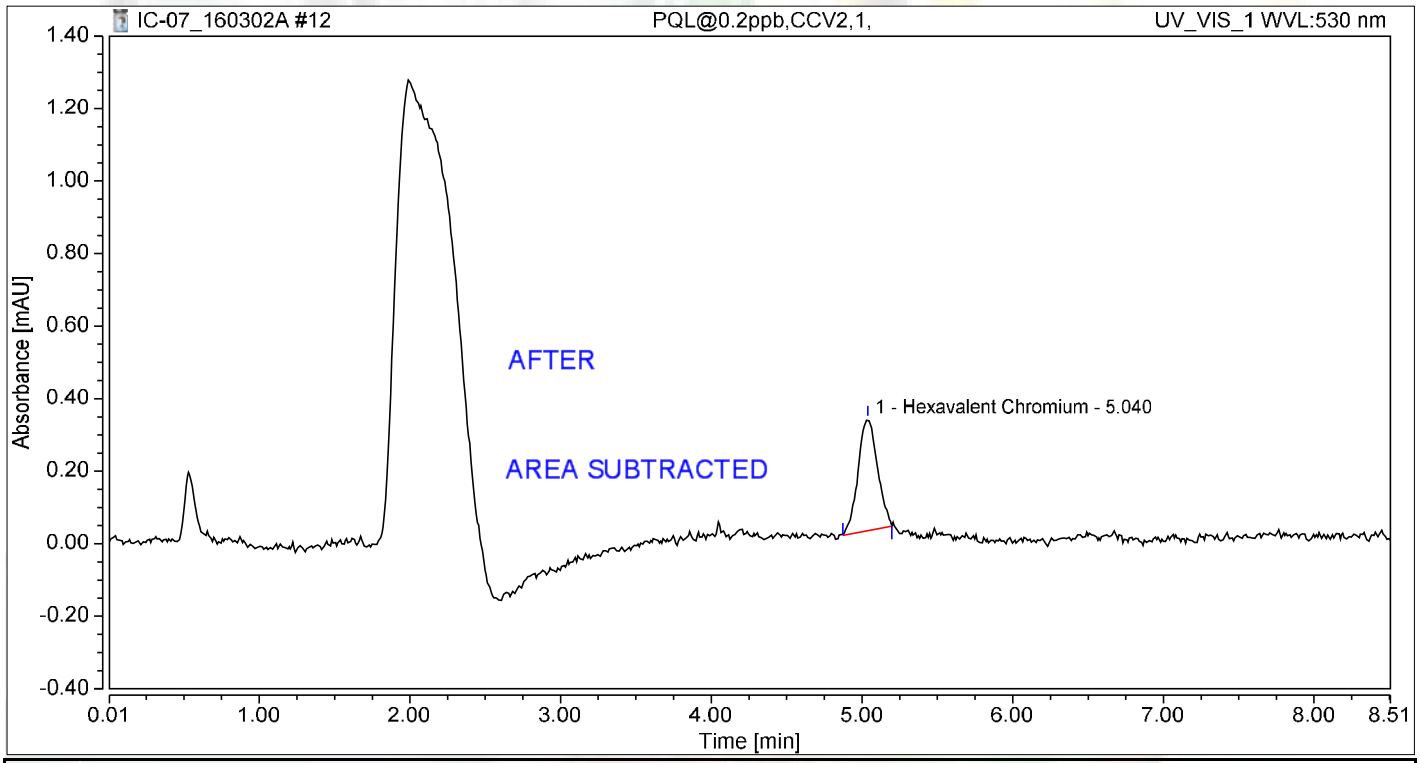
Nancy 3/10/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

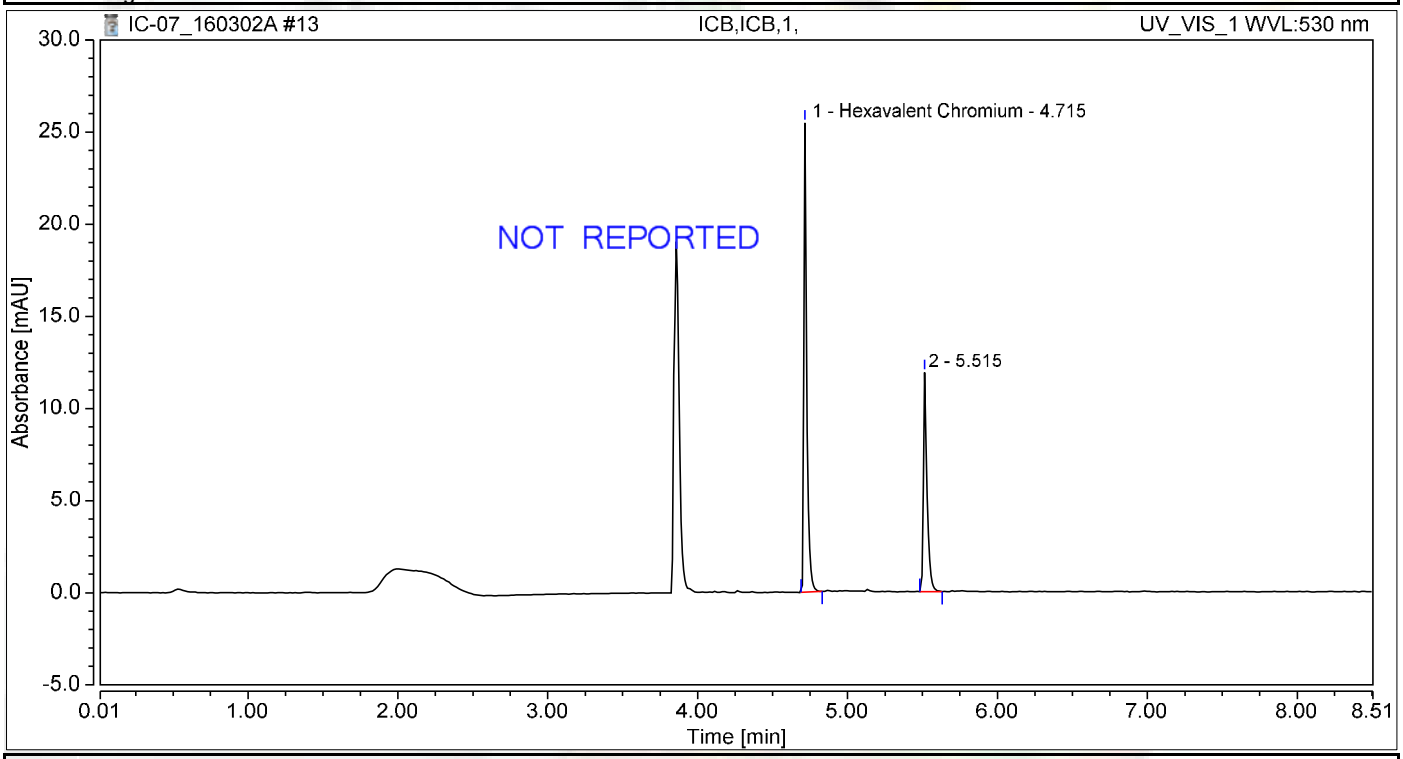
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.046	0.308	100.00	100.00	0.1909
Total:			**0.046**	**0.308**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

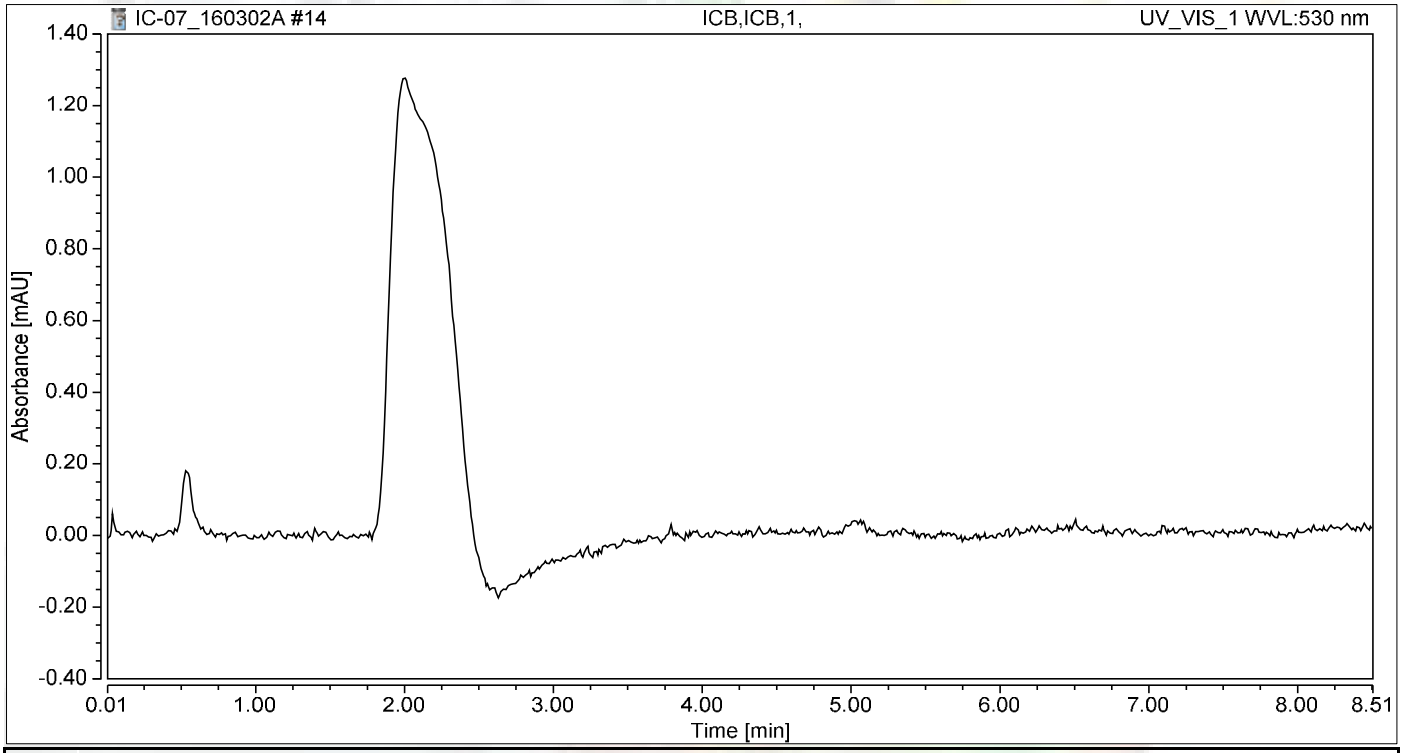
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.715	0.593	25.475	64.78	68.20	2.4601
2		5.515	0.323	11.876	35.22	31.80	n.a.
Total:			**0.916**	**37.350**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

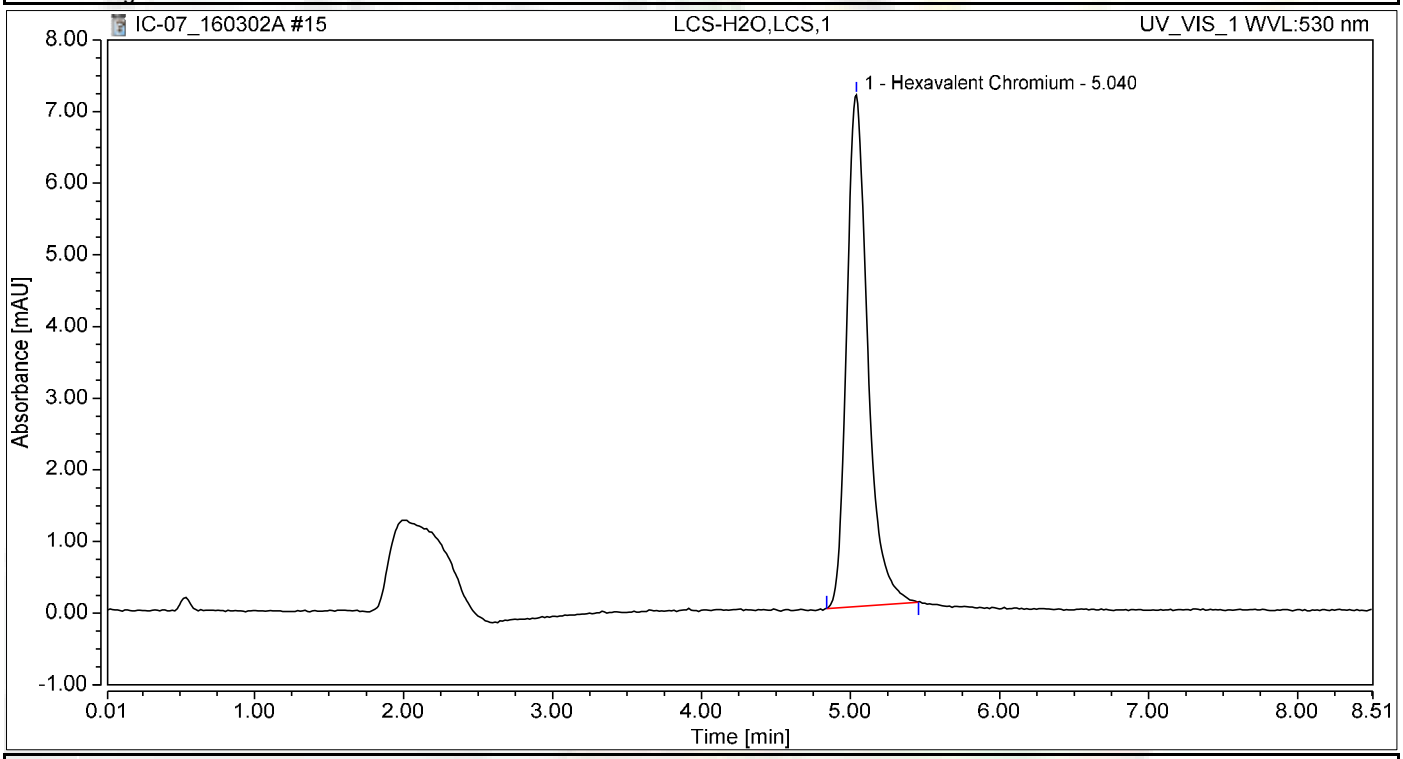
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

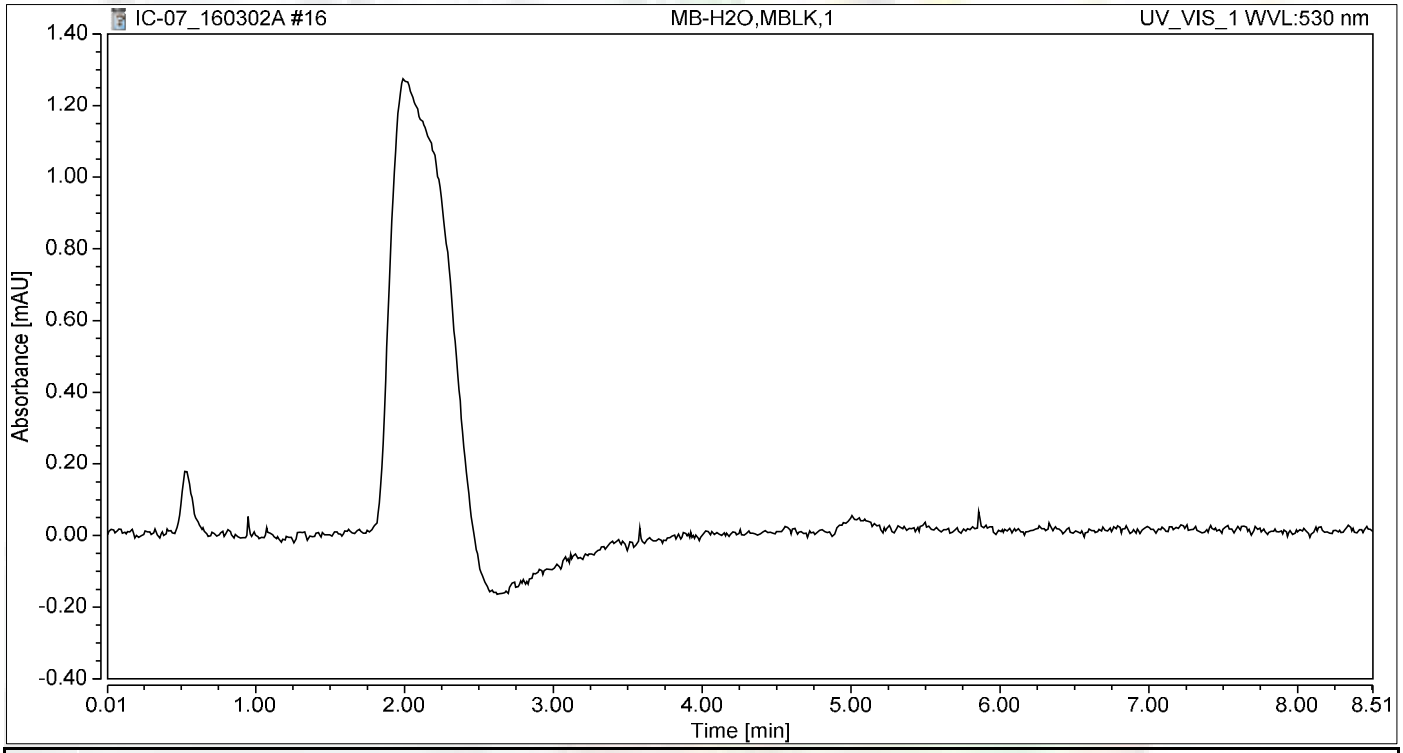
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.168	7.143	100.00	100.00	4.8409
Total:			**1.168**	**7.143**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

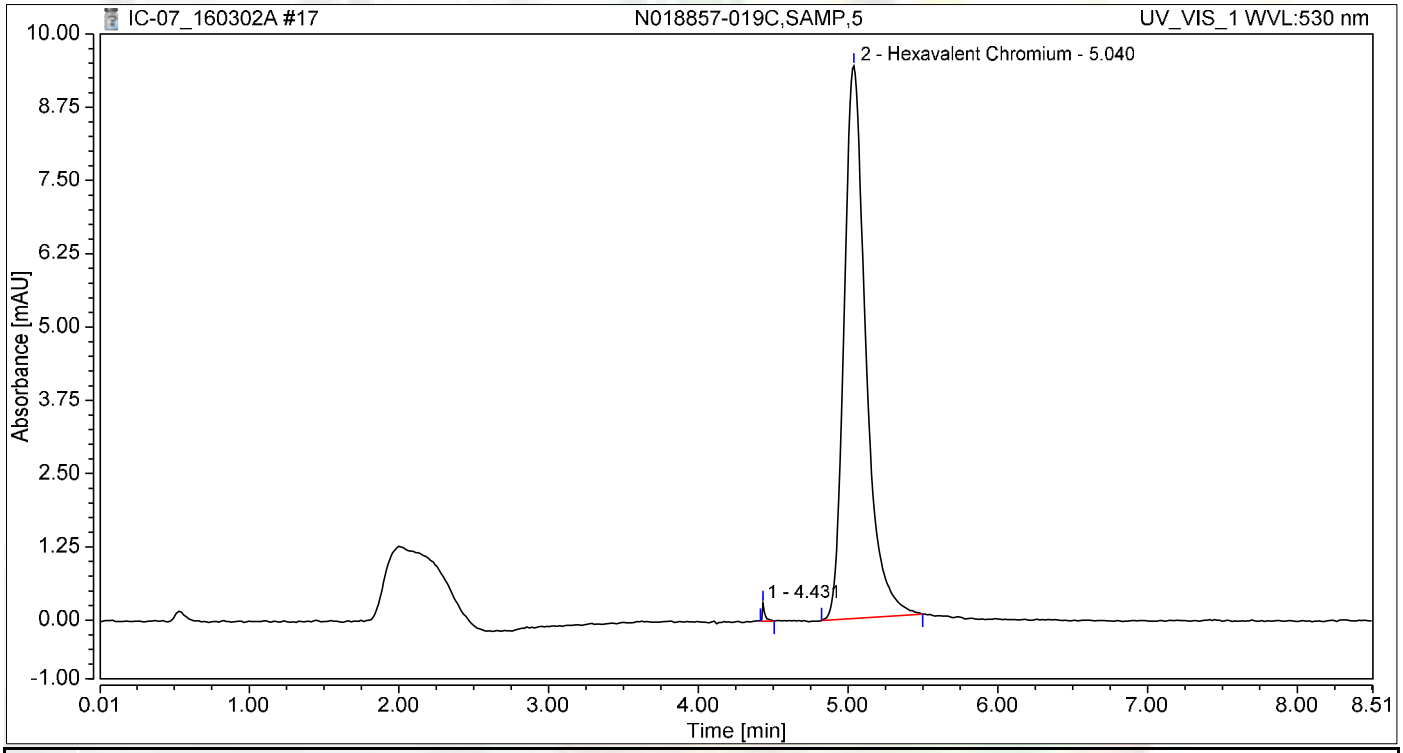
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019C,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

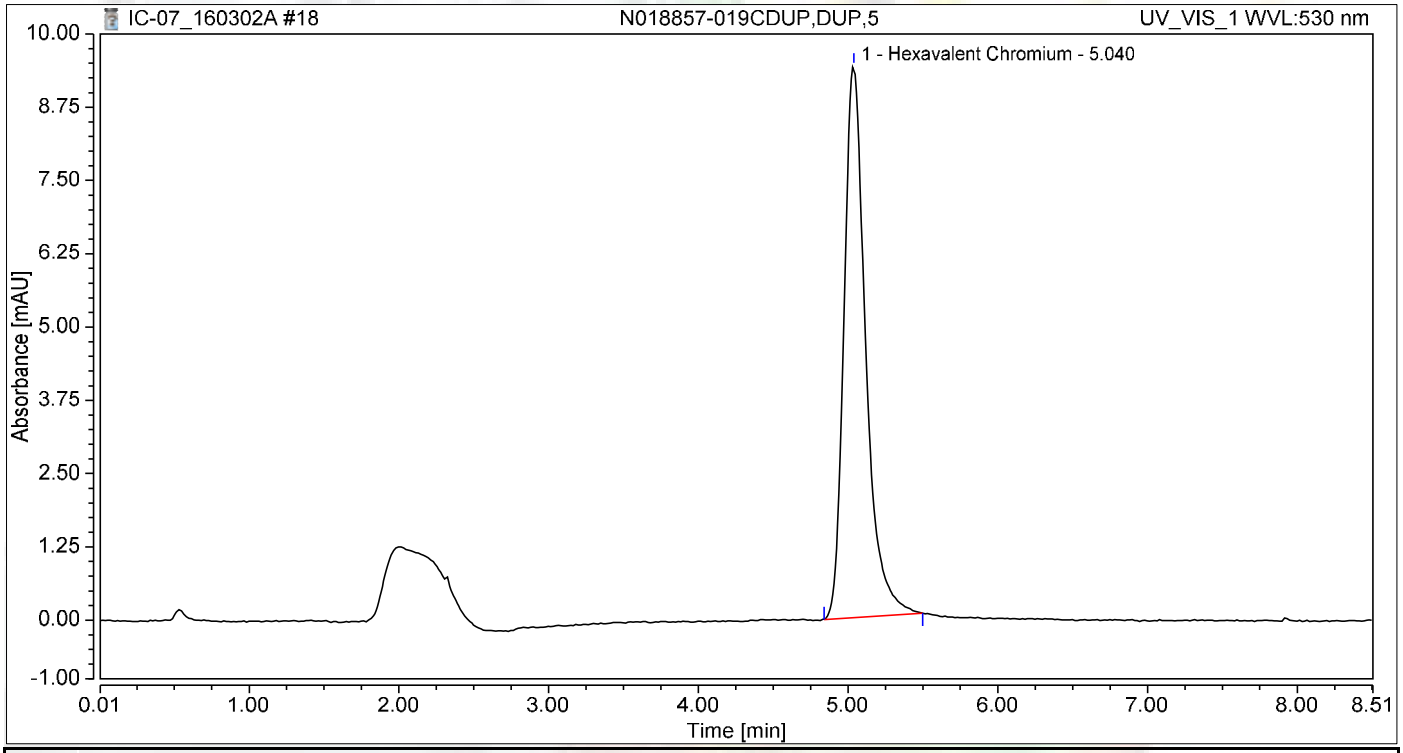
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.431	0.006	0.300	0.37	3.09	n.a.
2	Hexavalent Chromium	5.040	1.580	9.425	99.63	96.91	6.5498
Total:			**1.586**	**9.725**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019CDUP,DUP,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

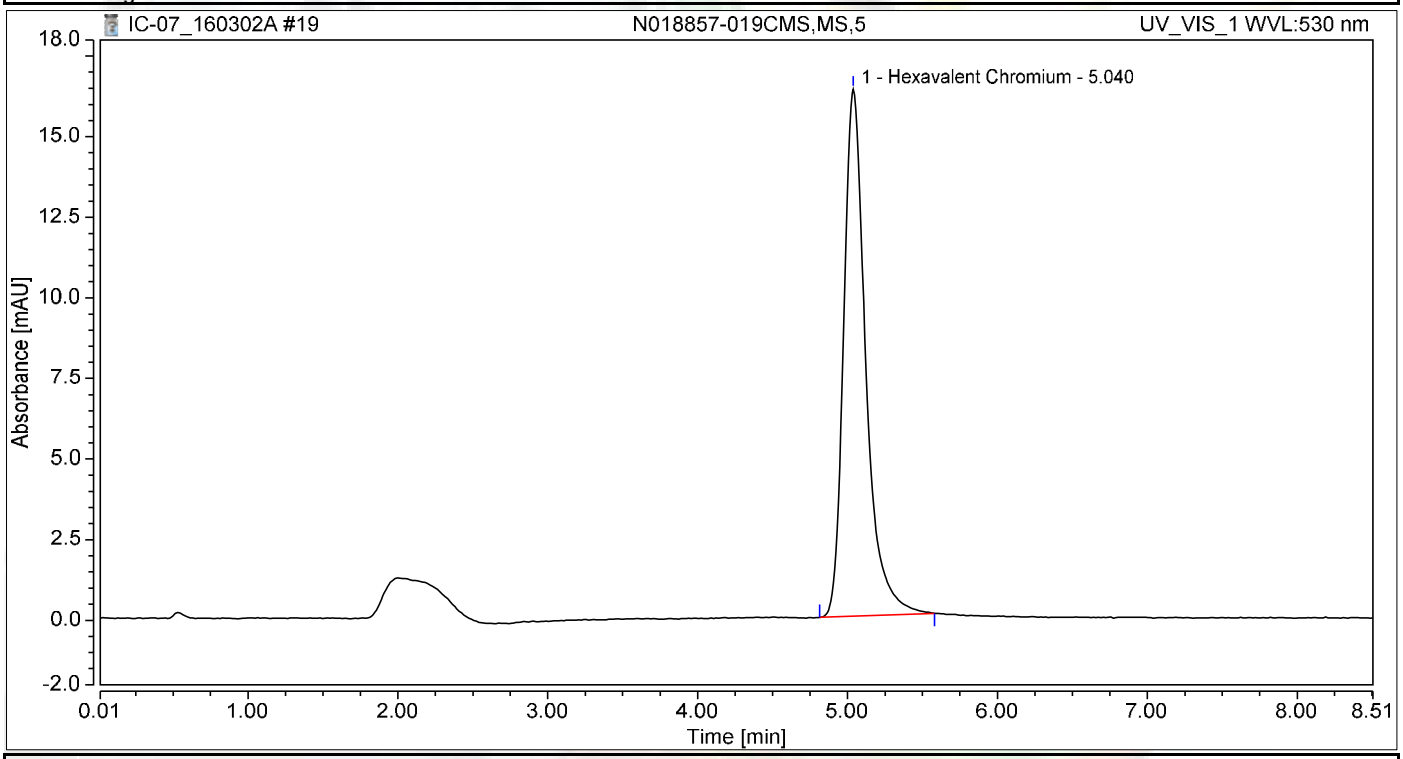
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.576	9.412	100.00	100.00	6.5345
Total:			**1.576**	**9.412**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019CMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

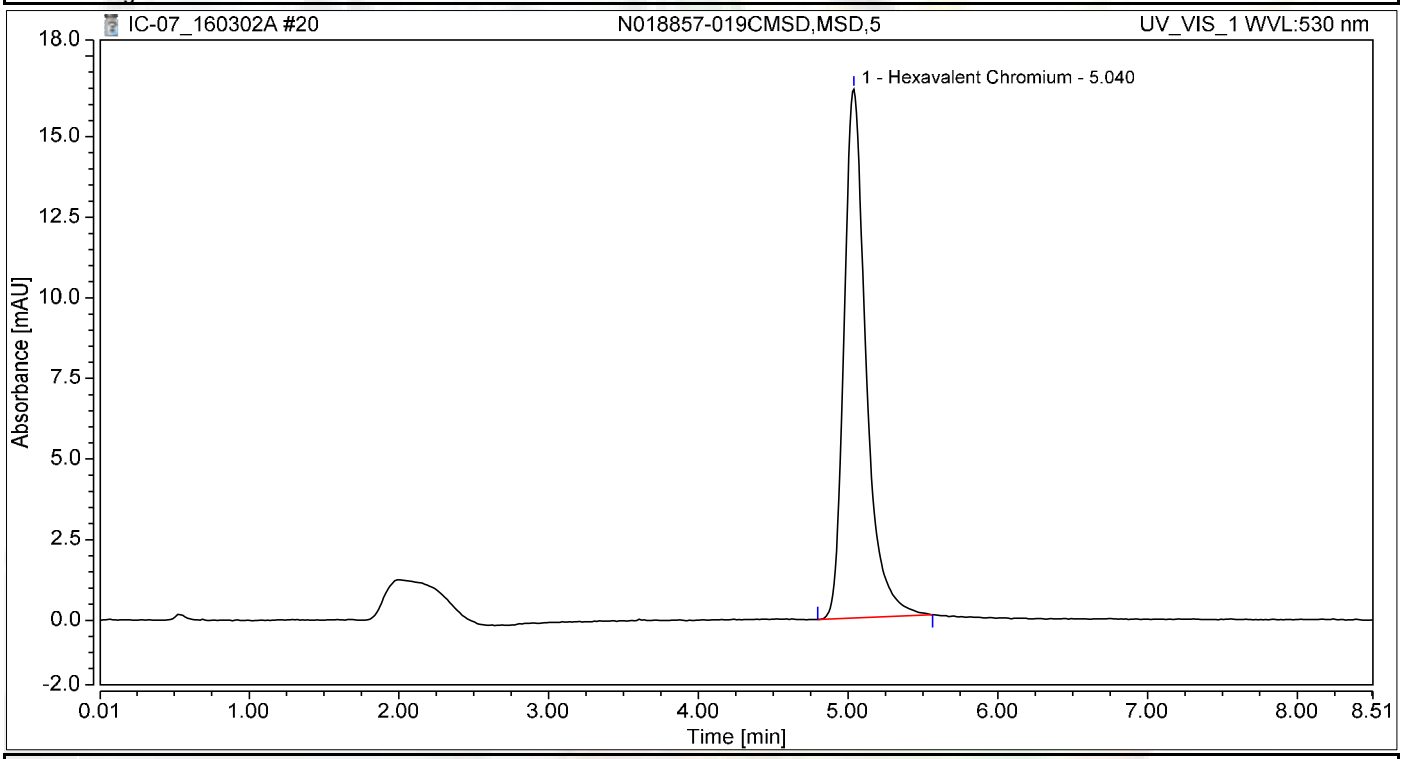
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.784	16.349	100.00	100.00	11.5408
Total:			**2.784**	**16.349**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018857-019CMSD,MSD,5**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 13:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

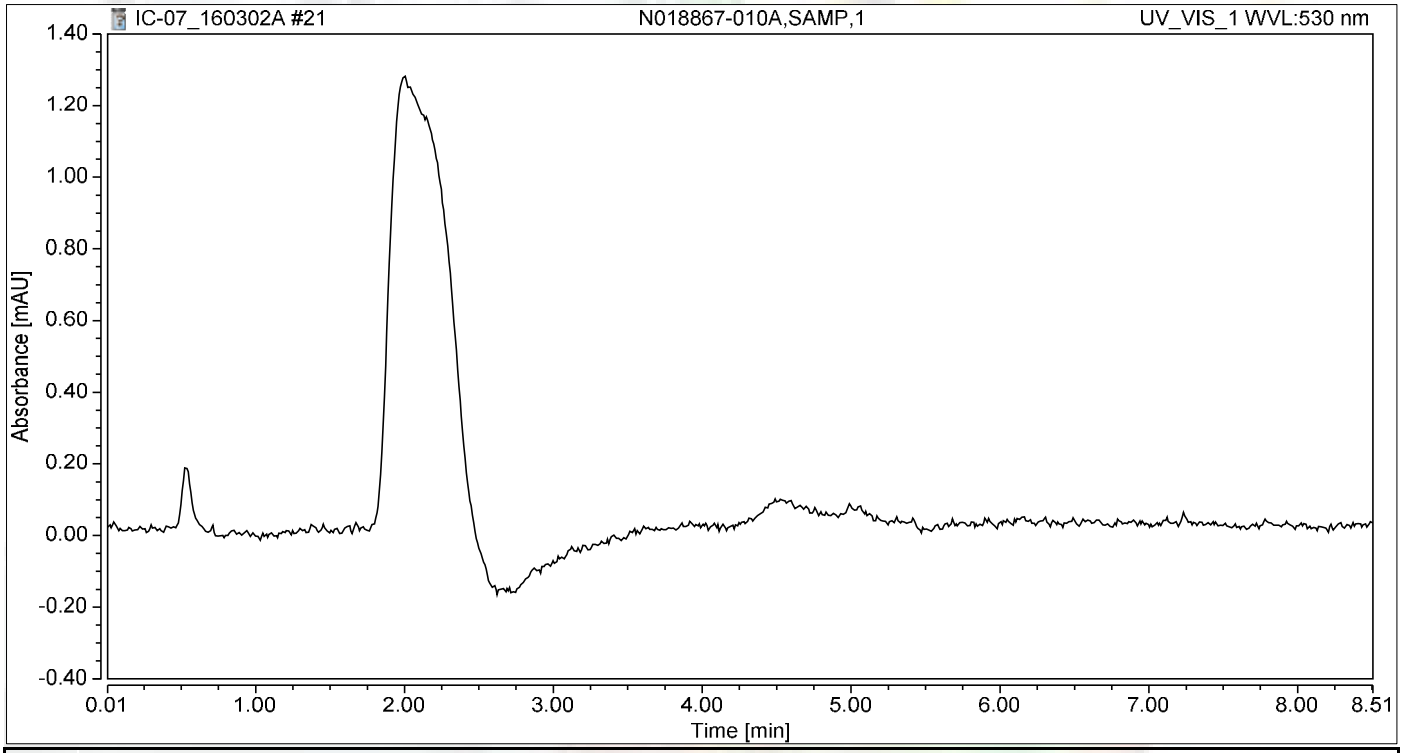
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.780	16.401	100.00	100.00	11.5253
Total:			**2.780**	**16.401**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018867-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

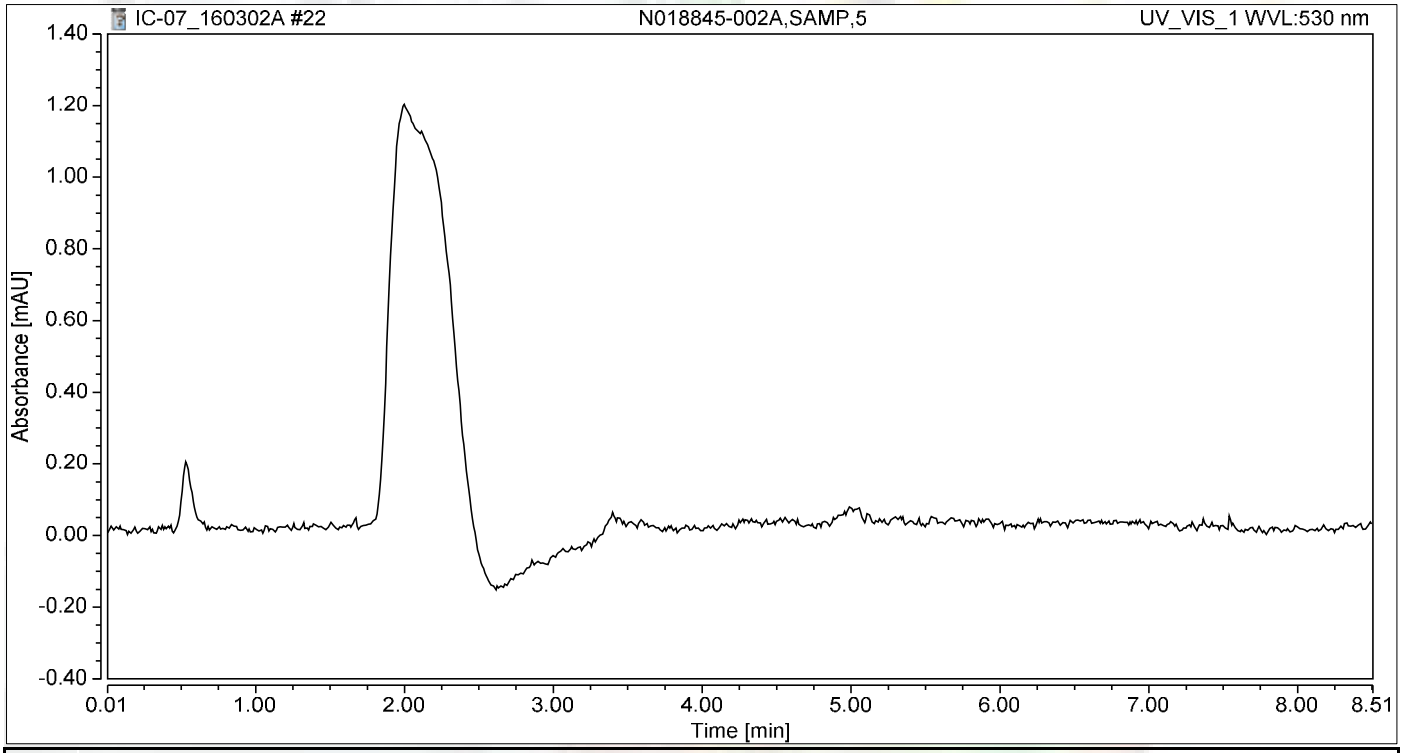
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

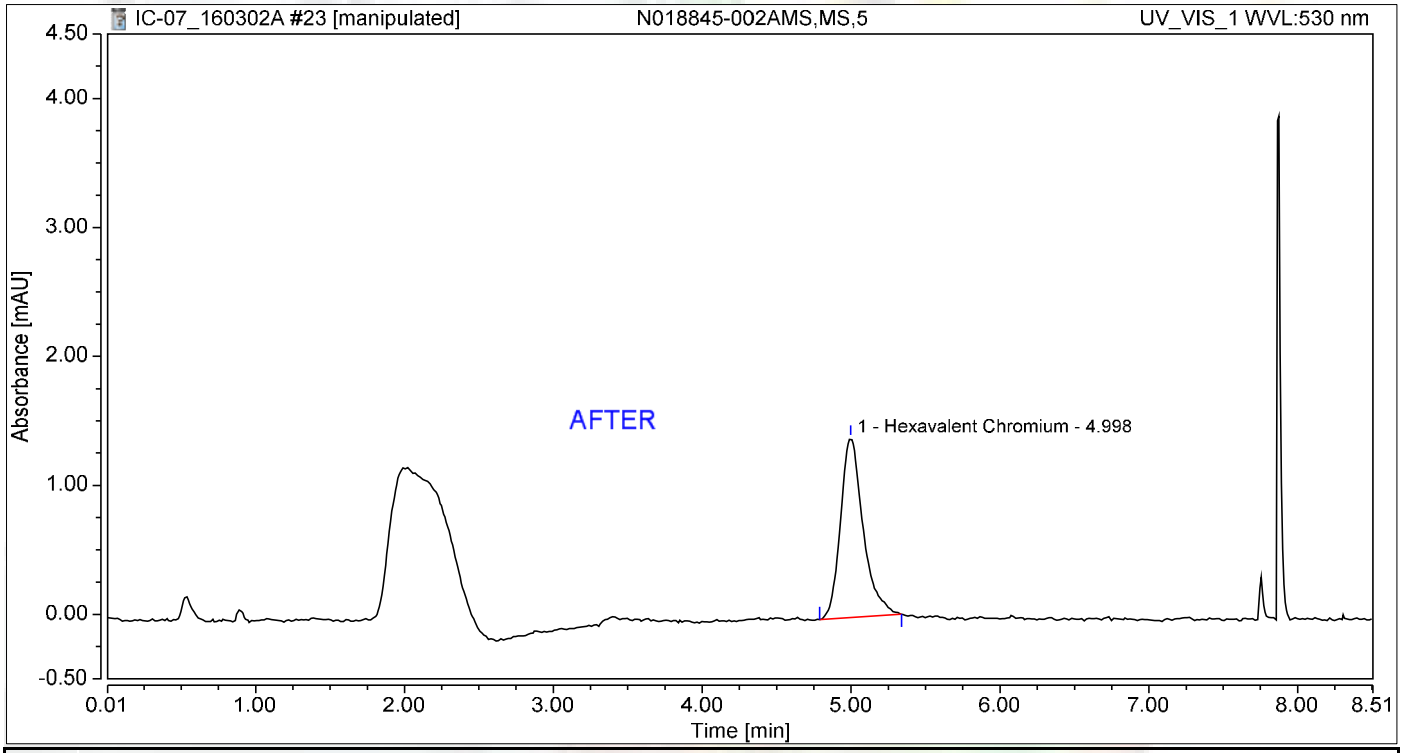
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	0.245	1.390	100.00	100.00	1.0148
Total:			**0.245**	**1.390**	**100.00**	**100.00**	

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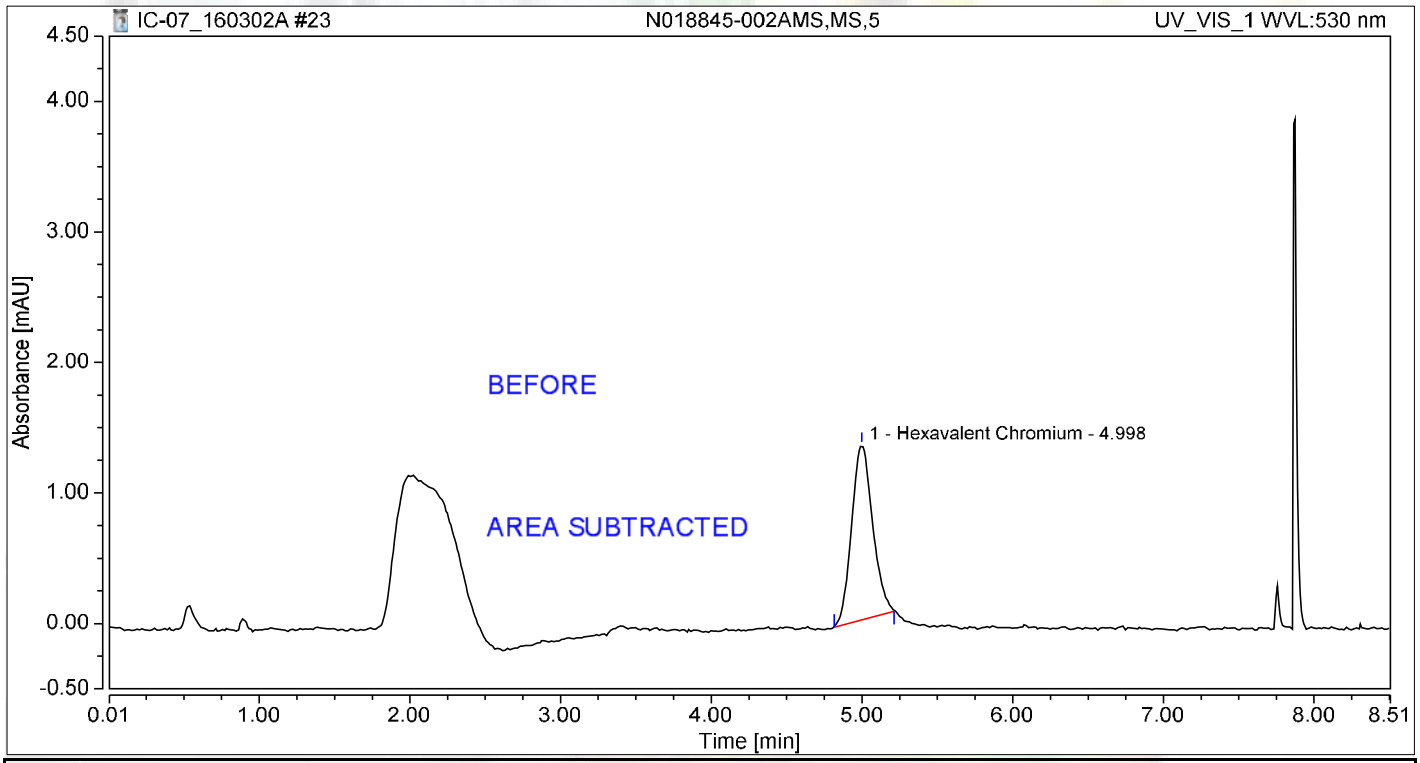
Chromatogram and Results

Injection Details

Injection Name:	**N018845-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	0.216	1.336	100.00	100.00	0.8970
Total:			**0.216**	**1.336**	**100.00**	**100.00**	

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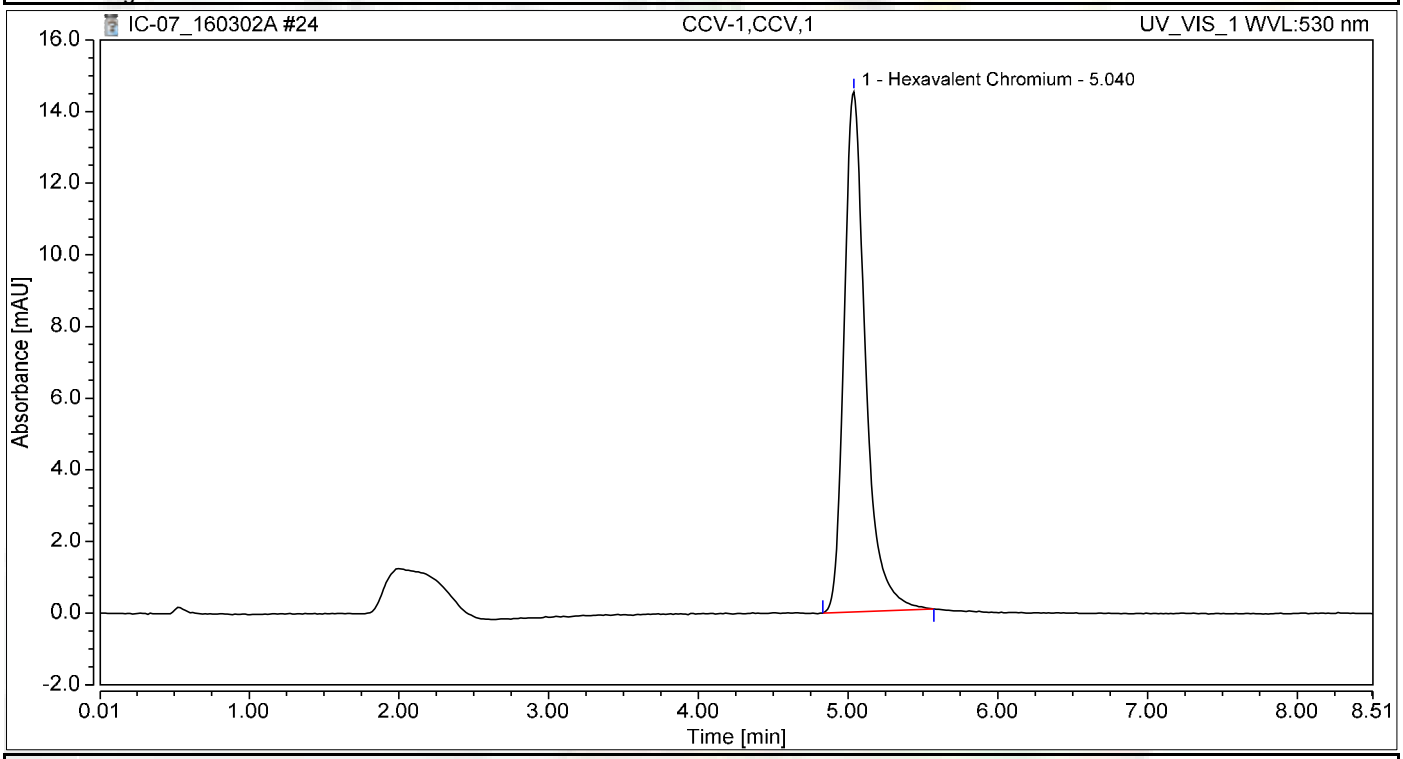
Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

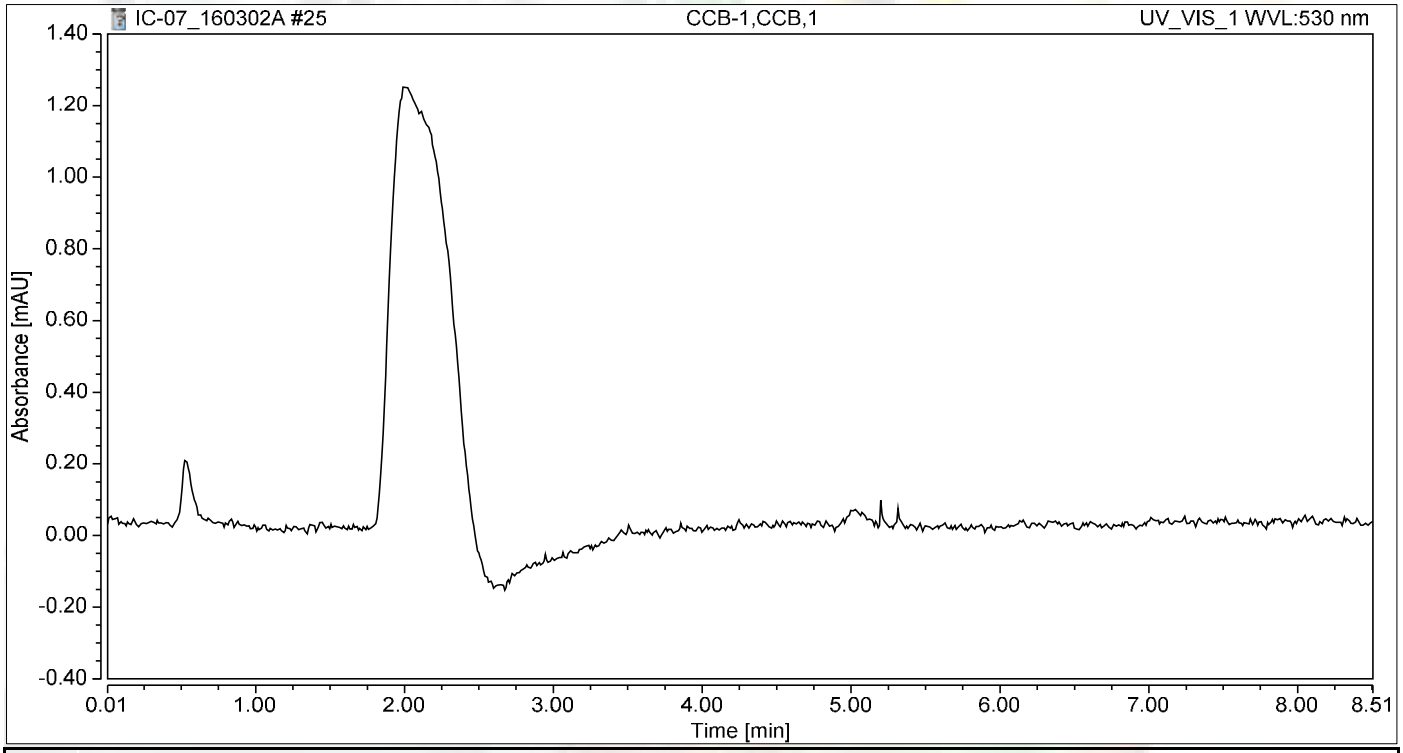
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.402	14.524	100.00	100.00	9.9597
Total:			**2.402**	**14.524**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

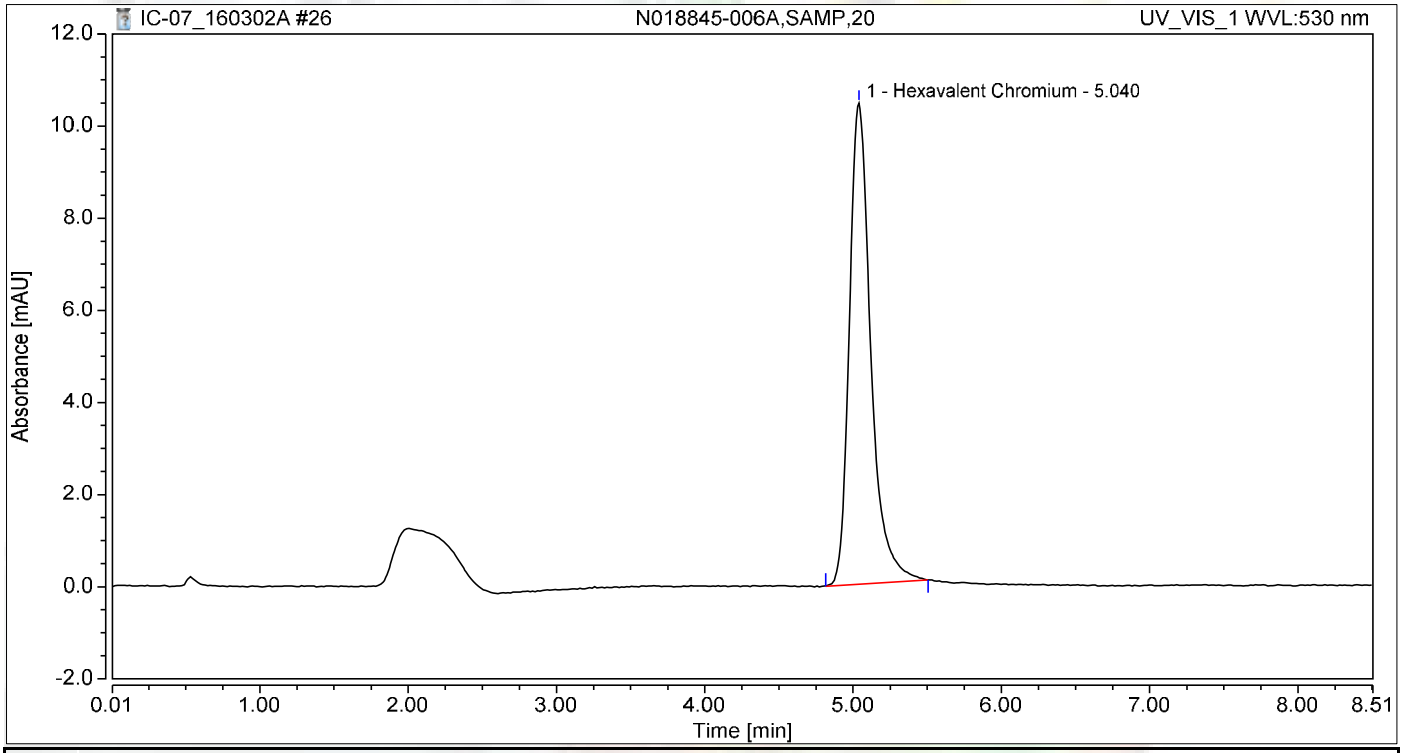
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-006A,SAMP,20**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 14:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

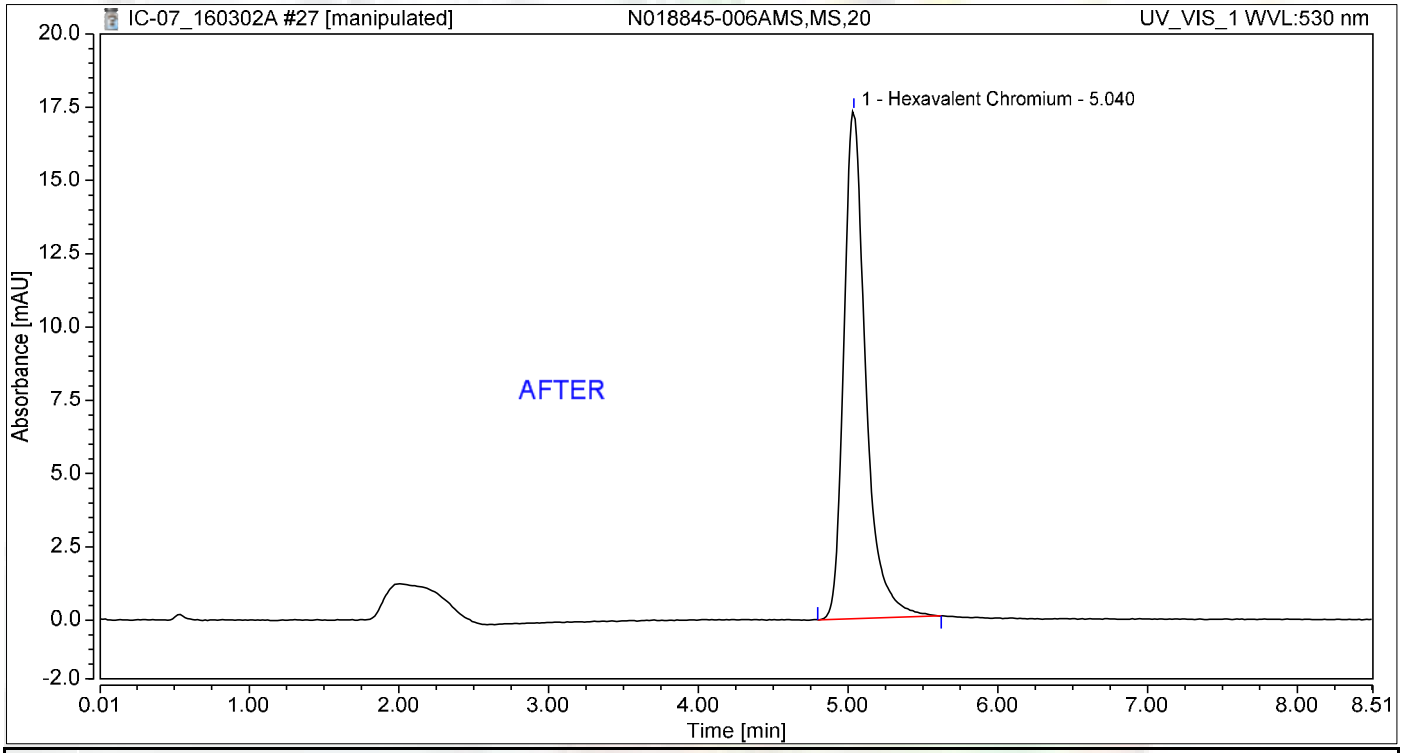
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.732	10.446	100.00	100.00	7.1812
Total:			**1.732**	**10.446**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-006AMS,MS,20**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.924	17.326	100.00	100.00	12.1206
Total:			**2.924**	**17.326**	**100.00**	**100.00**	

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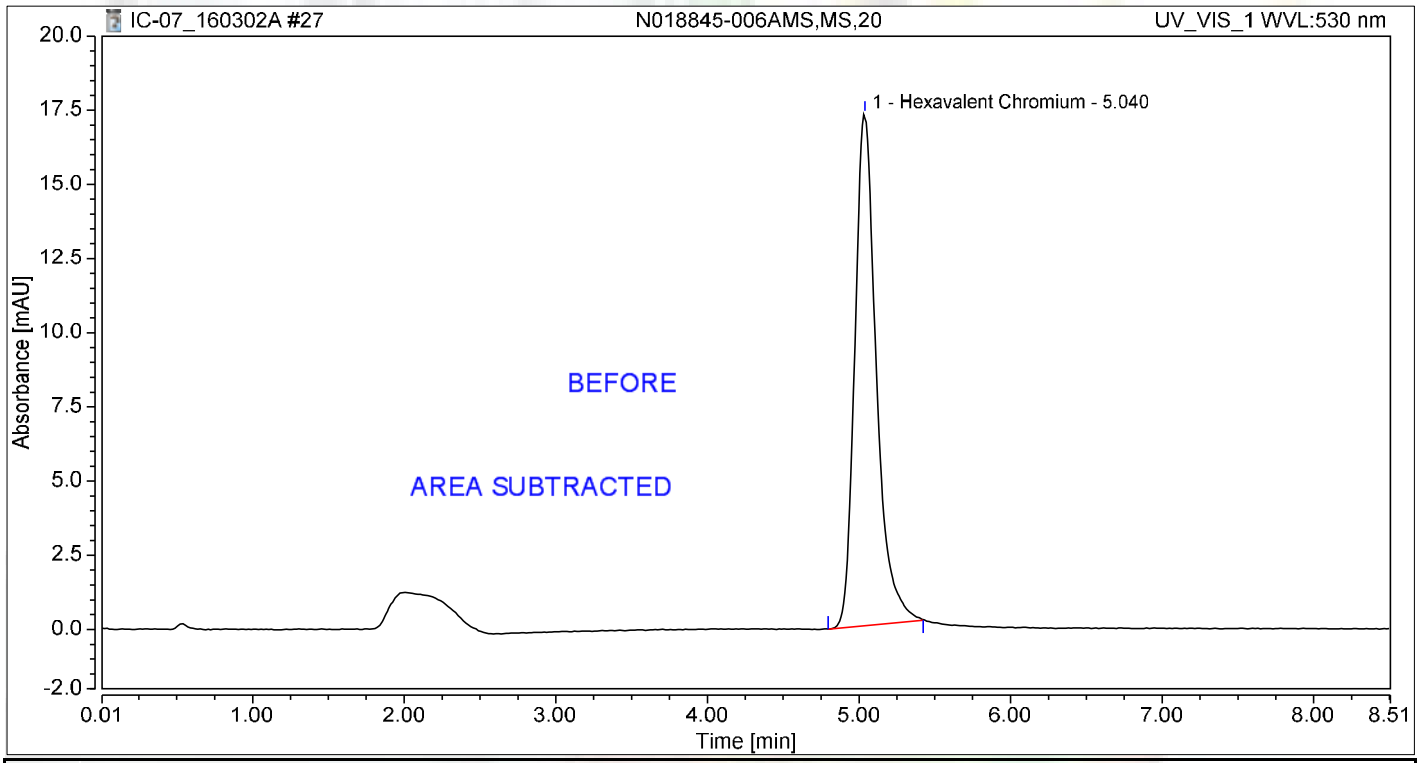
Chromatogram and Results

Injection Details

Injection Name:	**N018845-006AMS,MS,20**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.843	17.247	100.00	100.00	11.7863
Total:			**2.843**	**17.247**	**100.00**	**100.00**	

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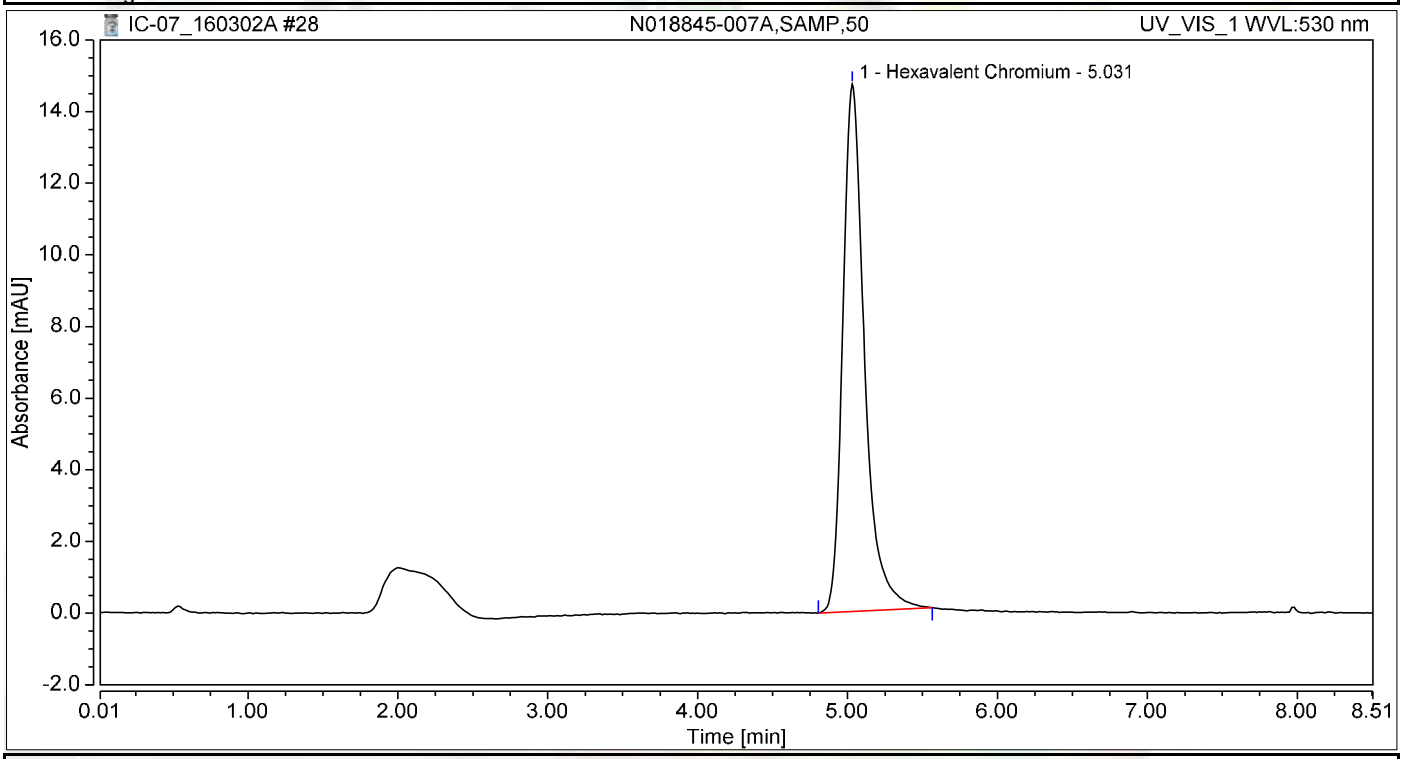
Chromatogram and Results

Injection Details

Injection Name:	**N018845-007A,SAMP,50**	*Run Time (min):*	**8.49**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

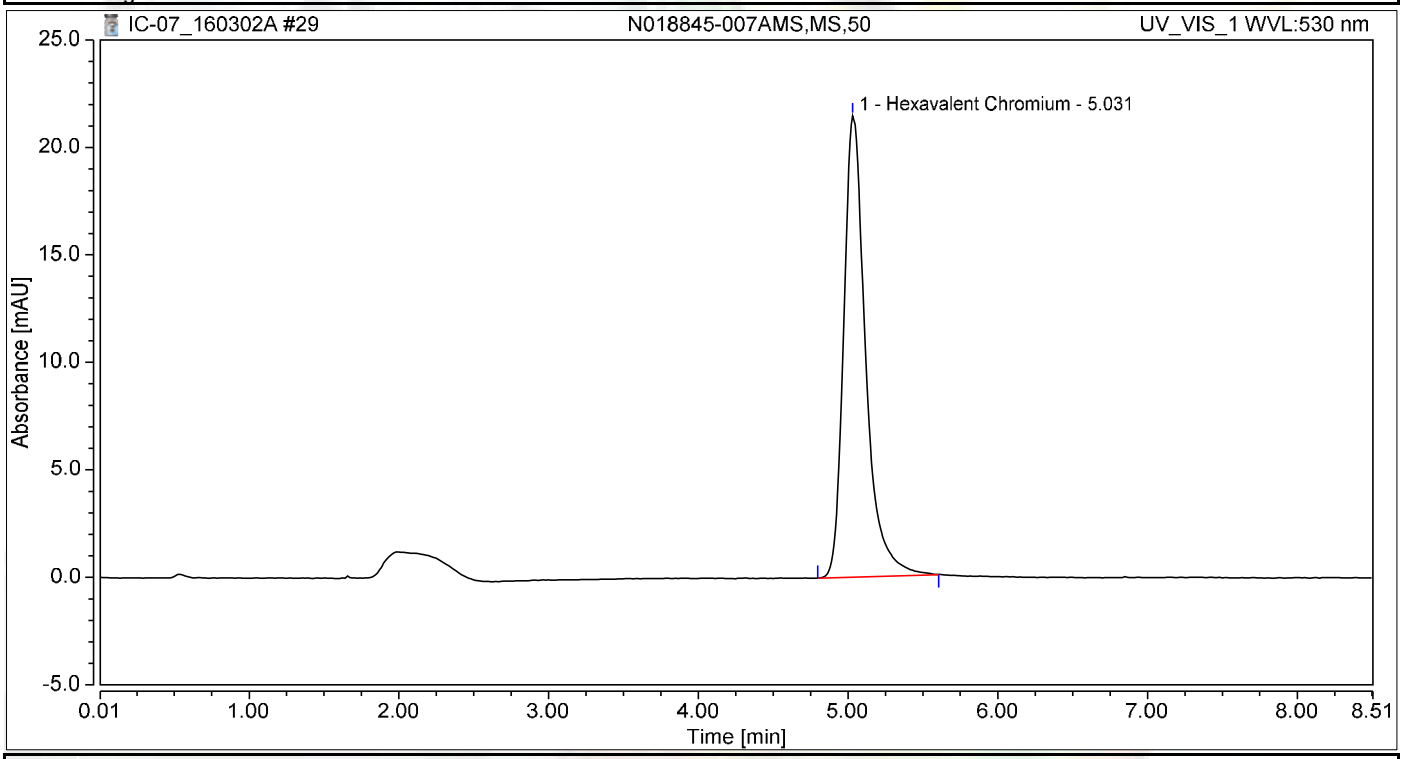
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.464	14.717	100.00	100.00	10.2155
Total:			**2.464**	**14.717**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-007AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

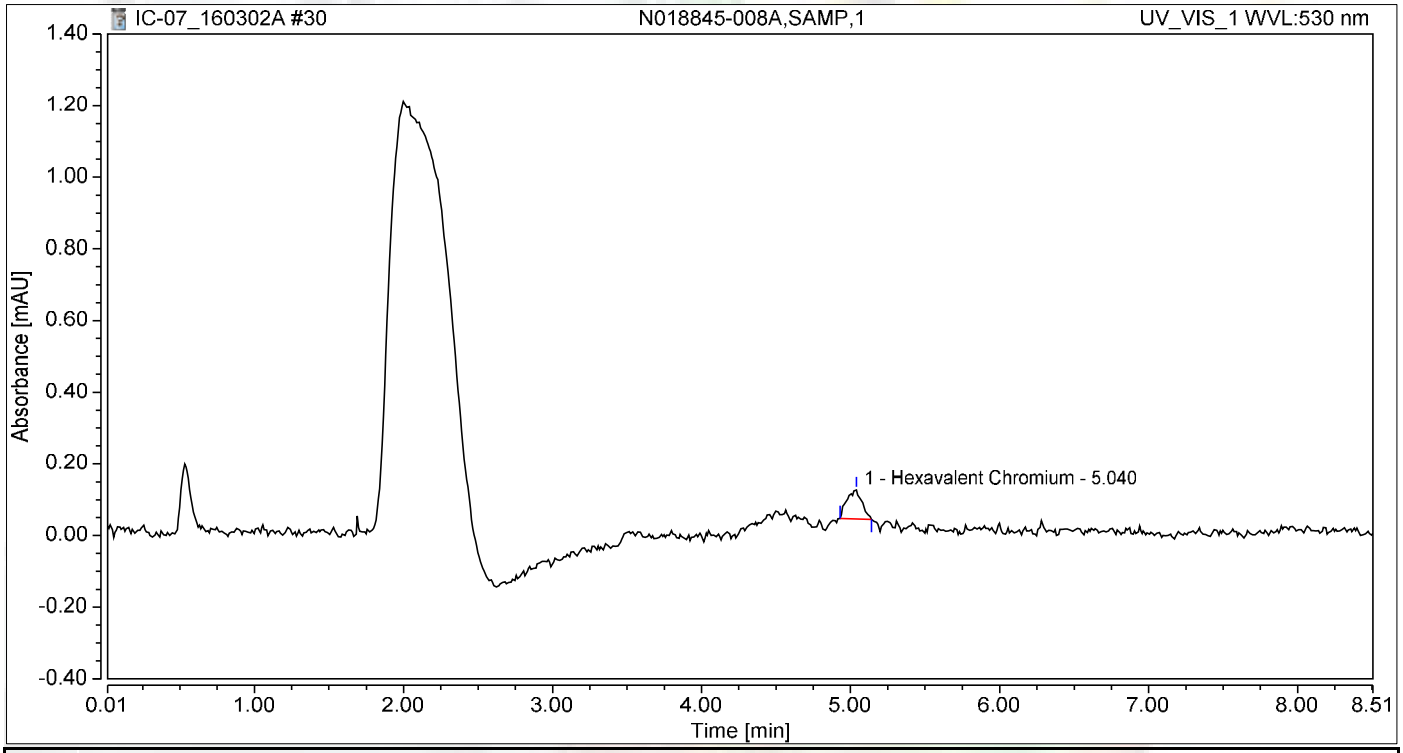
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	3.632	21.476	100.00	100.00	15.0566
Total:			**3.632**	**21.476**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

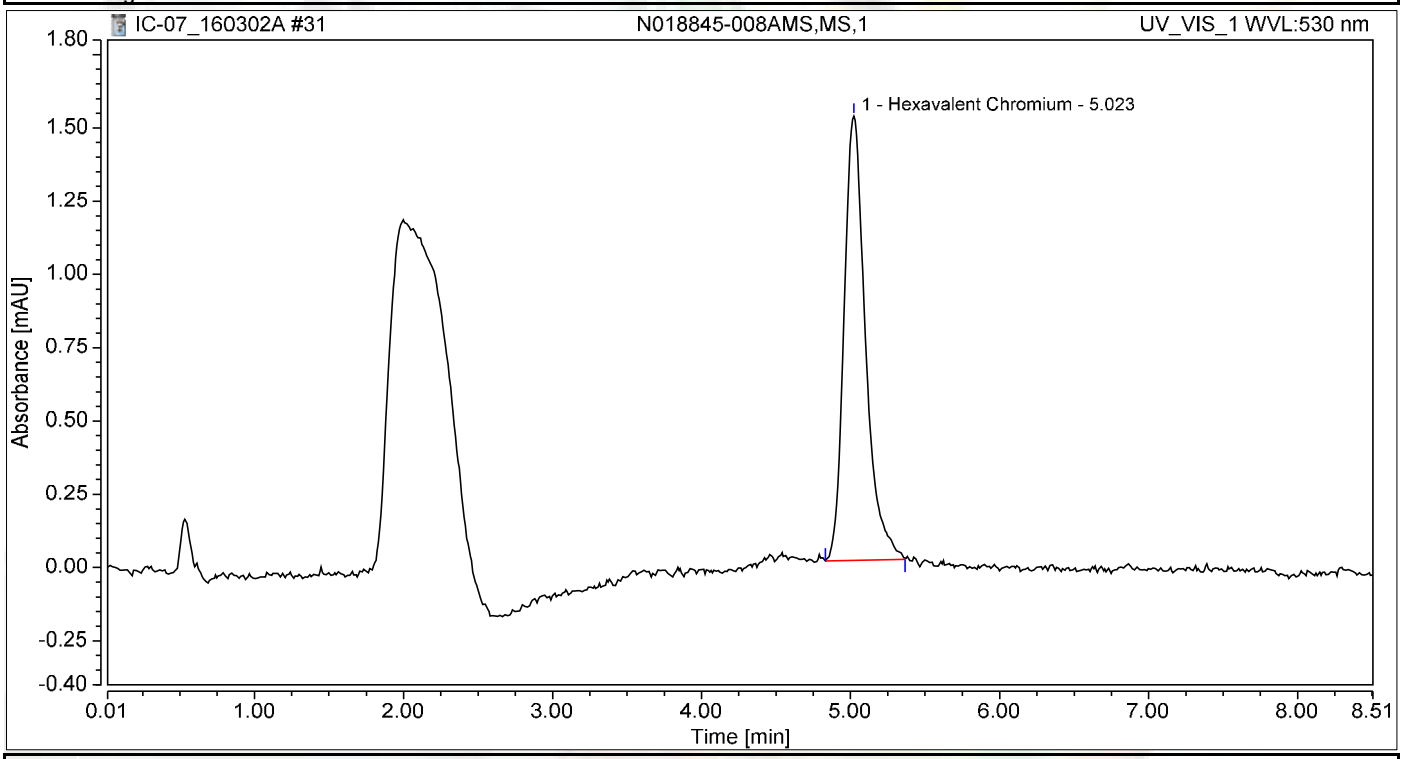
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.009	0.081	100.00	100.00	0.0393
Total:			**0.009**	**0.081**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

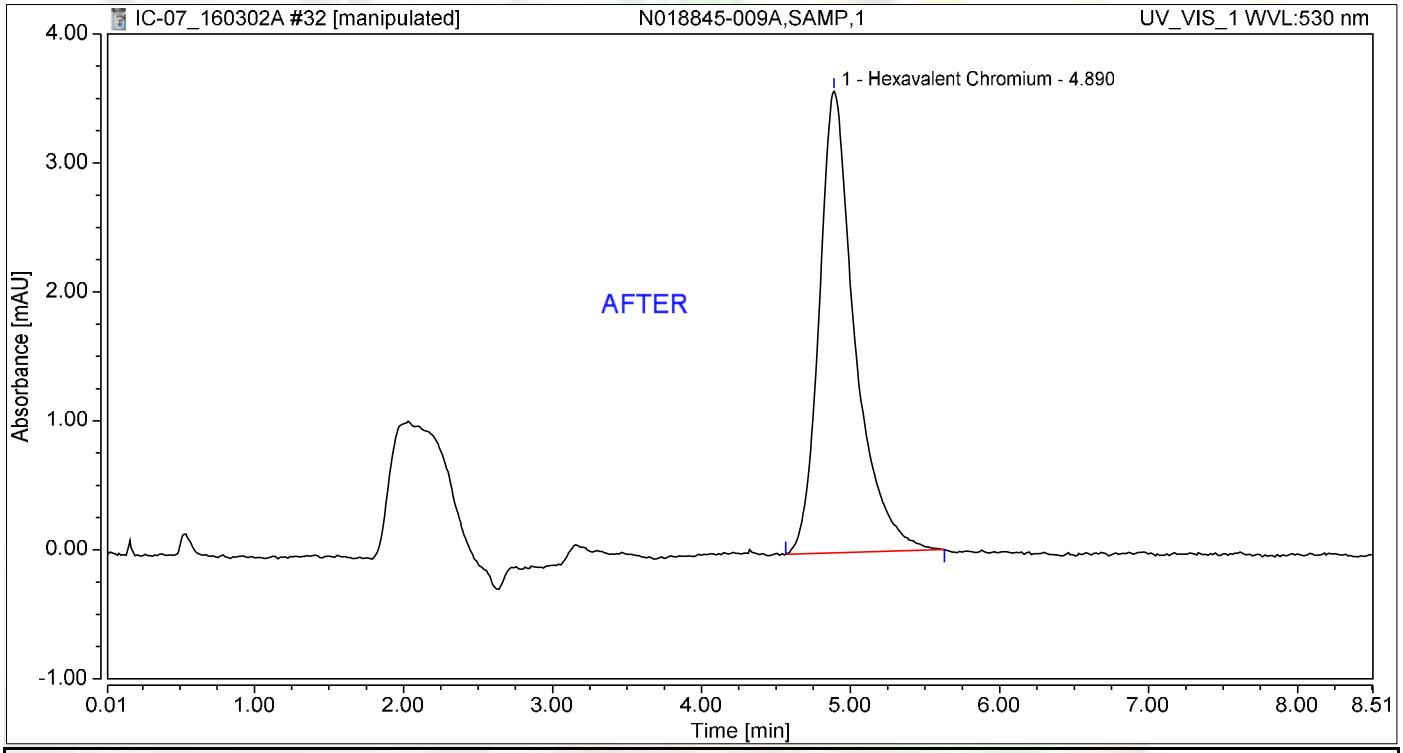
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.252	1.516	100.00	100.00	1.0434
Total:			**0.252**	**1.516**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.890	0.993	3.581	100.00	100.00	4.1149
Total:			**0.993**	**3.581**	**100.00**	**100.00**	

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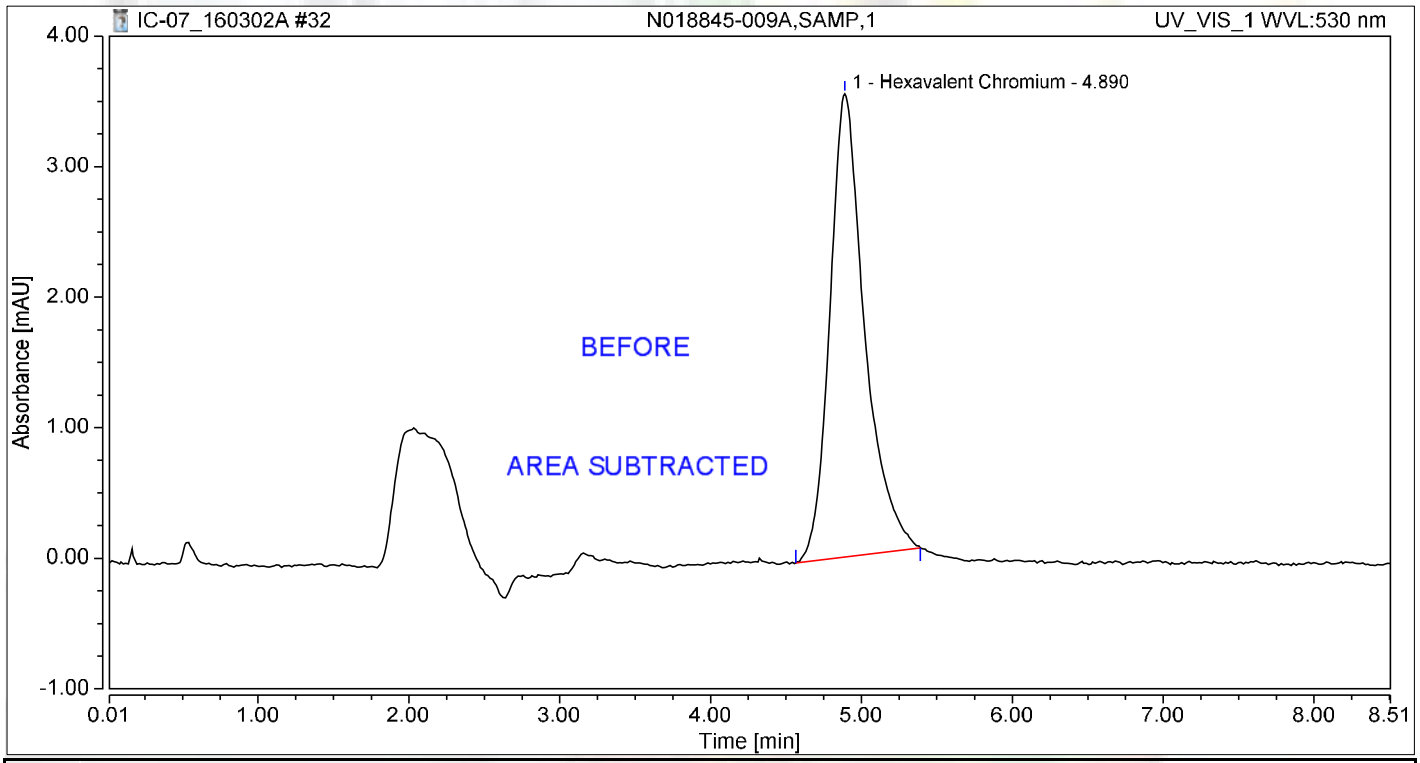
Chromatogram and Results

Injection Details

Injection Name:	**N018845-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.890	0.950	3.547	100.00	100.00	3.9365
Total:			**0.950**	**3.547**	**100.00**	**100.00**	

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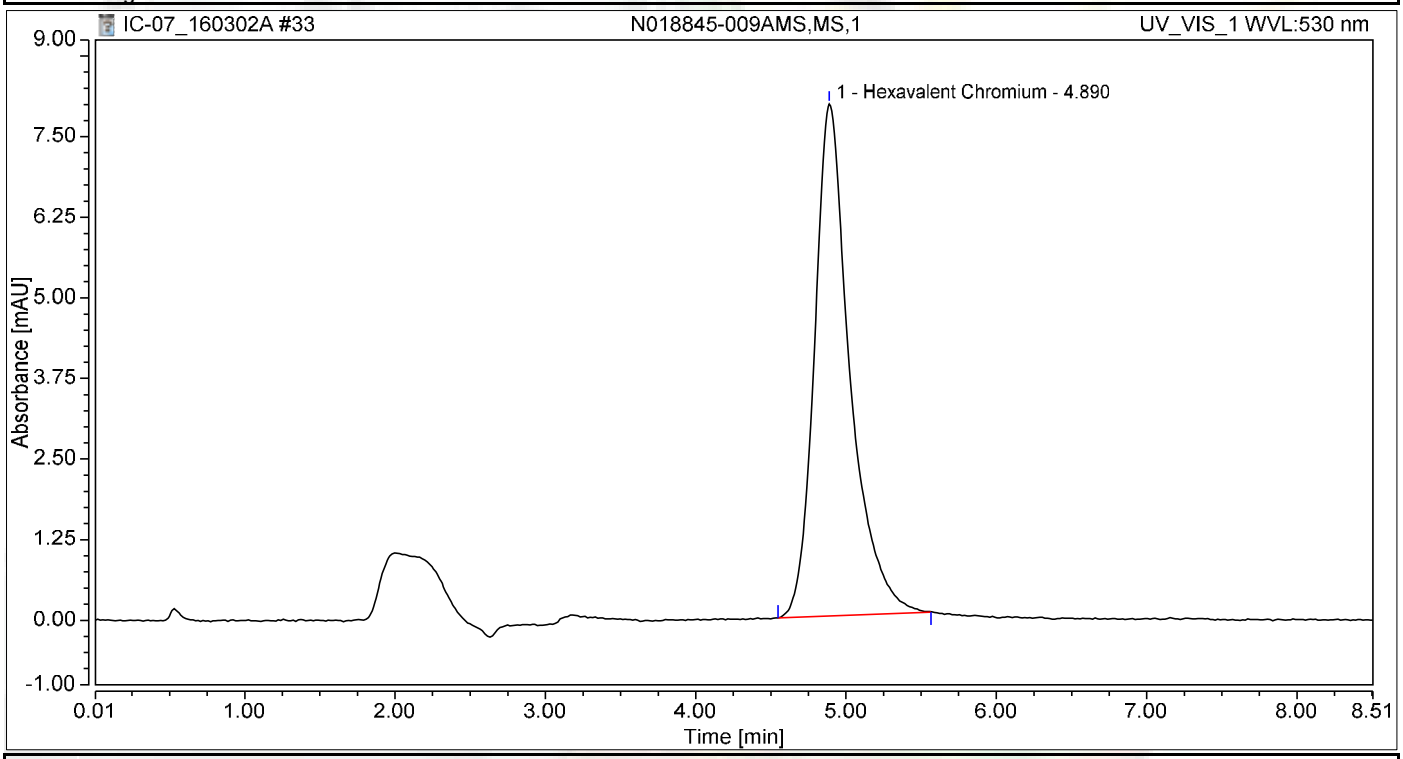
Chromatogram and Results

Injection Details

Injection Name:	**N018845-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 15:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

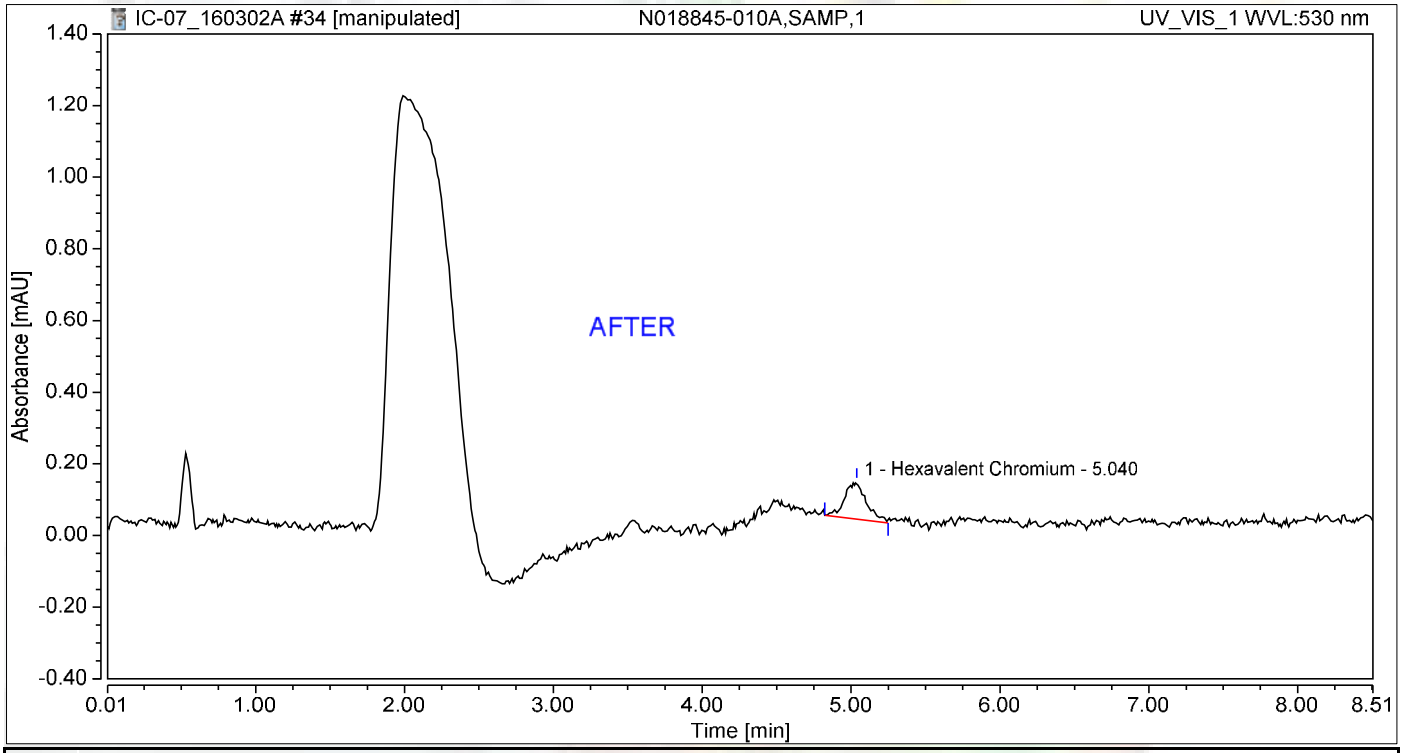
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.890	2.175	7.939	100.00	100.00	9.0180
Total:			**2.175**	**7.939**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018845-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.017	0.106	100.00	100.00	0.0720
Total:			**0.017**	**0.106**	**100.00**	**100.00**	

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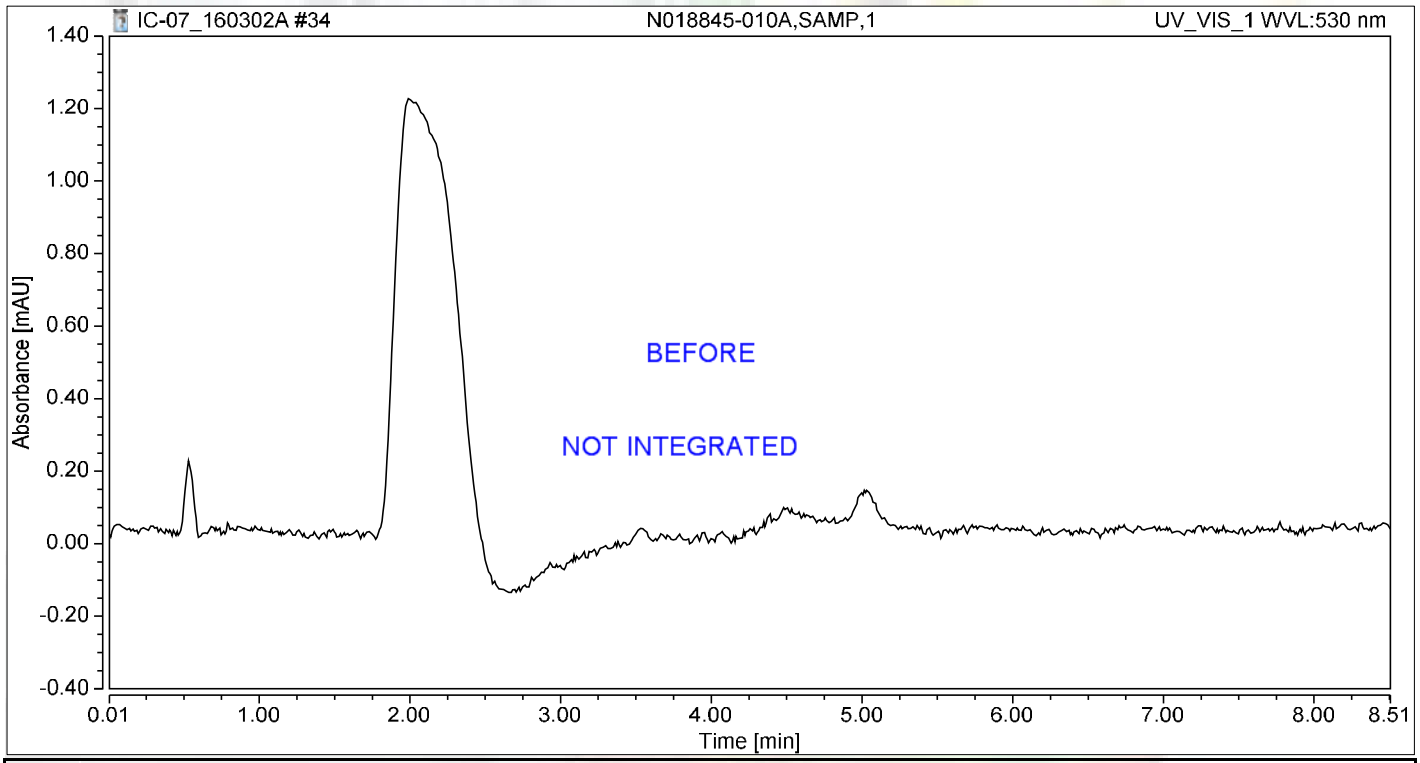
Chromatogram and Results

Injection Details

Injection Name:	**N018845-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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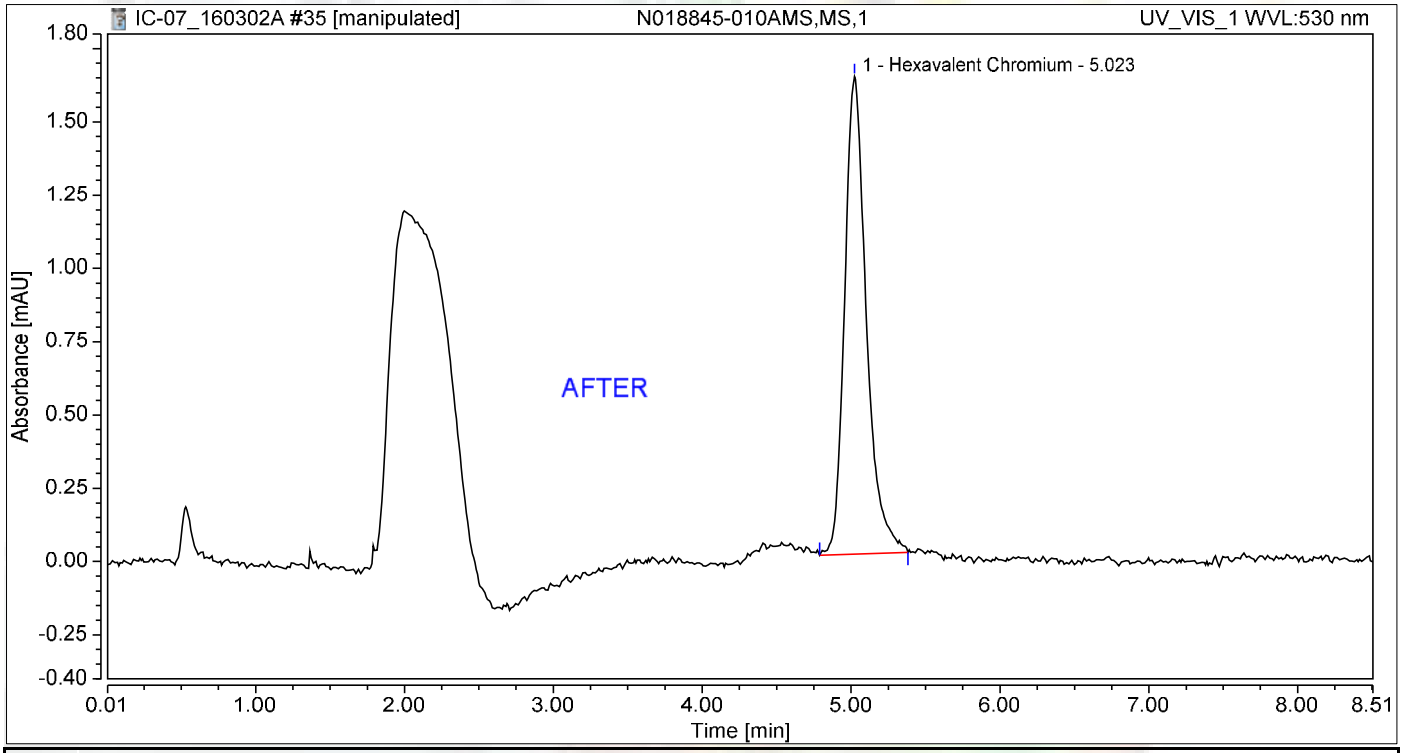
Chromatogram and Results

Injection Details

Injection Name:	**N018845-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.274	1.629	100.00	100.00	1.1369
Total:			**0.274**	**1.629**	**100.00**	**100.00**	

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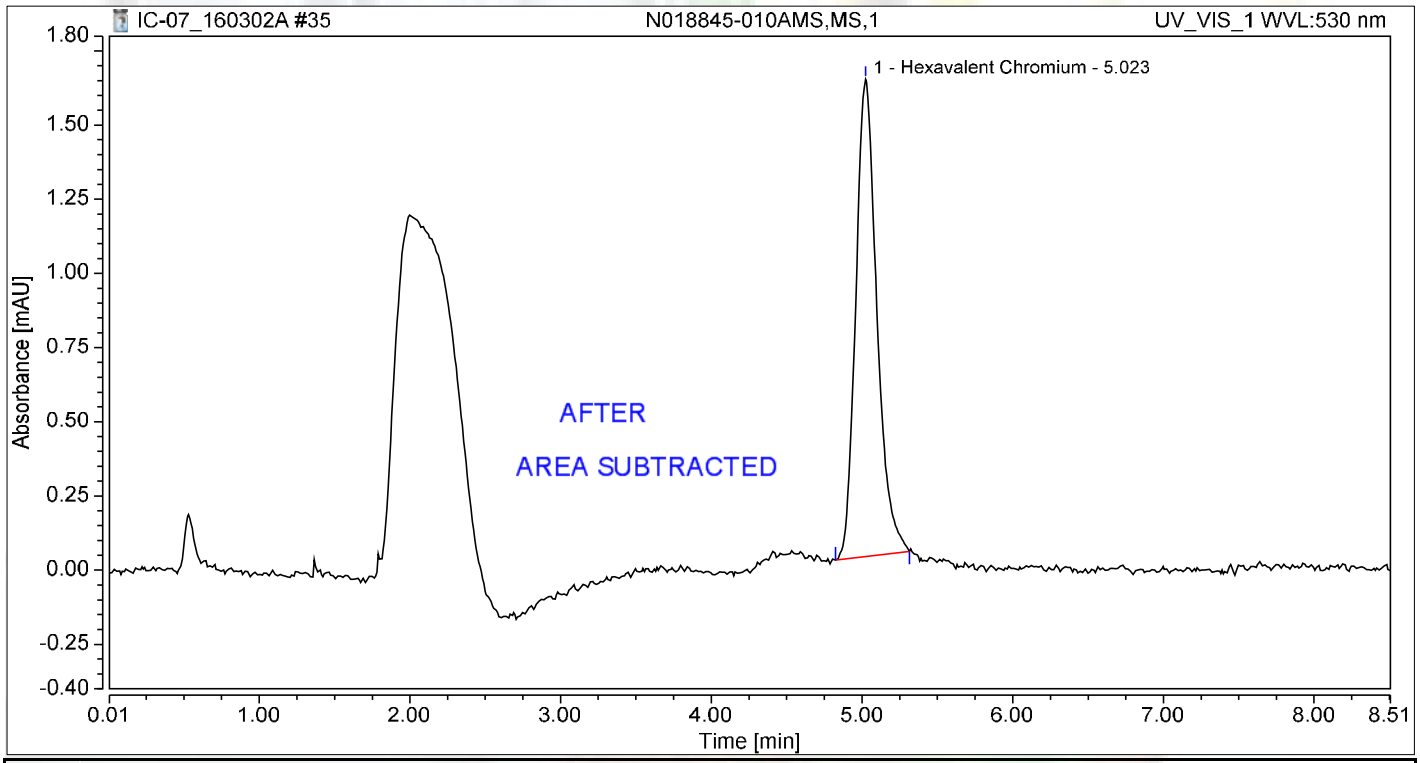
Chromatogram and Results

Injection Details

Injection Name:	**N018845-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.261	1.608	100.00	100.00	1.0820
Total:			**0.261**	**1.608**	**100.00**	**100.00**	

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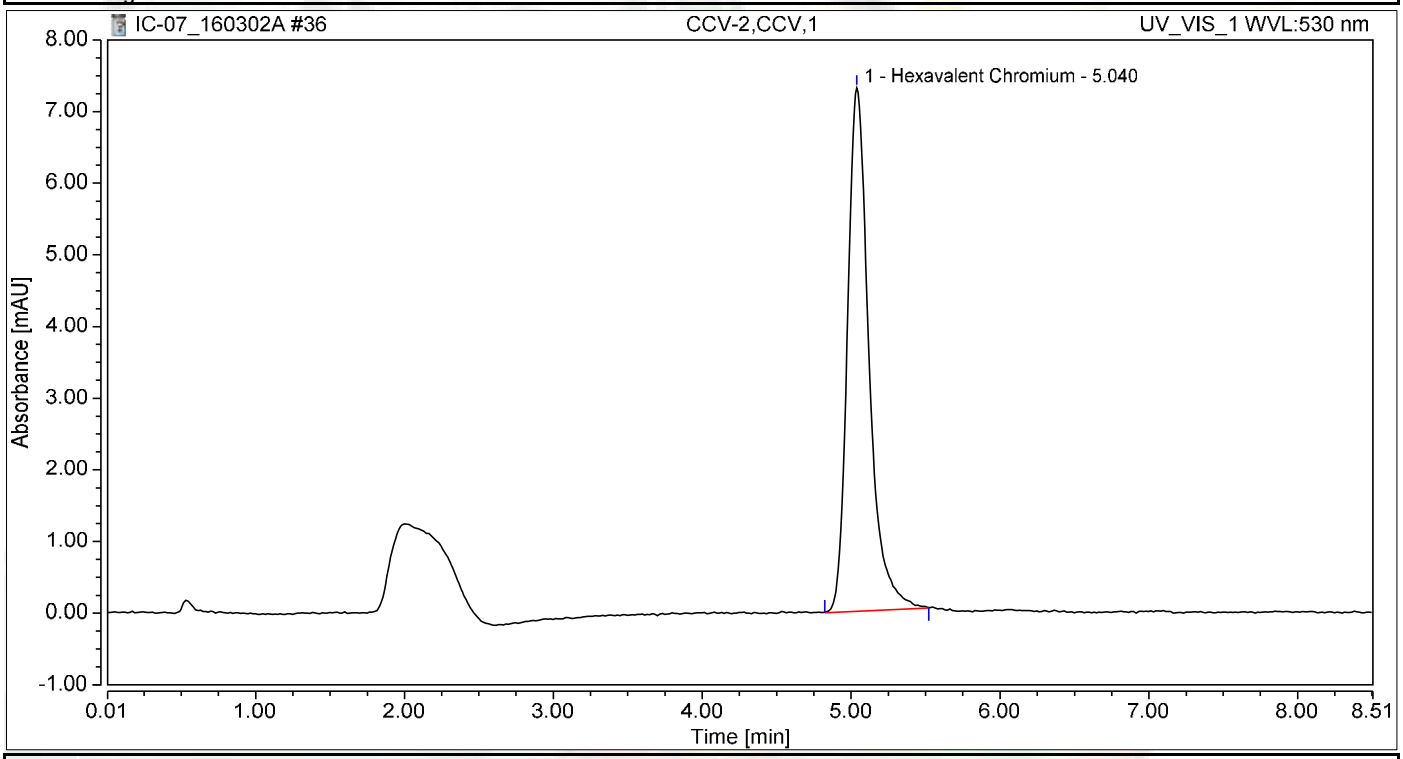
Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

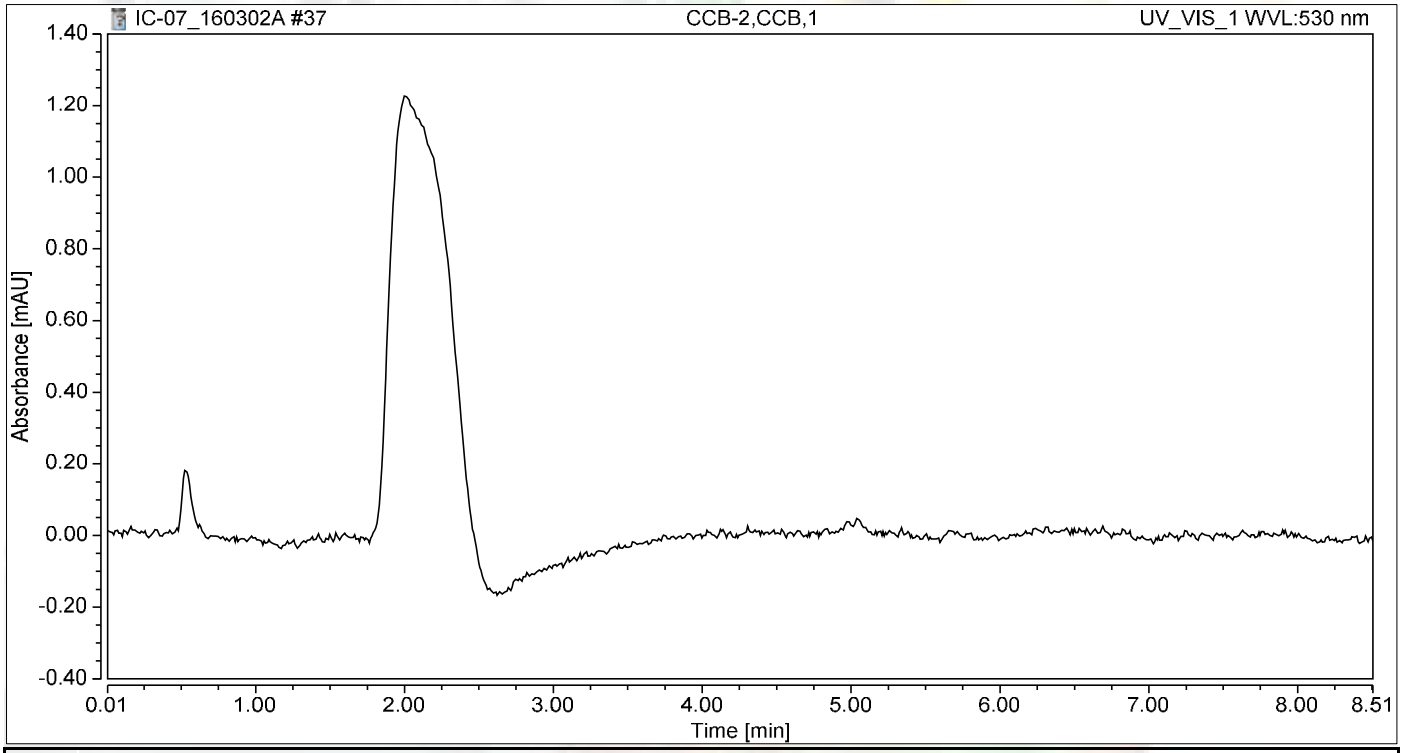
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.212	7.300	100.00	100.00	5.0248
Total:			**1.212**	**7.300**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

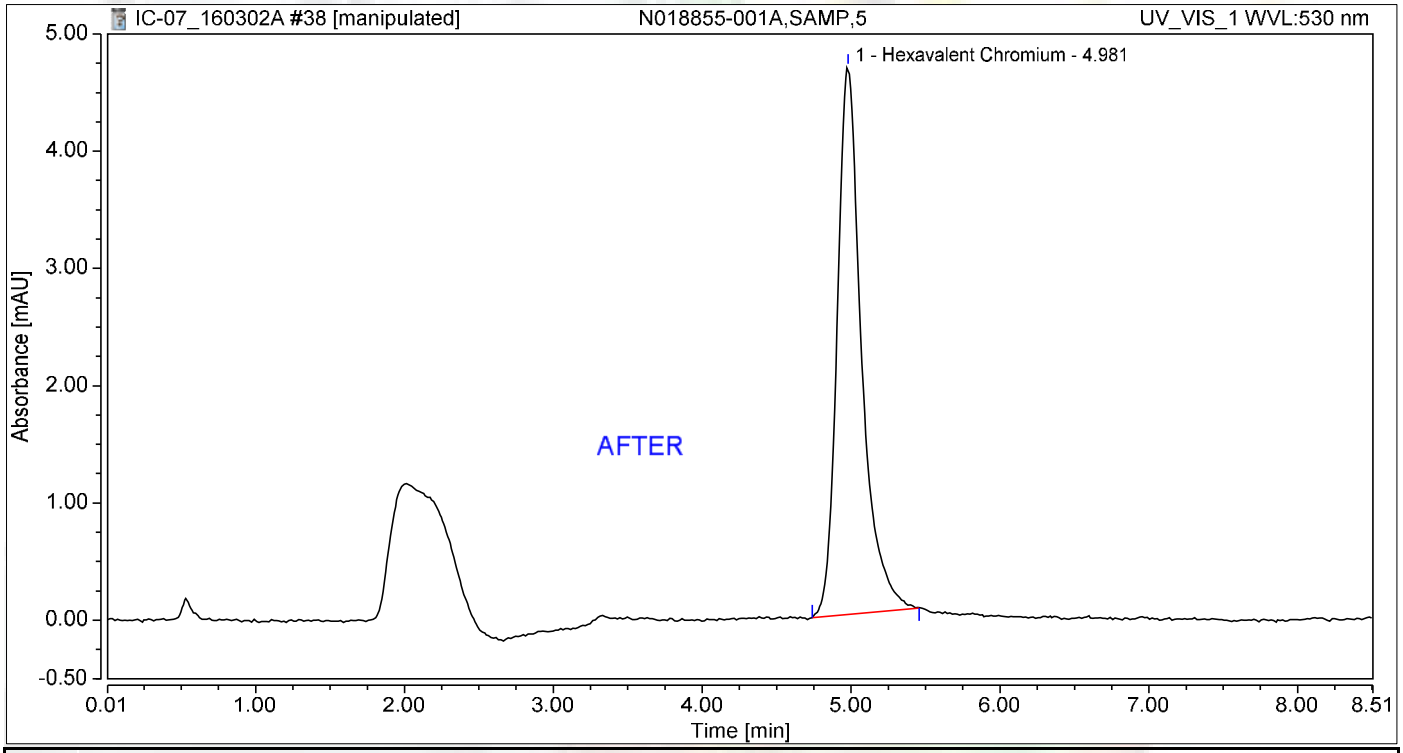
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.886	4.668	100.00	100.00	3.6732
Total:			**0.886**	**4.668**	**100.00**	**100.00**	

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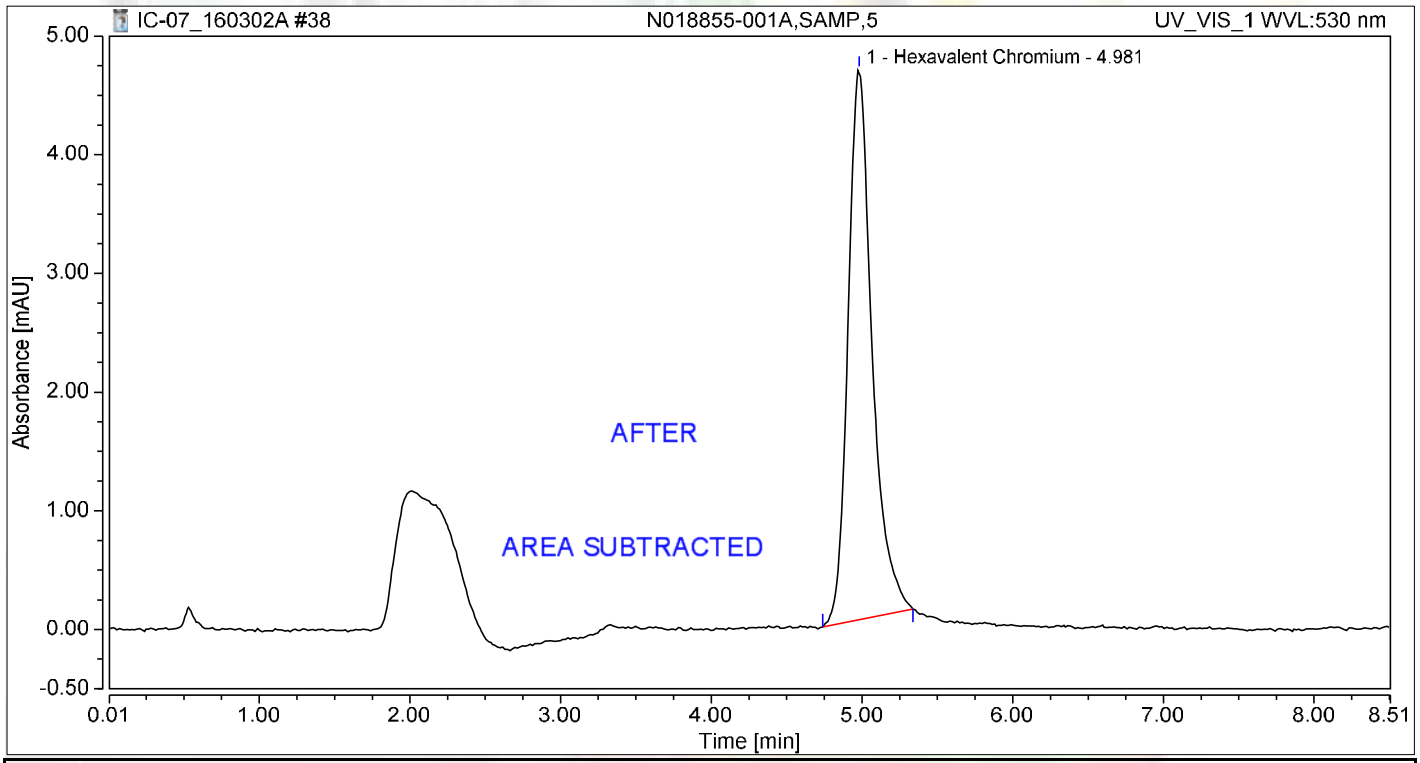
Chromatogram and Results

Injection Details

Injection Name:	**N018855-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 16:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.858	4.635	100.00	100.00	3.5574
Total:			**0.858**	**4.635**	**100.00**	**100.00**	

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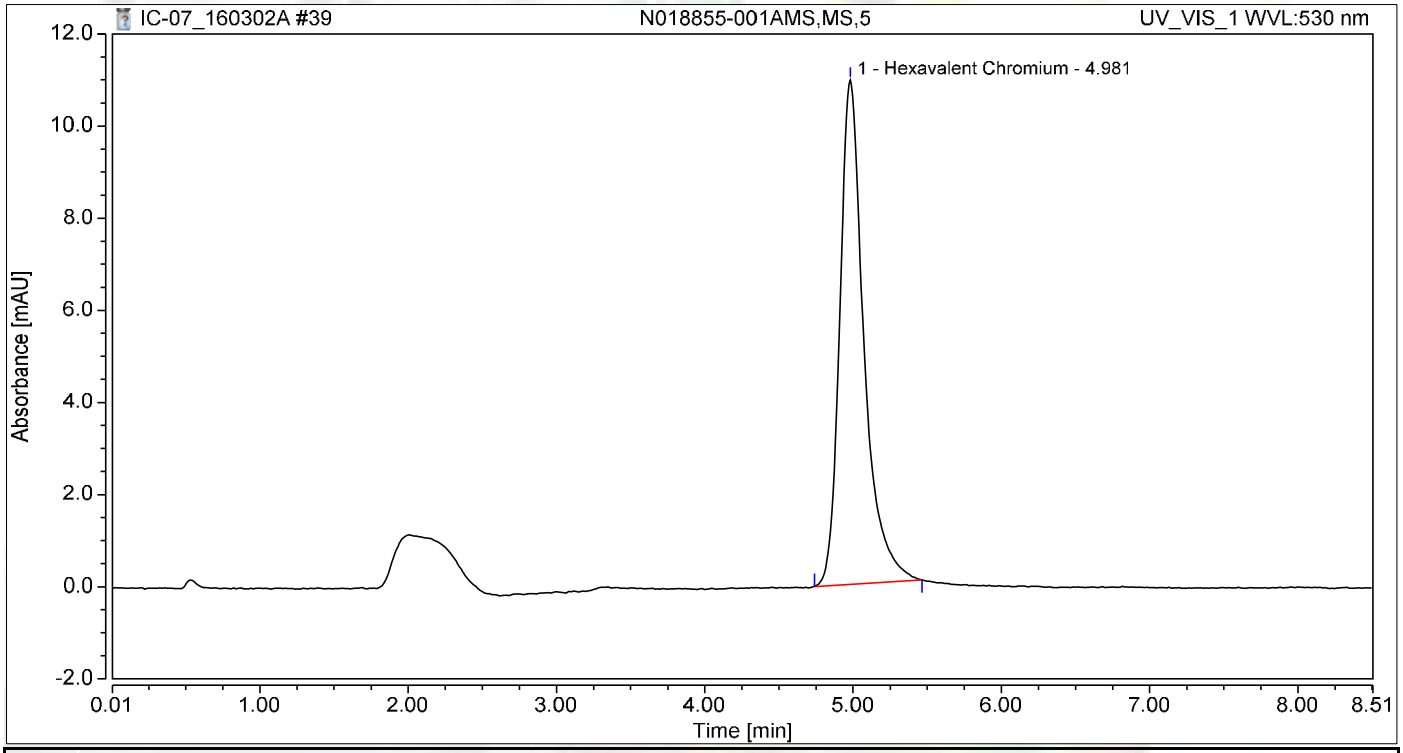
Chromatogram and Results

Injection Details

Injection Name:	**N018855-001AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

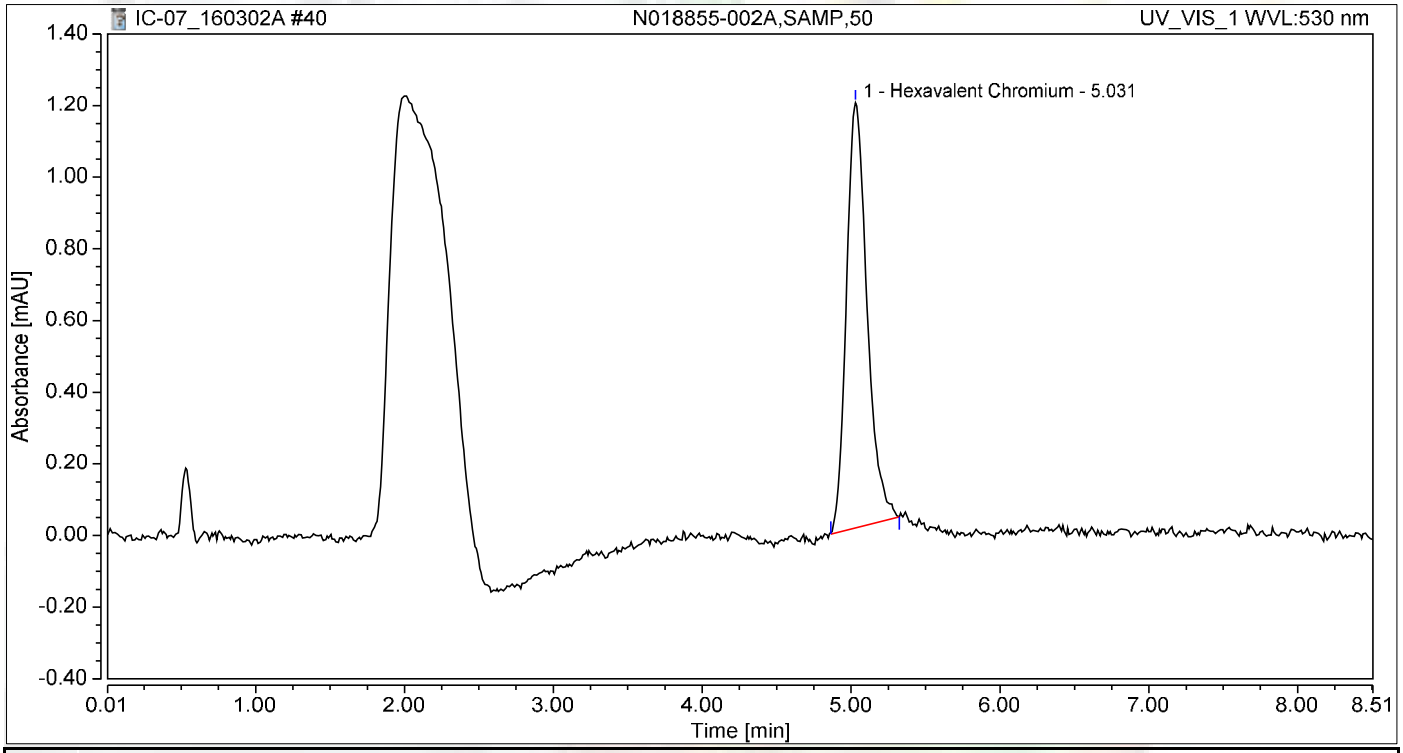
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	2.062	10.939	100.00	100.00	8.5471
Total:			**2.062**	**10.939**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002A,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.190	1.188	100.00	100.00	0.7866
Total:			**0.190**	**1.188**	**100.00**	**100.00**	

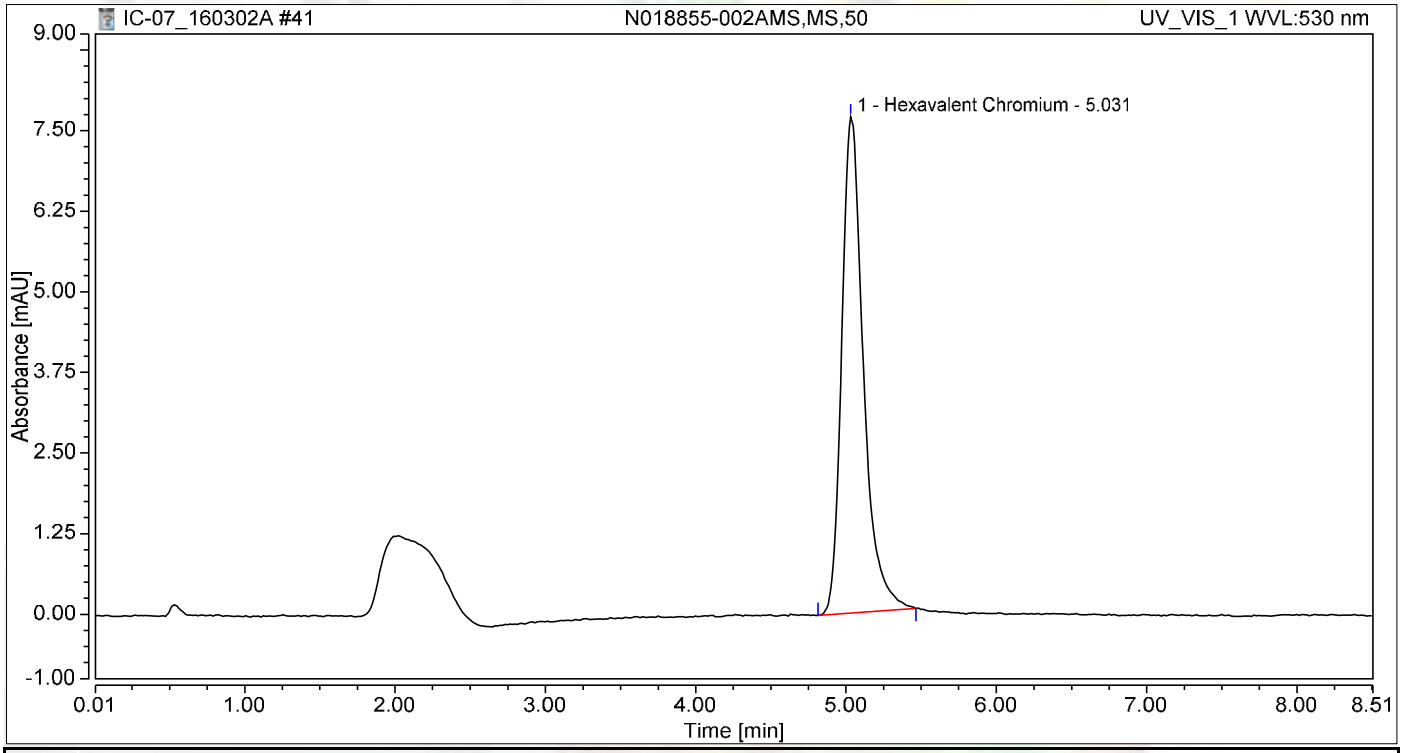
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.284	7.698	100.00	100.00	5.3213
Total:			**1.284**	**7.698**	**100.00**	**100.00**	

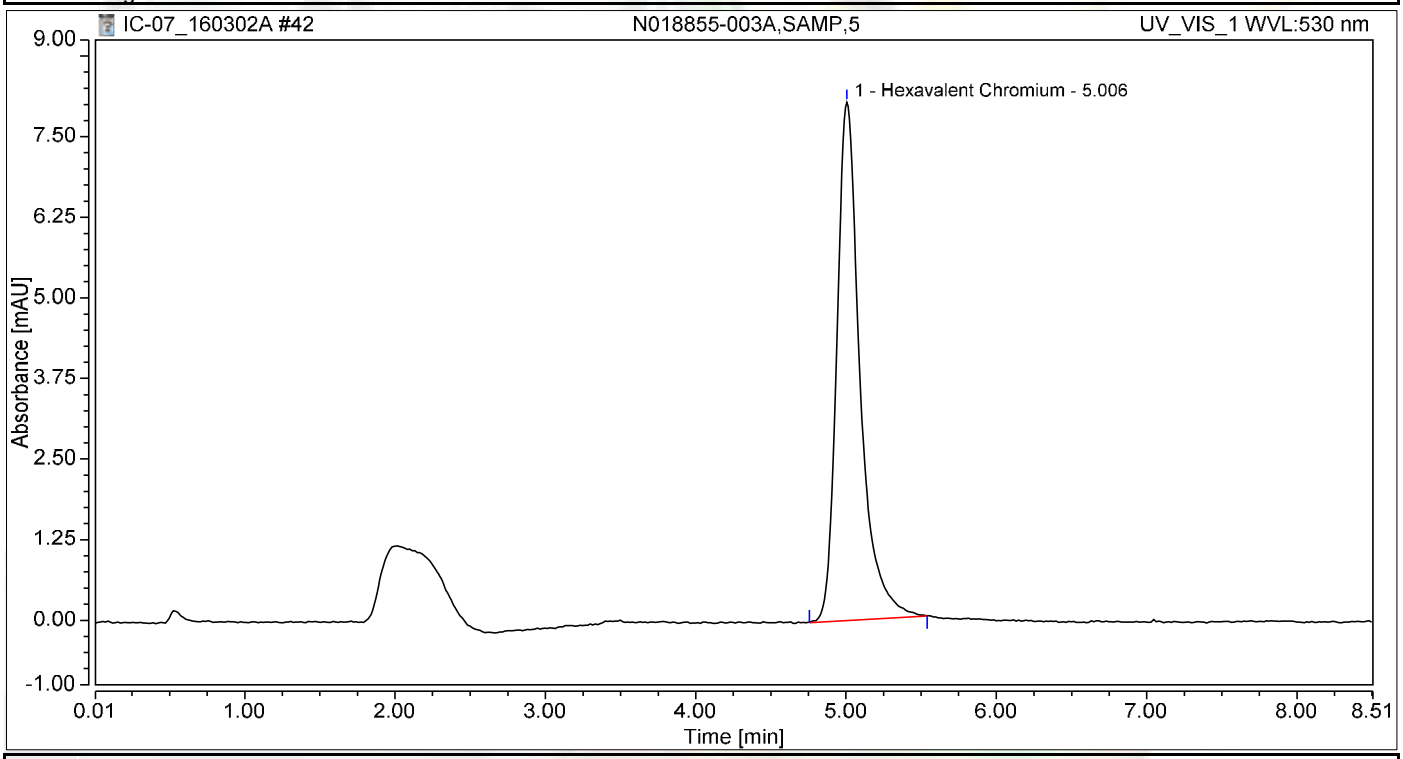
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-003A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

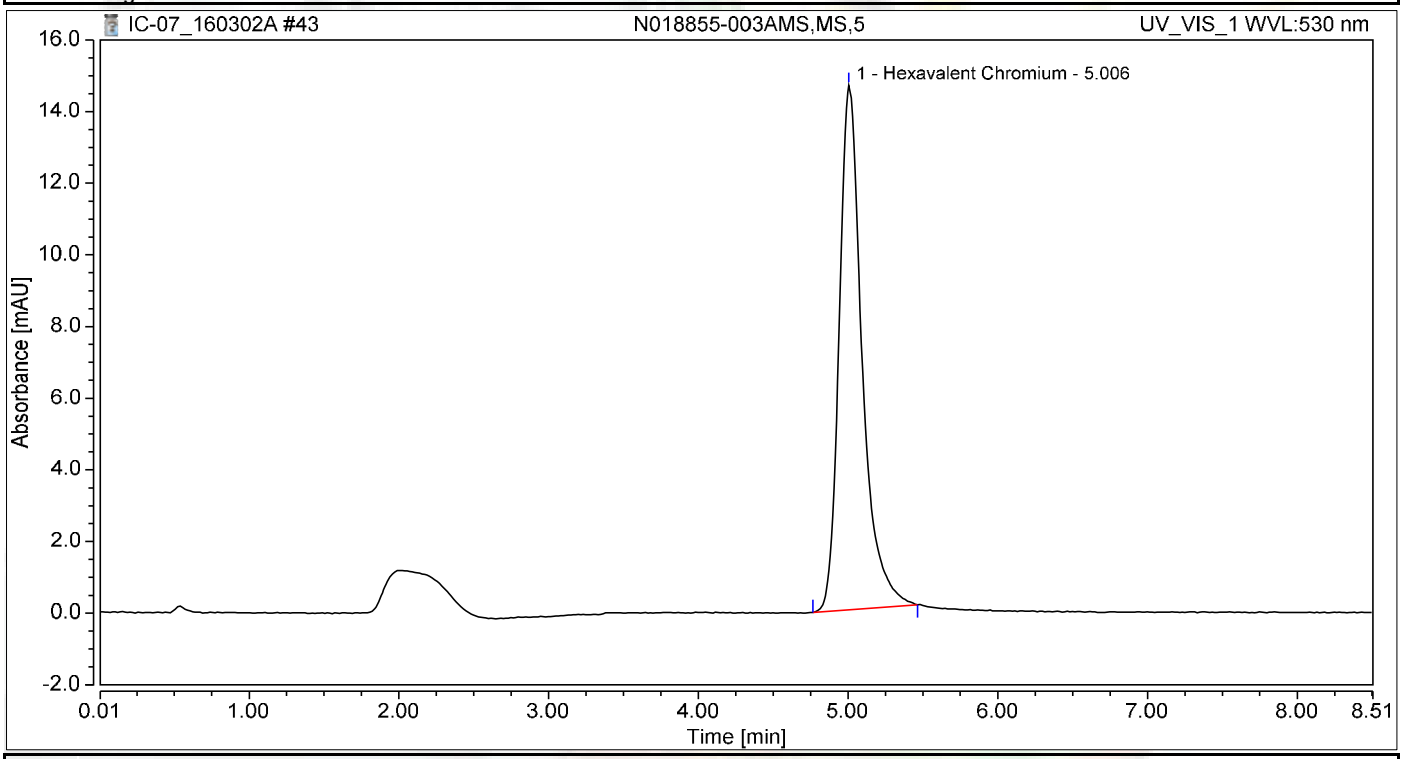
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	1.438	8.035	100.00	100.00	5.9593
Total:			**1.438**	**8.035**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-003AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

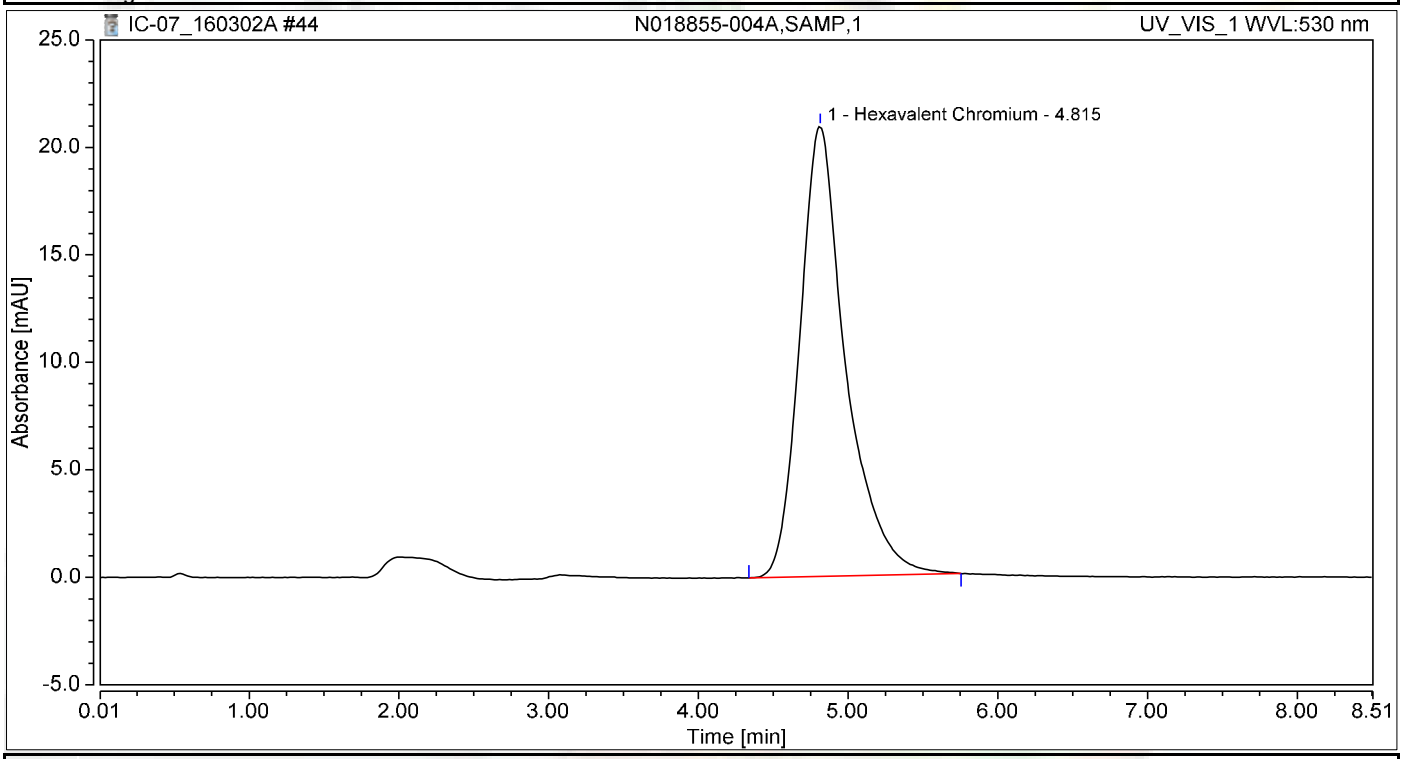
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	2.595	14.635	100.00	100.00	10.7589
Total:			**2.595**	**14.635**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 17:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.815	7.435	20.948	100.00	100.00	30.8228
Total:			**7.435**	**20.948**	**100.00**	**100.00**	

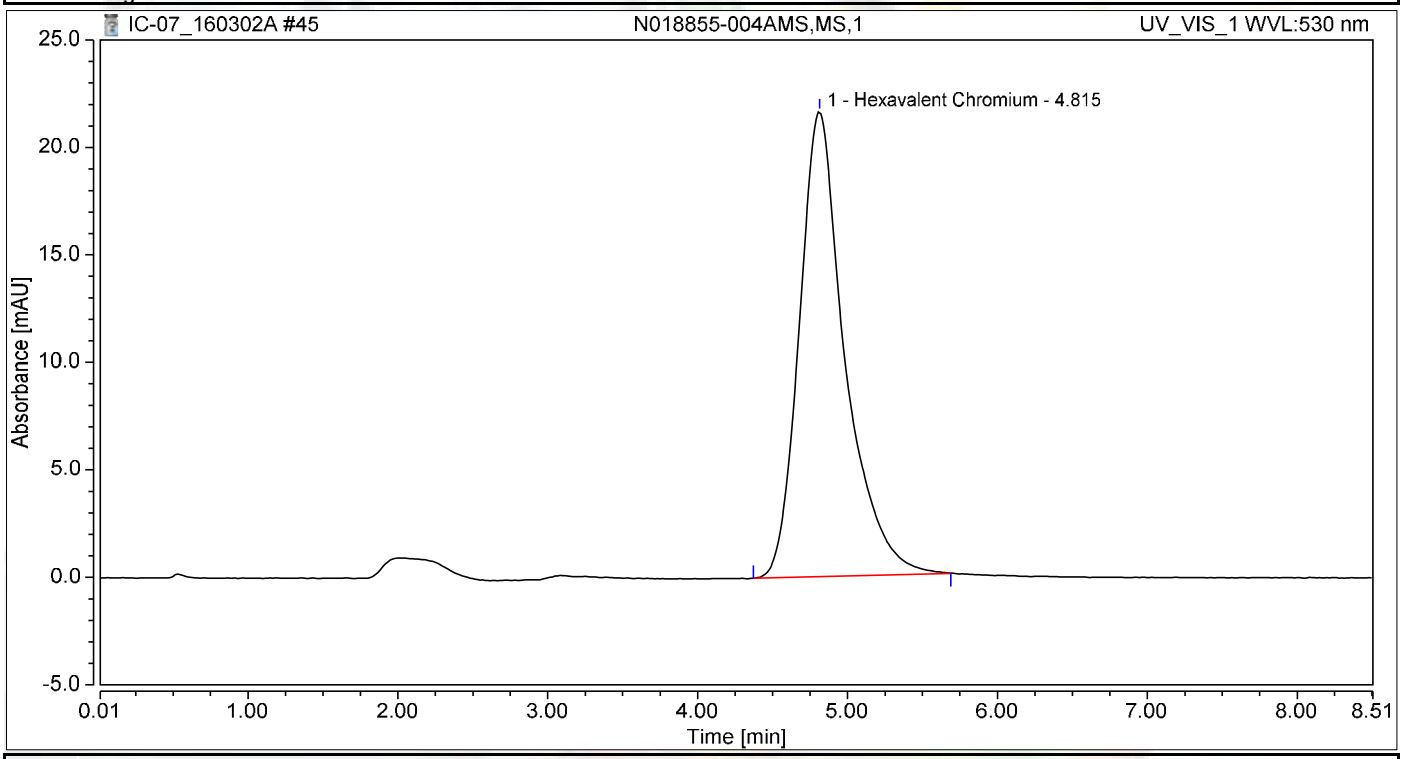
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.815	7.634	21.637	100.00	100.00	31.6483
Total:			**7.634**	**21.637**	**100.00**	**100.00**	

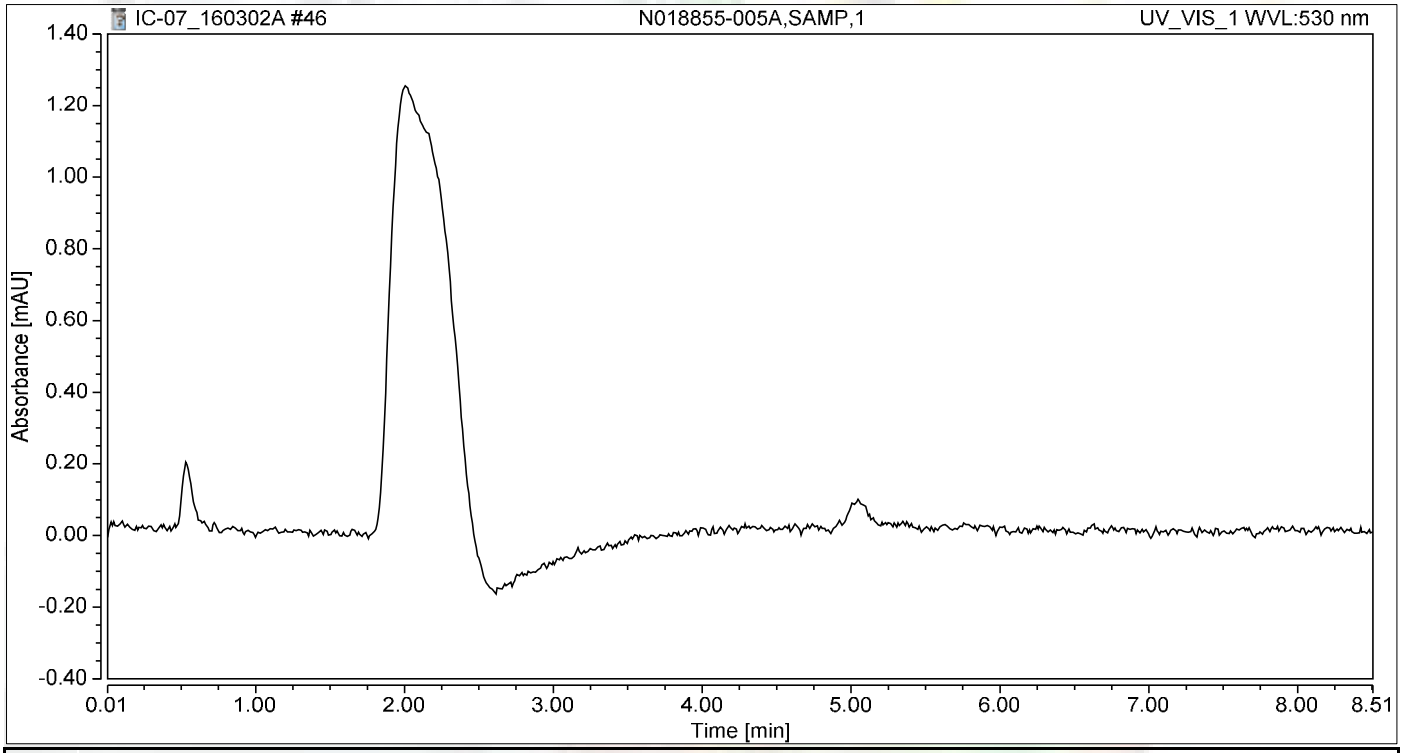
not reported

Chromatogram and Results

Injection Details

Injection Name:	**N018855-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

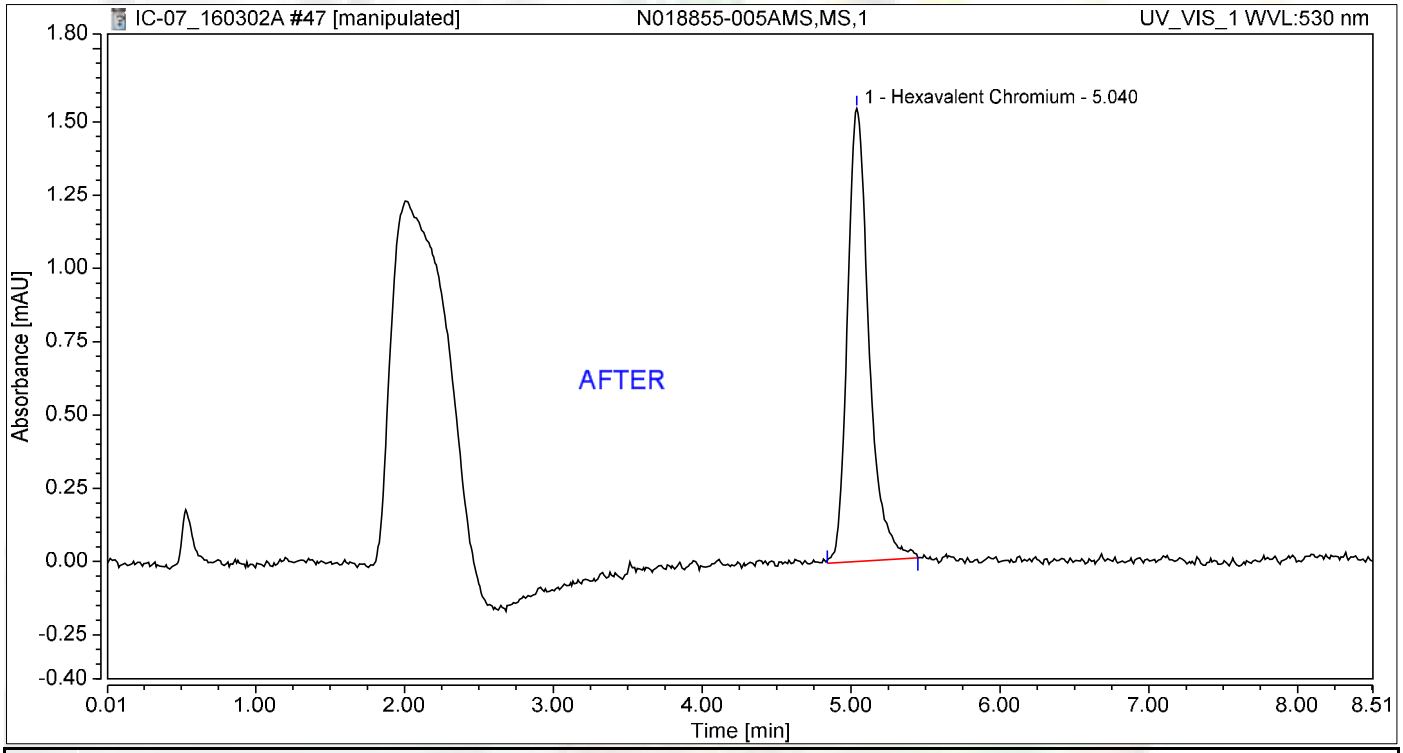
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.258	1.546	100.00	100.00	1.0675
Total:			**0.258**	**1.546**	**100.00**	**100.00**	

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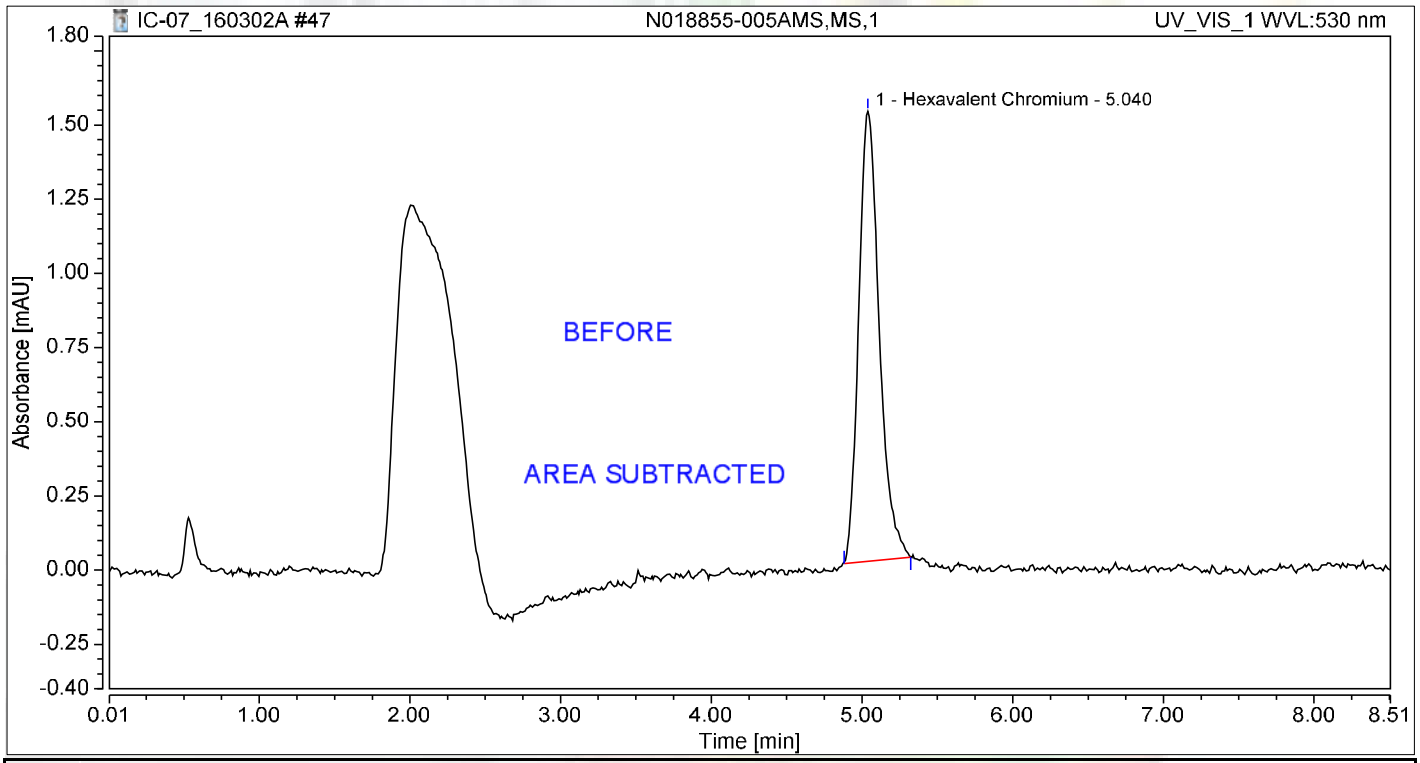
Chromatogram and Results

Injection Details

Injection Name:	**N018855-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.240	1.516	100.00	100.00	0.9933
Total:			**0.240**	**1.516**	**100.00**	**100.00**	

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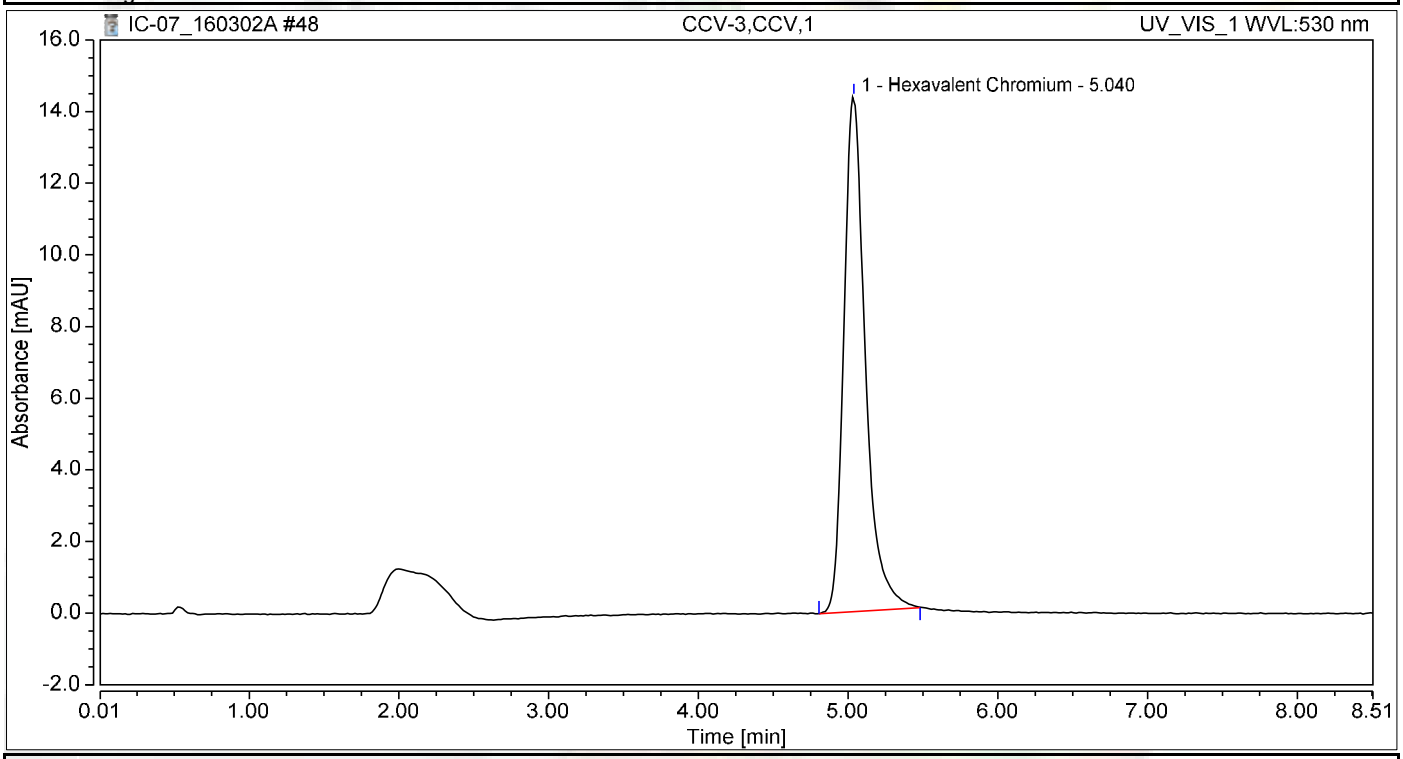
Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

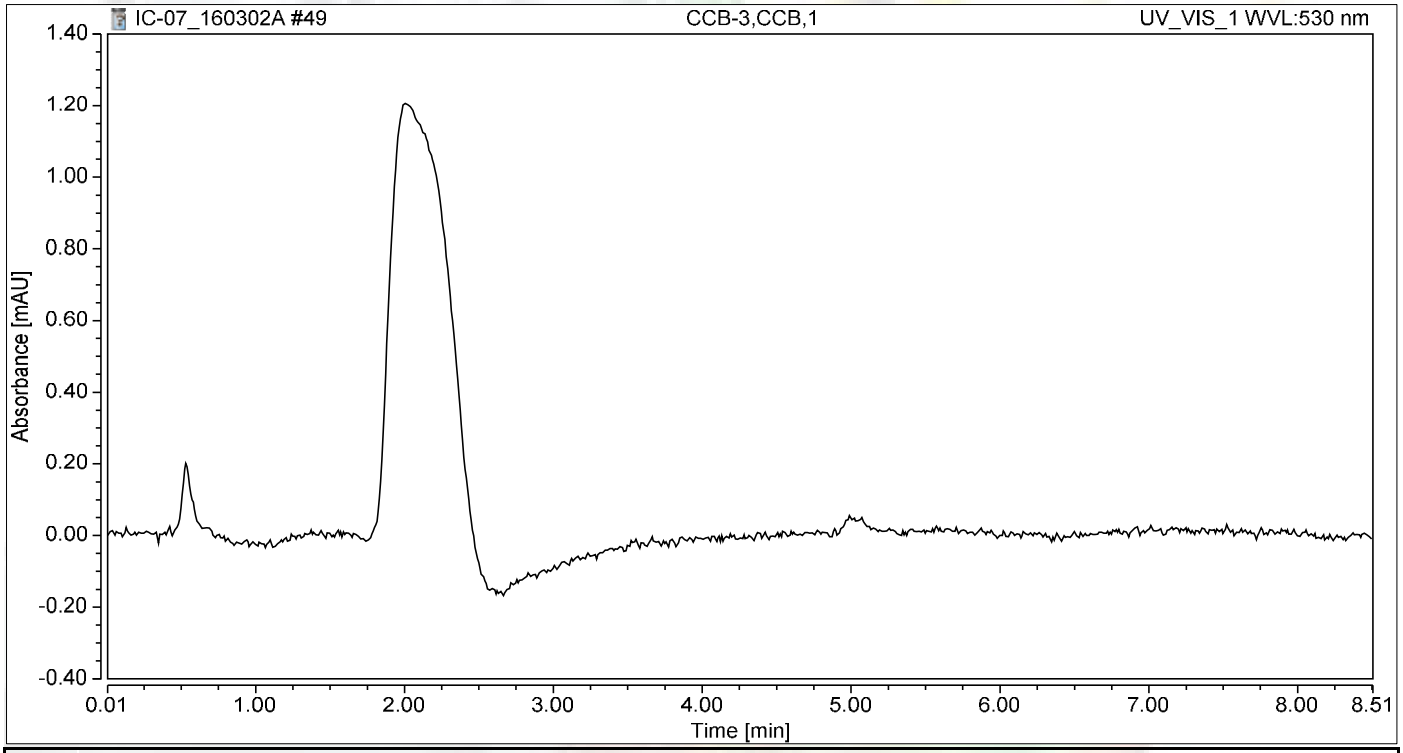
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.381	14.370	100.00	100.00	9.8715
Total:			**2.381**	**14.370**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

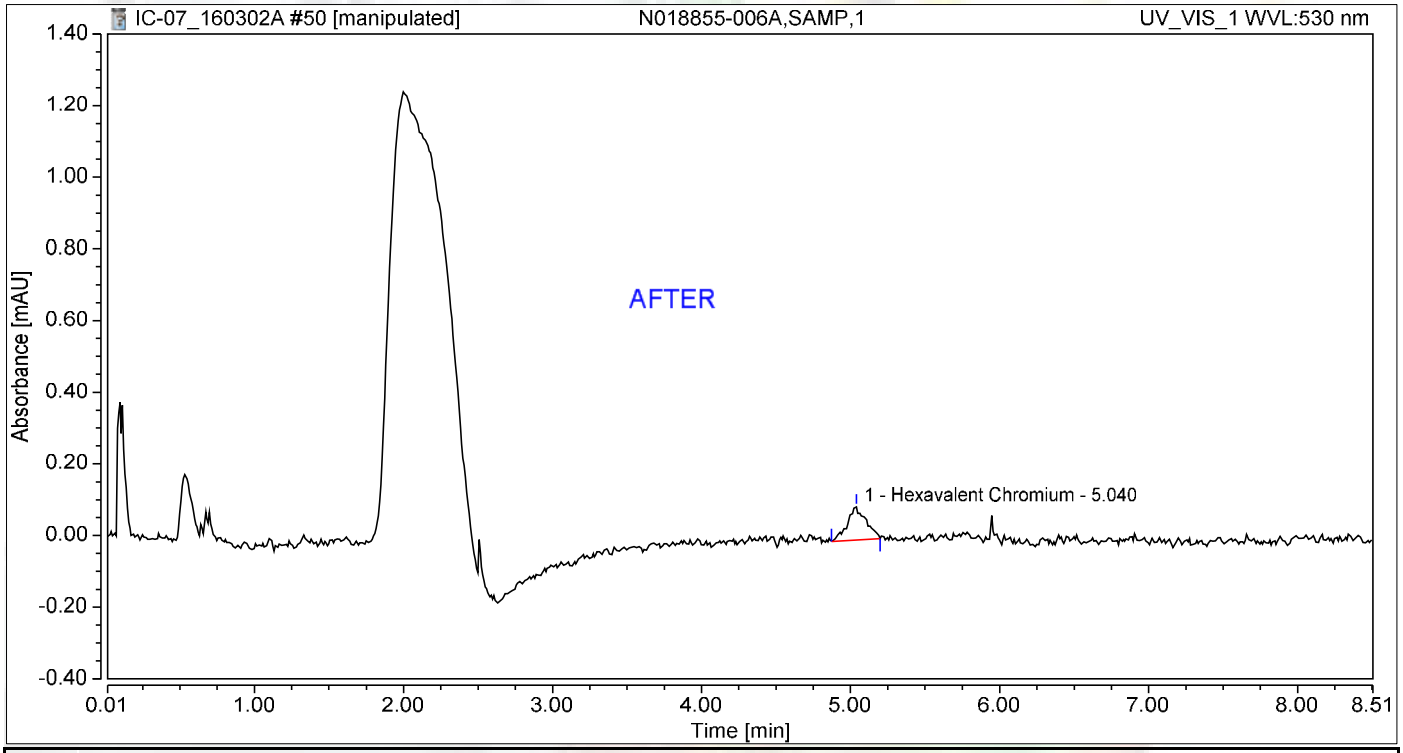
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.014	0.093	100.00	100.00	0.0561
Total:			**0.014**	**0.093**	**100.00**	**100.00**	

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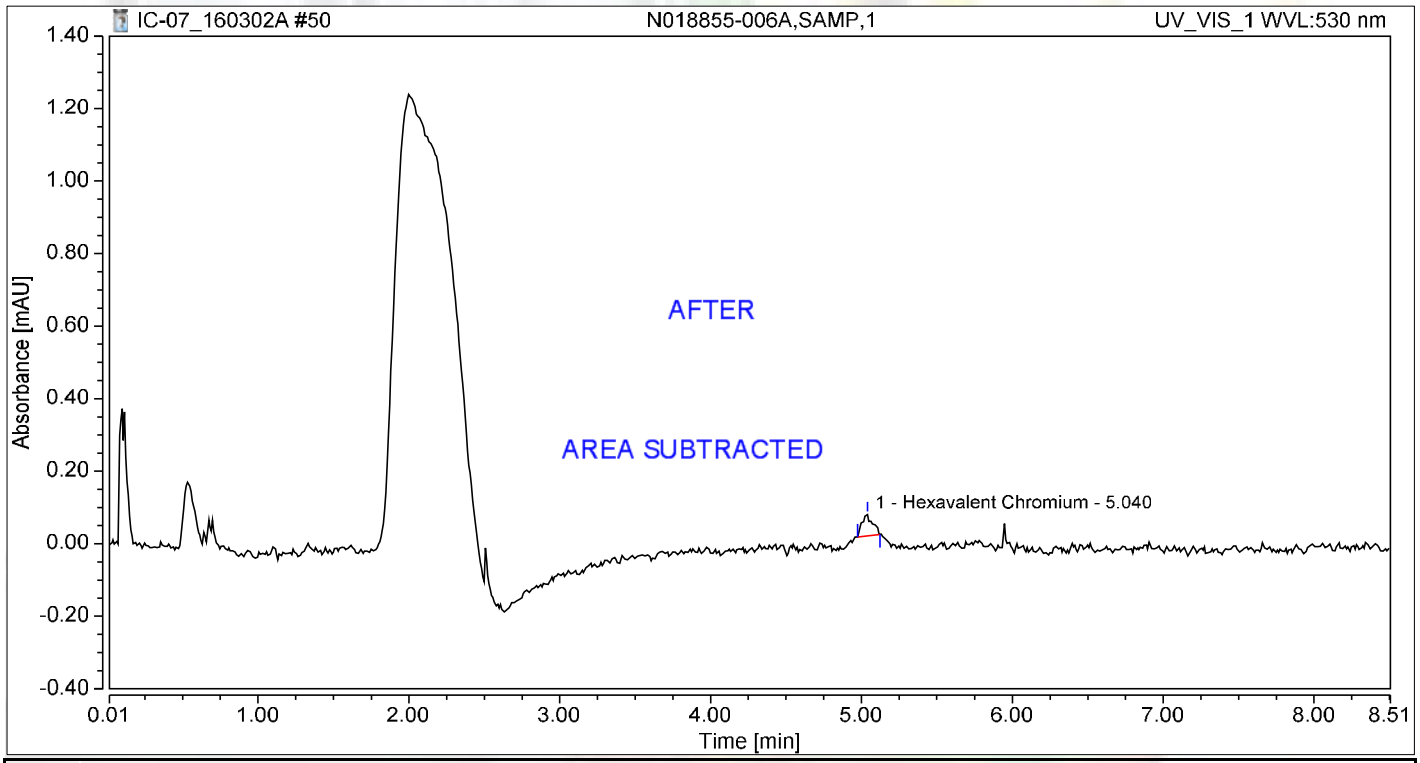
Chromatogram and Results

Injection Details

Injection Name:	**N018855-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 18:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.005	0.058	100.00	100.00	0.0202
Total:			**0.005**	**0.058**	**100.00**	**100.00**	

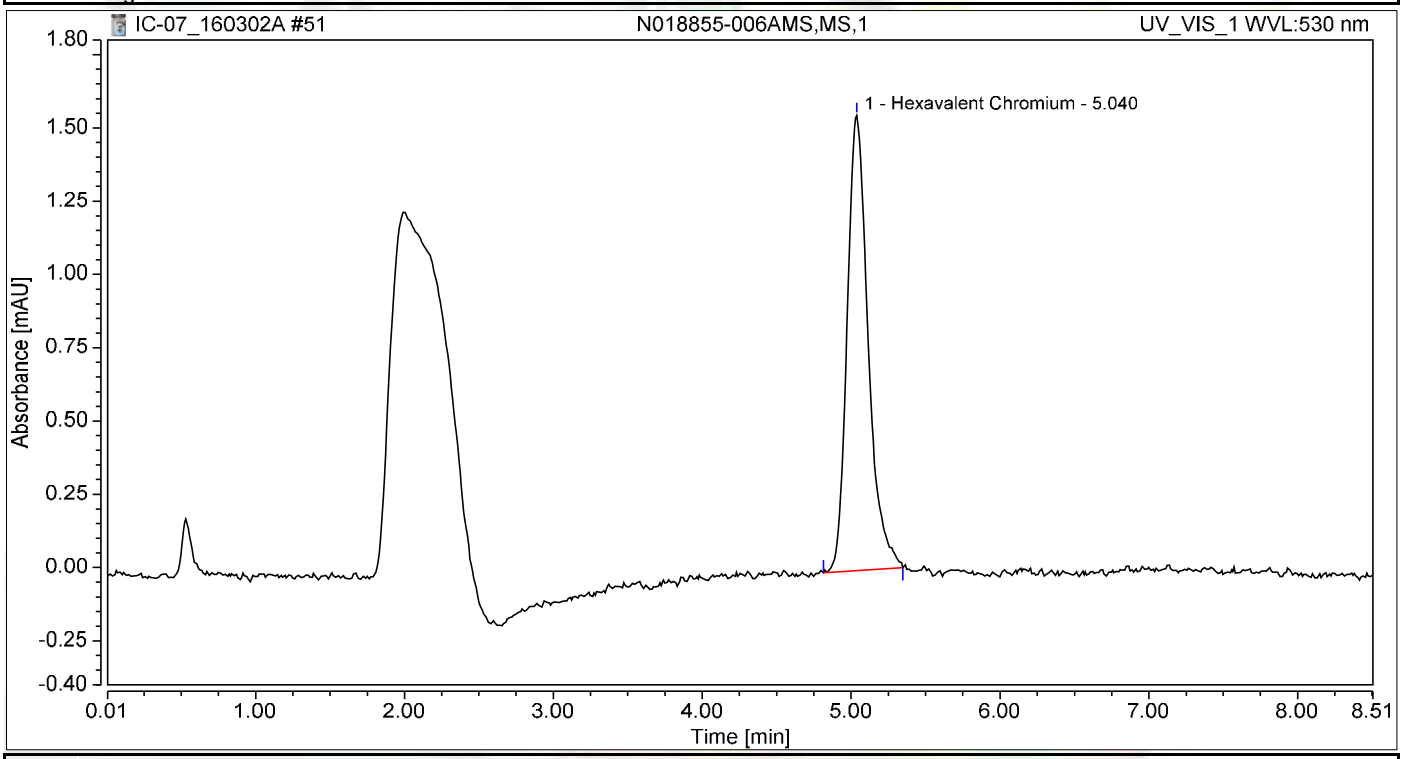
Reb 3/10/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018855-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

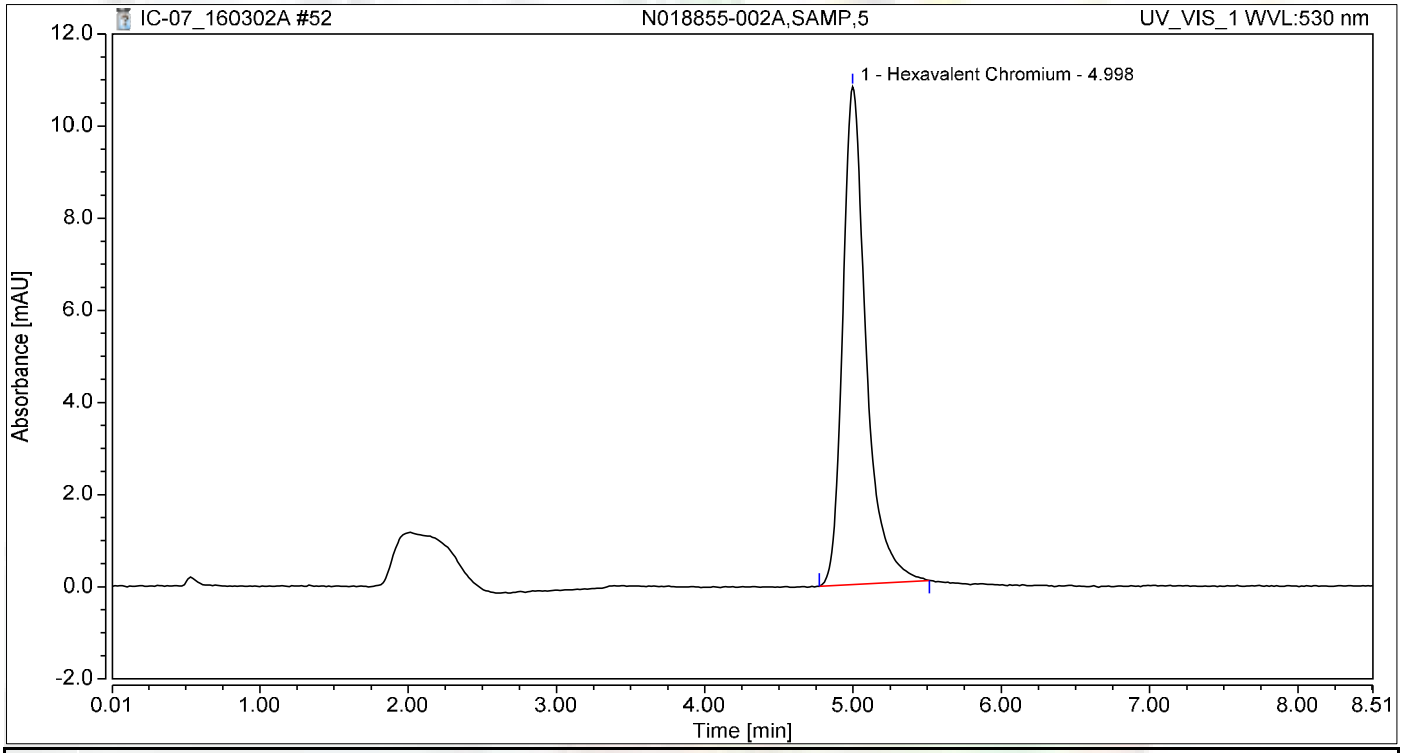
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.554	100.00	100.00	1.0437
Total:			**0.252**	**1.554**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

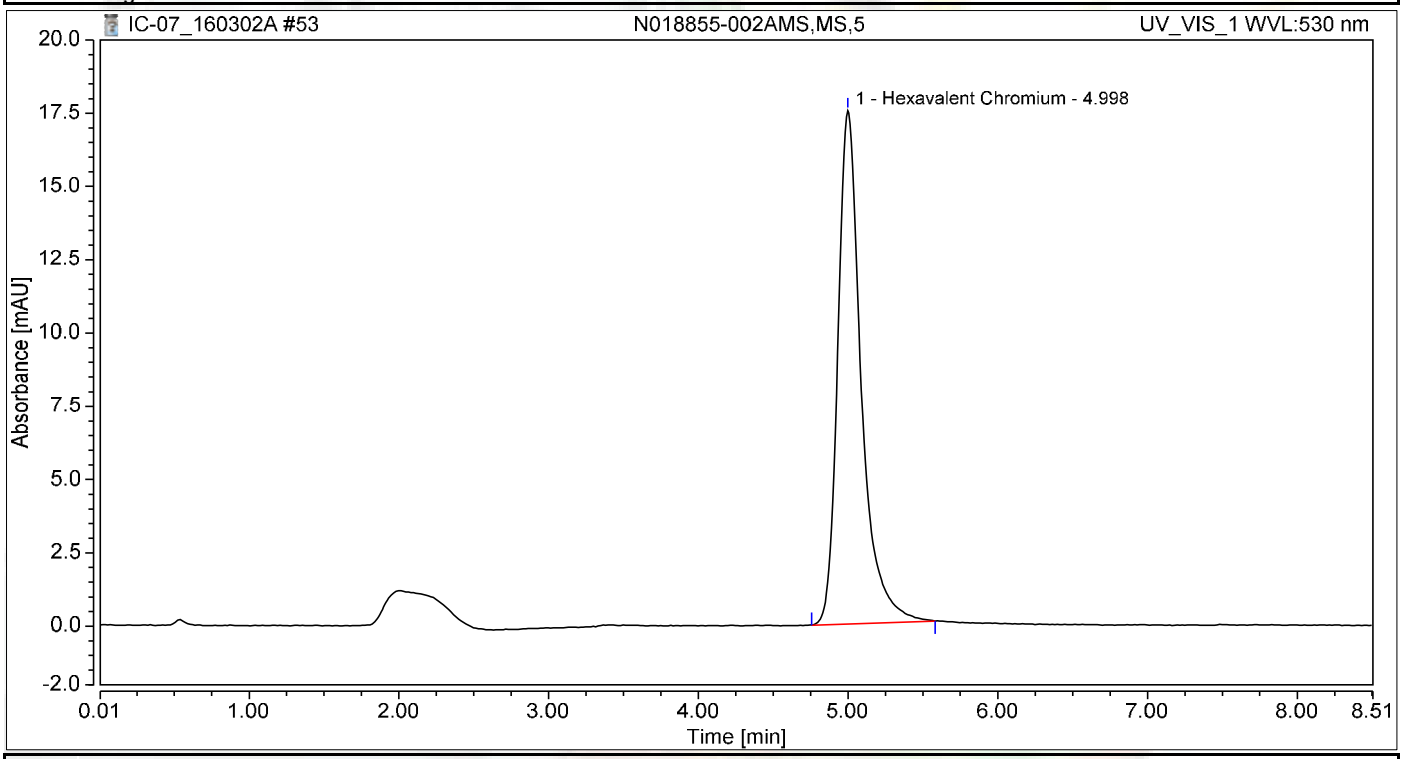
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	1.968	10.806	100.00	100.00	8.1566
Total:			**1.968**	**10.806**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

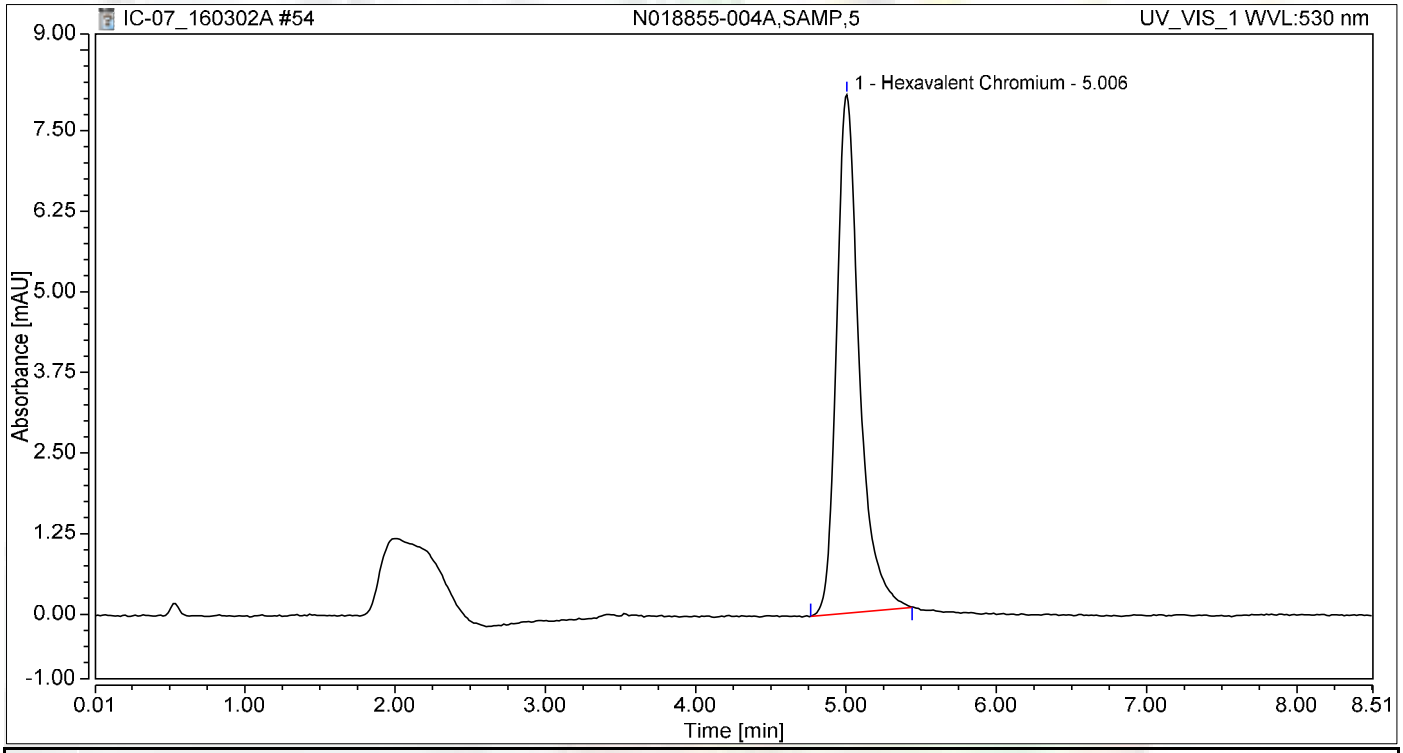
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	3.175	17.519	100.00	100.00	13.1605
Total:			**3.175**	**17.519**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

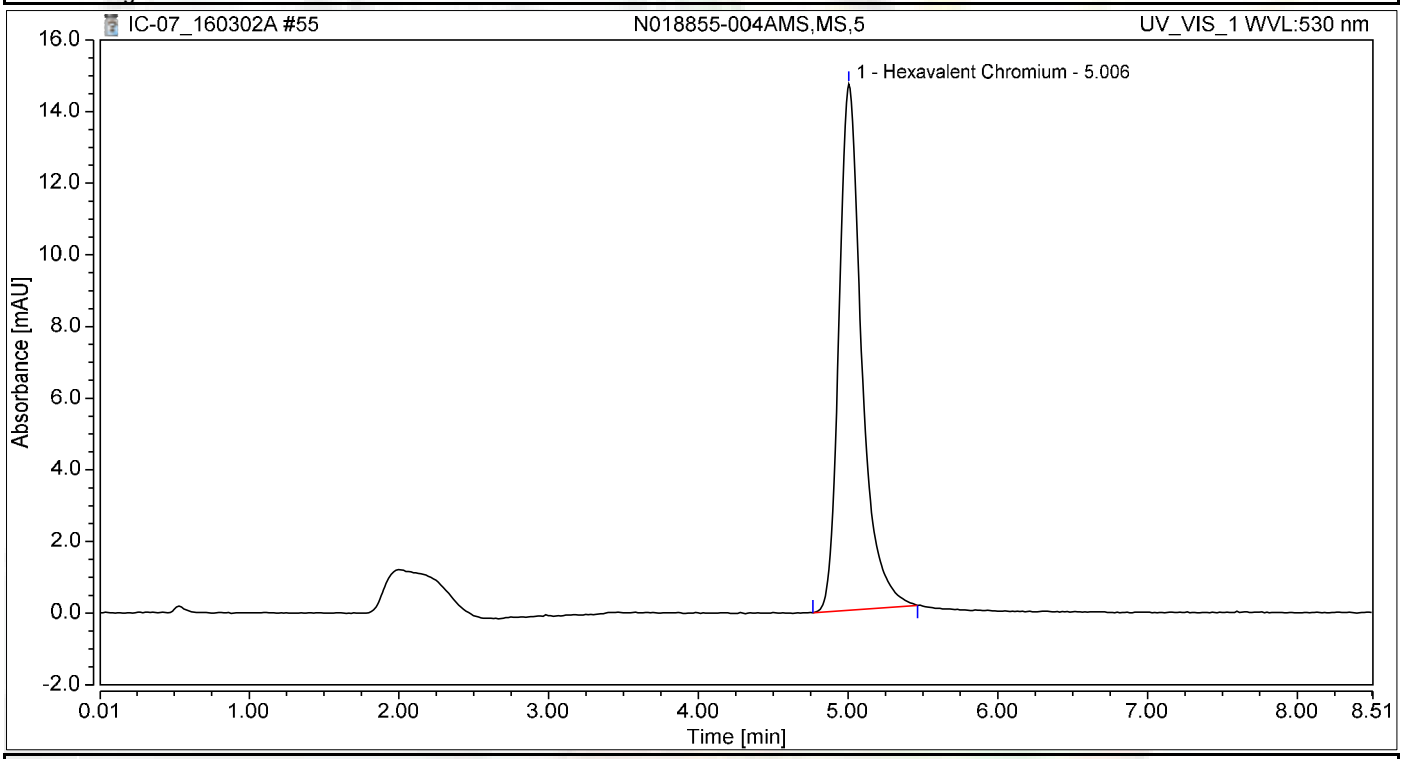
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	1.417	8.040	100.00	100.00	5.8726
Total:			**1.417**	**8.040**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-004AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

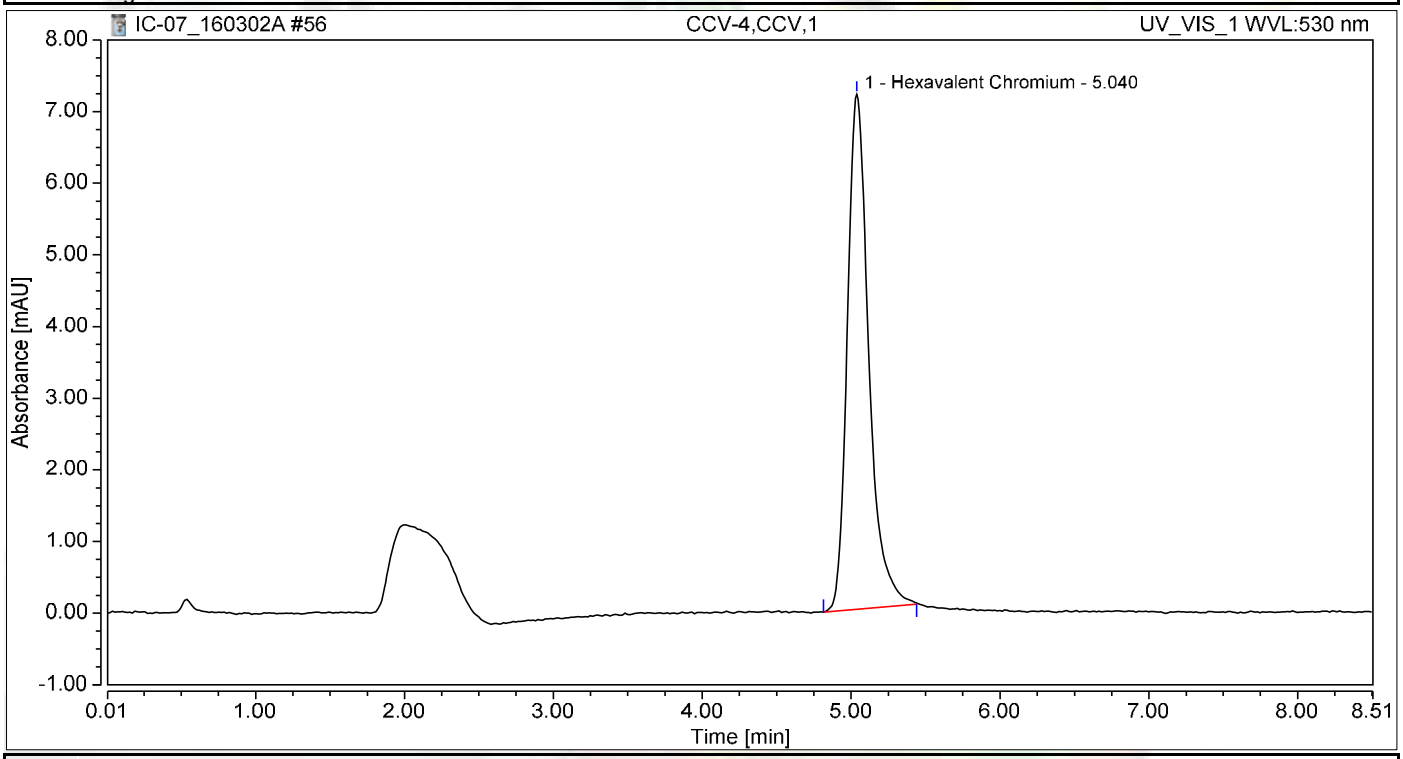
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	2.592	14.682	100.00	100.00	10.7440
Total:			**2.592**	**14.682**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

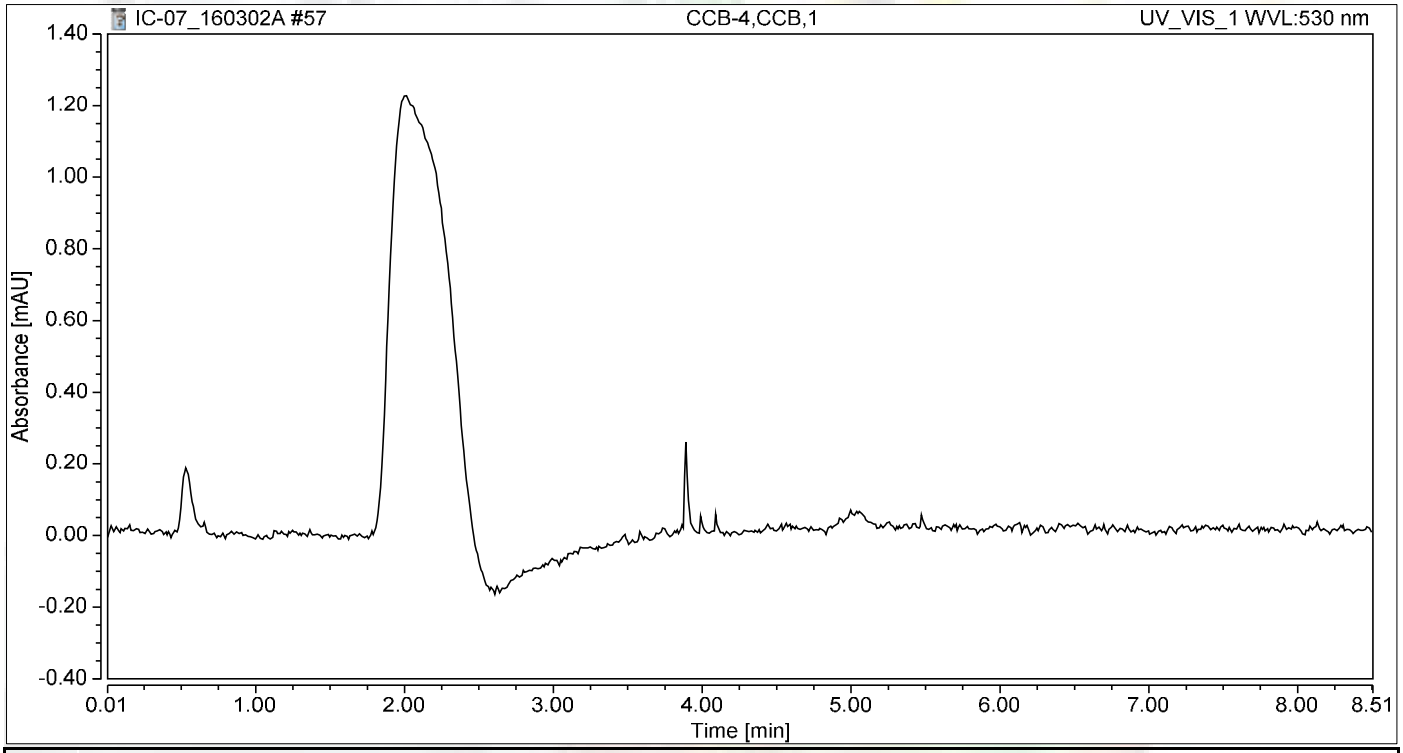
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.190	7.186	100.00	100.00	4.9340
Total:			**1.190**	**7.186**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 19:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

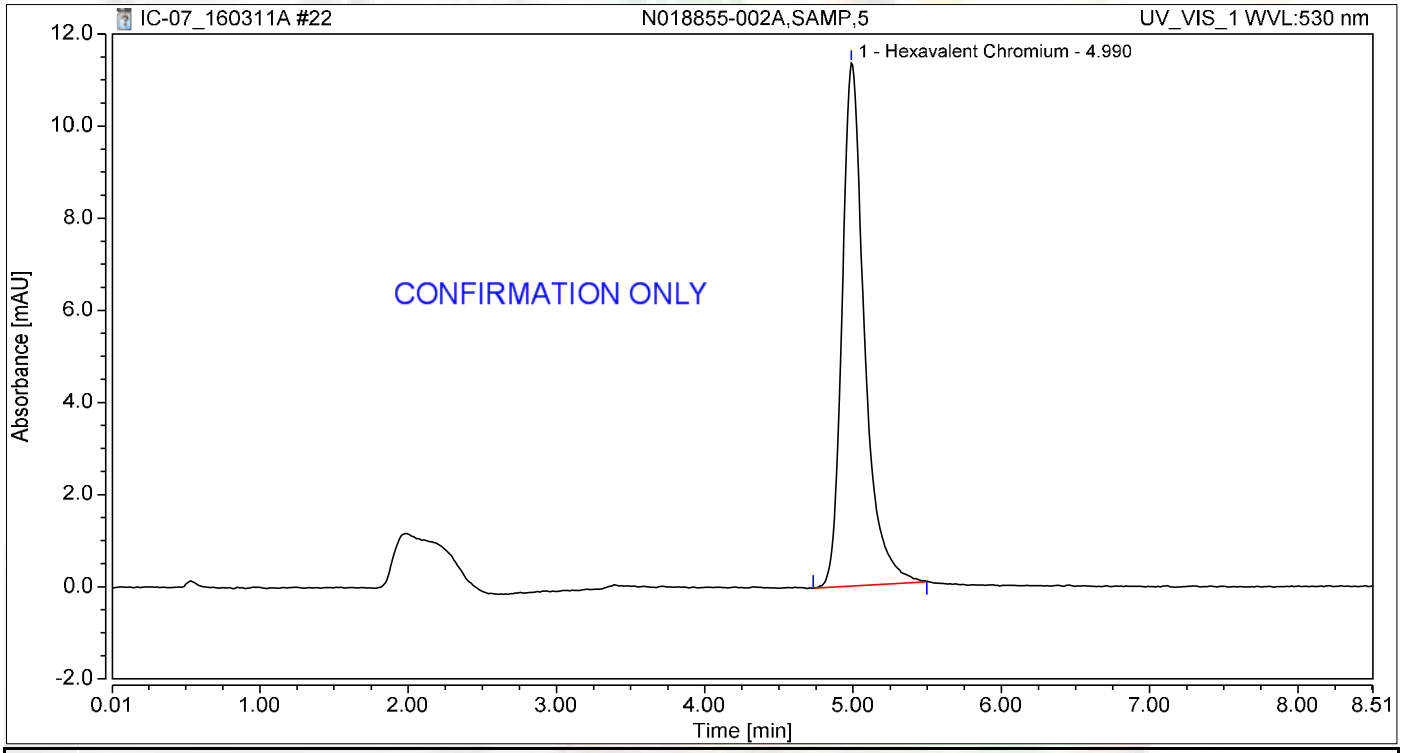
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**11/Mar/16 12:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

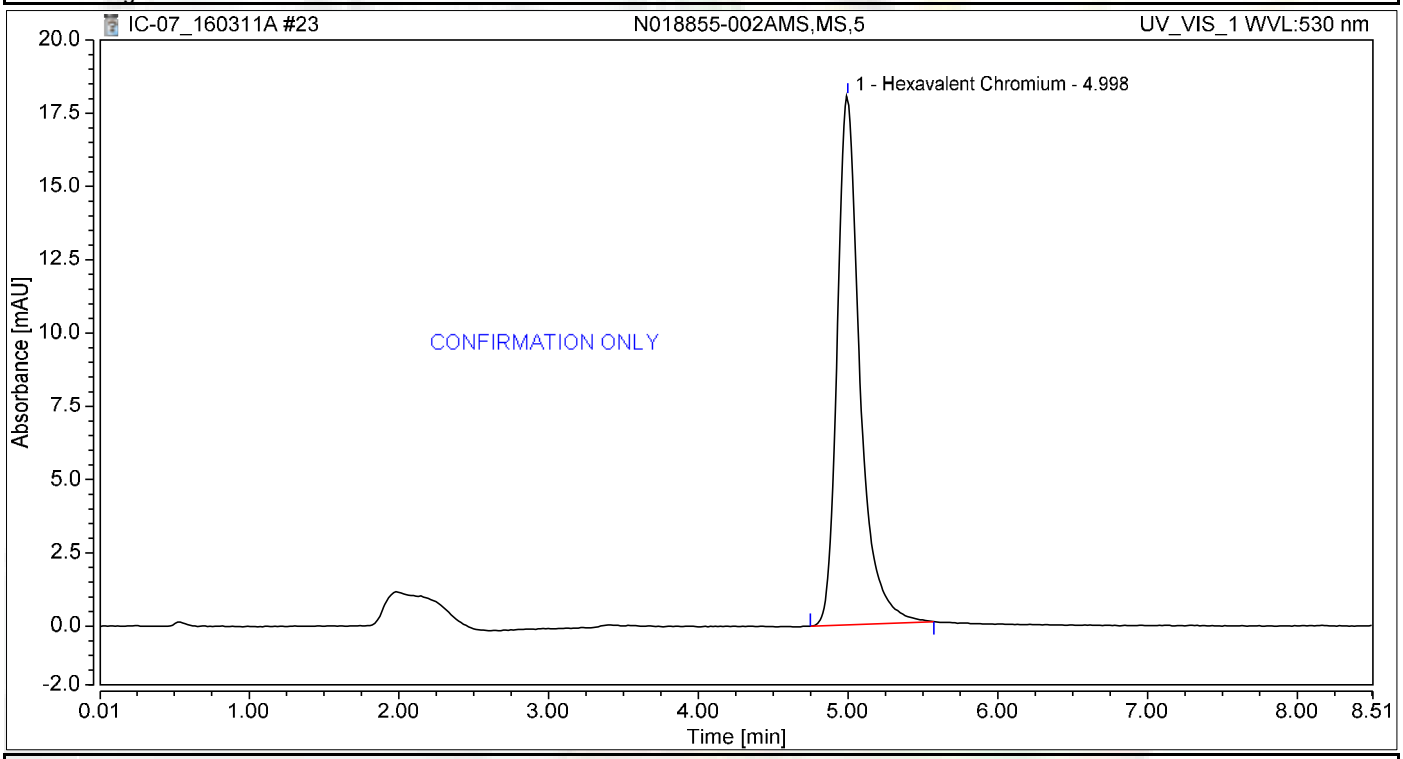
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	1.981	11.347	100.00	100.00	8.2108
Total:			**1.981**	**11.347**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018855-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**11/Mar/16 12:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.998	3.177	18.043	100.00	100.00	13.1716
Total:			**3.177**	**18.043**	**100.00**	**100.00**	

STANDARDS LOG

Inorganics Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
9/17/14	Hexadecane & Stearic Acid	Isst-140917B	8,000 mg/ml	Accustandard	214 061302	9/17/14		6/16/2024	PS
		C							
		D							
		E							
9/23/14	Fluoride, 1000 mg/L	Isst-140923A	1000 mg/L	ERA	230314	9/23/14	9/30/14 PS 9/24/14	9/30/15 ~~3/2016~~	PS
	chloride,	B		ERA PS 9/23/14	~~230314~~ 570414		9/30/14 PS 9/24/14	9/30/15 ~~4/2016~~	
	Nitrite as N,	C		PS 9/23/14	~~570414~~ 070414		9/30/14 PS 9/24/14	9/30/15 ~~4/2016~~	
	Bromide,	D		PS 9/23/14	~~070414~~ 170614		9/30/14 PS 9/24/14	9/30/15 ~~6/2016~~	
	Nitrate as N,	E		PS 9/23/14	~~070414~~ 320614		9/30/14	9/30/15 ~~6/2016~~ PS 10/26/14	
	phosphate as P,	F			190714		9/25/14	9/25/15 ~~7/2016~~ PS 10/26/14	
	sulfate,	G		PS 9/23/14					
11/4/14	Nitrite as N, 1000 mg/L	Isst-141104A	1000 mg/L	Absolute	090514	11/4/14	11/12/14	11/12/15	PS
11/26/14	Tox Standard	Isst-141126A	1000 mg/L	Peak Performance	14K142	11/26/14	12/5/14	12/5/15	PS
1/9/15	100 ppm Cr6+	ISST 150109A	100 ppm	High Purity	1402622	1/9/15	1/20/15	1/6/16	2

Advanced Technology Laboratories-Las Vegas
Logbook #1

8 total

Inorganics Stock Standard Logbook

Date	Stock STD							Exp Date	Initials
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	
2/6/15	Phosphorus as P, 1000 mg/L	1SST150206E	1000 mg/L	Absolute Stds	011615	2/6/15	2/11/15	1/16/18	L
	Sulfate, 1000 mg/L	F			123014			12/30/19	
2/10/15	EPA 1664 STANDARD (MS/MSD)	1SST150206A	1000 mg/L	ULTRA SCIENTIFIC	CL-3509	2/10/15		10/31/2017	LSR
2/12/15	Hexadecane Stearic Acid	1SST150212A	40 mg/mL	ACCU STANDARD	214101420	2/12/15	3/3/15	11/10/24	LSR
		B					3/9/15		
		C							
		D							
		E							
3/10/15	1000 ppm HEXAVALENT Chromium	1SST150306A	1000 ppm	ERA	300014	3/10/15	3/9/15	06/2017	MEB

Advanced Technology Laboratories-Las Vegas
Logbook #1

Inorganics Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
9/14/15	Hexadecane & Stearic Acid Std	ISSTI50914D	4mg/mL	ACCU STANDARD	215 041058	9/14/15		4/8/25	LSR
↓	↓	↓ E	↓	↓	↓	↓		↓	↓
9/28/15	EPA 1664 STANDARD (MS/MSD)	ISSTI50928A	4000 µg/mL	ULTRA SCIENTIFIC	CM-4130	9/28/15	10/19/15	8/31/18	LSR
11/4/15	Nitrite as N	ISITI51104A	1000 ppm	Absolute Stds	102615	11/4/15	11/10/15	10/26/17	L
12/7/15	Hexadecane & Stearic Acid Std	ISSTI51207A	4 mg/mL	ACCU STANDARD	215041058	12/7/15	12/31/15	4/8/25	LSR
↓	↓	B	↓	↓	↓	↓		↓	↓
↓	↓	C	↓	↓	↓	↓		↓	↓
↓	↓	D	↓	↓	↓	↓		↓	↓
↓	↓	E	↓	↓	↓	↓		↓	↓
12/31/15	EPA 1664 STD (MS/MSD)	ISST151208A	4000 µg/mL	ULTRA SCIENTIFIC	CM-4129	12/8/15	12/31/15	8/31/18	LSR
01/05/16	1000 ppm Hexavalent Chromium	ISST160105A	1000 ppm	HIGH-PURITY	1533405	01/05/16	01/07/16	06/30/17	[illegible]

Advanced Technology Laboratories-Las Vegas
Logbook #1

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)	
12/04/15	1000 ppm Inorganic Carbon 2°	IWST 151204 D	CIW 150601A	-	0.6995	1
12/10/15	1000 ppm HCL	IWST151210A	CINV 150914A		2.0 g	
12/13/15	0.05 N Sodium Carbonate (Na2CO3)	IWST151213A	CINV-150202G	-	0.2645 g	
12/13/15	0.05 N Sodium Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g	
12/23/15	0.05 N Sodium Carbonate (Na2CO3)	IWST151223A	CINV-150202G	-	0.2645 g	5
↓	0.05 N Sodium Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g	
1/5/16	0.05 N Sodium Carbonate (Na2CO3)	IWST160105A	CINV-150202G	-	0.2645 g	
↓	0.05 N Sodium Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g	
1/5/16	1ppm Cr6+ 1°	IWST-160105C	ISST 150306A	1000	100	
	1ppm Co2+ 2°	↓ CD	ISST 150109A	100	1000	10
1/7/16	1ppm Cr6+ 2°	IWST-160107A	ISST-160105A	1000	100	
1/8/16	1000 ppm Talc	IWST 160108A	CINV-140317C	-	1.0 g	
1/15/16	1000 ppm NaCl	IWST160118A	CINV-150914A	-	1.0 g	
1/19/16	50 ppm Cr6+ 2°	IWST160119A	ISST 160105A	1000	2500	
1/27/16	0.05 N Sodium Carbonate (Na2CO3)	IWST160127A	CINV-150202G	-	0.2645 g	15
↓	↓ Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g	
02/02/16	1ppm Cr6+ 1°	IWST160202A	ISST-150306A	1000	100	
↓	1ppm Cr6+ 2°	↓ B	ISST-160105A	1000	100	
2/5/16	0.05 N Sodium Carbonate (Na2CO3)	IWST160205A	CINV-150202G	-	0.2645 g	
↓	0.05 N Sodium Bicarbonate (NaHCO3)	B	CINV-150601A	-	0.8398 g	20

	PREPARATION INFORMATION								
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	100	1000	H_2O	—	—	12/04/16	6/9/18		PEB
	2000	1000	H_2O	-	-	12/10/16	9/14/18		USR
	100	0.05N	H_2O	—	-	12/20/15	2/13/18		USR
	100	0.05N	H_2O	—	—	12/20/15	6/9/18		USR
5	100	0.05N	H_2O	—	—	12/30/15	2/13/18		USR
	100	1	1	-	-	12/30/16	6/9/18		USR
	100	0.05N	H_2O	-	-	1/12/16	2/13/18		USR
	1	1	1	—	-	1/12/16	6/9/18		USR
	100	1	H_2O	—	—	3/9/16	6/2017		PEB
10	100	1	1	—	—	1/4/16	1/4/16		1
	100	1	H_2O	—	—	7/7/16	6/30/17		PEB
	1000	1000 ppm	H_2O	—	—	1/8/17	5/9/17		USR
	1000	1000 ppm	H_2O	-	-	1/18/17	9/14/18		USR
	50	50	H_2O	—	—	7/19/16	6/30/17		2
15	100	0.05N	H_2O	-	-	2/3/16	2/13/18		USR
	1	1	1	-	-	2/3/16	6/9/18		USR
	100	1ppm	H_2O	—	—	~~3/9/16~~ 8/2/16	6/2017		PEB
	1	1	1	—	—	8/2/16	6/30/17		1
	100	0.05N	H_2O	—	—	2/12/16	2/13/18		USR
20	1	1	1	-	-	1	6/9/18		USR

ASSET Laboratories

* Working std expiration date must not exceed the manufacturer's expiration date.

Logbook #2
Inorganics WK Std Log

CALIFORNIA
P: 562.219.7435 F: 562.219.7434
NEVADA
3191 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-150923A	Ammonium Sulfate, granular	JT Baker	118186	>= 99%	9/23/15	10/16/15	10/16/18	MET	
↓ B	↓	↓	↓	↓	↓	10/24/15	10/24/18	↓	
↓ C	↓	↓	↓	↓	↓	11/06/15	11/06/18	↓	
↓ D	↓	↓	↓	↓	↓	11/25/15	11/25/18	↓	
CINV-150924A	Ammonium Hydroxide	BDH	7215070	20-22%	9/24/15	10/07/15	10/07/17	MET	
↓ B	↓	↓	↓	↓	↓	11/16/15	11/16/17	↓	
↓ C	Phosphoric Acid	EMD	55051510	min 85%	9/24/15	10/19/15	10/19/17	↓	
CINV-150928A	METHANOL	JT BAKER	57548	≥ 99.8%	9/28/15	12/01/15	12/01/17		
CINV-151012A	CONDUCTIVITY STD, 1412 us/cm	VWR	CC13851	-	10/12/15		7/6/16	LSR	
↓ B	CONDUCTIVITY STD, 99797 us/cm	VWR	CC13746	-	10/12/15	11/9/15	6/5/16	LSR	
CINV-151027A	HYDROGEN PEROXIDE 30%	JT BAKER	0000118853	30%	10/27/15		2/10/17	LSR	2/10/17 #7872
↓ B	SODIUM CARBONATE	MACRON	104967	-	↓			LSR	MANUFACTURE EXP: 8/11/21 #7871
↓ C	AMMONIUM PERSULFATE	BDH	2455C516	-	↓	11/04/15	11/04/18	LSR	4/30/19 #7870
CINV-151027D	HEXANES		55161		10/27/15			LSR	#7873
↓ E	↓		↓		↓			↓	#7874
↓ F	↓		↓		↓			↓	#7875
↓ G	↓		↓		↓			↓	#7876
CINV-151028A	Magnesium Chloride hexahydate	Omnipur	YE24A	-	10/28/15			MET	
CINV-151117A	SODIUM CARBONATE	MACRON	7528-04	-	11/17/15			LSR	
↓ B	↓	↓	7528-04	-	↓			↓	

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-151117 C	AMMONIUM PERSULFATE	BDH	2455C516	-	11/17/15	1	4/2019	LSR	
↓ D	MAGNESIUM chloride Hexahydrate	EMD Chemicals	YE27A	-	↓			LSR	
CINV-151117 E	METHANOL	HONEYWELL	DN615	-	11/17/15			LSR	
↓ F	↓	↓	↓	-	↓			LSR	
G				-				LSR	
H				-				LSR	
I				-				LSR	
J				-				LSR	
CINV-151119 A	Ammonium Sulfate	J.T BAKER	~~[illegible]~~ REB	7=99.0%	11/19/15	12/12/15	12/12/18	REB	
↓ B	↓	↓	115217	↓	↓	12/28/15	12/28/18	↓	
C			↓			01/08/16	01/08/19		
D						01/15/16	01/15/19		
CINV-151130 A	Conductivity Std, 99893 µS/cm	VWR	CC13872	-	11/30/15		7/13/2016	LSR	
↓ B	Ammonium Hydroxide	BDH	7215070	-	↓	12/28/15	12/28/17 ~~8/2018~~	↓	
C	↓	↓	↓	-	↓		↓		
CINV-151130 D	SULFURIC ACID	JT BAKER	120287	95%-98%	11/30/15	12/02/15	12/02/17	LSR	
↓ E	↓	↓	↓	↓	↓			↓	
CINV-151130 F	1,5 Diphenyl Carbazide	JT BAKER	104477	-	11/30/15	12/01/15	12/01/18	REB	

Advanced Technology Laboratories-Las Vegas
Logbook #2

REB 1/11/2016

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CIW-160111 C	Buffer, pH 7	Thermo Scientific	TP2		1/11/16		1/2017	[illegible]	
D	↓, pH 10	VWR	1509B50		1/11/16		3/2017	[illegible]	
E	Conductivity Std, 1413 µS/cm	Mettler Toledo	1511260009		1/11/16		8/24/17	[illegible]	
CIW-160112A	Hexanes	BMD Chemicals			1/12/16	1/12/16	1/12/18	LSR	8147
B						1/19/16	1/19/18	LSR	8148
C								LSR	8149
D								LSR	8150
CIW-160125A	Sodium Carbonate	MACRON	09514		1/25/16			[illegible]	
CIW-160125B									
C	Ammonium hydroxide	BDH	7215070		1/25/16			[illegible]	
CIW-160125D	Ammonium sulfate	JT. BAKER	126292	≥99%	1/25/16	1/25/16	1/25/19	[illegible]	
E						02/01/16	02/01/19		
F						02/10/16	02/10/19		
G						02/23/16	02/23/19		
CIW-160125H	1,5 diphenyl carbazide	JT	12086		1/25/16			[illegible]	
CIW-160125I	Turbidity, 5.0 NTU	AMCO Clear	C585117	–	1/25/16	2/1/16 2/07/16	1/2017	LSR	

Advanced Technology Laboratories-Las Vegas
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CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CIW-160111 C	Buffer, pH 7	Thermo Scientific	TP2		1/11/16		11/2017	[illegible]	
D	↓, pH 10	VWR	1509E50		1/11/16		3/2017	LSR	
E	Conductivity STD, 1413 mS/cm	Mettler Toledo	1514260009		1/11/16		8/24/17	LSR	
CIW-160112A	HEXANES	EMD Chemicals	55219		1/12/16	1/12/16	1/12/18	LSR	8147
B						1/19/16	1/19/18	LSR	8148
C						1/28/16	1/28/18	LSR	8149
D						2/17/16	2/17/18	LSR	8150
CIW-160125A	Sodium Carbonate	Macron	109514		1/25/16			REB	
CIW-160125B									
C	Ammonium hydroxide	BDH	7215070		1/25/16			REB	
CIW-160125 ~~A~~ D (REB 160116)	Ammonium sulfate	JT. BAKER	126292	≥99%	1/25/16	1/25/16	1/25/19	REB	
E						02/01/16	02/01/19		
F									
G									
CIW-160125 H	1,5 diphenyl carbazide	J.T	128086		1/25/16			REB	
CIW-160125 ~~I~~ 5 I (1/25/16)	Turbidity, 5.0 NTU	AMCO Clear	C585117	–	1/25/16	2/1/16 2/27/16	1/2017	LSR	
CIW-160219 A	Zinc acetate	RICCA	1601D42	—	2/19/16		01/2018	XRJ	
CIW-160219 B	METHANOL	J.T BAKER	121483	99.8%	2/19/16	2/20/16	2/20/18	REB	
C	Magnesium chloride	Omni Pur	15K18008						
D	Ammonium persulfate	BDH	2455C516	≥98%					

Advanced Technology Laboratories-Las Vegas
Logbook #2

Reagent Preparation

Reagent Name	Reagent Code	Inventory: Chemical Inventory Code	Preparation: Wt/Vol of Aliquot	Preparation: Final Vol (ml)
Post Column Rgt. Crat	R160121D	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 700mL	1000
Elvent Crat	R160121E	CIN-151119D / CIN-151130B	66g / 13mL	2000
Post Column Rgt Crat	R160122A	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	R160123A	CIN-151119D / CIN-151130B	66g / 13mL	2000
5N HNO_3	⊥ B	# 8142	138mL	500 PEM
~~Post Column Rgt Digestion Soln~~ Crat	R160124A	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	B	CIN-151119D / CIN-151130C	66g / 13mL	2000
Digestion Solution Crat	R160125A	CIN-150619C / CIN-151117B	40g / 160g	2000
$MgCl_2$ Soln Crat	⊥ B	CIN-151117D	40g	100
Elvent Crat	R160125C	CIN-~~151119~~ 160125D CIN-151130C	66g / 13mL	2000
Digestion Solution Crat	R160126A	CIN-150619C CIN-151027B	40g / 60g	2000
Elvent Crat	R160127A	CIN-160125D, CIN-151130C	66g / 13mL	2000
Post Column Rgt Crat	⊥ B	CIN-151130F, CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Post Colum Rgt Crat	⊥ C	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	R160127D	CIN-160125D / CIN-151130C	66g / 13mL	2000
Bitter Crat	R160128A	CIN-160125D / CIN-151130C	33g / 65mL	1000
5N HNO_3	R160128B	# 8142	138mL	500
Ascorbic Acid Solution	R160129A	CIN-141124A, # 8059	6g / 12mL	100
Elvent Crat	R160129B	CIN-160125D, CIN-151130C	66g, 13mL	2000
Elvent Crat	C	CIN-160125D, CIN-151130C	66g, 13mL	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	—	1/21/16	1/24/16	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	MEB
	—	1/21/16	1/21/17	01/15/19; 12/28/17	IC-01	MEB
	—	1/22/16	1/22/16	12/01/18; 12/02/17; 12/01/17		⊥
	—	1/23/16	1/23/17	01/15/19; 12/28/17	IC-01	MEB
5	SN	1/23/16	1/23/17	01/21/18		⊥
	—	1/24/16	1/29/16	12/01/18; 12/02/17; 12/01/17	IC-01	MEB
	—	1/24/16	1/24/17	01/15/19; 01/24/18		⊥
	—	1/25/16	1/25/17	8/24/18; 1/18/19		MEB
	—	1/25/16	1/25/17	12/08/18		⊥
10	—	1/25/16	1/25/17	1/25/19 01/24/18	IC-01	MEB
	—	1/26/16	1/26/17	8/24/18; 1/26/19		MEB
	—	1/27/16	1/27/17	1/25/19; 01/24/18	IC-01	MEB
	—	⊥	2/1/16	12/01/18; 12/02/17; 12/01/17		⊥
	—	⊥	⊥	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	⊥
15	—	⊥	1/27/17	1/25/19; 1/24/18		⊥
	—	1/28/16	2/28/16	1/25/19; 1/24/18		MEB
	SN	⊥	1/28/17	01/21/18		MEB
	—	1/29/16	2/12/16	8/24/18; 1/24/18		
	—	1/29/16	1/29/17	1/25/19; 1/24/18	IC-06 & 07	MEB
20	—	⊥	1/29/17	1/25/19; 1/24/18	IC-01	⊥

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory: Chemical Inventory Code	Preparation: Wt/Vol of Aliquot	Preparation: Final Vol (ml)
R2 COLORING Rgt.	R160205C	CIM-150329A / CIM-1301 1A CIM-151 [illegible]	0.0g / 4.0g / 17mL	100
DIGESTION Sol'n Crat	1 D	~~CIM-15~~ 8788 / CIM-151[illegible]	4g / 60g	2000
~~POST COLUMN~~ ELUENT Crat	R160206A	CIM-160125E / CIM-151130C	66g / 13mL	2000
~~1:1 HNO3~~ ELUENT Crat	R160208A	CIM-160125E / CIM-151130C	66g / 13mL	2000
Post column Rgt Crat	B	CIM-151130F / CIM-151130D CIM-150[illegible]	0.5g / 28mL / 100mL	1000
ELUENT Crat	C	CIM-160125E / CIM-151130C	66g / 13mL	2000
POST column Rgt Crat	D	CIM-151130F / CIM-151130D CIM-150[illegible]8A	0.5g / 28mL / 100mL	1000
10% Ammonium Persulfate, 5% H_3PO_4	E	CIM-151117C / CIM-150[illegible]24C	100g / 150mL	1000
1:1 HNO_3	R160209A	# 8187	1L	2L
6N ~~1N~~ NaOH	R160209B	CIMS #8878	120g.	500mL
BUFFER Crat	R160209C	CIM-160125E / CIM151130C	16.5g / 325mL	500
ELUENT Crat	R160210A	CIM-160125F / CIM151130C	66g / 13mL	2000
TCLP Fluid 1	R160128C	7606 / 7828	1286 / 11.4	2000
SPLP Fluid	R160129G	7877	160	3500
5N HNO_3	R160211A	~~# 5137~~ 8269	138mL	500
ELUENT Crat	R160211B	CIM-160125F / CIM-151130C	66g / 13mL	2000
ELUENT Crat	R160212A	CIM-160125F / CIM-151130C	66g / 13mL	2000
POST COLUMN Rgt Crat	1 D	CIM-151130F / CIM-151130D CIM-150[illegible]8A	0.5g / 28mL / 100mL	1000
DIGESTION SOL'n	R160217C	~~CIM-151130F~~ # 7878 / CIM-160125A	40g / 160mL	2000
ELUENT Crat	R160213A	CIM-160125F / CIM-151130C	66g / 13mL	2000

Reagent Preparation

Preparation		Exp Date			
Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
—	2/5/16	3/5/16	5/22/18; 0-23/16; 2/4/17		MEB
—	2/5/16	2/5/17	2/1/19; ~~1/24/18~~	MEB 2/7/16	MEB
—	2/6/16	2/6/17	02/01/19; 01/24/18	IC-01	MEB
—	2/8/16	2/8/17	02/01/19; 01/24/18	J-IC-01	MEB
—	↓	2/13/16	02/01/18; 02/02/17; 12/01/17		↓
—	↓	2/8/17	02/01/19; 01/24/18	J IC-06 & 07	↓
—	↓	2/13/16	02/01/18; 12/02/17; 12/01/17		↓
10%, 5%	↓	2/8/17	1/8/19; 10/19/17		↓
F1	2/9/16	2/9/17	1/4/18		PG
6N	2/9/16	2/9/17	2/1/17		PG
—	2/9/16	3/9/16	02/01/19; 01/24/18		MEB
—	2/10/16	2/10/17	2/10/19; 01/24/18	IC-01	MEB
—	1/28/16	1/28/17	6/3/17 / 8/24/17	pH 4.95 Late entry.	[illegible]
—	1/29/16	1/29/17	10/30/18	pH 5.00 Late entry	[illegible]
5N	2/11/16	2/11/17	2/3/17		MEB
—	↓	2/11/17	02/10/19; 01/24/18	IC-06 & 07	↓
—	2/12/16	↓	02/10/19; 01/24/18	J IC-01	MEB
—	↓	2/17/16 MEB	02/01/18; 12/02/17; 12/01/17		↓
—	↓	2/12/17	2/1/19; 1/24/19		MEB
—	2/15/16	2/15/17	02/01/19; 01/24/18	IC-01	MEB

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory Chemical Inventory Code	Preparation Wt/Vol of Aliquot	Preparation Final Vol (ml)
TCLP FLUID #1	R160215B	7606 / 7878	128.6 / 11.4	2000
POST COLUMN Rgt Crat	R160215C	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
TCLP Fluid 1	R160216A	7606 / 7878	128.6 / 11.4	2000
1,5-Diphenylcarbazide soln	R160216~~A~~ 2 B	CINV-1501066 / #8158	0.25g / 50 mL	50
10% persulfate + H_3PO_4	R160216 C	CIN-151117C / CIN-150924C	100g / 50mL	1000
POST COLUMN Rgt Crat	R160216 D	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
ELUENT Crat	⊥ E	CIN-160125F / CIN-151130C	66g / 13mL	2000
ELUENT Crat	R160217A	CIN-160125F / CIN-151130C	66g / 13mL	2000
2% $CuSO_4$	R160217 B	CIN-140211D	2g	100
R_1 Buffer	⊥ C	R160217B; CIN-150127A CIN-140224A; CIN-151130B	2.5mL / 85g / 0.1g / 14mL	1000
R_2 COLORING Rgt.	⊥ D	CIN-150323A / CIN-150911A CIN-151130C	0.2g / 4.0g / 17mL	100
DIGESTION SOLN Crat	R160219 A	#7878 / CIN-160125A	40g / 60g	2000
STLC fluid	R160219B	7877 / 1676	160g	3500
ELUENT Crat	R160219 C	CIN-160125F / CIN-151130C	66g / 13mL	2000
BUFFER Crat	R160219D	CIN-160125F / CIN-151130C	33g / 65 mL	1000
POST COLUMN Rgt Crat	R160220A	CIN-151130F / CIN-151130D CIN-160219B	0.5g / 28mL / 100mL	1000
$MgCl_2$ Soln	R160220B	CIN-151117D	40g	100
POST COLUMN Rgt Crat	R160221A	CIN-151130F / CIN-151130D CIN-160219B	0.5g / 28mL / 100mL	1000
DIGESTION SOL'N Crat	⊥ B	#7878 / CIN-160125A	40g / 60g	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	–	2/15/16	3/4/16	10/30/18	pH 4.95	AH
	–	2/15/16	2/20/16	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	MEB
	–	2/16/16	2/16/17	6/3/17/8/24/17	pH 4.89	[illegible]
	–	2/16/16	2/16/16	3/2/18; 2/12/17		–
5	10%; 5%	2/16/16	2/16/17	11/18/19; 10/19/17		MEB
	–	2/16/16	2/21/17	12/01/18; 12/02/17; 12/01/17	IC-01	
	–	1	2/16/17	2/10/19; 01/24/18		1
	–	2/17/16	2/17/17	2/10/19; 01/24/18	IC-06 & 07	MEB
	2%	2/17/16	3/17/16	5/20/17		MEB
10	–	1	3/17/16	3/17/16; 5/20/17; 5/22/18; 01/24/18		1
	–	–	3/17/16	5/22/18 & 02/28/16	2/14/17	–
	–	2/19/16	2/19/17	2/11/19; 1/28/19		MEB
	–	2/19/16	2/19/17	10/30/18	pH 5.01	AMY
	–	1	2/19/17	2/10/19; 01/24/18	IC-01	MEB
15	–	1	3/19/17	2/10/19; 01/24/18		1
	–	2/20/16	2/25/16	12/01/18; 12/03/17; 2/20/18	IC-01	MEB
	–	1	2/20/16	12/28/18		MEB
	–	2/21/16	2/26/16	12/01/18; 6/26/17; 2/20/18	IC-06 & 07	MEB
	–	2/21/16	2/21/17	2/11/19; 01/28/19		1
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* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory Chemical Inventory Code	Preparation Wt/Vol of Aliquot	Preparation Final Vol (ml)
Digestion Soln Crat	R160222A	#7878 / CINV-160125D	40g / 60g	2000
5N HNO_3	↓ B	#8269	138 mL	500
Elvent Crat	R160222C	CINV-160125F / CINV-151130C	66g / 13mL	2000
Elvent Crat	R160223A	CINV-160125G / CINV-151130C	66g / 13mL	2000
Post Column Rgt.	↓ B	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Elvent Crat	R160224A	CINV-160125G / CINV-160125C	66g / 13mL	2000
Post Column Rgt. Crat	R160226A	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Phosphate buffer Crat	R160226B	CINV-140226A0 / CINV-151803A	8.7g ; 6.8g	100
MgCl2 Soln Crat	R160229A	CINV-151117D	40g	100
Digestion Soln Crat	↓ B	#7878 / CINV-160125A	40g / 60g	2000
Elvent Crat	↓ C	CINV-150125G / CINV-160125C	66g / 13mL	2000
Post Column Rgt Crat	↓ D	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Ammonium Molybdate Sb-K tartrate soln	R160301A	CINV-130913D / CINV-131216A	4.0 / 0.1g	500
Ascorbic Acid Solution	↓ B	CINV-141126A / #8162	6g / 2.0 mL	100
Elvent Crat	R160302A	CINV-160125G / CINV-160125C	66g / 13mL	2000
Elvent Crat	R160302B	CINV-160125G / CINV-160125C	66g / 13mL	2000
Post Column Rgt Crat	R160304A	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Elvent Crat	R160307A	CINV-160125G / CINV-160125C	66g / 13mL	2000
Elvent Crat	R160307B	CINV-160219E / CINV-160125C	66g / 13mL	2000

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Reagent Preparation

Preparation		Exp Date			
Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
—	2/22/16	2/22/17	2/11/19; 01/24/19		MEB
5N	2/22/16	2/22/17	2/3/17		J
—	2/22/16	2/22/17	2/10/19; 1/24/18	IC-06 & 07	MEB
—	2/23/16	2/23/17	2/23/19; 01/24/18	J IC-01	MEB
—	1	2/28/16	12/01/18; 12/02/17; 2/20/18		1
—	2/24/16	2/24/17	2/23/19; 2/24/18	IC-06 & 07	MEB
—	2/26/16	3/29/16	12/01/18; 12/02/17; 2/20/18	IC-06 & 07	MEB
—	2/26/16	5/26/16	6/15/17; 8/17/18		MEB
—	2/29/16	2/29/17	12/28/18		MEB
—		2/29/17	2/11/19; 01/24/19		
—		2/29/17	2/23/19; 2/24/18	J IC-01	
—		3/5/16	12/01/18; 12/02/17; 2/20/18		
—	3/1/16	9/23/16	9/23/16; 12/30/16		2
—	1	3/15/16	3/26/18; 2/28/17		1
—	3/2/16	3/2/17	2/23/19; 2/24/18	IC-01	MEB
—	1	1	2/23/19; 2/24/18	IC-06 & 07	MEB
—	3/4/16	3/9/16	12/01/18; 12/02/17; 2/20/18		MEB
—	3/7/16	3/7/17	2/23/19; 2/24/18	IC-06 & IC-07	JAS
—	3/7/16	3/7/17	3/7/19; 2/24/18	IC-01	MEB

* Check reagent expiration date versus stock/manufacturer's expiration date

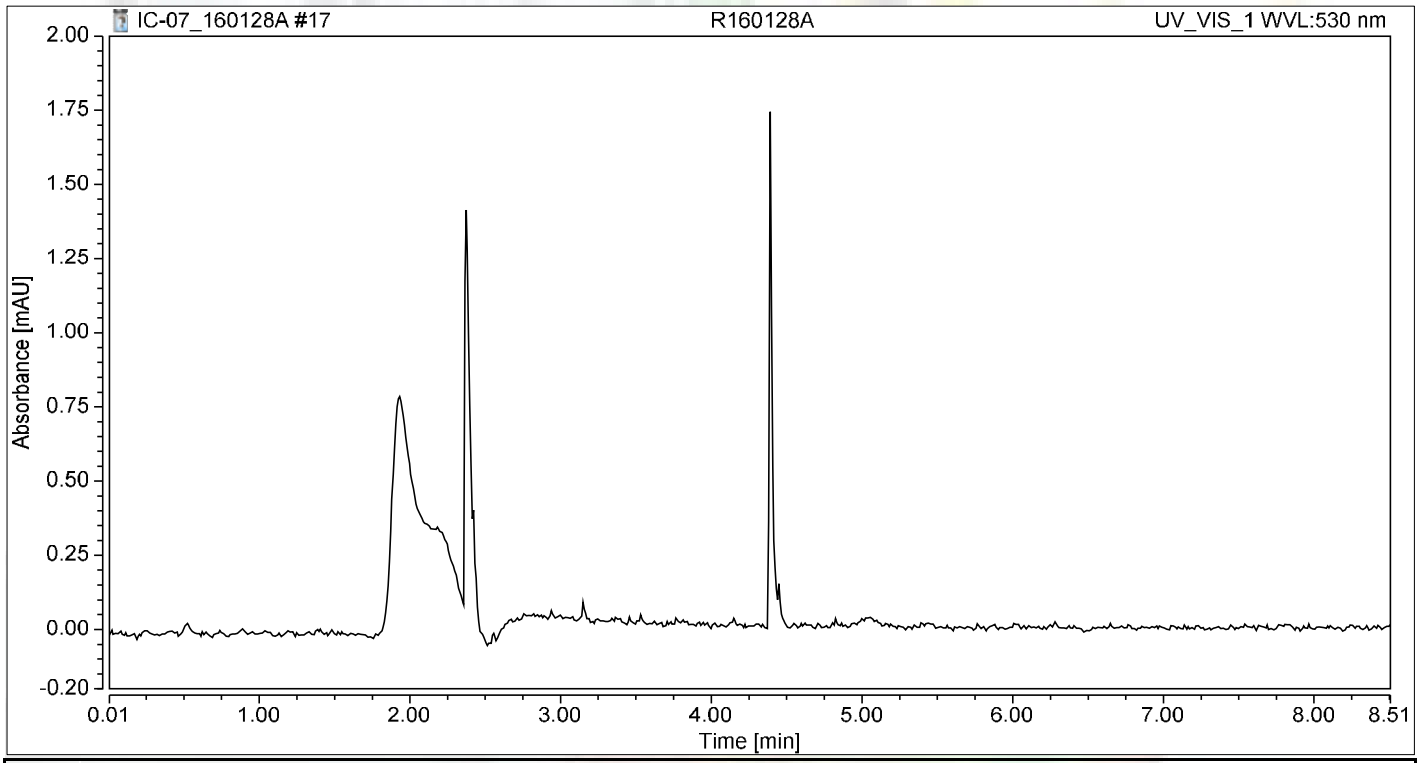
Logbook 4

Chromatogram and Results

Injection Details

Injection Name:	**R160128A**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/16 11:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

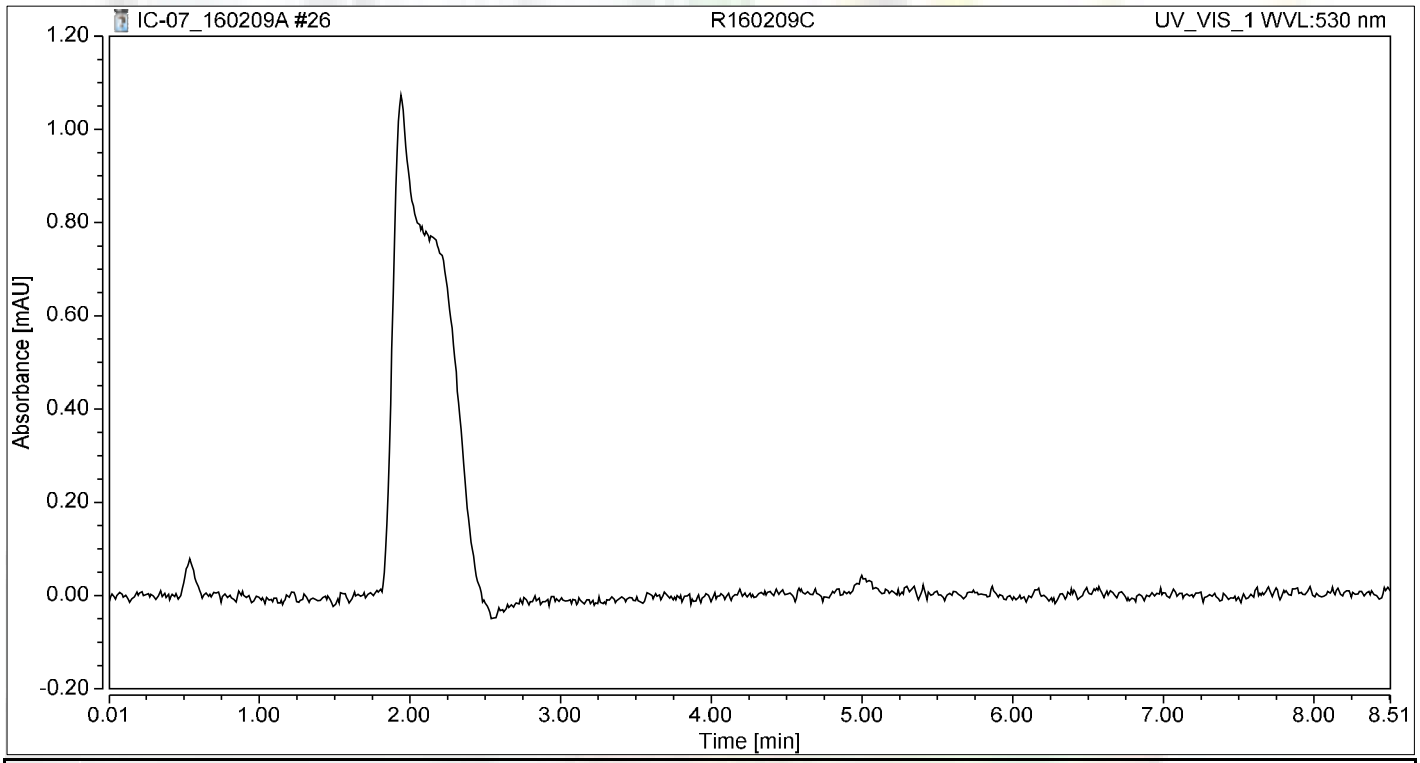
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**R160209C**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**09/Feb/16 13:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

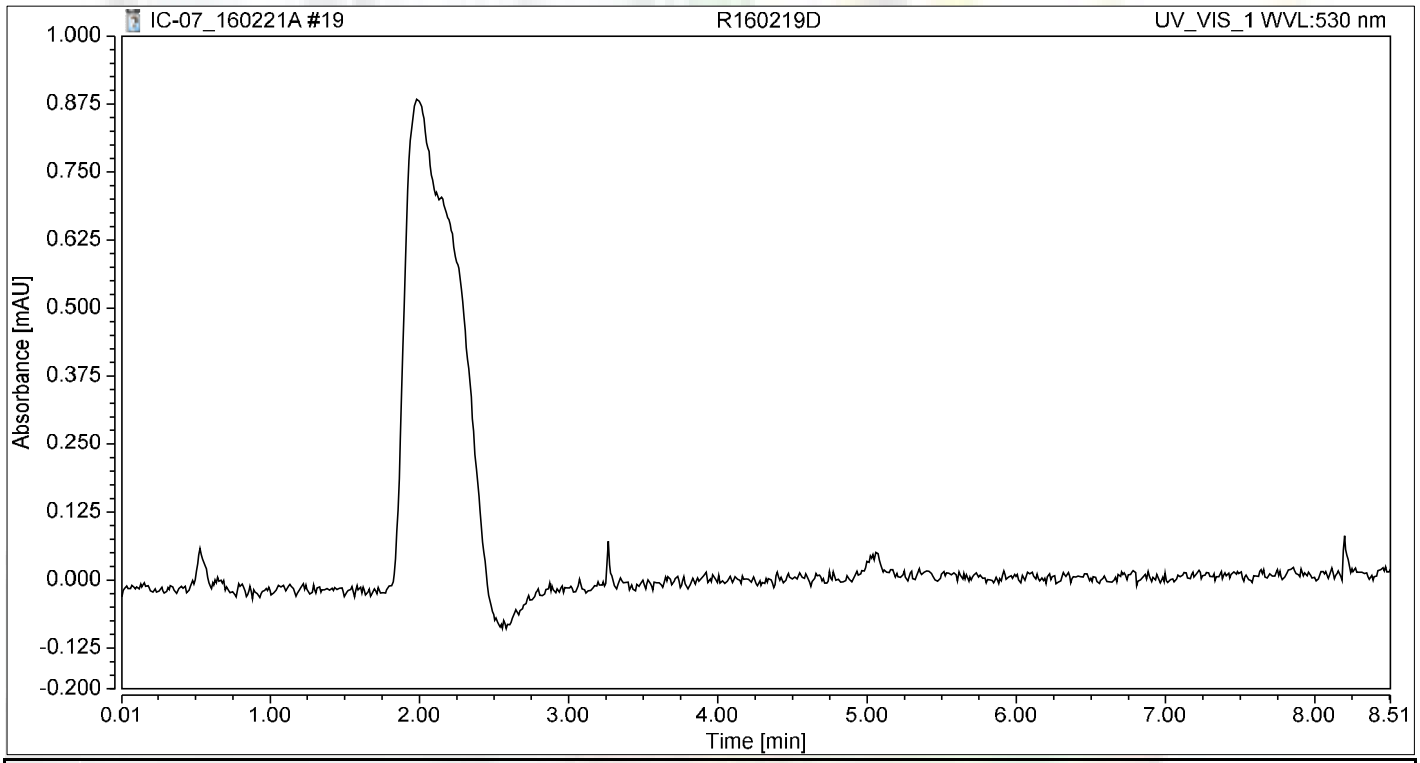
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**R160219D**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Feb/16 16:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106334 **Analyst:** REB

ASSET #: N018855 **Date Analyzed:** 3/8/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	**No**	**N/A**
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/10/2016 Date:

2nd Level Reviewer Nancy 3/10/2016 Date:

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018855-001C**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 1.1971*1

= 1.1971 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 1.2

Reb 3/10/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

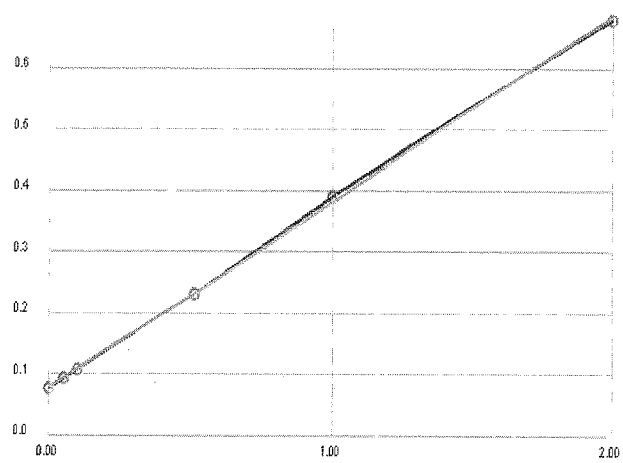
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3018x + 0.0796
Correlation	.999791



Calibrant	Energy	Set	Conc
1	0.0775	0.0000	-0.0069
2	0.0930	0.0500	0.0444
3	0.1083	0.1000	0.0951
4	0.2312	0.5000	0.5023
5	0.3906	1.0000	1.0304
6	0.6786	2.0000	1.9846

Notes:

R1 Buffer - R160217C
R2 COLORING AGT - R160217D
2° CU SO4 - R160217 B
1° STD - 1 SST - 150206D
2° STD - 1 150730E

Reb 3/10/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ICV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.521	0.050	0.5000	0	104	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.530	0.050	0.5000	0	106	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.521	0.050	0.5000	0	104	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.504	0.050	0.5000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ICB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-08-2016 15:26
Time end: 03-08-2016 17:57

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	17:22:54	0.0040		0.0808
2	<BLANK>	17:23:49	-0.0033		0.0786
3	<CAL1>	17:24:49	-0.0069	[0]	0.0775
4	<CAL2>	17:25:44	0.0444	[0.05]	0.0930
5	<CAL3>	17:26:46	0.0951	[0.1]	0.1083
6	<CAL4>	17:27:41	0.5023	[0.5]	0.2312
7	<CAL5>	17:28:35	1.0304	[1]	0.3906
8	<CAL6>	17:29:36	1.9846	[2]	0.6786
9	,BLANK,BLANK,1,	17:30:32	0.0348		0.0901
10	,ICV,ICV,1,	17:31:26	0.5209		0.2368
11	,ICB,ICB,1,	17:32:27	-0.0029		0.0787
12	,MB-H2O,MBLK,1,	17:33:23	-0.0106		0.0764
13	,LCS-H2O,LCS,1,	17:34:18	0.5179		0.2359
14	,N018844-001E,SAMP,1,	17:35:18	0.5301		0.2396
15	,N018844-001EDUP,DUP,1,	17:36:14	0.4947		0.2289
16	,N018844-001EMS,MS,1,	17:37:09	1.0732		0.4035
17	,N018844-001EMSD,MSD,1,	17:38:09	1.0904		0.4087
18	,N018845-004C,SAMP,20,	17:39:05	1.0235		0.3885
19	,N018855-001C,SAMP,1,	17:40:01	1.1971		0.4409
20	,N018855-002C,SAMP,1,	17:41:02	0.1332		0.1198
21	,BLANK,BLANK,1	17:41:44	-0.0033		0.0786
22	,CCV-1,CCV,1,	17:42:34	0.5295		0.2394
23	,CCB-1,CCB,1,	17:43:16	-0.0043		0.0783
24	,N018855-003C,SAMP,1,	17:44:05	0.1703		0.1310
25	,N018855-004C,SAMP,1,	17:44:47	0.2015		0.1404
26	,N018918-002D,SAMP,5,	17:45:30	0.6401		0.2728

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
27	,N018919-001C,SAMP,5,	17:46:20	0.2194		0.1458
28	,N018919-002C,SAMP,5,	17:47:02	0.8015		0.3215
29	,N018936-001C,SAMP,1,	17:47:45	0.0110		0.0829
30	,N018936-002D,SAMP,5,	17:48:33	0.7342		0.3012
31	,BLANK,BLANK,1	17:49:16	-0.0033		0.0786
32	,CCV-2,CCV,1,	17:50:04	0.5209		0.2368
33	,CCB-2,CCB,1,	17:50:48	-0.0135		0.0755
34	,N018996-001D,SAMP,1,	17:51:31	0.6600		0.2788
35	,N018996-002D,SAMP,1,	17:52:19	0.4583		0.2179
36	,N018996-003D,SAMP,1,	17:53:03	1.9982		0.6827
37	,BLANK,BLANK,1	17:53:45	0.0067		0.0816
38	,CCV-3,CCV,1,	17:54:34	0.5036		0.2316
39	,CCB-3,CCB,1,	17:55:16	-0.0099		0.0766

Reb 3/10/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/8/2016
Time Analyzed: 03:26 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018844-001E		8.59						
2)	N018855-001C		8.87						
3)	N018855-002C		8.67						
4)	N018855-003C		8.56						
5)	N018855-004C		8.22						
6)	N018918-002D		8.96						
7)	N018919-001C		8.56						
8)	N018919-002C		8.78						
9)	N018936-001C		8.33						
10)	N018936-002D		8.21						
11)	N018996-001D		8.36						
12)	N018996-002D		8.63						
13)	N018996-003D		7.66						
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/10/2016

STANDARDS LOG

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.269
www.assetlaboratories.com

Inorganics Stock Standard Logbook

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
5/29/15	Hexadecane & Stearic Acid Std	ISST150529A	4mg/mL	ACCU STANDARD	21410420	5/29/15	6/2/15	11/10/24	LSR
		B					6/25/15		
		C					7/13/15		
		D					7/24/15		
		E					8/31/15		
7/9/15	Perchlorate	ISST150709A	100 mg/L	ERA	110415	7/9/15		5/17	2
7/30/15	Fluoride, 1000 ppm	ISST150730A	1000 mg/L	ERA	121214	7/30/15	8/14/15	12/16	2
	Chloride, 1000 ppm	B			260115			1/17	
	Nitrite as N, 1000 ppm	C			100115			1/17	
	Bromide, 1000 ppm	D			170614			1/17	
	Nitrate as N, 1000 ppm	E			270415			4/17	
	Phosphate as P, 1000 ppm	F			280415			4/17	
	Sulfate, 1000 ppm	G			660415			4/17	
8/4/15	KHP 500ppm (TOC STD 1°)	ISST150804A	500mg/L	ABSOLUTE	061015	8/4/15	8/5/15	06/10/18	REB
8/11/15	Carbon as TOC (TOC STD 1°)	ISST150811A REB	100mg/mL	High purity	1409004	8/11/15	8/11/15	2/6/17	MG
8/14/15	TOC Std 1° (KHP)	ISST-150814A	1000mg/L	CPI	1511067 ~~1511006~~ REB 8/14/15	8/14/15		02/12/2017	REB
9/14/15	Hexadecane & Stearic Acid Std	ISST150914A	4mg/mL	ACCU STANDARD	215041058	9/14/15	9/16/15	4/8/25	LSR
		B					9/21/15		
		C							

Advanced Technology Laboratories-Las Vegas
Logbook #1

Inorganics Stock Standard Logbook

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
9/17/14	Hexadecane & Steric Acid	Isst-140917B	8,000mg/ml	Accustandard	214 061302	9/17/14		6/16/2024	PS
		C							
		D							
		E							
9/23/14	Fluoride, 1000 mg/L	Isst-140923A	1000 mg/L	ERA	230314	9/23/14	9/30/14 PS 10/24/14	9/30/15 ~~3/2016~~	PS
	chloride,	B		ERA PS 9/23/14	570414 ~~230314~~		9/30/14 PS 10/24/14	9/30/15 ~~4/2016~~	
	Nitrite as N,	C		PS 9/23/14	070414 ~~570414~~		9/30/14 PS 10/24/14	9/30/15 ~~4/2016~~	
	Bromide,	D		PS 9/23/14	170614 ~~070414~~		9/30/14 PS 10/24/14	9/30/15 ~~6/2016~~	
	Nitrate as N,	E		PS 9/23/14	320614 ~~070414~~		9/30/14	9/30/15 ~~6/2016~~ PS 10/24/14	
	phosphate as P,	F			190714	—	9/25/14	9/25/15 ~~7/2016~~ PS	10/24/14
	sulfate,	G		PS 9/23/14					
11/4/14	Nitrite as N, 1000 mg/L	Isst-141104A	1000 mg/L	Absolute	090514	11/4/14	11/12/14	11/12/15	PS
11/26/14	Tou Standard	Isst-141126A	1000 mg/L	Peak Performance	14K142	11/26/14	12/5/14	12/5/15	PS
1/9/15	100 ppm Cr6+	ISST 150109A	100 ppm	High Purity	1402622	1/9/15	1/26/15	1/6/16	2
2/3/15	EPA 1664 STANDARD (MS/MSD)	ISST 150203A	4000 mg/mL	ULTRA SCIENTIFIC	CL-1755	—	2/13/15	6/31/17	LSR
2/6/15	Fluoride, 1000 mg/L	ISST 150206A	1000 mg/L	Absolute STAS	12/6/14	2/6/15	2/11/15	12/16/17	2
	Chloride, 1000 mg/L	B			122914			12/29/17	
	Bromide, 1000 mg/L	C			112414			11/24/17	
	Nitrate as N, 1000 mg/L	D			12/6/14			12/16/17	

Advanced Technology Laboratories-Las Vegas
Logbook #1

CHEMICAL INVENTORY LOG

Inventory Code CINV	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
~~SX07~~ 140122A	Sodium Sulfate, anhydrous	EMD	WF03H	99.02	1/22/14			STF	#6912
CINV 140206A	Zinc Acetate 2N	Ricca	1401B21	–	2/5/14		01/16	PS	#6914
CINV 140206 B	2N Zinc Acetate	Ricca	1401B21	–	2/5/14		01/16	PS	
CINV-140211 A	Mercury II oxide	Alfa Aesar	F22I27	99.6%	2/11/14			MC	
B	Pyridine, ACS, 99.0% Liquid	Alfa Aesar	D05Z888	99.0%	2/11/14			MC	
C	Ethanol, Alcohol Reagent	Alfa Aesar	I17Y018	94-96%	2/11/14			MC	
D	Copper II sulfate pentahydrate	Alfa Aesar	C28Y031	98-102%	2/11/14	5/20/14	5/20/17	MC	
E	Ammonium Chloride	Alfa Aesar	D29Z044	99.5%	2/11/14	2/19/14	2/19/17	MC/MI	
CINV-140211F	Silver Nitrate	Spectrum	1040834	≥99.0%	2/11/14			2	
CINV-140213 A	1° Turbidity Std. 0.02 NTU	Oakton	C365301	–	2/13/14	2/13/14	2/13/15	MC	
B	20		C365600						
C	100		C365829						
D	800		C365735						
CINV-140127A	Phosphoric Acid	EMD	53224335	≥85.0%	1/27/14	1/28/14	1/28/16	2	
CINV-140217A	Silica Gel (80-200 Mesh)	J.T. Baker	0000053205	–	2/17/14		6/26/20	PLN	#6962
CINV-140218A	Iron (III) nitrate monohydrate	Alfa Aesar	K132039	98.0-101%	2/18/14			MI	
B	Phenol, ACS, 99+%, stab. Crystalline		A28Z020	99+%					
C	Acetic acid, glacial		J10Z048	99.7%		3/24/14	3/24/16		#6975
D	Sodium hypochlorite		L10Z021	14.5%					
E	Potassium sodium-L tartrate tetrahydrate		C28Z028	99.0-102%					

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-141003 T	Dichloromethane	EMD	54225	99.9	10/3/14			AH	7200
U									7201
V									7202
W									7203
X									7204
Y									7205
Z									7206
AA									7207
CINV-141006A	Boiling Chips	Chemware	K565-4H031	—	10/6/14			MI	
B	Phosphoric acid	EMD	59010419	min. 85%	10/6/14	2/4/15	2/4/16	MI	
CINV-M1007A	Hydroxylamine Hydrochloride	JT Baker	87923	≥96.0%	10/7/14			L	re-test date: 12/9/20
B									
C									
D									
CINV-141008A	Acetone	Honeywell	DL089	99.9%	10/8/14			AH	7209
B									7210
C									7211
D									7212
E	Dichloromethane	EMD	54192						7213
F									7214

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV - 140218 F	Methyl Red sodium SALT	Alfa Aesar	J31Z031	-	2/18/14			mi	
G	Ethylenediamine tetraacetic acid disodium magnesium salt hydrate		K10175810	-					
H	Glycerol, ACS, 99.5% Viscous liquid		mi 2/18/14 K19Z027	99.5 +%					
I	Potassium cyanide		K22Z010	96.0% min.					
J	Sodium hydrogen phosphate, anhydrous, 99% min., Granular		J16Z014	99.0% min					
K	N-(1-Naphthyl) ethylenediamine dihydrochloride, ACS, powder		K04Z031	-		5/20/14	5/20/17		
L	Calmagite, indicator		10169022	-					
CINV-140218 M	Sodium Nitroferricyanide, Dihydrate	JT Baker	0000052646	-	2/18/14			mi	
N	Chloramine-T, Trihydrate	MacRon	00000 562032	-					
CINV-140221A	Sodium Salicylate, 99%	Alfa Aesar	I03Z041	99%	2/21/14			mo	
CINV-140224A	Ethylenediamine tetraacetic acid disodium SALT dihydrate, ACS, 99-101%	Alfa Aesar	A18Z040	99-101%	2/24/14	5/20/14	5/20/17	mi	
B	Calcium carbonate		H01Z033	99%					
CINV-140226A	Dichloromethane	OmniSolv	51090	99.96%	02/25/14			mi	Lims bt# 6916
B									6917
C									6918
D									6919
E									6920
F									6921
G									6922
H									6923

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
~~CINV-130909~~ AP									
AQ									
AR									
AS									
AT									
AU									
AV									
AW									
AX									
AY									
AZ									
BA									
CINV-130909AG	Sodium metasilicate nonahydrate	Acros Organics	A0322526	44-47.5% total solids	9/9/13			2	
AH	Sand	JTBaker	49649	—		9/10/13	9/10/16		Re-test Date: 8/31/18
CINV-130910A	Sodium metasilicate nonahydrate	JTBaker	39835	—	9/10/13			2	Retest Date: 6/28/16
B	Ammonium Hydroxide	EMD	53043	20-22%		10/7/13	10/7/14		
C	Sulfamic Acid	JTBaker	53304	—					Re-test Date: 10/24/19
D	Sodium Acetate Trihydrate	EMD	A0469422 242	99.0-101.0%					
CINV-130910 E	TCLP Extraction Fluid #1	Environmental Express	130531		9/9/13		05/2015	FK	#6753
CINV-130911 A	Sulfanilamide	JT Baker	0000042228		9/11/13	5/20/14	02/28/2016	FK	

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-150320A	Buffer, pH 2	BDH	1408B19	-	3/20/15		8/2016	LSR	
B	Buffer, pH 12	BDH	1409454	-	3/20/15		9/2015	LSR	
CINV-150323A	N-(1-Naphthyl) ethylenediamine	~~Alfa Aesar~~	~~N03A036~~	-	3/19/15	5/22/15	5/22/18	2	
	dihydrochloride								
CINV-150325A	TETRAbutylammonium hydroxide	Macron			3/25/15	3/26/15	3/26/17	PEB	
B	Heptafluorobutyric acid	Alfa Aesar	G07X060	99%	3/25/15	3/26/15	3/26/17	PEB	
CINV-150335C	1,5-diphenylcarbazide	J.T BAKER	000010030	-	3/25/15	3/25/15	3/25/18	PEB	
CINV-150401A	Sodium Chloride	J.T BAKER		99%	4/1/15	04/14/15	4/14/18	PEB	
CINV-150402A	Hexanes	EMD Chemicals	54308	98.5%	4/2/15	5/22/15	5/22/17	LSR	#7546
B						6/25/15	6/25/17	LSR	#7547
C						7/24/15	7/24/15	LSR	#7548
D						8/28/15	8/28/17	LSR	#7549
CINV-150416A	METHANOL	J.T BAKER	57548	99.8%	4/16/15	5/16/15	5/16/17	PEB	
B	1,5-diphenyl carbazide	J.T. BAKER	000010030	-	4/16/15	7/20/15	7/20/18	PEB	
CINV-150430A	Conductivity Std, 99996	VWR	CC13489	-	4/30/15	6/10/15	2/20/16	LSR	
CINV-150501A	Ferrous Sulfate	Aqua Solutions	501214	-	5/1/15			LSR	
CINV-150506A	Ammonium Persulfate	JTBaker	162447	≥98.0%	5/6/15		7/8/16	2	
B		BDH	3495C517	-		5/8/15	5/8/18		
CINV-150511A	Ammonium Sulfate	J.T BAKER	86693	99%	5/11/15	5/20/15	5/20/18	PEB	
B									

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-150511C	Ammonium Sulfate	J.T BAKER	86693	99.0%	5/11/15	7/7/15	7/7/18	PEB	
↓ D	↓	↓	↓	↓	↓			↓	
CINV-150511E	SULFURIC ACID	J.T BAKER	84185	95-98%	5/11/15	5/16/15	5/16/17	PEB	
CINV-150520 A	Turbidity Std 20 NTU	AMCO	C579123	–	5/20/15	6/3/15	5/2016	LSR	
↓ B	Turbidity Std, 100 NTU	↓	C475123	–	5/20/15	6/3/15	5/2016	LSR	
CINV-150527 A	Conductivity Std 1413 µS/cm	Mettler Toledo	15P150006	–	5/27/15	6/29/15	4/15/17	LSR	
CINV-~~150527B~~ 150528 B	Thymol Blue	Ricca	1505B80	.	~~5/28~~ ↓	6/1/15	5/2017	LSR	
CINV-150528 A	Turbidity Std, 0.02 NTU	Cole Palmer	C475781	–	5/28/15	6/3/15	6/2016	LSR	
↓ B	↓ 20 ↓	↓	C475844	–	↓	↓	↓	↓	
C	100		C475845	–					
↓ D	↓ 800 ↓	↓	C475846	–	↓	↓	↓	↓	
CINV-150528 E	Ammonium Hydroxide	BDH	7214120	–	5/28/15	6/10/15	1/21/18	LSR	#7593
F	Ammonium Hydroxide	↓	↓	–	↓	7/13/15	↓	↓	#7594
G	Hydrochloric Acid	JT Baker	97262		5/28/15			LSR	#7595
H	↓	↓	↓		↓			↓	#7596
I									~~#7598~~
J									#7599
K									~~#7599~~ 7600
↓ L	↓	↓	↓		↓			↓	#7601
CINV-150529 A	Ammonium Hydroxide	J.T BAKER		20%	5/29/15	9/4/15	9/4/17	PEB	

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-151117 C	AMMONIUM PERSULFATE	BDH	2455C516	-	11/17/15	1	4/2019	LSR	
↓ D	MAGNESIUM chloride Hexahydrate	EMD Chemicals	YE27A	-	↓			LSR	
CINV-151117 E	METHANOL	HONEYWELL	DN615	-	11/17/15			LSR	
F				-				LSR	
G				-				LSR	
H				-				LSR	
I				-				LSR	
J				-				LSR	
CINV-151119 A	Ammonium Sulfate	J.T BAKER	~~118186~~ PEB 115217	Y=99.0%	11/19/15			PEB	
B									
C									
D									
CINV-151130 A	Conductivity Std, 99893 uS/cm	VWR	CC13872	-	11/30/15		7/13/2016	LSR	
B	Ammonium Hydroxide	BDH	7215070	-		12/01/15	8/2018		
C	↓	↓	↓	-	↓	1/24/16	↓	↓	
CINV-151130 D	SULFURIC ACID	JT BAKER	120287	95%-98%	11/30/15	12/02/15	12/02/17	LSR	
E	↓	↓	↓	↓	↓			↓	
CINV-151130 F	1,5 Diphenyl Carbazide	JT BAKER	104477	-	11/30/15	12/01/15	12/01/18	PEB	
CINV-160111 A	CONDUCTIVITY STD, 9.31 uS/cm	VWR	CC14270	-	1/11/16		11/11/16	LSR	
B	↓ 19,992 uS/cm	↓	CC14206	-	1/11/16	1/27/16	10/24/16	↓	

Advanced Technology Laboratories-Las Vegas
Logbook #2

Reagent Preparation

Reagent Name	Reagent Code	Inventory: Chemical Inventory Code	Preparation: Wt/Vol of Aliquot	Preparation: Final Vol (ml)
TCLP FLUID #1	R160215B	7606 / 7878	128.6 / 11.4	2000
POST COLUMN Rgt Crat	R160215C	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
TCLP Fluid 1	R160216A	7606 / 7878	128.6 / 11.4	2000
1,5-Diphenylcarbazide soln	R160216~~A~~ 2 B	CINV-1501066 / #8158	0.25g / 50 mL	50
10% persulfate + H_3PO_4	R160216 C	CIN-151117C / CIN-150924C	100g / 50mL	1000
POST COLUMN Rgt Crat	R160216 D	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
ELUENT Crat	⊥ E	CIN-160125F / CIN-151130C	66g / 13mL	2000
ELUENT Crat	R160217A	CIN-160125F / CIN-151130C	66g / 13mL	2000
2% $CuSO_4$	R160217 B	CIN-140211D	2g	100
R_1 Buffer	⊥ C	R160217B; CIN-150127A CIN-140224A; CIN-151130B	2.5mL / 85g / 0.1g / 14mL	1000
R_2 COLORING Rgt.	⊥ D	CIN-150323A / CIN-150911A CIN-151130C	0.2g / 4.0g / 17mL	100
DIGESTION SOLN Crat	R160219 A	#7878 / CIN-160125A	40g / 60g	2000
STLC fluid	R160219B	7877 / 1503	160g	3500
ELUENT Crat	R160219 C	CIN-160125F / CIN-151130C	66g / 13mL	2000
BUFFER Crat	R160219D	CIN-160125F / CIN-151130C	33g / 65 mL	1000
POST COLUM Rgt Crat	R160220A	CIN-151130F / CIN-151130D CIN-160219B	0.5g / 28mL / 100mL	1000
$MgCl_2$ Soln	R160220B	CIN-151117D	40g	100
POST COLUMN Rgt Crat	R160221A	CIN-151130F / CIN-151130D CIN-160219B	0.5g / 28mL / 100mL	1000
DIGESTION SOL'N Crat	⊥ B	#7878 / CIN-160125A	40g / 60g	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	–	2/15/16	3/4/16 //	10/30/18	pH 4.95	AH
	–	2/15/16	2/20/16	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	MEB
	–	2/16/16	2/16/17	6/3/17/8/24/17	pH 4.89	[illegible]
	–	2/16/16	2/16/16	3/2/18 ; 2/12/17		–
5	10%; 5%	2/16/16	2/16/17	11/18/19; 10/19/17		MEB
	–	2/16/16	2/2/17	12/01/18; 12/02/17; 12/01/17	IC-01	
	–	1	2/16/17	2/10/19; 01/24/18		1
	–	2/17/16	2/17/17	2/10/19; 01/24/18	IC-06 & 07	MEB
	2%	2/17/16	3/17/16	5/20/17		MEB
10	–	1	3/17/16	3/17/16; 5/20/17; 5/22/18; 01/24/18		1
	–	–	3/17/16	5/22/18 & 02/28/16	2/14/17	–
	–	2/19/16	2/19/17	2/11/19; 1/28/19		MEB
	–	2/19/16	2/19/17	10/30/18	pH 5.01	AMY
	–	1	2/19/17	2/10/19 ; 01/24/18	IC-01	MEB
15	–	1	3/19/17	2/10/19 01/24/18		1
	–	2/20/16	2/25/16	12/01/18; 12/03/17; 2/20/18	IC-01	MEB
	–	1	2/20/16	12/28/18		MEB
	–	2/21/16	2/26/16	12/01/18; 6/26/17; 2/20/18	IC-06 & 07	MEB
	–	2/21/16	2/21/17	2/11/19; 01/28/19		1
20						

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CIW-160111 C	Buffer, pH 7	Thermo Scientific	TP2		1/11/16		11/2017	[illegible]	
D	↓, pH 10	VWR	1509B50		1/11/16		3/2017	USR	
E	Conductivity STD, 1413 µS/cm	Mettler Toledo	1511260009		1/11/16		8/24/17	USR	
CIW-160112A	Hexanes	BDH Chemicals	55219		1/12/16	1/12/16	1/12/18	LSR	8147
B						1/19/16	1/19/18	LSR	8148
C						1/25/16	1/25/18	LSR	8149
D						2/17/16	2/17/18	LSR	8150
CIW-160125A	Sodium Carbonate	Macron	09514		1/25/16			MEB	
CIW-160125B	↓	↓	↓		↓			↓	
C	Ammonium hydroxide	BDH	7215070		1/25/16	2/24/16	2/24/18	MEB	
CIW-160125 ~~A~~ D	Ammonium sulfate	JT. BAKER.	126292	≥99%	1/25/16	1/25/16	1/25/19	MEB	
E						02/01/16	02/01/19		
F									
G									
CIW-160125 H	1,5 diphenyl carbazide	J.T	12086		1/25/16			MEB	
CIW-160125 ~~E~~ I	Turbidity, 5.0 NTU	AMCO Clear	C585117	—	1/25/16	2/11/16	1/2017	LSR	
CIW-160219 A	Zinc acetate	RICCA	1601D42	—	2/19/16		01/2018	YRJ	
CIW-160219 B	METHANOL	J.T BAKER	121483	99.8%	2/19/16	2/20/16	2/20/18	MEB	
C	Magnesium Chloride	Omni Pur	15[illegible]		↓			↓	
D	Ammonium persulfate	BDH	2455C516	≥98%	—			↓	

Advanced Technology Laboratories-Las Vegas
Logbook #2

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56426 **Instrument ID:** ICPMS-02
ASSET #: N018855 **Analyst:** CEI
Method: **Date Analyzed:** 3/7/2016

[ ] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.		X				
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

Mo in N018855-001B is over linear range. For dilution
%Rec of IS in N018845-009B PS/MS/MSD & N018855-001B to 004B failed. As, Se, Cr & Mo for rerun.

N018855-002 was rerun for confirmation on 3/11/16

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/14/2016 Date:
2nd Level Reviewer 3/14/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56426 **Instrument ID:** ICPMS-02
ASSET #: N018855 **Analyst:** CEI
Method: **Date Analyzed:** 3/8/2016

[ ] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?		X				
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For dilution of Mo in N018855-001B & rerun of N018845-009B PS/MS/MSD & N018855-001B to 004B only.
For Confirmation:
N018855-002B (6020) = 31 ug/L :confirmation: 28.807 ug/L ; N018855-002A (218.6) = 41 ug/L :confirmation: 35.565 ug/L

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/14/2016 Date:
2nd Level Reviewer 3/14/2016 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018855-002B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 31.2947 * 1 * (25/25)

Chromium , ug/L = 31.294700

Reporting results in two significant figures,

Chromium , ug/L = 31

% RSD SUMMARY

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.091	12.56	15	PASS	0.11	11.33	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	3.7	15	PASS	0.47	5.13	15	PASS
Std3-5/50 ppb	ICAL	1	4.77	0.77	15	PASS	4.83	2.7	15	PASS
Std4-10/100 ppb	ICAL	1	9.67	0.96	15	PASS	9.85	1.16	15	PASS
Std5-20/200 ppb	ICAL	1	19.43	0.53	15	PASS	19.44	0.57	15	PASS
Std6-40/400 ppb	ICAL	1	39.61	0.32	15	PASS	39.61	0.77	15	PASS
Std7-100/1000 ppb	ICAL	1	98.96	1.42	15	PASS	99.78	0.59	15	PASS
Std8-200/2000 ppb	ICAL	1	200.68	1.059	15	PASS	200.26	0.45	15	PASS
ICV	ICV	1	10.3	1.34	15	PASS	100.89	0.77	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.0012	473.087	15	<PQL
LLICV	CCV1	1	0.98	2.35	20	PASS	0.51	2.72	20	PASS
ICSA1	ICSA	1	0.18	11.48	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	21.11	0.63	15	PASS	17.82	1.49	15	PASS
LLICV	CCV1	1	0.95	2.68	20	PASS	0.51	1.89	20	PASS
MB-56426	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56426	LCS	1	10.37	0.54	15	PASS	100.8	1.85	15	PASS
N018845-009B	SAMP	1	4.46	0.95	15	PASS	350.23	0.54	15	PASS
N018845-009B	SAMP	5	0.96	1.033	15	PASS	77.16	0.45	15	PASS
N018845-009B-PS	PS	1	13.41	0.65	15	PASS	423.62	0.38	15	PASS
N018845-009B-MS	MS	1	14.76	0.56	15	PASS	433.75	0.8	15	PASS
N018845-009B-MSD	MSD	1	14.74	1.12	15	PASS	435.2	0.4	15	PASS
N018845-010B	SAMP	1	0.099	11.24	15	PASS	216.81	0.52	15	PASS
N018855-001B	SAMP	1	17.83	0.32	15	PASS	9.98	1.74	15	PASS
CCV1	CCV	1	19.35	1.66	15	PASS	19.16	0.86	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018855-002B	SAMP	1	31.29	0.27	15	PASS	33.46	1.28	15	PASS
N018855-003B	SAMP	1	28.43	0.65	15	PASS	5.51	2.3	15	PASS
N018855-004B	SAMP	1	27.24	0.83	15	PASS	5.33	0.82	15	PASS
N018857-019B	SAMP	1	31.23	1.18	15	PASS	<0.000	N/A	15	<PQL
N018833-001B	SAMP	25	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018833-001B-PS	PS	5	2.042	0.57	15	PASS	19.74	1.12	15	PASS
N018833-001B-MS	MS	5	2.059	0.96	15	PASS	20.051	0.96	15	PASS
N018833-001B-MSD	MSD	5	2.068	1.92	15	PASS	19.89	1.67	15	PASS
N018834-001B	SAMP	5	0.0066	110.59	15	<PQL	0.2	4.38	15	PASS
N018834-001B-MS	MS	5	2.031	1.87	15	PASS	20.066	1.071	15	PASS
CCV2	CCV	1	19.46	0.25	15	PASS	19.16	0.67	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.97	0.43	20	PASS	0.52	4.17	20	PASS
ICSA2	ICSA	1	0.18	2.73	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	22.97	0.87	15	PASS	19.58	0.58	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV4	CCV	1	19.26	1.36	15	PASS	19.17	1.43	15	PASS
CCB4	CCB	1	0.0049	48.31	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.32	0.61	15	PASS	19.019	0.95	15	PASS
CCB5	CCB	1	0.00096	269.0022	15	<PQL	<0.000	N/A	15	<PQL
CCV6	CCV	1	19.29	0.92	15	PASS	19.16	0.48	15	PASS
CCB6	CCB	1	0.001	157.92	15	<PQL	<0.000	N/A	15	<PQL
LLCCV2	CCV2	1	0.98	2.22	20	PASS	0.5	2.83	20	PASS
ICSA3	ICSA	1	0.17	3.89	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	22.31	0.34	15	PASS	19.56	1.073	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	7.61	15	PASS	0.08	14.54	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	5.78	15	PASS	0.45	21.93	15	<PQL
Std3-5/50 ppb	ICAL	1	4.61	0.53	15	PASS	4.89	5.2	15	PASS
Std4-10/100 ppb	ICAL	1	9.34	0.24	15	PASS	9.39	1.53	15	PASS
Std5-20/200 ppb	ICAL	1	19.074	0.36	15	PASS	18.96	1.43	15	PASS
Std6-40/400 ppb	ICAL	1	38.77	1.44	15	PASS	38.14	1.73	15	PASS
Std7-100/1000 ppb	ICAL	1	98.11	0.15	15	PASS	99.74	1.33	15	PASS
Std8-200/2000 ppb	ICAL	1	201.33	0.41	15	PASS	200.64	0.52	15	PASS
ICV	ICV	1	10.19	0.55	15	PASS	10.16	0.99	15	PASS
ICB	ICB	1	0.013	36.76	15	<PQL	0.0022	513.46	15	<PQL
LLICV	CCV1	1	0.11	9.27	20	PASS	0.47	3.67	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.012	69.51	15	<PQL
ICSAB1	ICSAB	1	20.82	0.43	15	PASS	19.099	0.85	15	PASS
LLICV	CCV1	1	0.12	13.99	20	PASS	0.53	9.27	20	PASS
MB-56426	MBLK	1	0.0024	82.31	15	<PQL	0.0067	98.45	15	<PQL
LCS-56426	LCS	1	10.27	0.87	15	PASS	10.099	4.92	15	PASS
N018845-009B	SAMP	1	1.4	2.43	15	PASS	1.089	16.91	15	NR!
N018845-009B	SAMP	5	0.31	14.021	15	PASS	0.27	12.87	15	PASS
N018845-009B-PS	PS	1	10.7	0.49	15	PASS	9.4	1.17	15	PASS
N018845-009B-MS	MS	1	11.085	1.2	15	PASS	9.35	1.69	15	PASS
N018845-009B-MSD	MSD	1	10.84	1.66	15	PASS	9.68	4.43	15	PASS
N018845-010B	SAMP	1	14.16	0.83	15	PASS	0.073	17.82	15	<PQL
N018855-001B	SAMP	1	2	2.45	15	PASS	0.54	18.42	15	NR!
CCV1	CCV	1	18.95	0.74	15	PASS	19.014	0.87	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0023	134.48	15	<PQL
N018855-002B	SAMP	1	1.81	1.1	15	PASS	0.065	38.64	15	<PQL
N018855-003B	SAMP	1	5.63	2.58	15	PASS	0.13	17.68	15	<PQL
N018855-004B	SAMP	1	5.47	1.05	15	PASS	0.17	4.53	15	PASS
N018857-019B	SAMP	1	1.24	1.37	15	PASS	14.22	2.48	15	PASS
N018833-001B	SAMP	25	0.11	10.14	15	PASS	0.058	39.41	15	<PQL
N018833-001B-PS	PS	5	2.57	2.47	15	PASS	2.42	9.047	15	PASS
N018833-001B-MS	MS	5	2.6	1.73	15	PASS	2.38	6.25	15	PASS
N018833-001B-MSD	MSD	5	2.56	1.95	15	PASS	2.44	4.36	15	PASS
N018834-001B	SAMP	5	0.48	6.79	15	PASS	0.36	10.36	15	PASS
N018834-001B-MS	MS	5	2.69	2.36	15	PASS	2.46	1.47	15	PASS
CCV2	CCV	1	19.3	0.33	15	PASS	18.79	2.039	15	PASS
CCB2	CCB	1	0.0018	492.88	15	<PQL	0.0008	1086.091	15	<PQL
LLCCV1	CCV2	1	0.1	16.55	20	PASS	0.53	10.86	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.0071	125.66	15	<PQL
ICSAB2	ICSAB	1	21.49	0.75	15	PASS	21.1	2.79	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV4	CCV	1	18.97	1.4	15	PASS	19.14	0.83	15	PASS
CCB4	CCB	1	0.0028	105.69	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.11	0.99	15	PASS	18.72	4.0011	15	PASS
CCB5	CCB	1	0.0041	47.71	15	<PQL	<0.000	N/A	15	<PQL
CCV6	CCV	1	19.086	0.83	15	PASS	18.87	1.59	15	PASS
CCB6	CCB	1	0.0029	151.5	15	<PQL	0.011	93.92	15	<PQL
LLCCV2	CCV2	1	0.1	6.54	20	PASS	0.53	13.83	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.021	86.68	15	<PQL
ICSAB3	ICSAB	1	21.53	1.7	15	PASS	20.039	1.043	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.084	7.039	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.87	15	PASS
Std3-5/50 ppb	ICAL	1	4.73	0.66	15	PASS
Std4-10/100 ppb	ICAL	1	9.51	1.54	15	PASS
Std5-20/200 ppb	ICAL	1	18.97	0.25	15	PASS
Std6-40/400 ppb	ICAL	1	38.98	0.19	15	PASS
Std7-100/1000 ppb	ICAL	1	98.95	0.32	15	PASS
Std8-200/2000 ppb	ICAL	1	200.86	0.078	15	PASS
ICV	ICV	1	10.97	2.027	15	PASS
ICB	ICB	1	0.23	5.02	15	PASS
LLICV	CCV1	1	0.55	3.11	20	PASS
ICSA1	ICSA	1	0.085	13.41	15	PASS
ICSAB1	ICSAB	1	23.94	1.37	15	PASS
LLICV	CCV1	1	0.55	3.24	20	PASS
MB-56426	MBLK	1	0.0069	14.38	15	PASS
LCS-56426	LCS	1	10.29	0.24	15	PASS
N018845-009B	SAMP	1	27.25	0.63	15	PASS
N018845-009B	SAMP	5	5.34	0.89	15	PASS
N018845-009B-PS	PS	1	39.075	1	15	PASS
N018845-009B-MS	MS	1	40.33	0.36	15	PASS
N018845-009B-MSD	MSD	1	40.45	0.93	15	PASS
N018845-010B	SAMP	1	43.21	0.91	15	PASS
N018855-001B	SAMP	1	202.47	0.57	15	PASS
CCV1	CCV	1	19.83	0.38	15	PASS
CCB1	CCB	1	0.19	4.59	15	PASS
N018855-002B	SAMP	1	73.95	1.4	15	PASS
N018855-003B	SAMP	1	100.93	0.95	15	PASS
N018855-004B	SAMP	1	98.38	1.52	15	PASS
N018857-019B	SAMP	1	3.44	1.83	15	PASS
N018833-001B	SAMP	25	0.3	7.048	15	PASS
N018833-001B-PS	PS	5	3.28	1.79	15	PASS
N018833-001B-MS	MS	5	3.25	2.33	15	PASS
N018833-001B-MSD	MSD	5	3.25	2.71	15	PASS
N018834-001B	SAMP	5	1.063	4.052	15	PASS
N018834-001B-MS	MS	5	3.28	2.29	15	PASS
CCV2	CCV	1	18.93	0.68	15	PASS
CCB2	CCB	1	0.072	6.68	15	PASS
LLCCV1	CCV2	1	0.5	3.56	20	PASS
ICSA2	ICSA	1	0.039	21.64	15	<PQL
ICSAB2	ICSAB	1	23.54	0.75	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCV4	CCV	1	18.99	1.21	15	PASS
CCB4	CCB	1	0.097	7.72	15	PASS
CCV5	CCV	1	18.98	0.62	15	PASS
CCB5	CCB	1	0.067	5.9	15	PASS
CCV6	CCV	1	18.83	0.85	15	PASS
CCB6	CCB	1	0.077	11.44	15	PASS
LLCCV2	CCV2	1	0.5	2.19	20	PASS
ICSA3	ICSA	1	0.043	22.7	15	<PQL
ICSAB3	ICSAB	1	23.54	1.61	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.079	11.83	15	PASS	0.084	21.39	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.44	2.19	15	PASS	0.43	14.12	15	PASS
Std3-5/50 ppb	ICAL	1	4.62	0.83	15	PASS	4.67	2.57	15	PASS
Std4-10/100 ppb	ICAL	1	9.33	1.17	15	PASS	9.37	2.17	15	PASS
Std5-20/200 ppb	ICAL	1	18.81	0.62	15	PASS	18.89	1.26	15	PASS
Std6-40/400 ppb	ICAL	1	38.67	1.62	15	PASS	38.03	1.69	15	PASS
Std7-100/1000 ppb	ICAL	1	97	0.53	15	PASS	98.049	0.62	15	PASS
Std8-200/2000 ppb	ICAL	1	201.93	0.034	15	PASS	201.52	0.59	15	PASS
ICV	ICV	1	10.0012	1.77	15	PASS	10.09	1.65	15	PASS
ICB	ICB	1	0.0042	76.82	15	<PQL	0.018	57.86	15	<PQL
LLICV	CCV1	1	0.93	4.53	20	PASS	0.1	10.19	20	PASS
ICSA1	ICSA	1	0.16	9.72	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.64	1.36	15	PASS	20.86	0.92	15	PASS
LLICV	CCV1	1	0.95	2.31	20	PASS	0.12	10.92	20	PASS
CCV1	CCV	1	18.64	0.5	15	PASS	18.76	1.52	15	PASS
CCB1	CCB	1	0.061	8.086	15	PASS	0.013	23.65	15	<PQL
N018845-009B	SAMP	25	0.71	10.16	15	PASS	0.065	9.47	15	PASS
N018845-009B-PS	PS	5	3.16	1.94	15	PASS	2.33	0.97	15	PASS
N018845-009B-MS	MS	5	3.47	1.47	15	PASS	2.29	2.85	15	PASS
CCV2	CCV	1	18.66	0.9	15	PASS	18.77	1.96	15	PASS
CCB2	CCB	1	0.26	14.83	15	PASS	0.0033	95.59	15	<PQL
N018845-009B-MSD	MSD	5	3.3	1.91	15	PASS	2.31	5.74	15	PASS
N018845-010B	SAMP	5	0.22	6.74	15	PASS	3.016	2.74	15	PASS
N018855-001B	SAMP	5	3.74	2.95	15	PASS	0.46	7.96	15	PASS
N018855-002B	SAMP	5	6.85	0.98	15	PASS	0.39	6.91	15	PASS
N018855-003B	SAMP	5	5.96	2.14	15	PASS	1.22	2.73	15	PASS
N018855-004B	SAMP	5	5.85	2.52	15	PASS	1.13	2.36	15	PASS
CCV3	CCV	1	18.66	0.37	15	PASS	18.94	1.15	15	PASS
CCB3	CCB	1	0.12	6.98	15	PASS	0.012	25.41	15	<PQL
CCV4	CCV	1	18.74	0.58	15	PASS	19.21	0.75	15	PASS
CCB4	CCB	1	0.087	13.26	15	PASS	0.0065	102.65	15	<PQL
LLCCV1	CCV2	1	1.054	3.56	20	PASS	0.11	7.084	20	PASS
ICSA2	ICSA	1	0.26	4.17	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.95	1.017	15	PASS	20.86	0.4	15	PASS
CCV5	CCV	1	18.55	1.29	15	PASS	18.79	0.68	15	PASS
CCB5	CCB	1	0.057	35.75	15	<PQL	0.029	30.11	15	<PQL
CCV6	CCV	1	18.3	0.49	15	PASS	18.72	1.81	15	PASS
CCB6	CCB	1	0.058	22.85	15	<PQL	0.023	73.44	15	<PQL
CCV7	CCV	1	18.55	0.86	15	PASS	18.91	0.99	15	PASS
CCB7	CCB	1	0.046	7.34	15	PASS	0.022	27.39	15	<PQL

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV8	CCV	1	18.37	0.7	15	PASS	18.62	1.4	15	PASS
CCB8	CCB	1	0.033	32.64	15	<PQL	0.0073	107.54	15	<PQL
LLCCV2	CCV2	1	0.98	6.67	20	PASS	0.13	2.14	20	PASS
ICSA3	ICSA	1	0.18	6.6	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.12	1.22	15	PASS	20.58	1.21	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.15	24.5	15	<PQL	0.087	8.46	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	10.17	15	PASS	0.46	6.027	15	PASS
Std3-5/50 ppb	ICAL	1	4.61	5.25	15	PASS	4.64	1.78	15	PASS
Std4-10/100 ppb	ICAL	1	9.62	1.71	15	PASS	9.24	1.96	15	PASS
Std5-20/200 ppb	ICAL	1	19.8	3.64	15	PASS	18.74	1.26	15	PASS
Std6-40/400 ppb	ICAL	1	40.53	1.82	15	PASS	38.94	1.16	15	PASS
Std7-100/1000 ppb	ICAL	1	99.88	2.037	15	PASS	98.015	0.51	15	PASS
Std8-200/2000 ppb	ICAL	1	203.97	1.58	15	PASS	201.38	0.75	15	PASS
ICV	ICV	1	10.65	1.093	15	PASS	10.99	1.08	15	PASS
ICB	ICB	1	0.035	65.98	15	<PQL	0.22	3.93	15	PASS
LLICV	CCV1	1	0.53	10.56	20	PASS	0.56	4.078	20	PASS
ICSA1	ICSA	1	0.022	65.7	15	<PQL	0.089	5.14	15	PASS
ICSAB1	ICSAB	1	19.32	3.13	15	PASS	23.7	1.2	15	PASS
LLICV	CCV1	1	0.53	8.099	20	PASS	0.65	2.33	20	PASS
CCV1	CCV	1	19.061	0.9	15	PASS	19.24	1.12	15	PASS
CCB1	CCB	1	0.021	42.72	15	<PQL	0.087	20.8	15	<PQL
N018845-009B	SAMP	25	0.032	63.066	15	<PQL	1.065	2.55	15	PASS
N018845-009B-PS	PS	5	2.11	4.94	15	PASS	7.32	1.38	15	PASS
N018845-009B-MS	MS	5	2.19	5.12	15	PASS	7.72	1.73	15	PASS
CCV2	CCV	1	19.79	3.19	15	PASS	19.52	0.63	15	PASS
CCB2	CCB	1	0.014	35.12	15	<PQL	0.082	7.32	15	PASS
N018845-009B-MSD	MSD	5	2.022	14.68	15	PASS	7.59	1.9	15	PASS
N018845-010B	SAMP	5	0.03	33.81	15	<PQL	8.24	0.98	15	PASS
N018855-001B	SAMP	5	0.15	34.75	15	<PQL	37.63	1.15	15	PASS
N018855-002B	SAMP	5	0.014	86.6	15	<PQL	14.54	1.15	15	PASS
N018855-003B	SAMP	5	0.037	69.1	15	<PQL	19.051	1.83	15	PASS
N018855-004B	SAMP	5	0.034	46.83	15	<PQL	18.25	1.63	15	PASS
CCV3	CCV	1	18.2	0.62	15	PASS	19.31	0.54	15	PASS
CCB3	CCB	1	0.0089	100.38	15	<PQL	0.08	6.0063	15	PASS
CCV4	CCV	1	18.8	1.17	15	PASS	19.089	0.86	15	PASS
CCB4	CCB	1	0.0091	100.13	15	<PQL	0.079	5.57	15	PASS
LLCCV1	CCV2	1	0.49	0.48	20	PASS	0.52	2.49	20	PASS
ICSA2	ICSA	1	0.023	88.32	15	<PQL	0.047	11.22	15	PASS
ICSAB2	ICSAB	1	19.63	2.42	15	PASS	23.73	1.53	15	PASS
CCV5	CCV	1	18.81	3.47	15	PASS	19.66	1.52	15	PASS
CCB5	CCB	1	0.0027	173.21	15	<PQL	0.19	2.34	15	PASS
CCV6	CCV	1	18.67	0.97	15	PASS	19.5	1.31	15	PASS
CCB6	CCB	1	0.008	100.39	15	<PQL	0.12	9.28	15	PASS
CCV7	CCV	1	18.016	1.38	15	PASS	19.53	0.79	15	PASS
CCB7	CCB	1	0.011	114.9	15	<PQL	0.16	10.19	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
CCV8	CCV	1	18.63	1.64	15	PASS	19.18	2.95	15	PASS
CCB8	CCB	1	0	N/A	15	<PQL	0.1	5.4	15	PASS
LLCCV2	CCV2	1	0.5	2.39	20	PASS	0.53	6.4	20	PASS
ICSA3	ICSA	1	0.023	110.93	15	<PQL	0.057	5.11	15	PASS
ICSAB3	ICSAB	1	20.6	0.36	15	PASS	23.74	1.27	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	7.17	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	2.82	15	PASS
Std3-5/50 ppb	ICAL	1	4.71	1.41	15	PASS
Std4-10/100 ppb	ICAL	1	9.58	1.63	15	PASS
Std5-20/200 ppb	ICAL	1	19.3	1.32	15	PASS
Std6-40/400 ppb	ICAL	1	39.4	1.36	15	PASS
Std7-100/1000 ppb	ICAL	1	99.1	0.42	15	PASS
Std8-200/2000 ppb	ICAL	1	200.67	0.49	15	PASS
ICV	ICV	1	100.92	1.085	15	PASS
ICB	ICB	1	0.011	11.073	15	PASS
LLICV	CCV1	1	0.53	3.64	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	17.66	1.64	15	PASS
LLICV	CCV1	1	0.54	4.43	20	PASS
CCV1	CCV	1	19.15	1.17	15	PASS
CCB1	CCB	1	0.0025	63.98	15	<PQL
N018845-009B	SAMP	25	15.74	1.15	15	PASS
N018845-009B-PS	PS	5	93.0051	0.87	15	PASS
N018845-009B-MS	MS	5	97.7	1.44	15	PASS
CCV2	CCV	1	19.043	1.67	15	PASS
CCB2	CCB	1	0.0025	117.8	15	<PQL
N018845-009B-MSD	MSD	5	96.76	1.12	15	PASS
N018845-010B	SAMP	5	45.83	1.32	15	PASS
N018855-001B	SAMP	5	2.95	2.73	15	PASS
N018855-002B	SAMP	5	7.41	1.8	15	PASS
N018855-003B	SAMP	5	1.17	2.63	15	PASS
N018855-004B	SAMP	5	1.13	1.85	15	PASS
CCV3	CCV	1	19.13	0.57	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
CCV4	CCV	1	19.3	0.61	15	PASS
CCB4	CCB	1	0.00079	288.97	15	<PQL
LLCCV1	CCV2	1	0.53	5.66	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	17.86	0.71	15	PASS
CCV5	CCV	1	18.98	2.13	15	PASS
CCB5	CCB	1	0.005	39.3	15	<PQL
CCV6	CCV	1	19.06	0.21	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL
CCV7	CCV	1	19.27	0.49	15	PASS
CCB7	CCB	1	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCV8	CCV	1	19.57	0.44	15	PASS
CCB8	CCB	1	0.00068	850.36	15	<PQL
LLCCV2	CCV2	1	0.54	2.26	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	18.16	2.29	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MSD	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM
A0308062.D	MB-56504	MBLK	1	03/08/16 6:45 PM
A0308063.D	LCS-56504	LCS	1	03/08/16 6:51 PM
A0308064.D	N018898-003A	SAMP	1	03/08/16 7:02 PM
A0308065.D	N018910-001B	SAMP	1	03/08/16 7:08 PM
A0308066.D	N018910-002B	SAMP	1	03/08/16 7:13 PM
A0308067.D	N018910-003B	SAMP	1	03/08/16 7:19 PM
A0308068.D	N018918-001C	SAMP	1	03/08/16 7:24 PM
A0308069.D	N018918-002E	SAMP	1	03/08/16 7:30 PM
A0308070.D	N018918-003C	SAMP	1	03/08/16 7:35 PM
A0308071.D	N018918-003C	SAMP	5	03/08/16 7:41 PM
A0308072.D	CCV5	CCV	1	03/08/16 7:47 PM
A0308073.D	CCB5	CCB	1	03/08/16 7:52 PM
A0308074.D	N018919-001B	SAMP	1	03/08/16 7:58 PM
A0308075.D	N018919-002B	SAMP	1	03/08/16 8:03 PM
A0308076.D	N018935-001B	SAMP	1	03/08/16 8:09 PM
A0308077.D	N018936-001A	SAMP	1	03/08/16 8:14 PM
A0308078.D	N018936-002B	SAMP	1	03/08/16 8:20 PM
A0308079.D	N018910-003B	SAMP	1	03/08/16 8:26 PM
A0308080.D	N018910-002B	SAMP	25	03/08/16 8:39 PM
A0308081.D	N018910-003B	SAMP	25	03/08/16 8:45 PM
A0308082.D	N018918-001C	SAMP	5	03/08/16 8:53 PM
A0308083.D	N018918-002E	SAMP	1	03/08/16 8:59 PM
A0308084.D	CCV6	CCV	1	03/08/16 9:05 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308085.D	CCB6	CCB	1	03/08/16 9:10 PM
A0308086.D	N018918-002E	SAMP	5	03/08/16 9:16 PM
A0308087.D	N018918-002E	SAMP	25	03/08/16 9:21 PM
A0308088.D	N018918-003C	SAMP	25	03/08/16 9:41 PM
A0308089.D	N018918-003C	SAMP	125	03/08/16 9:47 PM
A0308090.D	N018918-003C-PS	PS	1	03/08/16 9:53 PM
A0308091.D	N018918-003C-PS	PS	5	03/08/16 9:59 PM
A0308092.D	N018918-003C-PS	PS	25	03/08/16 10:04 PM
A0308093.D	N018918-003C-MS	MS	1	03/08/16 10:10 PM
A0308094.D	N018918-003C-MS	MS	5	03/08/16 10:15 PM
A0308095.D	N018918-003C-MS	MS	25	03/08/16 10:21 PM
A0308096.D	CCV7	CCV	1	03/08/16 10:27 PM
A0308097.D	CCB7	CCB	1	03/08/16 10:32 PM
A0308098.D	N018918-003C-MSD	MSD	1	03/08/16 10:38 PM
A0308099.D	N018918-003C-MSD	MSD	5	03/08/16 10:43 PM
A0308100.D	N018918-003C-MSD	MSD	25	03/08/16 10:49 PM
A0308101.D	N018919-002B	SAMP	5	03/08/16 10:55 PM
A0308102.D	N018919-002B-MS	MS	1	03/08/16 11:00 PM
A0308103.D	N018919-002B-MSD	MSD	1	03/08/16 11:06 PM
A0308104.D	N018935-001A	SAMP	25	03/08/16 11:11 PM
A0308105.D	N018936-002A	SAMP	5	03/08/16 11:17 PM
A0308106.D	CCV8	CCV	1	03/08/16 11:22 PM
A0308107.D	CCB8	CCB	1	03/08/16 11:28 PM
A0308108.D	LLCCV2	CCV2	1	03/08/16 11:33 PM
A0308109.D	ICSA3	ICSA	1	03/08/16 11:39 PM
A0308110.D	ICSAB3	ICSAB	1	03/08/16 11:45 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:50:02 A**
Prep End Date: **2/26/2016 1:00:00 P**

Initials/ Date: 3/11/2016

Prep Batch **56426** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-14**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56426	Aqueous		25	☐	0	0	25	1.000		
MB-56426	Aqueous		25	☐	0	0	25	1.000		
N018845-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-009B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-009B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018855-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018857-019B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

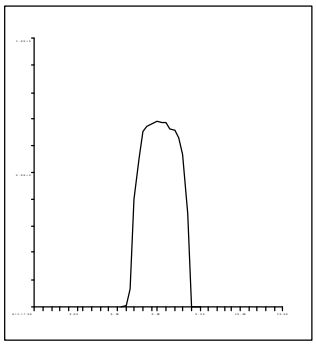
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

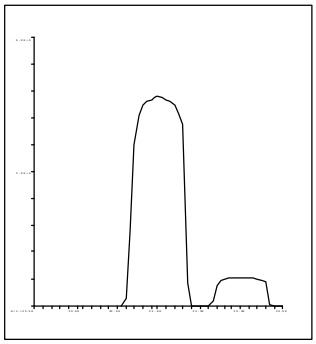
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

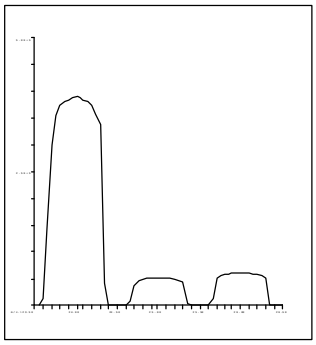
Element	Actual	Required	Flag



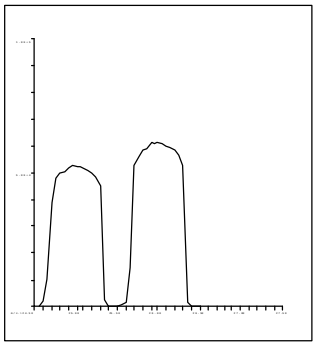
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



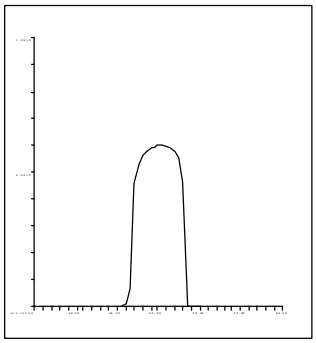
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



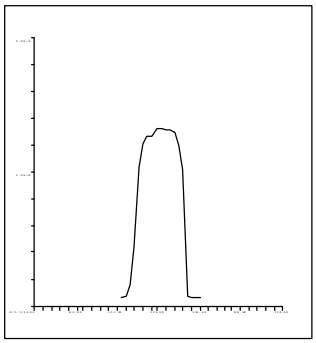
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



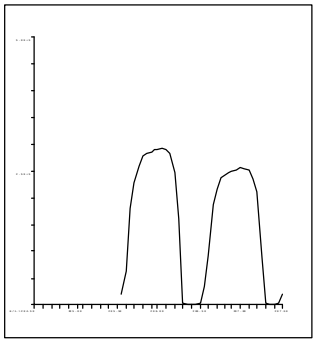
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



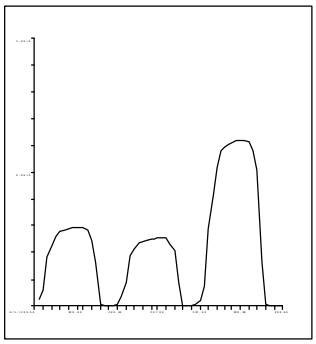
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

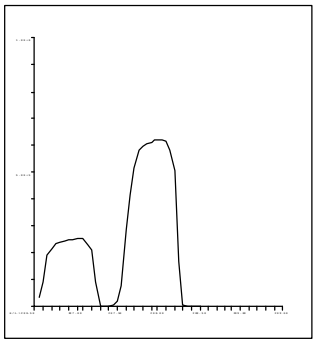


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Mar 2016 10:50:36 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	64030.00	0.00	
24 Mg	356184.00	0.00	
25 Mg	47474.40	0.00	
26 Mg	55352.20	0.00	
59 Co	548784.00	0.00	
115 In	1237250.00	0.00	
206 Pb	284929.00	0.00	
207 Pb	248633.00	0.00	
208 Pb	604949.00	0.00	

RSD (%)

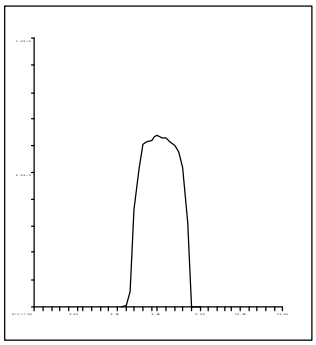
Element	Actual	Required	Flag
9 Be	1.43	5.00	
24 Mg	0.31	5.00	
25 Mg	0.61	5.00	
26 Mg	0.52	5.00	
59 Co	0.99	5.00	
115 In	0.45	5.00	
206 Pb	1.12	5.00	
207 Pb	1.38	5.00	
208 Pb	1.51	5.00	

Ion Ratio

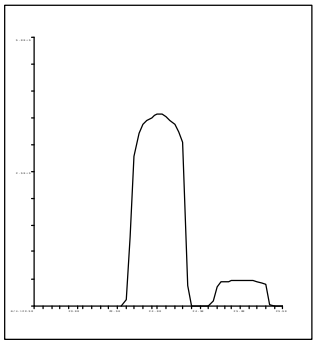
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

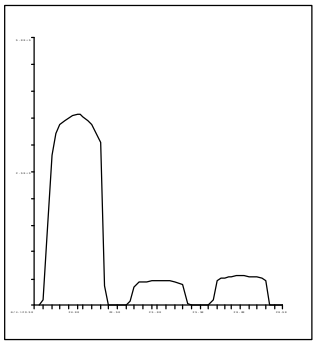
Element	Actual	Required	Flag



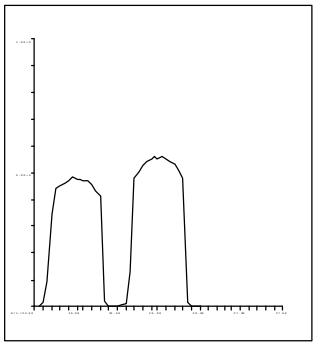
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



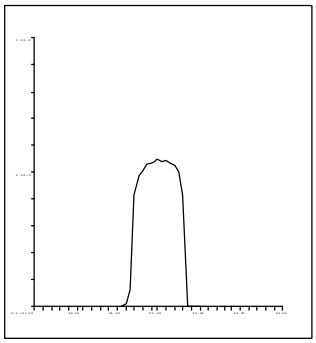
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



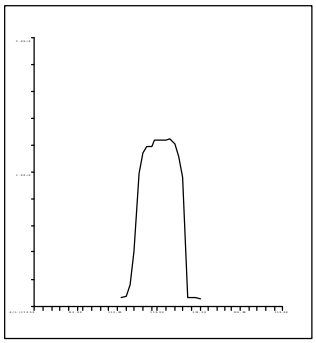
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



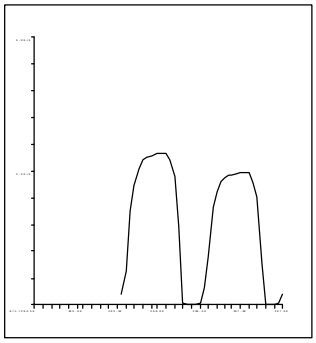
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



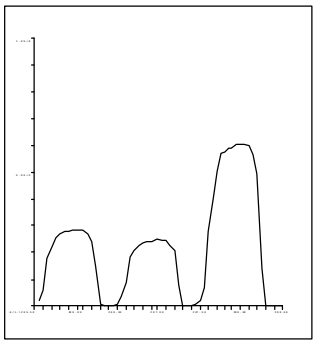
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

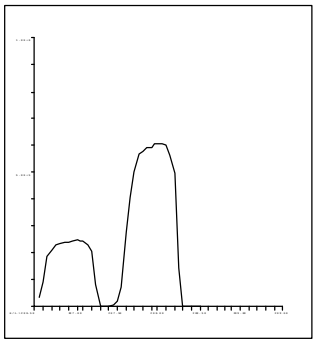


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307003.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:48 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	171872.1		164481.1	162231.7	158833.7	159849.4	158058.1	154833.5	152727.7	
55 Mn [2]	CPS	160.1		3182.6	30919.3	61545	122150.4	245945.4	606643.3	1200838.7	1.0000
52 Cr [2]	CPS	240.5		5391.7	51963.5	102895.9	207876.3	418756.5	1024609.3	2049143.5	1.0000
72 Ge (ISTD) [1]	CPS	151772		146301.7	143870.9	142366.7	141838.4	138142	136219.5	132719.9	
78 Se [1]	CPS	4.4		294.5	3074.9	5838	11748	23003.7	59319.3	116263.3	1.0000
72 Ge (ISTD) [2]	CPS	114739.3	113154.9	110851.4	109870.7	107891	107005.2	106125.1	103960.2	101544.3	
75 As [2]	CPS	24.4	144	626.2	6010.1	11933.8	24136.6	48628	120525.2	241541.1	0.9999
103 Rh (ISTD) [2]	CPS	3065661.7		2997102.7	2941755.2	2921619.2	2927018.5	2892832.2	2857868.5	2799519.5	
95 Mo [2]	CPS	136.7		3299.4	33462.5	66703.6	133184	270430.5	677899.6	1347873.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICPMS-02

Analyte	Data File	A0308002.D	A0308003.D	A0308004.D	A0308005.D	A0308006.D	A0308007.D	A0308008.D	A0308009.D	A0308010.D	
	Acq. Date-Time	03/08/2016 11:24 AM	03/08/2016 11:30 AM	03/08/2016 11:35 AM	03/08/2016 11:41 AM	03/08/2016 11:46 AM	03/08/2016 11:52 AM	03/08/2016 11:57 AM	03/08/2016 12:03 PM	03/08/2016 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	106194.3		102211	101219.5	99453.2	98731.1	98814.8	96953.2	95851.4	
52 Cr [2]	CPS	182.1		3361.4	33026.5	65379.4	130745.2	268803.2	661307.7	1360970.1	0.9998
55 Mn [2]	CPS	62.1		1995.4	18755.8	37406.6	74766.5	152694.5	376809.2	754275.7	1.0000
72 Ge (ISTD) [1]	CPS	90543.7		88064.6	86784.4	85838.5	84985.3	84090.3	83972.5	81628.4	
78 Se [1]	CPS	0		183.3	1731.3	3570.5	7277.5	14741.6	36279.2	72013	1.0000
72 Ge (ISTD) [2]	CPS	73165.4	70975.8	71114	70269.5	68767.4	68345.6	69433.5	67040.2	65367.9	
75 As [2]	CPS	8.9	79.6	373.3	3904.1	7659.2	15332.2	31349.6	78031.8	156359.3	0.9999
103 Rh (ISTD) [2]	CPS	2123839.9		2046142.4	2046093.3	2033311.7	2029111.6	2021066.6	1990908.3	1961243.2	
95 Mo [2]	CPS	27.8		2190.2	21892.3	43302.7	87618.8	181283.3	449483	909695.9	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0	102	90	110				
Manganese	100.893	0.50	100.0	0	101	90	110				
Molybdenum	10.973	0.50	10.00	0	110	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.118	0.10	0.1000	0	118	80	120				
Manganese	0.510	0.50	0.5000	0	102	80	120				
Molybdenum	0.555	0.50	0.5000	0	111	80	120				
Selenium	0.528	0.50	0.5000	0	106	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.950	0.10	20.00	0	94.8	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	19.830	0.50	20.00	0	99.1	90	110				
Selenium	19.014	0.50	20.00	0	95.1	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.304	0.10	20.00	0	96.5	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	18.928	0.50	20.00	0	94.6	90	110				
Selenium	18.795	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Manganese	0.520	0.50	0.5000	0	104	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.5	70	130				
Selenium	0.529	0.50	0.5000	0	106	70	130				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.252	0.10	20.00	0	96.3	90	110				
Manganese	19.159	0.50	20.00	0	95.8	90	110				
Molybdenum	19.275	0.50	20.00	0	96.4	90	110				
Selenium	18.855	0.50	20.00	0	94.3	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.971	0.10	20.00	0	94.9	90	110				
Manganese	19.171	0.50	20.00	0	95.9	90	110				
Molybdenum	18.990	0.50	20.00	0	94.9	90	110				
Selenium	19.138	0.50	20.00	0	95.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.105	0.10	20.00	0	95.5	90	110				
Manganese	19.019	0.50	20.00	0	95.1	90	110				
Molybdenum	18.977	0.50	20.00	0	94.9	90	110				
Selenium	18.725	0.50	20.00	0	93.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.086	0.10	20.00	0	95.4	90	110				
Manganese	19.161	0.50	20.00	0	95.8	90	110				
Molybdenum	18.828	0.50	20.00	0	94.1	90	110				
Selenium	18.873	0.50	20.00	0	94.4	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Manganese	0.504	0.50	0.5000	0	101	70	130				
Molybdenum	0.503	0.50	0.5000	0	101	70	130				
Selenium	0.530	0.50	0.5000	0	106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.090	0.10	10.00	0	101	90	110				
Manganese	100.924	0.50	100.0	0	101	90	110				
Molybdenum	10.992	0.50	10.00	0	110	90	110				
Selenium	10.646	0.50	10.00	0	106	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.102	0.10	0.1000	0	102	80	120				
Manganese	0.535	0.50	0.5000	0	107	80	120				
Molybdenum	0.563	0.50	0.5000	0	113	80	120				
Selenium	0.533	0.50	0.5000	0	107	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.764	0.10	20.00	0	93.8	90	110				
Manganese	19.153	0.50	20.00	0	95.8	90	110				
Molybdenum	19.235	0.50	20.00	0	96.2	90	110				
Selenium	19.061	0.50	20.00	0	95.3	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.769	0.10	20.00	0	93.8	90	110				
Manganese	19.043	0.50	20.00	0	95.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.520	0.50	20.00	0	97.6	90	110				
Selenium	19.790	0.50	20.00	0	98.9	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.941	0.10	20.00	0	94.7	90	110				
Manganese	19.129	0.50	20.00	0	95.6	90	110				
Molybdenum	19.306	0.50	20.00	0	96.5	90	110				
Selenium	18.200	0.50	20.00	0	91.0	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255293**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.210	0.10	20.00	0	96.0	90	110				
Manganese	19.298	0.50	20.00	0	96.5	90	110				
Molybdenum	19.089	0.50	20.00	0	95.4	90	110				
Selenium	18.799	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.106	0.10	0.1000	0	106	70	130				
Manganese	0.527	0.50	0.5000	0	105	70	130				
Molybdenum	0.517	0.50	0.5000	0	103	70	130				
Selenium	0.493	0.50	0.5000	0	98.5	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.303	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.945	1.0	1.000	0	94.5	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.346	1.0	20.00	0	96.7	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.460	1.0	20.00	0	97.3	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.972	1.0	1.000	0	97.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV3	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.547	1.0	20.00	0	97.7	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV4	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.257	1.0	20.00	0	96.3	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV5	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.318	1.0	20.00	0	96.6	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV6	**CCV**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **CCV**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.294	1.0	20.00	0	96.5	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LLCCV2	**CCV2**	**6020DIS_CrP**	**µg/L**		**106294**
Client ID: **ZZZZZZ**	Batch ID: **R106294**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.981	1.0	1.000	0	98.1	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.001	1.0	10.00	0	100	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.947	1.0	1.000	0	94.7	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.638	1.0	20.00	0	93.2	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.662	1.0	20.00	0	93.3	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.659	1.0	20.00	0	93.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCV	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255615

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.741	1.0	20.00	0	93.7	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.054	1.0	1.000	0	105	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICB	SampType:	ICB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254552

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.234	0.50									
Selenium	ND	0.50									

Sample ID	CCB1	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254568

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.190	0.50									
Selenium	ND	0.50									

Sample ID	CCB2	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.072	0.50									
Selenium	ND	0.50									

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254595

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.093	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.097	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.067	0.50									
Selenium	ND	0.50									

Sample ID **CCB6** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.077	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.018	0.10									
Manganese	ND	0.50									
Molybdenum	0.219	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.087	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.082	0.50									
Selenium	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.080	0.50									
Selenium	ND	0.50									

Sample ID	CCB4	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255294

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.079	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.258	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.115	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.087	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.085	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.824	0.10	20.00	0	104	80	120				
Manganese	17.818	0.50	20.00	0	89.1	80	120				
Molybdenum	23.941	0.50	20.00	0	120	80	120				
Selenium	19.099	0.50	20.00	0	95.5	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.039	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.494	0.10	20.00	0	107	80	120				
Manganese	19.579	0.50	20.00	0	97.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.538	0.50	20.00	0	118	80	120				
Selenium	21.101	0.50	20.00	0	106	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSA	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.043	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.531	0.10	20.00	0	108	80	120				
Manganese	19.559	0.50	20.00	0	97.8	80	120				
Molybdenum	23.541	0.50	20.00	0	118	80	120				
Selenium	20.039	0.50	20.00	0	100	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.089	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.865	0.10	20.00	0	104	80	120				
Manganese	17.661	0.50	20.00	0	88.3	80	120				
Molybdenum	23.702	0.50	20.00	0	119	80	120				
Selenium	19.324	0.50	20.00	0	96.6	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.047	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.856	0.10	20.00	0	104	80	120				
Manganese	17.858	0.50	20.00	0	89.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICSAB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255297

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.732	0.50	20.00	0	119	80	120				
Selenium	19.634	0.50	20.00	0	98.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.177	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.112	1.0	20.00	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.967	1.0	20.00	0	115	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.175	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.308	1.0	20.00	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.161	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.638	1.0	20.00	0	103	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSA** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.259	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICSAB** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.953	1.0	20.00	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	171872.1	171872.1	100	PASS	70-130	114739.3	114739.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	166885.6	171872.1	97.099	PASS	70-130	113154.9	114739.3	98.62	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	164481.1	171872.1	95.7	PASS	70-130	110851.4	114739.3	96.61	PASS	70-130
Std3-5/50 ppb	ICAL	1	162231.7	171872.1	94.39	PASS	70-130	109870.7	114739.3	95.76	PASS	70-130
Std4-10/100 ppb	ICAL	1	158833.7	171872.1	92.41	PASS	70-130	107891	114739.3	94.031	PASS	70-130
Std5-20/200 ppb	ICAL	1	159849.4	171872.1	93.005	PASS	70-130	107005.2	114739.3	93.26	PASS	70-130
Std6-40/400 ppb	ICAL	1	158058.1	171872.1	91.96	PASS	70-130	106125.1	114739.3	92.49	PASS	70-130
Std7-100/1000 ppb	ICAL	1	154833.5	171872.1	90.086	PASS	70-130	103960.2	114739.3	90.61	PASS	70-130
Std8-200/2000 ppb	ICAL	1	152727.7	171872.1	88.86	PASS	70-130	101544.3	114739.3	88.5	PASS	70-130
ICV	ICV	1	169671.3	171872.1	98.72	PASS	70-130	113930.8	114739.3	99.3	PASS	70-130
ICB	ICB	1	161352	171872.1	93.88	PASS	70-130	109872.1	114739.3	95.76	PASS	70-130
LLICV	CCV1	1	162638.9	171872.1	94.63	PASS	70-130	106883.6	114739.3	93.15	PASS	70-130
ICSA1	ICSA	1	165823.9	171872.1	96.48	PASS	70-130	104594.7	114739.3	91.16	PASS	70-130
ICSAB1	ICSAB	1	155734.6	171872.1	90.61	PASS	70-130	97742.6	114739.3	85.19	PASS	70-130
LLICV	CCV1	1	177090.1	171872.1	103.04	PASS	70-130	114372.4	114739.3	99.68	PASS	70-130
MB-56426	MBLK	1	151858.8	171872.1	88.36	PASS	70-130	103204.4	114739.3	89.95	PASS	70-130
LCS-56426	LCS	1	163882	171872.1	95.35	PASS	70-130	109307.8	114739.3	95.27	PASS	70-130
N018845-009B	SAMP	1	135633.9	171872.1	78.92	PASS	70-130	79083.7	114739.3	68.92	NR!	70-130
N018845-009B	SAMP	5	144770.5	171872.1	84.23	PASS	70-130	93027.5	114739.3	81.077	PASS	70-130
N018845-009B-PS	PS	1	137056.6	171872.1	79.74	PASS	70-130	80124	114739.3	69.83	NR!	70-130
N018845-009B-MS	MS	1	135797.4	171872.1	79.011	PASS	70-130	77343.2	114739.3	67.41	NR!	70-130
N018845-009B-MSD	MSD	1	136375.4	171872.1	79.35	PASS	70-130	78509.7	114739.3	68.42	NR!	70-130
N018845-010B	SAMP	1	144856.2	171872.1	84.28	PASS	70-130	92055.4	114739.3	80.23	PASS	70-130
N018855-001B	SAMP	1	116691.4	171872.1	67.89	NR!	70-130	63395.8	114739.3	55.25	NR!	70-130
CCV1	CCV	1	165901.8	171872.1	96.53	PASS	70-130	109469.2	114739.3	95.41	PASS	70-130
CCB1	CCB	1	163804.8	171872.1	95.31	PASS	70-130	109342.2	114739.3	95.3	PASS	70-130
N018855-002B	SAMP	1	135547.8	171872.1	78.87	PASS	70-130	75376.6	114739.3	65.69	NR!	70-130
N018855-003B	SAMP	1	139798.6	171872.1	81.34	PASS	70-130	77954.6	114739.3	67.94	NR!	70-130
N018855-004B	SAMP	1	146499.2	171872.1	85.24	PASS	70-130	80828.9	114739.3	70.45	PASS	70-130
N018857-019B	SAMP	1	162512.7	171872.1	94.55	PASS	70-130	98131.3	114739.3	85.53	PASS	70-130
N018833-001B	SAMP	25	162773.2	171872.1	94.71	PASS	70-130	108379	114739.3	94.46	PASS	70-130
N018833-001B-PS	PS	5	162399.9	171872.1	94.49	PASS	70-130	105957.5	114739.3	92.35	PASS	70-130
N018833-001B-MS	MS	5	161266.1	171872.1	93.83	PASS	70-130	106792.7	114739.3	93.074	PASS	70-130
N018833-001B-MSD	MSD	5	162080.6	171872.1	94.3	PASS	70-130	106418.2	114739.3	92.75	PASS	70-130
N018834-001B	SAMP	5	158726.4	171872.1	92.35	PASS	70-130	105262.7	114739.3	91.74	PASS	70-130
N018834-001B-MS	MS	5	156788.8	171872.1	91.22	PASS	70-130	103521.1	114739.3	90.22	PASS	70-130
CCV2	CCV	1	155556.3	171872.1	90.51	PASS	70-130	102231.9	114739.3	89.099	PASS	70-130
CCB2	CCB	1	157102.8	171872.1	91.41	PASS	70-130	104574.2	114739.3	91.14	PASS	70-130
LLCCV1	CCV2	1	157849.7	171872.1	91.84	PASS	70-130	102750.8	114739.3	89.55	PASS	70-130
ICSA2	ICSA	1	169212.6	171872.1	98.45	PASS	70-130	106011.6	114739.3	92.39	PASS	70-130
ICSAB2	ICSAB	1	152714.6	171872.1	88.85	PASS	70-130	98577.6	114739.3	85.91	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV4	CCV	1	153911.3	171872.1	89.55	PASS	70-130	101146.1	114739.3	88.15	PASS	70-130
CCB4	CCB	1	149834.3	171872.1	87.18	PASS	70-130	101093.8	114739.3	88.11	PASS	70-130
CCV5	CCV	1	138521.4	171872.1	80.6	PASS	70-130	91764.9	114739.3	79.98	PASS	70-130
CCB5	CCB	1	138681.8	171872.1	80.69	PASS	70-130	91960	114739.3	80.15	PASS	70-130
CCV6	CCV	1	140105.1	171872.1	81.52	PASS	70-130	92720.3	114739.3	80.81	PASS	70-130
CCB6	CCB	1	137384.6	171872.1	79.93	PASS	70-130	91840.9	114739.3	80.043	PASS	70-130
LLCCV2	CCV2	1	136439.8	171872.1	79.38	PASS	70-130	89468.7	114739.3	77.98	PASS	70-130
ICSA3	ICSA	1	139750.5	171872.1	81.31	PASS	70-130	88581.9	114739.3	77.2	PASS	70-130
ICSAB3	ICSAB	1	162057	171872.1	94.29	PASS	70-130	103010.5	114739.3	89.78	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	151772	151772	100	PASS	70-130	3065661.7	3065661.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	146962.5	151772	96.83	PASS	70-130	3012633.5	3065661.7	98.27	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146301.7	151772	96.4	PASS	70-130	2997102.7	3065661.7	97.76	PASS	70-130
Std3-5/50 ppb	ICAL	1	143870.9	151772	94.79	PASS	70-130	2941755.2	3065661.7	95.96	PASS	70-130
Std4-10/100 ppb	ICAL	1	142366.7	151772	93.8	PASS	70-130	2921619.2	3065661.7	95.3	PASS	70-130
Std5-20/200 ppb	ICAL	1	141838.4	151772	93.45	PASS	70-130	2927018.5	3065661.7	95.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	138142	151772	91.019	PASS	70-130	2892832.2	3065661.7	94.36	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136219.5	151772	89.75	PASS	70-130	2857868.5	3065661.7	93.22	PASS	70-130
Std8-200/2000 ppb	ICAL	1	132719.9	151772	87.45	PASS	70-130	2799519.5	3065661.7	91.32	PASS	70-130
ICV	ICV	1	145029.5	151772	95.56	PASS	70-130	3118126.4	3065661.7	101.71	PASS	70-130
ICB	ICB	1	142122.4	151772	93.64	PASS	70-130	3000190.3	3065661.7	97.86	PASS	70-130
LLICV	CCV1	1	138927.8	151772	91.54	PASS	70-130	3013514.1	3065661.7	98.3	PASS	70-130
ICSA1	ICSA	1	132052.7	151772	87.007	PASS	70-130	2625999.5	3065661.7	85.66	PASS	70-130
ICSAB1	ICSAB	1	124666.6	151772	82.14	PASS	70-130	2429414.3	3065661.7	79.25	PASS	70-130
LLICV	CCV1	1	150707.1	151772	99.3	PASS	70-130	3143402.4	3065661.7	102.54	PASS	70-130
MB-56426	MBLK	1	132096	151772	87.036	PASS	70-130	2822782.4	3065661.7	92.077	PASS	70-130
LCS-56426	LCS	1	140038.8	151772	92.27	PASS	70-130	3008646	3065661.7	98.14	PASS	70-130
N018845-009B	SAMP	1	99103.8	151772	65.3	NR!	70-130	1910375.8	3065661.7	62.32	NR!	70-130
N018845-009B	SAMP	5	120113.7	151772	79.14	PASS	70-130	2376910	3065661.7	77.53	PASS	70-130
N018845-009B-PS	PS	1	99195.7	151772	65.36	NR!	70-130	1916926.3	3065661.7	62.53	NR!	70-130
N018845-009B-MS	MS	1	97937.7	151772	64.53	NR!	70-130	1863429.7	3065661.7	60.78	NR!	70-130
N018845-009B-MSD	MSD	1	97537.8	151772	64.27	NR!	70-130	1862138.7	3065661.7	60.74	NR!	70-130
N018845-010B	SAMP	1	117935.3	151772	77.71	PASS	70-130	2309358.5	3065661.7	75.33	PASS	70-130
N018855-001B	SAMP	1	79742.4	151772	52.54	NR!	70-130	1450590.1	3065661.7	47.32	NR!	70-130
CCV1	CCV	1	143042.9	151772	94.25	PASS	70-130	2914783.7	3065661.7	95.078	PASS	70-130
CCB1	CCB	1	140510.1	151772	92.58	PASS	70-130	2897607	3065661.7	94.52	PASS	70-130
N018855-002B	SAMP	1	92660.1	151772	61.052	NR!	70-130	1739512.6	3065661.7	56.74	NR!	70-130
N018855-003B	SAMP	1	97353.5	151772	64.14	NR!	70-130	1812153.2	3065661.7	59.11	NR!	70-130
N018855-004B	SAMP	1	99865.2	151772	65.8	NR!	70-130	1870497.2	3065661.7	61.014	NR!	70-130
N018857-019B	SAMP	1	127660.9	151772	84.11	PASS	70-130	2429739.8	3065661.7	79.26	PASS	70-130
N018833-001B	SAMP	25	140035	151772	92.27	PASS	70-130	2850081.8	3065661.7	92.97	PASS	70-130
N018833-001B-PS	PS	5	136738.1	151772	90.094	PASS	70-130	2728286.1	3065661.7	89	PASS	70-130
N018833-001B-MS	MS	5	137008.7	151772	90.27	PASS	70-130	2760205.9	3065661.7	90.036	PASS	70-130
N018833-001B-MSD	MSD	5	138935.6	151772	91.54	PASS	70-130	2788916.1	3065661.7	90.97	PASS	70-130
N018834-001B	SAMP	5	134463.3	151772	88.6	PASS	70-130	2736397.2	3065661.7	89.26	PASS	70-130
N018834-001B-MS	MS	5	133253.4	151772	87.8	PASS	70-130	2703355.2	3065661.7	88.18	PASS	70-130
CCV2	CCV	1	128575.5	151772	84.72	PASS	70-130	2805985.1	3065661.7	91.53	PASS	70-130
CCB2	CCB	1	134516.8	151772	88.63	PASS	70-130	2846550.3	3065661.7	92.85	PASS	70-130
LLCCV1	CCV2	1	133473.7	151772	87.94	PASS	70-130	2835229	3065661.7	92.48	PASS	70-130
ICSA2	ICSA	1	127789.1	151772	84.2	PASS	70-130	2600319.2	3065661.7	84.82	PASS	70-130
ICSAB2	ICSAB	1	114090.2	151772	75.17	PASS	70-130	2667953.6	3065661.7	87.027	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV4	CCV	1	130942.4	151772	86.28	PASS	70-130	2716989.8	3065661.7	88.63	PASS	70-130
CCB4	CCB	1	127959.2	151772	84.31	PASS	70-130	2699916.1	3065661.7	88.07	PASS	70-130
CCV5	CCV	1	119334.6	151772	78.63	PASS	70-130	2489512.8	3065661.7	81.21	PASS	70-130
CCB5	CCB	1	117380.6	151772	77.34	PASS	70-130	2533105.9	3065661.7	82.63	PASS	70-130
CCV6	CCV	1	119369.2	151772	78.65	PASS	70-130	2504572.7	3065661.7	81.7	PASS	70-130
CCB6	CCB	1	117770.8	151772	77.6	PASS	70-130	2514564.6	3065661.7	82.024	PASS	70-130
LLCCV2	CCV2	1	114732.8	151772	75.6	PASS	70-130	2486822.8	3065661.7	81.12	PASS	70-130
ICSA3	ICSA	1	108470.5	151772	71.47	PASS	70-130	2195659.5	3065661.7	71.62	PASS	70-130
ICSAB3	ICSAB	1	122164.3	151772	80.49	PASS	70-130	2767708.7	3065661.7	90.28	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	106194.3	106194.3	100	PASS	70-130	73165.4	73165.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	101729	106194.3	95.8	PASS	70-130	70975.8	73165.4	97.007	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	102211	106194.3	96.25	PASS	70-130	71114	73165.4	97.2	PASS	70-130
Std3-5/50 ppb	ICAL	1	101219.5	106194.3	95.32	PASS	70-130	70269.5	73165.4	96.042	PASS	70-130
Std4-10/100 ppb	ICAL	1	99453.2	106194.3	93.65	PASS	70-130	68767.4	73165.4	93.99	PASS	70-130
Std5-20/200 ppb	ICAL	1	98731.1	106194.3	92.97	PASS	70-130	68345.6	73165.4	93.41	PASS	70-130
Std6-40/400 ppb	ICAL	1	98814.8	106194.3	93.051	PASS	70-130	69433.5	73165.4	94.9	PASS	70-130
Std7-100/1000 ppb	ICAL	1	96953.2	106194.3	91.3	PASS	70-130	67040.2	73165.4	91.63	PASS	70-130
Std8-200/2000 ppb	ICAL	1	95851.4	106194.3	90.26	PASS	70-130	65367.9	73165.4	89.34	PASS	70-130
ICV	ICV	1	105496.6	106194.3	99.34	PASS	70-130	73270.1	73165.4	100.14	PASS	70-130
ICB	ICB	1	103401.5	106194.3	97.37	PASS	70-130	72630.6	73165.4	99.27	PASS	70-130
LLICV	CCV1	1	105899.2	106194.3	99.72	PASS	70-130	71685.3	73165.4	97.98	PASS	70-130
ICSA1	ICSA	1	100565.3	106194.3	94.7	PASS	70-130	66440.1	73165.4	90.81	PASS	70-130
ICSAB1	ICSAB	1	97152.4	106194.3	91.49	PASS	70-130	61762.8	73165.4	84.42	PASS	70-130
LLICV	CCV1	1	108359.9	106194.3	102.04	PASS	70-130	72621.6	73165.4	99.26	PASS	70-130
CCV1	CCV	1	114506.5	106194.3	107.83	PASS	70-130	77348.5	73165.4	105.72	PASS	70-130
CCB1	CCB	1	113537.4	106194.3	106.91	PASS	70-130	77588.6	73165.4	106.05	PASS	70-130
N018845-009B	SAMP	25	100407.1	106194.3	94.55	PASS	70-130	66666.5	73165.4	91.12	PASS	70-130
N018845-009B-PS	PS	5	99095.6	106194.3	93.32	PASS	70-130	63460.5	73165.4	86.74	PASS	70-130
N018845-009B-MS	MS	5	99793.9	106194.3	93.97	PASS	70-130	64108.5	73165.4	87.62	PASS	70-130
CCV2	CCV	1	105426.2	106194.3	99.28	PASS	70-130	71274.5	73165.4	97.42	PASS	70-130
CCB2	CCB	1	104728.2	106194.3	98.62	PASS	70-130	71417.7	73165.4	97.61	PASS	70-130
N018845-009B-MSD	MSD	5	97162.3	106194.3	91.49	PASS	70-130	63046.5	73165.4	86.17	PASS	70-130
N018845-010B	SAMP	5	100412.6	106194.3	94.56	PASS	70-130	67746.1	73165.4	92.59	PASS	70-130
N018855-001B	SAMP	5	93272.5	106194.3	87.83	PASS	70-130	58465.3	73165.4	79.91	PASS	70-130
N018855-002B	SAMP	5	93644.4	106194.3	88.18	PASS	70-130	60392.3	73165.4	82.54	PASS	70-130
N018855-003B	SAMP	5	97451.9	106194.3	91.77	PASS	70-130	62478.8	73165.4	85.39	PASS	70-130
N018855-004B	SAMP	5	95558.5	106194.3	89.98	PASS	70-130	62036.5	73165.4	84.79	PASS	70-130
CCV3	CCV	1	101489.8	106194.3	95.57	PASS	70-130	68493	73165.4	93.61	PASS	70-130
CCB3	CCB	1	101413.8	106194.3	95.5	PASS	70-130	69526.8	73165.4	95.027	PASS	70-130
CCV4	CCV	1	99476	106194.3	93.67	PASS	70-130	68261.7	73165.4	93.3	PASS	70-130
CCB4	CCB	1	99751.8	106194.3	93.93	PASS	70-130	68994.7	73165.4	94.3	PASS	70-130
LLCCV1	CCV2	1	100900.9	106194.3	95.015	PASS	70-130	67758.9	73165.4	92.61	PASS	70-130
ICSA2	ICSA	1	98014.4	106194.3	92.3	PASS	70-130	64707.4	73165.4	88.44	PASS	70-130
ICSAB2	ICSAB	1	96492.2	106194.3	90.86	PASS	70-130	62212.4	73165.4	85.03	PASS	70-130
CCV5	CCV	1	113489.4	106194.3	106.87	PASS	70-130	77161.1	73165.4	105.46	PASS	70-130
CCB5	CCB	1	110358.4	106194.3	103.92	PASS	70-130	75341.6	73165.4	102.97	PASS	70-130
CCV6	CCV	1	115049.7	106194.3	108.34	PASS	70-130	78527.6	73165.4	107.33	PASS	70-130
CCB6	CCB	1	110068.1	106194.3	103.65	PASS	70-130	75776	73165.4	103.57	PASS	70-130
CCV7	CCV	1	105941.3	106194.3	99.76	PASS	70-130	73439.8	73165.4	100.38	PASS	70-130
CCB7	CCB	1	106576.7	106194.3	100.36	PASS	70-130	74235.9	73165.4	101.46	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV8	CCV	1	102516.9	106194.3	96.54	PASS	70-130	70791.7	73165.4	96.76	PASS	70-130
CCB8	CCB	1	102178.6	106194.3	96.22	PASS	70-130	70155.5	73165.4	95.89	PASS	70-130
LLCCV2	CCV2	1	101259.5	106194.3	95.35	PASS	70-130	67141.5	73165.4	91.77	PASS	70-130
ICSA3	ICSA	1	103484.3	106194.3	97.45	PASS	70-130	67286.5	73165.4	91.96	PASS	70-130
ICSAB3	ICSAB	1	104127.1	106194.3	98.053	PASS	70-130	67392.9	73165.4	92.11	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	90543.7	90543.7	100	PASS	70-130	2123839.9	2123839.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	88372.7	90543.7	97.6	PASS	70-130	2056633.4	2123839.9	96.84	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	88064.6	90543.7	97.26	PASS	70-130	2046142.4	2123839.9	96.34	PASS	70-130
Std3-5/50 ppb	ICAL	1	86784.4	90543.7	95.85	PASS	70-130	2046093.3	2123839.9	96.34	PASS	70-130
Std4-10/100 ppb	ICAL	1	85838.5	90543.7	94.8	PASS	70-130	2033311.7	2123839.9	95.74	PASS	70-130
Std5-20/200 ppb	ICAL	1	84985.3	90543.7	93.86	PASS	70-130	2029111.6	2123839.9	95.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	84090.3	90543.7	92.87	PASS	70-130	2021066.6	2123839.9	95.16	PASS	70-130
Std7-100/1000 ppb	ICAL	1	83972.5	90543.7	92.74	PASS	70-130	1990908.3	2123839.9	93.74	PASS	70-130
Std8-200/2000 ppb	ICAL	1	81628.4	90543.7	90.15	PASS	70-130	1961243.2	2123839.9	92.34	PASS	70-130
ICV	ICV	1	87997.5	90543.7	97.19	PASS	70-130	2161188.7	2123839.9	101.76	PASS	70-130
ICB	ICB	1	88272.5	90543.7	97.49	PASS	70-130	2151314	2123839.9	101.29	PASS	70-130
LLICV	CCV1	1	88642	90543.7	97.9	PASS	70-130	2165445.2	2123839.9	101.96	PASS	70-130
ICSA1	ICSA	1	81062.2	90543.7	89.53	PASS	70-130	1809989.7	2123839.9	85.22	PASS	70-130
ICSAB1	ICSAB	1	75116.1	90543.7	82.96	PASS	70-130	1683332.9	2123839.9	79.26	PASS	70-130
LLICV	CCV1	1	91785	90543.7	101.37	PASS	70-130	2159885.6	2123839.9	101.7	PASS	70-130
CCV1	CCV	1	98521.5	90543.7	108.81	PASS	70-130	2169330.9	2123839.9	102.14	PASS	70-130
CCB1	CCB	1	97956.2	90543.7	108.19	PASS	70-130	2196696	2123839.9	103.43	PASS	70-130
N018845-009B	SAMP	25	81130.2	90543.7	89.6	PASS	70-130	1852266.2	2123839.9	87.21	PASS	70-130
N018845-009B-PS	PS	5	78732.2	90543.7	86.95	PASS	70-130	1699107.4	2123839.9	80.002	PASS	70-130
N018845-009B-MS	MS	5	78417.1	90543.7	86.61	PASS	70-130	1706509.9	2123839.9	80.35	PASS	70-130
CCV2	CCV	1	89564.8	90543.7	98.92	PASS	70-130	2009935.1	2123839.9	94.64	PASS	70-130
CCB2	CCB	1	88784.2	90543.7	98.057	PASS	70-130	2025804.1	2123839.9	95.38	PASS	70-130
N018845-009B-MSD	MSD	5	76796.3	90543.7	84.82	PASS	70-130	1682126.8	2123839.9	79.2	PASS	70-130
N018845-010B	SAMP	5	85266.7	90543.7	94.17	PASS	70-130	1854561.3	2123839.9	87.32	PASS	70-130
N018855-001B	SAMP	5	71693.6	90543.7	79.18	PASS	70-130	1530470.6	2123839.9	72.061	PASS	70-130
N018855-002B	SAMP	5	71898.6	90543.7	79.41	PASS	70-130	1569196.3	2123839.9	73.88	PASS	70-130
N018855-003B	SAMP	5	77143.5	90543.7	85.2	PASS	70-130	1630698.1	2123839.9	76.78	PASS	70-130
N018855-004B	SAMP	5	76032.5	90543.7	83.97	PASS	70-130	1608885.7	2123839.9	75.75	PASS	70-130
CCV3	CCV	1	86449.6	90543.7	95.48	PASS	70-130	1944448.1	2123839.9	91.55	PASS	70-130
CCB3	CCB	1	86727.4	90543.7	95.79	PASS	70-130	1998227.2	2123839.9	94.086	PASS	70-130
CCV4	CCV	1	85295.3	90543.7	94.2	PASS	70-130	1947126.3	2123839.9	91.68	PASS	70-130
CCB4	CCB	1	84745	90543.7	93.6	PASS	70-130	1975849.4	2123839.9	93.032	PASS	70-130
LLCCV1	CCV2	1	85012.9	90543.7	93.89	PASS	70-130	1996379.3	2123839.9	94	PASS	70-130
ICSA2	ICSA	1	77384.7	90543.7	85.47	PASS	70-130	1721848.6	2123839.9	81.072	PASS	70-130
ICSAB2	ICSAB	1	74009.9	90543.7	81.74	PASS	70-130	1678560.7	2123839.9	79.034	PASS	70-130
CCV5	CCV	1	97876.4	90543.7	108.1	PASS	70-130	2152401.7	2123839.9	101.34	PASS	70-130
CCB5	CCB	1	96681.9	90543.7	106.78	PASS	70-130	2121941.9	2123839.9	99.91	PASS	70-130
CCV6	CCV	1	101857.2	90543.7	112.5	PASS	70-130	2140680.5	2123839.9	100.79	PASS	70-130
CCB6	CCB	1	96762	90543.7	106.87	PASS	70-130	2097932.5	2123839.9	98.78	PASS	70-130
CCV7	CCV	1	94531.7	90543.7	104.4	PASS	70-130	2036985.5	2123839.9	95.91	PASS	70-130
CCB7	CCB	1	95435.7	90543.7	105.4	PASS	70-130	2066639.9	2123839.9	97.31	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCV8	CCV	1	88295.4	90543.7	97.52	PASS	70-130	2010966.6	2123839.9	94.69	PASS	70-130
CCB8	CCB	1	88875.1	90543.7	98.16	PASS	70-130	2021292.5	2123839.9	95.17	PASS	70-130
LLCCV2	CCV2	1	84281.9	90543.7	93.084	PASS	70-130	1983588.3	2123839.9	93.4	PASS	70-130
ICSA3	ICSA	1	82140.9	90543.7	90.72	PASS	70-130	1772888.2	2123839.9	83.48	PASS	70-130
ICSAB3	ICSAB	1	84576.3	90543.7	93.41	PASS	70-130	1762275.3	2123839.9	82.98	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018855
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56426

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018845-009B DT 5X	Chromium	ug/L	4.821356	NA	4.464715	7.99%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018855
Test Method: EPA 6020
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56426

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As & Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018845-009B DT 25X	Arsenic	ug/L	1.628013	NA	1.530963	6.34%	10
N018845-009B DT 25X	Manganese	ug/L	393.3965	PASS	385.7804	1.97%	10
N018845-009B DT 25X	Molybdenum	ug/L	26.61699	PASS	26.68051	0.24%	10
N018845-009B DT 25X	Selenium	ug/L	0	NA	1.364555	100.00%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	N018845-009B-PS	SampType:	PS	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	56426	TestNo:	EPA 6020		EPA 3010A	Analysis Date:	3/8/2016	SeqNo:	2255273

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.654	0.50	10.00	1.531	101	80	120				
Manganese	465.026	2.5	100.0	385.8	79.2	80	120				S
Molybdenum	36.602	2.5	10.00	26.68	99.2	80	120				
Selenium	10.525	2.5	10.00	1.365	91.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018855
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018845-009B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56426** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/7/2016** SeqNo: **2255148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.414	1.0	10.00	4.465	89.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

RAW DATA

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

Nancy 3/9/201

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MSD	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0307001	RINSE,RINSE,1	rinse	1.000				
2	C:\ICPMH\1\METHODS\DEFAULT.M	CalBlk	1101	A0307002	Cal Blank,IBLK,1	initial blank	Level 1				
3	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1102	A0307003	Std-0.1/1 ppb	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H	Level 2				
4	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1103	A0307004	Std-0.5/5 ppb	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H	Level 3				
5	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1104	A0307005	Std-5/50 ppb	5/50 ug/L, 1.25<50mL of 2MWST- 151207H	Level 4				
6	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1105	A0307006	Std-10/100 ppb	10/100 ug/L,2.5<50mL of 2MWST- 151207H	Level 5				
7	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1106	A0307007	Std-20/200 ppb	20/200 ug/L,5<50mL of 2MWST- 151207H	Level 6				
8	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1107	A0307008	Std-40/400 ppb	40/400 ug/L, 10<50mL of 2MWST- 151207H	Level 7				
9	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1206	A0307009	Std-100/1000 ppb	100/1000ug/L,10<20mL of 2MWST- 151207H	Level 8				
10	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1207	A0307010	Std-200/2000 ppb	200/2000ug/L, 2MWST- 151207H	Level 9				
11	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICV	1301	A0307011	ICV,ICV,1	10/100 ug/L,200mL of 2MWST- 151207I	1.000				
12	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1302	A0307012	ICB,ICB,1		1.000				
13	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307013	LLICV,CCV1,1	2MWST- 151207J	1.000				
14	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0307014	ICSA1,ICSA,1	2MWST- 151207K	1.000				
15	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0307015	ICSAB1,ICSAB,1	2MWST- 151207L	1.000				
16	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307016	LLICV,CCV1,1	2MWST- 151207J	1.000				
17	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3501	A0307017	N018396-002B,SAMP,5		1.000				
18	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3101	A0307018	MB-56426,MBLK,1		1.000				
19	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3102	A0307019	LCS-56426,LCS,1		1.000				
20	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3103	A0307020	N018845-009B,SAMP,1		1.000				
21	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3104	A0307021	N018845-009B,SAMP,5		1.000				
22	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3105	A0307022	N018845-009B-PS,PS,1		1.000				
23	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3106	A0307023	N018845-009B-MS,MS,1		1.000				
24	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3107	A0307024	N018845-009B-MSD,MSD,1		1.000				
25	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3108	A0307025	N018845-010B,SAMP,1		1.000				
26	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3109	A0307026	N018855-001B,SAMP,1		1.000				
27	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307027	CCV1,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
28	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307028	CCB1,CCB,1		1.000				
29	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3110	A0307029	N018855-002B,SAMP,1		1.000				
30	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3111	A0307030	N018855-003B,SAMP,1		1.000				
31	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3112	A0307031	N018855-004B,SAMP,1		1.000				
32	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3201	A0307032	N018857-019B,SAMP,1		1.000				
33	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2101	A0307033	N018833-001B,SAMP,25		1.000				
34	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2102	A0307034	N018833-001B-PS,PS,5		1.000				
35	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2103	A0307035	N018833-001B-MS,MS,5		1.000				
36	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2104	A0307036	N018833-001B-MSD,MSD,5		1.000				
37	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2105	A0307037	N018834-001B,SAMP,5		1.000				
38	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2106	A0307038	N018834-001B-MS,MS,5		1.000				
39	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307039	CCV2,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
40	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307040	CCB2,CCB,1		1.000				
41	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307041	LLCCV1,CCV2,1	2MWST- 151207J	1.000				
42	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0307042	ICSA2,ICSA,1	2MWST- 151207K	1.000				
43	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0307043	ICSAB,ICSAB,1	2MWST- 151207L	1.000				
44	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2107	A0307044	N018834-005B,SAMP,1		1.000				
45	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2108	A0307045	N018834-005B,SAMP,5		1.000				
46	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2109	A0307046	N018834-006B,SAMP,1		1.000				
47	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2110	A0307047	N018834-006B,SAMP,5		1.000				
48	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2111	A0307048	N018834-007B,SAMP,1		1.000				
49	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2112	A0307049	N018834-007B,SAMP,5		1.000				
50	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2201	A0307050	N018834-007B,SAMP,10		1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
51	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2202	A0307051	N018834-008B,SAMP,1		1.000				
52	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2203	A0307052	N018834-008B,SAMP,5		1.000				
53	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2204	A0307053	N018834-009B,SAMP,1		1.000				
54	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307054	CCV3,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
55	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307055	CCB3,CCB,1		1.000				
56	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2205	A0307056	N018834-009B,SAMP,5		1.000				
57	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2206	A0307057	N018834-010B,SAMP,1		1.000				
58	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2207	A0307058	N018834-010B,SAMP,5		1.000				
59	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2208	A0307059	MB-56419,MBLK,1		1.000				
60	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2209	A0307060	LCS-56419,LCS,1		1.000				
61	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2210	A0307061	N018834-011B,SAMP,1		1.000				
62	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2211	A0307062	N018834-011B,SAMP,5		1.000				
63	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2212	A0307063	N018834-011B,SAMP,25		1.000				
64	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2301	A0307064	N018834-011B-PS,PS,1		1.000				
65	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2302	A0307065	N018834-011B-PS,PS,5		1.000				
66	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307066	CCV4,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
67	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307067	CCB4,CCB,1		1.000				
68	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2303	A0307068	N018834-011B-MS,MS,1		1.000				
69	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2304	A0307069	N018834-011B-MS,MS,5		1.000				
70	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2305	A0307070	N018834-011B-MSD,MSD,1		1.000				
71	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2306	A0307071	N018834-011B-MSD,MSD,5		1.000				
72	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2307	A0307072	N018843-001B,SAMP,1		1.000				
73	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2308	A0307073	N018843-002B,SAMP,1		1.000				
74	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2309	A0307074	N018843-003B,SAMP,1		1.000				
75	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2310	A0307075	N018843-004B,SAMP,1		1.000				
76	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2311	A0307076	N018843-005B,SAMP,1		1.000				
77	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2312	A0307077	N018843-006B,SAMP,1		1.000				
78	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307078	CCV5,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
79	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307079	CCB5,CCB,1		1.000				
80	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2401	A0307080	N018843-007B,SAMP,1		1.000				
81	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2402	A0307081	N018843-008B,SAMP,1		1.000				
82	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2403	A0307082	N018843-009B,SAMP,1		1.000				
83	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2404	A0307083	N018843-010B,SAMP,1		1.000				
84	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2405	A0307084	N018843-010B,SAMP,5		1.000				
85	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2406	A0307085	N018843-010B-MS,MS,1		1.000				
86	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2407	A0307086	~~N018843-010B-MSD,MSD,1~~	N018843-010B,MS,MS,5	1.000				
87	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2408	A0307087	N018844-001B,SAMP,1		1.000				
88	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2409	A0307088	N018845-001B,SAMP,1		1.000				
89	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2410	A0307089	N018845-001B,SAMP,5		1.000				
90	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307090	CCV6,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
91	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307091	CCB6,CCB,1		1.000				
92	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307092	LLCCV2,CCV2,1	2MWST- 151207J	1.000				
93	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0307093	ICSA3,ICSA,1	2MWST- 151207K	1.000				
94	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0307094	ICSAB3,ICSAB,1	2MWST- 151207L	1.000				

Quantitation Report

File Name	A0307002.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:42
Sample Name	Cal Blank,IBLK,1
Sample Type	CalBlk
Comment	initial blank
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	---	20.00	1.092E-05	Pulse	0.30	3
B	11	6	3	0.000	ppb	---	104,979.44	5.735E-02	Pulse	0.30	3
Na	23	45	2	0.000	ppb	---	624,203.47	3.632E+00	Pulse	0.30	3
Mg	26	45	2	0.000	ppb	---	462.25	2.687E-03	Pulse	0.30	3
Al	27	45	2	0.000	ppb	---	1,921.26	1.118E-02	Pulse	0.30	3
K	39	45	2	0.000	ppb	---	39,054.19	2.273E-01	Pulse	0.30	3
Ca	44	45	3	0.000	ppb	---	21,969.73	5.201E-03	Pulse	0.30	3
V	51	45	2	0.000	ppb	---	1,291.22	7.511E-03	Pulse	0.30	3
Cr	52	45	2	0.000	ppb	---	240.47	1.399E-03	Pulse	0.30	3
Mn	55	45	2	0.000	ppb	---	160.11	9.308E-04	Pulse	0.30	3
Fe	56	45	2	0.000	ppb	---	4,673.28	2.719E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	---	10.46	6.065E-05	Pulse	0.30	3
Ni	60	72	2	0.000	ppb	---	127.09	1.108E-03	Pulse	0.30	3
Cu	63	72	2	0.000	ppb	---	9,027.59	7.865E-02	Pulse	0.30	3
Zn	66	72	2	0.000	ppb	---	1,511.28	1.317E-02	Pulse	0.30	3
As	75	72	2	0.000	ppb	---	24.45	2.129E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	4.44	2.947E-05	Pulse	0.30	3
Mo	95	103	2	0.000	ppb	---	136.67	4.462E-05	Pulse	0.30	3
Ag	107	103	3	0.000	ppb	---	13,681.05	1.969E-03	Pulse	0.30	3
Cd	111	115	3	0.000	ppb	---	-76.73	-1.034E-05	Pulse	0.30	3
Sb	121	115	3	0.000	ppb	---	528.92	7.131E-05	Pulse	0.30	3
Ba	137	159	3	0.000	ppb	---	290.83	2.829E-05	Pulse	0.30	3
Tl	205	209	3	0.000	ppb	---	2,065.78	3.577E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.000	ppb	---	538.19	9.320E-05	Pulse	0.30	3
U	238	209	3	0.000	ppb	---	126.27	2.188E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,830,416.41	0.20	100.0	Analog	0.30	3
2	Sc	45	171,872.12	1.06	100.0	Pulse	0.30	3
3	Sc	45	4,224,494.69	0.57	100.0	Analog	0.30	3
1	Ge	72	151,771.98	0.89	100.0	Pulse	0.30	3
2	Ge	72	114,739.29	0.95	100.0	Pulse	0.30	3
2	Rh	103	3,065,661.73	1.14	100.0	Analog	0.30	3
3	Rh	103	6,947,484.41	0.39	100.0	Analog	0.30	3
3	In	115	7,417,364.54	0.14	100.0	Analog	0.30	3
3	Tb	159	10,274,792.62	0.47	100.0	Analog	0.30	3
3	Bi	209	5,774,529.99	0.40	100.0	Analog	0.30	3

Quantitation Report

FOR As ONLY

File Name	A0307003.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:48
Sample Name	Std-0.1/1 ppb
Sample Type	CalStd
Comment	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.088	ppb	7.45	908.95	5.174E-04	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	90,617.11	5.156E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	456,980.12	2.741E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	400.02	2.403E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	432.22	2.591E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	36,403.98	2.182E-01	Pulse	0.30	3
Ca	44	45	3	1.210	ppb	38.13	23,733.36	5.797E-03	Pulse	0.30	3
V	51	45	2	0.097	ppb	8.36	2,120.22	1.271E-02	Pulse	0.30	3
Cr	52	45	2	0.091	ppb	12.56	1,248.50	7.492E-03	Pulse	0.30	3
Mn	55	45	2	0.113	ppb	11.33	894.17	5.352E-03	Pulse	0.30	3
Fe	56	45	2	0.425	ppb	12.24	8,704.19	5.212E-02	Pulse	0.30	3
Co	59	45	2	0.084	ppb	3.51	1,694.11	1.015E-02	Pulse	0.30	3
Ni	60	72	2	0.093	ppb	2.71	610.62	5.396E-03	Pulse	0.30	3
Cu	63	72	2	0.249	ppb	17.23	12,428.37	1.098E-01	Pulse	0.30	3
Zn	66	72	2	0.392	ppb	8.28	2,346.33	2.074E-02	Pulse	0.30	3
As	75	72	2	0.090	ppb	7.61	144.00	1.272E-03	Pulse	0.75	3
Se	78	72	1	0.080	ppb	14.54	55.56	3.783E-04	Pulse	0.30	3
Mo	95	103	2	0.084	ppb	7.04	741.16	2.459E-04	Pulse	0.30	3
Ag	107	103	3	0.010	ppb	52.22	13,946.25	2.057E-03	Pulse	0.30	3
Cd	111	115	3	0.100	ppb	12.42	1,199.24	1.649E-04	Pulse	0.30	3
Sb	121	115	3	0.092	ppb	1.93	4,514.16	6.203E-04	Pulse	0.30	3
Ba	137	159	3	0.140	ppb	2.88	2,737.11	2.733E-04	Pulse	0.30	3
Tl	205	209	3	0.076	ppb	3.18	9,715.75	1.706E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.101	ppb	3.85	14,281.71	2.508E-03	Pulse	0.30	3
U	238	209	3	0.090	ppb	0.25	13,254.33	2.327E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,758,319.05	1.90	96.1	Analog	0.30	3
2	Sc	45	166,885.56	2.06	97.1	Pulse	0.30	3
3	Sc	45	4,094,618.03	0.63	96.9	Analog	0.30	3
1	Ge	72	146,962.51	0.89	96.8	Pulse	0.30	3
2	Ge	72	113,154.88	1.12	98.6	Pulse	0.30	3
2	Rh	103	3,012,633.50	1.27	98.3	Analog	0.30	3
3	Rh	103	6,781,455.94	0.65	97.6	Analog	0.30	3
3	In	115	7,277,204.05	0.80	98.1	Analog	0.30	3
3	Tb	159	10,013,811.80	0.03	97.5	Analog	0.30	3
3	Bi	209	5,695,357.69	0.25	98.6	Analog	0.30	3

Quantitation Report

File Name	A0307004.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:54
Sample Name	Std-0.5/5 ppb
Sample Type	CalStd
Comment	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.450	ppb	5.36	4,485.21	2.609E-03	Pulse	0.30	3
B	11	6	3	1.170	ppb	6.79	109,191.54	6.352E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	399,149.07	2.429E+00	Pulse	0.30	3
Mg	26	45	2	4.012	ppb	20.12	1,077.86	6.560E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	578.82	3.517E-03	Pulse	0.30	3
K	39	45	2	0.964	ppb	316.99	38,026.36	2.314E-01	Pulse	0.30	3
Ca	44	45	3	5.623	ppb	7.15	32,208.63	7.971E-03	Pulse	0.30	3
V	51	45	2	0.441	ppb	4.40	5,126.56	3.115E-02	Pulse	0.30	3
Cr	52	45	2	0.470	ppb	3.70	5,391.73	3.280E-02	Pulse	0.30	3
Mn	55	45	2	0.470	ppb	5.13	3,182.55	1.936E-02	Pulse	0.30	3
Fe	56	45	2	0.994	ppb	2.15	14,063.46	8.552E-02	Pulse	0.30	3
Co	59	45	2	0.465	ppb	0.53	9,210.25	5.600E-02	Pulse	0.30	3
Ni	60	72	2	0.463	ppb	2.42	2,480.81	2.238E-02	Pulse	0.30	3
Cu	63	72	2	0.707	ppb	7.01	18,506.44	1.669E-01	Pulse	0.30	3
Zn	66	72	2	0.326	ppb	14.95	2,158.58	1.947E-02	Pulse	0.30	3
As	75	72	2	0.460	ppb	5.78	626.25	5.651E-03	Pulse	0.75	3
Se	78	72	1	0.454	ppb	21.93	294.46	2.013E-03	Pulse	0.30	3
Mo	95	103	2	0.441	ppb	2.87	3,299.36	1.101E-03	Pulse	0.30	3
Ag	107	103	3	0.248	ppb	6.06	27,487.75	4.073E-03	Pulse	0.30	3
Cd	111	115	3	0.464	ppb	1.64	5,813.63	8.028E-04	Pulse	0.30	3
Sb	121	115	3	0.466	ppb	0.61	20,641.98	2.850E-03	Pulse	0.30	3
Ba	137	159	3	0.504	ppb	2.16	9,176.23	9.122E-04	Pulse	0.30	3
Tl	205	209	3	0.424	ppb	0.26	44,846.49	7.854E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.475	ppb	0.78	65,066.98	1.140E-02	Pulse	0.30	3
U	238	209	3	0.457	ppb	1.55	66,672.36	1.168E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,718,892.88	0.65	93.9	Analog	0.30	3
2	Sc	45	164,481.09	2.52	95.7	Pulse	0.30	3
3	Sc	45	4,040,943.59	0.41	95.7	Analog	0.30	3
1	Ge	72	146,301.75	0.65	96.4	Pulse	0.30	3
2	Ge	72	110,851.39	1.07	96.6	Pulse	0.30	3
2	Rh	103	2,997,102.73	1.02	97.8	Analog	0.30	3
3	Rh	103	6,748,689.13	0.61	97.1	Analog	0.30	3
3	In	115	7,241,837.75	0.62	97.6	Analog	0.30	3
3	Tb	159	10,060,154.78	0.42	97.9	Analog	0.30	3
3	Bi	209	5,709,728.25	0.46	98.9	Analog	0.30	3

Quantitation Report

File Name	A0307005.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:59
Sample Name	Std-5/50 ppb
Sample Type	CalStd
Comment	5/50 ug/L, 1.25<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	4.625	ppb	2.08	45,206.16	2.672E-02	Pulse	0.30	3
B	11	6	3	40.762	ppb	1.33	460,805.73	2.724E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	470,003.11	2.899E+00	Pulse	0.30	3
Mg	26	45	2	47.250	ppb	1.45	7,835.47	4.831E-02	Pulse	0.30	3
Al	27	45	2	0.734	ppb	2.36	2,059.44	1.269E-02	Pulse	0.30	3
K	39	45	2	41.659	ppb	6.91	65,748.78	4.055E-01	Pulse	0.30	3
Ca	44	45	3	51.276	ppb	1.58	120,385.86	3.046E-02	Pulse	0.30	3
V	51	45	2	4.665	ppb	1.84	41,736.77	2.573E-01	Pulse	0.30	3
Cr	52	45	2	4.771	ppb	0.77	51,963.48	3.203E-01	Pulse	0.30	3
Mn	55	45	2	4.832	ppb	2.70	30,919.32	1.906E-01	Pulse	0.30	3
Fe	56	45	2	5.460	ppb	4.91	56,388.03	3.476E-01	Pulse	0.30	3
Co	59	45	2	4.825	ppb	1.67	94,206.56	5.807E-01	Pulse	0.30	3
Ni	60	72	2	4.663	ppb	0.19	23,642.58	2.152E-01	Pulse	0.30	3
Cu	63	72	2	5.053	ppb	1.34	77,996.77	7.098E-01	Pulse	0.30	3
Zn	66	72	2	4.599	ppb	2.21	11,210.84	1.020E-01	Pulse	0.30	3
As	75	72	2	4.612	ppb	0.53	6,010.06	5.470E-02	Pulse	0.75	3
Se	78	72	1	4.889	ppb	5.20	3,074.87	2.138E-02	Pulse	0.30	3
Mo	95	103	2	4.727	ppb	0.66	33,462.48	1.137E-02	Pulse	0.30	3
Ag	107	103	3	4.328	ppb	1.51	257,115.86	3.875E-02	Pulse	0.30	3
Cd	111	115	3	4.788	ppb	0.43	60,156.45	8.374E-03	Pulse	0.30	3
Sb	121	115	3	4.811	ppb	0.79	206,526.88	2.875E-02	Pulse	0.30	3
Ba	137	159	3	4.879	ppb	0.92	85,385.84	8.584E-03	Pulse	0.30	3
Tl	205	209	3	4.642	ppb	1.30	465,956.98	8.235E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	4.851	ppb	1.04	654,327.03	1.156E-01	Pulse	0.30	3
U	238	209	3	4.723	ppb	0.38	681,797.17	1.205E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,691,833.27	0.60	92.4	Analog	0.30	3
2	Sc	45	162,231.68	2.22	94.4	Pulse	0.30	3
3	Sc	45	3,952,353.90	0.06	93.6	Analog	0.30	3
1	Ge	72	143,870.91	0.52	94.8	Pulse	0.30	3
2	Ge	72	109,870.69	1.77	95.8	Pulse	0.30	3
2	Rh	103	2,941,755.20	1.00	96.0	Analog	0.30	3
3	Rh	103	6,636,086.50	0.67	95.5	Analog	0.30	3
3	In	115	7,183,775.19	0.17	96.9	Analog	0.30	3
3	Tb	159	9,947,741.45	0.20	96.8	Analog	0.30	3
3	Bi	209	5,658,838.74	0.62	98.0	Analog	0.30	3

Quantitation Report

File Name	A0307006.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:05
Sample Name	Std-10/100 ppb
Sample Type	CalStd
Comment	10/100 ug/L,2.5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.347	ppb	1.34	89,155.86	5.399E-02	Pulse	0.30	3
B	11	6	3	87.617	ppb	1.20	857,920.32	5.196E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	480,403.30	3.026E+00	Pulse	0.30	3
Mg	26	45	2	96.574	ppb	3.06	15,232.93	9.593E-02	Pulse	0.30	3
Al	27	45	2	5.447	ppb	3.96	3,562.34	2.243E-02	Pulse	0.30	3
K	39	45	2	90.693	ppb	2.83	97,688.18	6.152E-01	Pulse	0.30	3
Ca	44	45	3	95.733	ppb	0.59	203,921.77	5.236E-02	Pulse	0.30	3
V	51	45	2	9.572	ppb	1.09	82,600.81	5.201E-01	Pulse	0.30	3
Cr	52	45	2	9.670	ppb	0.96	102,895.91	6.479E-01	Pulse	0.30	3
Mn	55	45	2	9.847	ppb	1.16	61,544.97	3.875E-01	Pulse	0.30	3
Fe	56	45	2	10.301	ppb	5.27	100,250.11	6.316E-01	Pulse	0.30	3
Co	59	45	2	9.946	ppb	1.10	190,094.03	1.197E+00	Pulse	0.30	3
Ni	60	72	2	9.535	ppb	1.37	47,347.24	4.388E-01	Pulse	0.30	3
Cu	63	72	2	9.952	ppb	0.70	142,605.21	1.322E+00	Pulse	0.30	3
Zn	66	72	2	9.421	ppb	2.26	21,057.04	1.952E-01	Pulse	0.30	3
As	75	72	2	9.344	ppb	0.24	11,933.78	1.106E-01	Pulse	0.75	3
Se	78	72	1	9.385	ppb	1.53	5,837.97	4.101E-02	Pulse	0.30	3
Mo	95	103	2	9.507	ppb	1.54	66,703.60	2.283E-02	Pulse	0.30	3
Ag	107	103	3	9.427	ppb	0.36	538,934.31	8.208E-02	Pulse	0.30	3
Cd	111	115	3	9.758	ppb	0.55	122,005.56	1.707E-02	Pulse	0.30	3
Sb	121	115	3	9.739	ppb	0.44	415,325.47	5.812E-02	Pulse	0.30	3
Ba	137	159	3	9.733	ppb	0.32	169,393.16	1.709E-02	Pulse	0.30	3
Tl	205	209	3	9.395	ppb	1.15	948,290.58	1.663E-01	Analog	0.30	3
Pb	208	209	3	9.642	ppb	0.55	1,310,204.11	2.298E-01	Pulse	0.30	3
U	238	209	3	9.406	ppb	0.23	1,368,086.23	2.399E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,651,295.73	0.35	90.2	Analog	0.30	3
2	Sc	45	158,833.70	1.99	92.4	Pulse	0.30	3
3	Sc	45	3,894,717.51	0.31	92.2	Analog	0.30	3
1	Ge	72	142,366.71	0.29	93.8	Pulse	0.30	3
2	Ge	72	107,890.97	0.67	94.0	Pulse	0.30	3
2	Rh	103	2,921,619.19	1.07	95.3	Analog	0.30	3
3	Rh	103	6,566,045.25	0.24	94.5	Analog	0.30	3
3	In	115	7,145,449.07	0.33	96.3	Analog	0.30	3
3	Tb	159	9,909,177.56	0.36	96.4	Analog	0.30	3
3	Bi	209	5,702,456.51	0.61	98.8	Analog	0.30	3

Quantitation Report

File Name	A0307007.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:10
Sample Name	Std-20/200 ppb
Sample Type	CalStd
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.653	ppb	1.07	177,761.11	1.077E-01	Pulse	0.30	3
B	11	6	3	184.020	ppb	2.17	1,696,281.79	1.028E+00	Analog	0.30	3
Na	23	45	2	28.448	ppb	32.96	623,955.62	3.904E+00	Pulse	0.30	3
Mg	26	45	2	192.464	ppb	0.85	30,132.14	1.885E-01	Pulse	0.30	3
Al	27	45	2	15.696	ppb	0.81	6,972.05	4.361E-02	Pulse	0.30	3
K	39	45	2	184.119	ppb	0.46	162,204.88	1.015E+00	Pulse	0.30	3
Ca	44	45	3	188.906	ppb	0.84	378,087.34	9.826E-02	Pulse	0.30	3
V	51	45	2	19.149	ppb	0.34	165,126.87	1.033E+00	Pulse	0.30	3
Cr	52	45	2	19.432	ppb	0.53	207,876.32	1.300E+00	Pulse	0.30	3
Mn	55	45	2	19.441	ppb	0.57	122,150.44	7.642E-01	Pulse	0.30	3
Fe	56	45	2	19.825	ppb	0.75	190,277.82	1.190E+00	Pulse	0.30	3
Co	59	45	2	19.770	ppb	0.82	380,290.77	2.379E+00	Pulse	0.30	3
Ni	60	72	2	19.143	ppb	1.24	94,144.73	8.799E-01	Pulse	0.30	3
Cu	63	72	2	19.964	ppb	0.53	275,255.68	2.572E+00	Pulse	0.30	3
Zn	66	72	2	19.062	ppb	1.25	40,814.16	3.814E-01	Pulse	0.30	3
As	75	72	2	19.074	ppb	0.36	24,136.58	2.256E-01	Pulse	0.75	3
Se	78	72	1	18.964	ppb	1.43	11,748.01	8.283E-02	Pulse	0.30	3
Mo	95	103	2	18.966	ppb	0.25	133,183.95	4.550E-02	Pulse	0.30	3
Ag	107	103	3	19.289	ppb	0.37	1,084,446.28	1.659E-01	Analog	0.30	3
Cd	111	115	3	19.316	ppb	0.50	239,872.38	3.381E-02	Pulse	0.30	3
Sb	121	115	3	19.608	ppb	0.37	829,659.36	1.169E-01	Pulse	0.30	3
Ba	137	159	3	19.657	ppb	0.31	339,221.47	3.449E-02	Pulse	0.30	3
Tl	205	209	3	19.083	ppb	0.73	1,917,515.13	3.374E-01	Analog	0.30	3
Pb	208	209	3	19.253	ppb	0.59	2,606,643.84	4.587E-01	Analog	0.30	3
U	238	209	3	18.828	ppb	0.75	2,728,985.01	4.802E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,650,071.21	0.89	90.1	Analog	0.30	3
2	Sc	45	159,849.37	1.31	93.0	Pulse	0.30	3
3	Sc	45	3,848,103.62	0.46	91.1	Analog	0.30	3
1	Ge	72	141,838.35	0.31	93.5	Pulse	0.30	3
2	Ge	72	107,005.23	0.96	93.3	Pulse	0.30	3
2	Rh	103	2,927,018.46	1.30	95.5	Analog	0.30	3
3	Rh	103	6,537,289.14	0.54	94.1	Analog	0.30	3
3	In	115	7,094,465.11	0.25	95.6	Analog	0.30	3
3	Tb	159	9,833,876.52	0.41	95.7	Analog	0.30	3
3	Bi	209	5,682,730.68	0.17	98.4	Analog	0.30	3

Quantitation Report

File Name	A0307008.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:16
Sample Name	Std-40/400 ppb
Sample Type	CalStd
Comment	40/400 ug/L, 10<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	38.546	ppb	0.90	358,924.61	2.226E-01	Pulse	0.30	3
B	11	6	3	386.274	ppb	1.23	3,377,651.35	2.095E+00	Analog	0.30	3
Na	23	45	2	242.684	ppb	3.55	940,509.53	5.951E+00	Pulse	0.30	3
Mg	26	45	2	393.697	ppb	1.54	60,511.04	3.828E-01	Pulse	0.30	3
Al	27	45	2	36.868	ppb	0.54	13,809.04	8.737E-02	Pulse	0.30	3
K	39	45	2	383.568	ppb	0.72	295,222.23	1.868E+00	Pulse	0.30	3
Ca	44	45	3	390.263	ppb	1.04	755,659.39	1.974E-01	Pulse	0.30	3
V	51	45	2	38.992	ppb	0.57	331,232.09	2.096E+00	Pulse	0.30	3
Cr	52	45	2	39.610	ppb	0.32	418,756.52	2.649E+00	Pulse	0.30	3
Mn	55	45	2	39.610	ppb	0.77	245,945.43	1.556E+00	Pulse	0.30	3
Fe	56	45	2	40.322	ppb	0.74	378,220.22	2.393E+00	Pulse	0.30	3
Co	59	45	2	40.082	ppb	0.32	762,373.75	4.823E+00	Pulse	0.30	3
Ni	60	72	2	39.381	ppb	0.43	191,975.21	1.809E+00	Pulse	0.30	3
Cu	63	72	2	40.075	ppb	0.63	539,591.27	5.085E+00	Pulse	0.30	3
Zn	66	72	2	39.686	ppb	1.18	82,768.08	7.799E-01	Pulse	0.30	3
As	75	72	2	38.765	ppb	1.44	48,627.96	4.582E-01	Pulse	0.75	3
Se	78	72	1	38.135	ppb	1.73	23,003.71	1.665E-01	Pulse	0.30	3
Mo	95	103	2	38.985	ppb	0.19	270,430.46	9.348E-02	Pulse	0.30	3
Ag	107	103	3	39.613	ppb	0.57	2,202,776.01	3.386E-01	Analog	0.30	3
Cd	111	115	3	39.518	ppb	0.31	490,520.75	6.918E-02	Pulse	0.30	3
Sb	121	115	3	38.775	ppb	0.28	1,639,196.36	2.312E-01	Analog	0.30	3
Ba	137	159	3	39.404	ppb	0.39	683,027.85	6.912E-02	Pulse	0.30	3
Tl	205	209	3	38.571	ppb	0.21	3,887,252.10	6.816E-01	Analog	0.30	3
Pb	208	209	3	39.132	ppb	0.46	5,316,003.14	9.322E-01	Analog	0.30	3
U	238	209	3	38.217	ppb	0.39	5,558,616.41	9.747E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,612,314.43	0.87	88.1	Analog	0.30	3
2	Sc	45	158,058.06	1.10	92.0	Pulse	0.30	3
3	Sc	45	3,827,436.12	0.80	90.6	Analog	0.30	3
1	Ge	72	138,142.03	0.27	91.0	Pulse	0.30	3
2	Ge	72	106,125.14	0.59	92.5	Pulse	0.30	3
2	Rh	103	2,892,832.25	1.28	94.4	Analog	0.30	3
3	Rh	103	6,505,681.92	0.28	93.6	Analog	0.30	3
3	In	115	7,090,260.27	0.29	95.6	Analog	0.30	3
3	Tb	159	9,881,767.63	0.51	96.2	Analog	0.30	3
3	Bi	209	5,702,757.41	0.40	98.8	Analog	0.30	3

Quantitation Report

File Name	A0307009.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:21
Sample Name	Std-100/1000 ppb
Sample Type	CalStd
Comment	100/1000ug/L,10<20mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	97.684	ppb	0.58	883,119.72	5.642E-01	Pulse	0.30	3
B	11	6	3	982.033	ppb	1.15	8,198,921.64	5.238E+00	Analog	0.30	3
Na	23	45	2	911.999	ppb	0.66	1,911,521.62	1.235E+01	Analog	0.30	3
Mg	26	45	2	990.511	ppb	1.17	148,489.34	9.590E-01	Pulse	0.30	3
Al	27	45	2	97.416	ppb	1.34	32,902.58	2.125E-01	Pulse	0.30	3
K	39	45	2	974.675	ppb	0.65	680,636.85	4.396E+00	Pulse	0.30	3
Ca	44	45	3	1002.641	ppb	1.02	1,885,478.58	4.991E-01	Analog	0.30	3
V	51	45	2	98.683	ppb	0.75	819,393.62	5.292E+00	Pulse	0.30	3
Cr	52	45	2	98.963	ppb	1.42	1,024,609.30	6.617E+00	Mix	0.30	3
Mn	55	45	2	99.778	ppb	0.59	606,643.26	3.918E+00	Pulse	0.30	3
Fe	56	45	2	100.767	ppb	0.62	919,640.87	5.940E+00	Pulse	0.30	3
Co	59	45	2	99.346	ppb	1.16	1,851,028.70	1.196E+01	Analog	0.30	3
Ni	60	72	2	98.786	ppb	0.72	471,542.14	4.536E+00	Pulse	0.30	3
Cu	63	72	2	99.919	ppb	0.75	1,305,770.78	1.256E+01	Analog	0.30	3
Zn	66	72	2	99.174	ppb	0.58	200,548.08	1.929E+00	Pulse	0.30	3
As	75	72	2	98.111	ppb	0.15	120,525.20	1.159E+00	Pulse	0.75	3
Se	78	72	1	99.737	ppb	1.33	59,319.31	4.355E-01	Pulse	0.30	3
Mo	95	103	2	98.951	ppb	0.32	677,899.59	2.372E-01	Pulse	0.30	3
Ag	107	103	3	100.389	ppb	0.23	5,457,912.83	8.551E-01	Analog	0.30	3
Cd	111	115	3	99.524	ppb	0.78	1,214,166.09	1.743E-01	Analog	0.30	3
Sb	121	115	3	98.208	ppb	0.10	4,079,344.35	5.854E-01	Analog	0.30	3
Ba	137	159	3	98.858	ppb	0.29	1,704,303.23	1.734E-01	Analog	0.30	3
Tl	205	209	3	98.250	ppb	0.38	9,745,785.34	1.736E+00	Analog	0.30	3
Pb	208	209	3	98.449	ppb	0.42	13,166,901.68	2.345E+00	Analog	0.30	3
U	238	209	3	98.383	ppb	0.19	14,088,312.79	2.509E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,565,385.86	0.47	85.5	Analog	0.30	3
2	Sc	45	154,833.49	0.54	90.1	Pulse	0.30	3
3	Sc	45	3,777,836.23	0.24	89.4	Analog	0.30	3
1	Ge	72	136,219.51	0.28	89.8	Pulse	0.30	3
2	Ge	72	103,960.23	1.07	90.6	Pulse	0.30	3
2	Rh	103	2,857,868.46	1.10	93.2	Analog	0.30	3
3	Rh	103	6,383,017.34	0.34	91.9	Analog	0.30	3
3	In	115	6,967,901.38	0.18	93.9	Analog	0.30	3
3	Tb	159	9,830,372.84	0.42	95.7	Analog	0.30	3
3	Bi	209	5,614,682.48	0.43	97.2	Analog	0.30	3

Quantitation Report

File Name	A0307010.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:27
Sample Name	Std-200/2000 ppb
Sample Type	CalStd
Comment	200/2000ug/L, 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	201.626	ppb	0.66	1,795,972.68	1.164E+00	Analog	0.30	3
B	11	6	3	2014.177	ppb	0.64	16,477,073.84	1.068E+01	Analog	0.30	3
Na	23	45	2	2044.000	ppb	0.69	3,537,346.68	2.316E+01	Analog	0.30	3
Mg	26	45	2	2006.999	ppb	0.32	296,355.49	1.940E+00	Pulse	0.30	3
Al	27	45	2	202.683	ppb	0.24	65,679.67	4.300E-01	Pulse	0.30	3
K	39	45	2	2018.211	ppb	0.91	1,353,004.72	8.859E+00	Analog	0.30	3
Ca	44	45	3	2001.918	ppb	0.34	3,690,619.53	9.913E-01	Analog	0.30	3
V	51	45	2	200.975	ppb	0.97	1,644,917.44	1.077E+01	Analog	0.30	3
Cr	52	45	2	200.676	ppb	1.06	2,049,143.54	1.342E+01	Analog	0.30	3
Mn	55	45	2	200.257	ppb	0.45	1,200,838.68	7.863E+00	Analog	0.30	3
Fe	56	45	2	199.543	ppb	1.21	1,792,241.41	1.174E+01	Analog	0.30	3
Co	59	45	2	200.341	ppb	0.52	3,682,030.54	2.411E+01	Analog	0.30	3
Ni	60	72	2	200.848	ppb	0.70	936,297.50	9.221E+00	Pulse	0.30	3
Cu	63	72	2	200.030	ppb	0.75	2,544,971.21	2.506E+01	Analog	0.30	3
Zn	66	72	2	200.608	ppb	0.29	394,871.65	3.889E+00	Pulse	0.30	3
As	75	72	2	201.327	ppb	0.41	241,541.14	2.379E+00	Pulse	0.75	3
Se	78	72	1	200.642	ppb	0.52	116,263.32	8.760E-01	Pulse	0.30	3
Mo	95	103	2	200.863	ppb	0.08	1,347,873.14	4.815E-01	Analog	0.30	3
Ag	107	103	3	198.163	ppb	1.93	10,547,982.11	1.686E+00	Analog	0.30	3
Cd	111	115	3	200.420	ppb	0.36	2,408,483.12	3.509E-01	Analog	0.30	3
Sb	121	115	3	201.198	ppb	0.71	8,231,888.00	1.199E+00	Analog	0.30	3
Ba	137	159	3	200.741	ppb	0.64	3,407,686.26	3.520E-01	Analog	0.30	3
Tl	205	209	3	201.292	ppb	0.69	19,616,619.01	3.556E+00	Analog	0.30	3
Pb	208	209	3	201.045	ppb	0.45	26,421,094.35	4.789E+00	Analog	0.30	3
U	238	209	3	201.319	ppb	0.61	28,326,398.20	5.134E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,542,379.91	0.82	84.3	Analog	0.30	3
2	Sc	45	152,727.74	1.10	88.9	Pulse	0.30	3
3	Sc	45	3,722,836.30	0.68	88.1	Analog	0.30	3
1	Ge	72	132,719.86	0.64	87.4	Pulse	0.30	3
2	Ge	72	101,544.28	1.78	88.5	Pulse	0.30	3
2	Rh	103	2,799,519.47	0.81	91.3	Analog	0.30	3
3	Rh	103	6,256,698.24	1.18	90.1	Analog	0.30	3
3	In	115	6,863,724.07	1.32	92.5	Analog	0.30	3
3	Tb	159	9,680,702.63	1.30	94.2	Analog	0.30	3
3	Bi	209	5,517,059.16	1.20	95.5	Analog	0.30	3

Quantitation Report

File Name	A0307011.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:32
Sample Name	ICV,ICV,1
Sample Type	6-ICV
Comment	10/100 ug/L,200mL of 2MWST- 151207I
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.033	ppb	1.46	99,424.06	5.796E-02	Pulse	0.30	3
B	11	6	3	2000.453	ppb	0.14	18,202,378.57	1.061E+01	Analog	0.30	3
Na	23	45	2	45.183	ppb	10.97	689,479.95	4.064E+00	Pulse	0.30	3
Mg	26	45	2	99.170	ppb	1.27	16,699.95	9.844E-02	Pulse	0.30	3
Al	27	45	2	194.929	ppb	1.43	70,246.19	4.140E-01	Pulse	0.30	3
K	39	45	2	88.451	ppb	1.36	102,744.63	6.056E-01	Pulse	0.30	3
Ca	44	45	3	139.895	ppb	1.20	304,943.38	7.411E-02	Pulse	0.30	3
V	51	45	2	10.100	ppb	1.41	93,038.97	5.484E-01	Pulse	0.30	3
Cr	52	45	2	10.303	ppb	1.34	117,095.03	6.902E-01	Pulse	0.30	3
Mn	55	45	2	100.893	ppb	0.77	672,185.84	3.962E+00	Pulse	0.30	3
Fe	56	45	2	103.478	ppb	2.45	1,034,619.42	6.099E+00	Mix	0.30	3
Co	59	45	2	9.962	ppb	1.20	203,400.00	1.199E+00	Pulse	0.30	3
Ni	60	72	2	10.507	ppb	0.49	55,080.19	4.834E-01	Pulse	0.30	3
Cu	63	72	2	10.963	ppb	0.36	164,979.85	1.448E+00	Pulse	0.30	3
Zn	66	72	2	102.367	ppb	0.70	226,826.88	1.991E+00	Pulse	0.30	3
As	75	72	2	10.187	ppb	0.55	13,735.66	1.206E-01	Pulse	0.75	3
Se	78	72	1	10.160	ppb	0.99	6,437.09	4.439E-02	Pulse	0.30	3
Mo	95	103	2	10.973	ppb	2.03	82,142.15	2.634E-02	Pulse	0.30	3
Ag	107	103	3	10.996	ppb	0.45	670,585.92	9.541E-02	Pulse	0.30	3
Cd	111	115	3	10.494	ppb	0.74	140,186.44	1.836E-02	Pulse	0.30	3
Sb	121	115	3	10.791	ppb	0.27	491,563.73	6.439E-02	Pulse	0.30	3
Ba	137	159	3	104.058	ppb	0.53	1,949,945.44	1.825E-01	Analog	0.30	3
Tl	205	209	3	8.311	ppb	0.63	895,871.18	1.472E-01	Pulse	0.30	3
Pb	208	209	3	10.474	ppb	0.39	1,519,272.70	2.496E-01	Pulse	0.30	3
U	238	209	3	10.037	ppb	1.44	1,558,503.82	2.560E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,715,553.98	1.32	93.7	Analog	0.30	3
2	Sc	45	169,671.34	1.31	98.7	Pulse	0.30	3
3	Sc	45	4,114,926.78	1.12	97.4	Analog	0.30	3
1	Ge	72	145,029.53	1.18	95.6	Pulse	0.30	3
2	Ge	72	113,930.76	1.02	99.3	Pulse	0.30	3
2	Rh	103	3,118,126.41	1.24	101.7	Analog	0.30	3
3	Rh	103	7,028,448.44	0.42	101.2	Analog	0.30	3
3	In	115	7,633,829.56	0.31	102.9	Analog	0.30	3
3	Tb	159	10,685,283.73	0.24	104.0	Analog	0.30	3
3	Bi	209	6,087,674.15	0.57	105.4	Analog	0.30	3

Quantitation Report

File Name	A0307012.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:38
Sample Name	ICB,ICB,1
Sample Type	6-ICB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.007	ppb	40.46	82.23	5.038E-05	Pulse	0.30	3
B	11	6	3	24.968	ppb	3.63	308,745.24	1.891E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	216,020.49	1.340E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	134.45	8.328E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,005.62	6.240E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	31,202.31	1.935E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	12,425.03	3.185E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	892.29	5.531E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	178.67	1.109E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	473.09	157.16	9.765E-04	Pulse	0.30	3
Fe	56	45	2	0.013	ppb	114.63	4,509.92	2.796E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	49.29	38.66	2.402E-04	Pulse	0.30	3
Ni	60	72	2	0.013	ppb	18.06	186.43	1.696E-03	Pulse	0.30	3
Cu	63	72	2	0.472	ppb	0.35	15,114.56	1.376E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	653.58	5.941E-03	Pulse	0.30	3
As	75	72	2	0.013	ppb	36.76	40.44	3.676E-04	Pulse	0.75	3
Se	78	72	1	0.002	ppb	513.46	5.55	3.893E-05	Pulse	0.30	3
Mo	95	103	2	0.234	ppb	5.02	1,816.85	6.056E-04	Pulse	0.30	3
Ag	107	103	3	0.849	ppb	9.20	61,759.81	9.186E-03	Pulse	0.30	3
Cd	111	115	3	0.006	ppb	9.19	6.54	9.089E-07	Pulse	0.30	3
Sb	121	115	3	0.088	ppb	6.62	4,292.98	5.955E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	246.86	2.464E-05	Pulse	0.30	3
Tl	205	209	3	0.171	ppb	3.06	19,344.36	3.385E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.012	ppb	10.86	2,142.68	3.749E-04	Pulse	0.30	3
U	238	209	3	0.006	ppb	7.61	959.91	1.679E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,632,968.80	0.26	89.2	Analog	0.30	3
2	Sc	45	161,352.01	1.80	93.9	Pulse	0.30	3
3	Sc	45	3,901,077.90	0.40	92.3	Analog	0.30	3
1	Ge	72	142,122.44	0.46	93.6	Pulse	0.30	3
2	Ge	72	109,872.11	1.90	95.8	Pulse	0.30	3
2	Rh	103	3,000,190.31	1.01	97.9	Analog	0.30	3
3	Rh	103	6,724,302.05	0.43	96.8	Analog	0.30	3
3	In	115	7,207,802.99	0.50	97.2	Analog	0.30	3
3	Tb	159	10,017,451.51	0.26	97.5	Analog	0.30	3
3	Bi	209	5,714,959.43	0.36	99.0	Analog	0.30	3

Quantitation Report

File Name	A0307013.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:43
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.468	ppb	3.52	4,461.89	2.716E-03	Pulse	0.30	3
B	11	6	3	65.184	ppb	0.92	658,962.10	4.012E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	225,005.29	1.384E+00	Pulse	0.30	3
Mg	26	45	2	3.170	ppb	10.52	934.51	5.748E-03	Pulse	0.30	3
Al	27	45	2	36.900	ppb	2.32	14,219.74	8.743E-02	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	34,224.89	2.105E-01	Pulse	0.30	3
Ca	44	45	3	13.455	ppb	1.30	46,260.77	1.183E-02	Pulse	0.30	3
V	51	45	2	0.906	ppb	1.37	9,115.13	5.604E-02	Pulse	0.30	3
Cr	52	45	2	0.985	ppb	2.35	10,937.10	6.724E-02	Pulse	0.30	3
Mn	55	45	2	0.515	ppb	2.72	3,437.86	2.113E-02	Pulse	0.30	3
Fe	56	45	2	12.329	ppb	26.47	121,825.63	7.506E-01	Pulse	0.30	3
Co	59	45	2	0.469	ppb	1.03	9,184.75	5.647E-02	Pulse	0.30	3
Ni	60	72	2	1.013	ppb	1.81	5,089.34	4.762E-02	Pulse	0.30	3
Cu	63	72	2	1.560	ppb	1.18	29,238.94	2.736E-01	Pulse	0.30	3
Zn	66	72	2	11.029	ppb	0.29	24,181.30	2.262E-01	Pulse	0.30	3
As	75	72	2	0.112	ppb	9.27	164.00	1.533E-03	Pulse	0.75	3
Se	78	72	1	0.468	ppb	3.67	287.80	2.071E-03	Pulse	0.30	3
Mo	95	103	2	0.548	ppb	3.11	4,090.68	1.357E-03	Pulse	0.30	3
Ag	107	103	3	0.276	ppb	2.70	29,078.03	4.317E-03	Pulse	0.30	3
Cd	111	115	3	0.511	ppb	2.45	6,495.52	8.843E-04	Pulse	0.30	3
Sb	121	115	3	0.561	ppb	1.41	25,082.89	3.415E-03	Pulse	0.30	3
Ba	137	159	3	1.090	ppb	1.77	19,887.46	1.939E-03	Pulse	0.30	3
Tl	205	209	3	0.441	ppb	2.10	47,510.43	8.144E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	1.005	ppb	1.19	140,250.17	2.404E-02	Pulse	0.30	3
U	238	209	3	0.474	ppb	0.19	70,710.23	1.212E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,642,479.07	0.69	89.7	Analog	0.30	3
2	Sc	45	162,638.91	1.25	94.6	Pulse	0.30	3
3	Sc	45	3,910,683.48	0.33	92.6	Analog	0.30	3
1	Ge	72	138,927.85	1.85	91.5	Pulse	0.30	3
2	Ge	72	106,883.60	2.00	93.2	Pulse	0.30	3
2	Rh	103	3,013,514.05	0.61	98.3	Analog	0.30	3
3	Rh	103	6,735,864.90	0.83	97.0	Analog	0.30	3
3	In	115	7,345,185.97	0.34	99.0	Analog	0.30	3
3	Tb	159	10,255,095.75	0.26	99.8	Analog	0.30	3
3	Bi	209	5,834,229.98	0.49	101.0	Analog	0.30	3

not reported

Quantitation Report

File Name	A0307014.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:49
Sample Name	ICSA1,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	35.71	42.23	2.470E-05	Pulse	0.30	3
B	11	6	3	4.364	ppb	0.07	137,410.67	8.037E-02	Pulse	0.30	3
Na	23	45	2	115118.978	ppb	0.42	182,976,806.16	1.104E+03	Analog	0.30	3
Mg	26	45	2	100727.094	ppb	0.77	16,125,282.95	9.725E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,724.48	1.042E-02	Pulse	0.30	3
K	39	45	2	104682.835	ppb	0.21	74,281,124.45	4.480E+02	Analog	0.30	3
Ca	44	45	3	94669.000	ppb	0.93	204,458,143.62	4.664E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	772.27	4.662E-03	Pulse	0.30	3
Cr	52	45	2	0.177	ppb	11.48	2,197.89	1.325E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-16,350.62	-9.868E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-9,426.66	-5.686E-02	Pulse	0.30	3
Co	59	45	2	0.004	ppb	55.40	85.94	5.158E-04	Pulse	0.30	3
Ni	60	72	2	0.294	ppb	8.54	1,529.35	1.462E-02	Pulse	0.30	3
Cu	63	72	2	0.035	ppb	244.41	8,697.70	8.300E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,679.69	-1.606E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	9.41	9.224E-05	Pulse	0.75	3
Se	78	72	1	0.012	ppb	69.51	11.11	8.397E-05	Pulse	0.30	3
Mo	95	103	2	0.085	ppb	13.41	651.16	2.483E-04	Pulse	0.30	3
Ag	107	103	3	0.116	ppb	5.96	18,392.09	2.953E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-470.17	-6.878E-05	Pulse	0.30	3
Sb	121	115	3	0.046	ppb	10.15	2,370.28	3.466E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-20,656.93	-2.161E-03	Pulse	0.30	3
Tl	205	209	3	0.050	ppb	1.22	5,726.90	1.234E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,767.17	-3.809E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	6.79	486.50	1.049E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,709,621.11	0.16	93.4	Analog	0.30	3
2	Sc	45	165,823.93	2.67	96.5	Pulse	0.30	3
3	Sc	45	4,384,284.13	1.60	103.8	Analog	0.30	3
1	Ge	72	132,052.72	0.76	87.0	Pulse	0.30	3
2	Ge	72	104,594.67	2.35	91.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,625,999.53	2.01	85.7	Analog	0.30	3
3	Rh	103	6,228,150.74	0.87	89.6	Analog	0.30	3
3	In	115	6,837,207.99	0.61	92.2	Analog	0.30	3
3	Tb	159	9,560,743.19	0.68	93.1	Analog	0.30	3
3	Bi	209	4,639,394.45	0.18	80.3	Analog	0.30	3

Quantitation Report

File Name	A0307015.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:54
Sample Name	ICSAB1,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.620	ppb	1.51	184,022.97	1.191E-01	Pulse	0.30	3
B	11	6	3	208.313	ppb	0.97	1,786,604.24	1.156E+00	Analog	0.30	3
Na	23	45	2	115911.029	ppb	1.30	173,007,608.53	1.111E+03	Analog	0.30	3
Mg	26	45	2	102123.911	ppb	1.07	15,354,096.58	9.860E+01	Analog	0.30	3
Al	27	45	2	17.452	ppb	5.63	7,355.82	4.724E-02	Pulse	0.30	3
K	39	45	2	104201.751	ppb	1.29	69,437,807.86	4.459E+02	Analog	0.30	3
Ca	44	45	3	94199.416	ppb	0.19	184,450,888.37	4.641E+01	Analog	0.30	3
V	51	45	2	21.647	ppb	0.85	181,683.80	1.167E+00	Pulse	0.30	3
Cr	52	45	2	21.112	ppb	0.63	220,009.21	1.413E+00	Pulse	0.30	3
Mn	55	45	2	17.818	ppb	1.49	109,084.77	7.004E-01	Pulse	0.30	3
Fe	56	45	2	19.539	ppb	2.07	182,730.63	1.174E+00	Pulse	0.30	3
Co	59	45	2	20.423	ppb	1.43	382,677.93	2.458E+00	Pulse	0.30	3
Ni	60	72	2	21.061	ppb	0.90	94,611.68	9.679E-01	Pulse	0.30	3
Cu	63	72	2	19.975	ppb	0.92	251,575.46	2.574E+00	Pulse	0.30	3
Zn	66	72	2	17.341	ppb	1.00	34,033.67	3.482E-01	Pulse	0.30	3
As	75	72	2	20.824	ppb	0.43	24,067.92	2.462E-01	Pulse	0.75	3
Se	78	72	1	19.099	ppb	0.85	10,399.25	8.342E-02	Pulse	0.30	3
Mo	95	103	2	23.941	ppb	1.37	139,524.86	5.743E-02	Pulse	0.30	3
Ag	107	103	3	19.152	ppb	0.39	924,407.40	1.647E-01	Pulse	0.30	3
Cd	111	115	3	20.677	ppb	0.44	221,796.82	3.619E-02	Pulse	0.30	3
Sb	121	115	3	21.902	ppb	0.37	800,465.09	1.306E-01	Pulse	0.30	3
Ba	137	159	3	20.721	ppb	0.17	311,206.24	3.636E-02	Pulse	0.30	3
Tl	205	209	3	22.754	ppb	1.23	1,676,161.78	4.023E-01	Analog	0.30	3
Pb	208	209	3	22.692	ppb	0.25	2,252,568.36	5.406E-01	Analog	0.30	3
U	238	209	3	23.613	ppb	0.46	2,509,448.02	6.022E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,545,235.34	0.85	84.4	Analog	0.30	3
2	Sc	45	155,734.64	2.23	90.6	Pulse	0.30	3
3	Sc	45	3,974,601.09	0.10	94.1	Analog	0.30	3
1	Ge	72	124,666.63	0.61	82.1	Pulse	0.30	3
2	Ge	72	97,742.55	0.82	85.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,429,414.31	1.30	79.2	Analog	0.30	3
3	Rh	103	5,611,888.11	0.22	80.8	Analog	0.30	3
3	In	115	6,128,173.45	0.20	82.6	Analog	0.30	3
3	Tb	159	8,558,570.57	0.65	83.3	Analog	0.30	3
3	Bi	209	4,166,778.75	0.29	72.2	Analog	0.30	3

Quantitation Report

File Name	A0307016.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:00
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.493	ppb	2.84	4,998.71	2.860E-03	Pulse	0.30	3
B	11	6	3	57.951	ppb	0.56	634,492.19	3.631E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	249,976.56	1.412E+00	Pulse	0.30	3
Mg	26	45	2	4.510	ppb	6.40	1,246.77	7.042E-03	Pulse	0.30	3
Al	27	45	2	36.548	ppb	2.89	15,351.83	8.671E-02	Pulse	0.30	3
K	39	45	2	3.026	ppb	81.82	42,524.91	2.402E-01	Pulse	0.30	3
Ca	44	45	3	14.179	ppb	1.55	50,719.24	1.219E-02	Pulse	0.30	3
V	51	45	2	0.956	ppb	1.21	10,399.24	5.873E-02	Pulse	0.30	3
Cr	52	45	2	0.945	ppb	2.68	11,439.61	6.461E-02	Pulse	0.30	3
Mn	55	45	2	0.510	ppb	1.89	3,711.69	2.096E-02	Pulse	0.30	3
Fe	56	45	2	10.894	ppb	7.13	118,043.59	6.664E-01	Pulse	0.30	3
Co	59	45	2	0.478	ppb	1.51	10,198.68	5.760E-02	Pulse	0.30	3
Ni	60	72	2	1.041	ppb	1.37	5,595.03	4.892E-02	Pulse	0.30	3
Cu	63	72	2	1.755	ppb	2.25	34,067.34	2.978E-01	Pulse	0.30	3
Zn	66	72	2	10.914	ppb	0.06	25,622.09	2.240E-01	Pulse	0.30	3
As	75	72	2	0.118	ppb	13.99	184.45	1.613E-03	Pulse	0.75	3
Se	78	72	1	0.528	ppb	9.27	352.24	2.336E-03	Pulse	0.30	3
Mo	95	103	2	0.555	ppb	3.24	4,318.52	1.374E-03	Pulse	0.30	3
Ag	107	103	3	0.789	ppb	9.43	60,203.59	8.674E-03	Pulse	0.30	3
Cd	111	115	3	0.519	ppb	1.71	6,729.88	8.986E-04	Pulse	0.30	3
Sb	121	115	3	0.549	ppb	1.26	25,051.78	3.345E-03	Pulse	0.30	3
Ba	137	159	3	1.074	ppb	0.71	19,811.09	1.912E-03	Pulse	0.30	3
Tl	205	209	3	0.395	ppb	1.93	42,836.09	7.332E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	1.002	ppb	0.74	140,010.24	2.397E-02	Pulse	0.30	3
U	238	209	3	0.478	ppb	0.56	71,379.94	1.222E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,747,633.05	0.12	95.5	Analog	0.30	3
2	Sc	45	177,090.13	1.26	103.0	Pulse	0.30	3
3	Sc	45	4,162,334.07	0.80	98.5	Analog	0.30	3
1	Ge	72	150,707.08	0.89	99.3	Pulse	0.30	3
2	Ge	72	114,372.36	1.18	99.7	Pulse	0.30	3
2	Rh	103	3,143,402.42	0.64	102.5	Analog	0.30	3
3	Rh	103	6,939,974.20	0.56	99.9	Analog	0.30	3
3	In	115	7,489,293.95	0.68	101.0	Analog	0.30	3
3	Tb	159	10,361,934.50	0.14	100.8	Analog	0.30	3
3	Bi	209	5,841,544.43	0.59	101.2	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307017.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:05
Sample Name	N018396-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.008	ppb	18.09	90.00	5.680E-05	Pulse	0.30	3
B	11	6	3	33.551	ppb	2.37	370,770.56	2.343E-01	Pulse	0.30	3
Na	23	45	2	26823.140	ppb	0.35	43,082,720.19	2.599E+02	Analog	0.30	3
Mg	26	45	2	6541.348	ppb	0.70	1,047,292.76	6.318E+00	Analog	0.30	3
Al	27	45	2	296.478	ppb	0.69	103,414.53	6.239E-01	Pulse	0.30	3
K	39	45	2	1313.308	ppb	0.25	968,771.87	5.844E+00	Pulse	0.30	3
Ca	44	45	3	16783.868	ppb	0.69	32,150,555.91	8.273E+00	Analog	0.30	3
V	51	45	2	1.290	ppb	1.05	12,697.56	7.661E-02	Pulse	0.30	3
Cr	52	45	2	1.207	ppb	0.92	13,606.38	8.208E-02	Pulse	0.30	3
Mn	55	45	2	9.950	ppb	0.85	64,900.45	3.915E-01	Pulse	0.30	3
Fe	56	45	2	629.549	ppb	0.69	6,127,320.96	3.697E+01	Analog	0.30	3
Co	59	45	2	0.249	ppb	3.61	4,966.44	2.997E-02	Pulse	0.30	3
Ni	60	72	2	1.603	ppb	3.64	8,141.47	7.469E-02	Pulse	0.30	3
Cu	63	72	2	17.111	ppb	0.82	241,603.93	2.216E+00	Pulse	0.30	3
Zn	66	72	2	128.098	ppb	0.15	271,257.23	2.488E+00	Pulse	0.30	3
As	75	72	2	0.523	ppb	0.22	697.33	6.396E-03	Pulse	0.75	3
Se	78	72	1	0.268	ppb	14.21	175.57	1.201E-03	Pulse	0.30	3
Mo	95	103	2	1.521	ppb	3.08	10,751.79	3.691E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,035.90	1.100E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-4,890.50	-6.839E-04	Pulse	0.30	3
Sb	121	115	3	0.446	ppb	0.98	19,527.22	2.731E-03	Pulse	0.30	3
Ba	137	159	3	42.642	ppb	0.16	763,815.26	7.480E-02	Pulse	0.30	3
Tl	205	209	3	0.063	ppb	7.18	8,112.56	1.475E-03	Pulse	0.30	3
Pb	208	209	3	8.358	ppb	1.07	1,095,415.56	1.992E-01	Pulse	0.30	3
U	238	209	3	1.121	ppb	1.14	157,308.43	2.860E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,582,482.08	1.62	86.5	Analog	0.30	3
2	Sc	45	165,761.71	1.04	96.4	Pulse	0.30	3
3	Sc	45	3,886,363.79	0.60	92.0	Analog	0.30	3
1	Ge	72	146,172.77	0.19	96.3	Pulse	0.30	3
2	Ge	72	109,029.35	0.97	95.0	Pulse	0.30	3
2	Rh	103	2,912,453.91	1.13	95.0	Analog	0.30	3
3	Rh	103	6,395,116.71	0.56	92.0	Analog	0.30	3
3	In	115	7,150,780.77	0.58	96.4	Analog	0.30	3
3	Tb	159	10,211,613.60	0.34	99.4	Analog	0.30	3
3	Bi	209	5,499,970.89	0.77	95.2	Analog	0.30	3

Quantitation Report

File Name	A0307018.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:11
Sample Name	MB-56426,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	101.82	28.89	1.823E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	90,152.02	5.684E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	222,732.92	1.469E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	127.78	8.395E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	274.46	1.806E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	32,515.97	2.143E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	10,662.76	2.874E-03	Pulse	0.30	3
V	51	45	2	0.011	ppb	64.41	1,227.88	8.088E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	206.45	1.360E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	73.86	4.885E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,523.23	2.320E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	28.68	29.77	1.953E-04	Pulse	0.30	3
Ni	60	72	2	0.002	ppb	489.81	124.20	1.210E-03	Pulse	0.30	3
Cu	63	72	2	0.426	ppb	11.05	13,609.65	1.318E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	423.55	4.102E-03	Pulse	0.30	3
As	75	72	2	0.002	ppb	82.31	24.89	2.409E-04	Pulse	0.75	3
Se	78	72	1	0.007	ppb	98.45	7.78	5.870E-05	Pulse	0.30	3
Mo	95	103	2	0.007	ppb	14.38	172.23	6.104E-05	Pulse	0.30	3
Ag	107	103	3	0.205	ppb	7.81	23,492.09	3.708E-03	Pulse	0.30	3
Cd	111	115	3	0.006	ppb	11.05	4.55	6.557E-07	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	23.82	903.40	1.310E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	78.07	8.096E-06	Pulse	0.30	3
Tl	205	209	3	0.004	ppb	67.20	2,335.83	4.252E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.005	ppb	2.53	1,137.76	2.072E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	81.12	156.44	2.847E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,585,973.44	0.37	86.6	Analog	0.30	3
2	Sc	45	151,858.77	2.83	88.4	Pulse	0.30	3
3	Sc	45	3,710,453.38	0.52	87.8	Analog	0.30	3
1	Ge	72	132,096.04	0.90	87.0	Pulse	0.30	3
2	Ge	72	103,204.36	1.97	89.9	Pulse	0.30	3
2	Rh	103	2,822,782.42	1.78	92.1	Analog	0.30	3
3	Rh	103	6,336,960.74	0.45	91.2	Analog	0.30	3
3	In	115	6,899,909.73	0.50	93.0	Analog	0.30	3
3	Tb	159	9,650,104.86	0.30	93.9	Analog	0.30	3
3	Bi	209	5,492,566.65	0.49	95.1	Analog	0.30	3

Quantitation Report

File Name	A0307019.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:17
Sample Name	LCS-56426,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.028	ppb	2.44	97,235.10	5.792E-02	Pulse	0.30	3
B	11	6	3	1949.354	ppb	1.39	17,361,076.54	1.034E+01	Analog	0.30	3
Na	23	45	2	25.268	ppb	35.79	634,666.69	3.874E+00	Pulse	0.30	3
Mg	26	45	2	102.824	ppb	1.47	16,707.73	1.020E-01	Pulse	0.30	3
Al	27	45	2	197.997	ppb	0.45	68,886.52	4.204E-01	Pulse	0.30	3
K	39	45	2	89.789	ppb	2.65	100,161.79	6.113E-01	Pulse	0.30	3
Ca	44	45	3	143.433	ppb	0.57	302,188.09	7.586E-02	Pulse	0.30	3
V	51	45	2	10.250	ppb	1.34	91,171.82	5.564E-01	Pulse	0.30	3
Cr	52	45	2	10.370	ppb	0.54	113,833.37	6.947E-01	Pulse	0.30	3
Mn	55	45	2	100.802	ppb	1.85	648,550.77	3.958E+00	Pulse	0.30	3
Fe	56	45	2	104.147	ppb	2.06	1,005,642.11	6.138E+00	Mix	0.30	3
Co	59	45	2	10.024	ppb	1.00	197,665.28	1.206E+00	Pulse	0.30	3
Ni	60	72	2	10.645	ppb	0.52	53,537.26	4.898E-01	Pulse	0.30	3
Cu	63	72	2	11.306	ppb	1.06	162,963.20	1.491E+00	Pulse	0.30	3
Zn	66	72	2	103.662	ppb	0.37	220,350.33	2.016E+00	Pulse	0.30	3
As	75	72	2	10.266	ppb	0.87	13,281.52	1.215E-01	Pulse	0.75	3
Se	78	72	1	10.099	ppb	4.92	6,178.13	4.412E-02	Pulse	0.30	3
Mo	95	103	2	10.293	ppb	0.24	74,359.40	2.472E-02	Pulse	0.30	3
Ag	107	103	3	9.996	ppb	0.48	590,934.01	8.691E-02	Pulse	0.30	3
Cd	111	115	3	10.415	ppb	0.29	135,955.10	1.823E-02	Pulse	0.30	3
Sb	121	115	3	10.480	ppb	0.70	466,491.33	6.254E-02	Pulse	0.30	3
Ba	137	159	3	103.886	ppb	1.80	1,898,242.76	1.822E-01	Analog	0.30	3
Tl	205	209	3	8.301	ppb	0.83	879,539.55	1.470E-01	Pulse	0.30	3
Pb	208	209	3	10.451	ppb	0.57	1,490,172.69	2.490E-01	Pulse	0.30	3
U	238	209	3	9.946	ppb	0.63	1,518,057.88	2.537E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,679,155.71	1.76	91.7	Analog	0.30	3
2	Sc	45	163,882.05	1.92	95.4	Pulse	0.30	3
3	Sc	45	3,983,777.06	0.34	94.3	Analog	0.30	3
1	Ge	72	140,038.79	0.44	92.3	Pulse	0.30	3
2	Ge	72	109,307.77	0.27	95.3	Pulse	0.30	3
2	Rh	103	3,008,646.03	1.43	98.1	Analog	0.30	3
3	Rh	103	6,799,095.11	0.13	97.9	Analog	0.30	3
3	In	115	7,459,746.87	0.39	100.6	Analog	0.30	3
3	Tb	159	10,419,985.82	0.66	101.4	Analog	0.30	3
3	Bi	209	5,983,783.38	0.38	103.6	Analog	0.30	3

Quantitation Report

~~NOT REPORTED~~
~~IS FAILED~~

3/10/2016
for

File Name	A0307020.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:22
Sample Name	N018845-009B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	91.49	33.33	3.909E-05	Pulse	0.30	3
B	11	6	3	1179.731	ppb	0.49	5,365,760.50	6.281E+00	Analog	0.30	3
Na	23	45	2	1389422.430	ppb	0.44	1,801,015,493.16	1.328E+04	Analog	0.30	3
Mg	26	45	2	26225.217	ppb	0.21	3,434,588.53	2.532E+01	Analog	0.30	3
Al	27	45	2	1.427	ppb	13.78	1,915.49	1.413E-02	Pulse	0.30	3
K	39	45	2	20409.022	ppb	0.72	11,870,827.60	8.752E+01	Analog	0.30	3
Ca	44	45	3	406197.097	ppb	0.46	722,893,038.12	2.001E+02	Analog	0.30	3
V	51	45	2	2.763	ppb	2.22	21,084.12	1.555E-01	Pulse	0.30	3
Cr	52	45	2	4.465	ppb	0.95	40,670.86	2.999E-01	Pulse	0.30	3
OLR Mn	55	45	2	350.234	ppb	0.54	1,865,033.19	1.375E+01	Analog	0.30	3
Fe	56	45	2	<0.000	ppb	---	-26,337.61	-1.941E-01	Pulse	0.30	3
Co	59	45	2	0.107	ppb	5.67	1,760.85	1.299E-02	Pulse	0.30	3
Ni	60	72	2	1.183	ppb	1.06	4,383.35	5.543E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-31,719.47	-4.010E-01	Pulse	0.30	3
Zn	66	72	2	39.012	ppb	0.09	60,645.60	7.669E-01	Pulse	0.30	3
As	75	72	2	1.401	ppb	2.43	1,325.77	1.676E-02	Pulse	0.75	3
Se	78	72	1	1.089	ppb	16.91	473.36	4.782E-03	Pulse	0.30	3
Mo	95	103	2	27.249	ppb	0.63	124,854.19	6.535E-02	Pulse	0.30	3
Ag	107	103	3	0.313	ppb	15.09	20,550.47	4.626E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,153.95	-4.248E-04	Pulse	0.30	3
Sb	121	115	3	0.106	ppb	1.30	3,560.56	7.023E-04	Pulse	0.30	3
Ba	137	159	3	150.013	ppb	0.42	1,923,699.68	2.631E-01	Analog	0.30	3
Tl	205	209	3	0.878	ppb	1.34	52,590.57	1.586E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-44,538.64	-1.343E-02	Pulse	0.30	3
U	238	209	3	1.948	ppb	0.11	164,821.35	4.970E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	854,326.79	0.45	46.7	Analog	0.30	3
2	Sc	45	135,633.88	1.64	78.9	Pulse	0.30	3
3	Sc	45	3,612,741.75	0.12	85.5	Analog	0.30	3
1	Ge	72	99,103.80	1.12	65.3	Pulse	0.30	3
2	Ge	72	79,083.66	1.70	68.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,910,375.82	0.97	62.3	Analog	0.30	3
3	Rh	103	4,442,968.20	0.37	64.0	Analog	0.30	3
3	In	115	5,069,887.93	0.54	68.4	Analog	0.30	3
3	Tb	159	7,312,644.13	0.57	71.2	Analog	0.30	3
3	Bi	209	3,316,573.63	0.78	57.4	Analog	0.30	3

SAMPLE REFERENCE

and dilution test

File Name	A0307021.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:28
Sample Name	N018845-009B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	71.22	40.00	2.885E-05	Pulse	0.30	3
B	11	6	3	206.054	ppb	0.77	1,587,021.12	1.144E+00	Analog	0.30	3
Na	23	45	2	298075.554	ppb	0.42	412,829,607.18	2.852E+03	Analog	0.30	3
Mg	26	45	2	5696.973	ppb	0.21	796,692.78	5.503E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	736.24	5.094E-03	Pulse	0.30	3
K	39	45	2	4300.940	ppb	0.33	2,696,081.61	1.862E+01	Analog	0.30	3
Ca	44	45	3	88621.483	ppb	0.13	161,538,708.70	4.366E+01	Analog	0.30	3
V	51	45	2	0.564	ppb	2.31	5,460.02	3.772E-02	Pulse	0.30	3
Cr	52	45	2	0.964	ppb	1.03	9,535.74	6.586E-02	Pulse	0.30	3
Mn	55	45	2	77.156	ppb	0.45	438,635.16	3.030E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-183.70	-1.233E-03	Pulse	0.30	3
Co	59	45	2	0.029	ppb	7.08	520.44	3.593E-03	Pulse	0.30	3
Ni	60	72	2	0.256	ppb	8.18	1,195.50	1.286E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-933.05	-1.012E-02	Pulse	0.30	3
Zn	66	72	2	8.973	ppb	2.92	17,352.74	1.865E-01	Pulse	0.30	3
As	75	72	2	0.306	ppb	14.02	355.85	3.830E-03	Pulse	0.75	3
Se	78	72	1	0.273	ppb	12.87	146.67	1.221E-03	Pulse	0.30	3
Mo	95	103	2	5.336	ppb	0.89	30,505.38	1.283E-02	Pulse	0.30	3
Ag	107	103	3	0.011	ppb	59.25	11,107.42	2.063E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-442.96	-7.268E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	9.17	1,444.58	2.371E-04	Pulse	0.30	3
Ba	137	159	3	32.137	ppb	0.86	497,273.89	5.638E-02	Pulse	0.30	3
Tl	205	209	3	0.179	ppb	2.19	15,622.06	3.513E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,147.29	-2.057E-03	Pulse	0.30	3
U	238	209	3	0.381	ppb	0.76	43,263.08	9.730E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,386,853.16	0.21	75.8	Analog	0.30	3
2	Sc	45	144,770.49	1.27	84.2	Pulse	0.30	3
3	Sc	45	3,699,948.04	0.30	87.6	Analog	0.30	3
1	Ge	72	120,113.67	0.92	79.1	Pulse	0.30	3
2	Ge	72	93,027.48	1.76	81.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,376,910.02	0.57	77.5	Analog	0.30	3
3	Rh	103	5,384,290.68	0.62	77.5	Analog	0.30	3
3	In	115	6,094,422.26	0.56	82.2	Analog	0.30	3
3	Tb	159	8,820,337.16	0.40	85.8	Analog	0.30	3
3	Bi	209	4,446,402.82	0.18	77.0	Analog	0.30	3

Quantitation Report

~~NOT REPORTED~~

for 3/10/2016

File Name	A0307022.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:33
Sample Name	N018845-009B-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	12.692	ppb	0.68	68,462.96	7.331E-02	Pulse	0.30	3
B	11	6	3	3269.040	ppb	1.54	16,156,618.46	1.730E+01	Analog	0.30	3
Na	23	45	2	1375429.736	ppb	0.42	1,801,630,390.93	1.314E+04	Analog	0.30	3
Mg	26	45	2	25979.850	ppb	1.18	3,438,273.73	2.509E+01	Analog	0.30	3
Al	27	45	2	202.059	ppb	0.28	58,764.58	4.288E-01	Pulse	0.30	3
K	39	45	2	20146.302	ppb	0.55	11,841,424.96	8.639E+01	Analog	0.30	3
Ca	44	45	3	397513.984	ppb	0.43	728,254,638.04	1.958E+02	Analog	0.30	3
V	51	45	2	12.491	ppb	1.63	92,711.67	6.764E-01	Pulse	0.30	3
Cr	52	45	2	13.414	ppb	0.65	123,101.51	8.982E-01	Pulse	0.30	3
Mn	55	45	2	423.617	ppb	0.38	2,279,506.80	1.663E+01	Analog	0.30	3
Fe	56	45	2	80.943	ppb	0.53	654,618.13	4.776E+00	Pulse	0.30	3
Co	59	45	2	8.288	ppb	0.66	136,701.42	9.974E-01	Pulse	0.30	3
Ni	60	72	2	10.357	ppb	1.07	38,181.99	4.765E-01	Pulse	0.30	3
Cu	63	72	2	4.757	ppb	0.27	53,912.75	6.729E-01	Pulse	0.30	3
Zn	66	72	2	114.470	ppb	0.51	178,249.86	2.225E+00	Pulse	0.30	3
As	75	72	2	10.701	ppb	0.49	10,147.20	1.266E-01	Pulse	0.75	3
Se	78	72	1	9.399	ppb	1.17	4,074.00	4.106E-02	Pulse	0.30	3
Mo	95	103	2	39.075	ppb	1.00	179,615.49	9.370E-02	Pulse	0.30	3
Ag	107	103	3	8.451	ppb	1.21	329,980.76	7.379E-02	Pulse	0.30	3
Cd	111	115	3	8.336	ppb	1.47	73,937.51	1.459E-02	Pulse	0.30	3
Sb	121	115	3	9.890	ppb	0.50	299,209.86	5.902E-02	Pulse	0.30	3
Ba	137	159	3	242.817	ppb	0.17	3,136,219.10	4.258E-01	Analog	0.30	3
Tl	205	209	3	9.414	ppb	0.35	556,317.25	1.666E-01	Pulse	0.30	3
Pb	208	209	3	10.297	ppb	0.67	819,151.63	2.454E-01	Pulse	0.30	3
U	238	209	3	14.799	ppb	1.01	1,260,111.29	3.775E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	933,937.27	1.68	51.0	Analog	0.30	3
2	Sc	45	137,056.55	1.30	79.7	Pulse	0.30	3
3	Sc	45	3,719,079.56	0.59	88.0	Analog	0.30	3
1	Ge	72	99,195.71	1.89	65.4	Pulse	0.30	3
2	Ge	72	80,124.01	0.50	69.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,916,926.31	0.67	62.5	Analog	0.30	3
3	Rh	103	4,472,004.69	0.10	64.4	Analog	0.30	3
3	In	115	5,069,480.12	0.56	68.3	Analog	0.30	3
3	Tb	159	7,365,535.86	0.24	71.7	Analog	0.30	3
3	Bi	209	3,338,439.99	0.33	57.8	Analog	0.30	3

Quantitation Report

NOT REPORTED
3/10/2016
for

File Name	A0307023.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:39
Sample Name	N018845-009B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	13.162	ppb	2.84	68,220.86	7.602E-02	Pulse	0.30	3
B	11	6	3	3440.214	ppb	2.85	16,336,566.25	1.821E+01	Analog	0.30	3
Na	23	45	2	1425904.269	ppb	0.46	1,850,551,759.09	1.363E+04	Analog	0.30	3
Mg	26	45	2	26831.450	ppb	0.95	3,518,459.39	2.591E+01	Analog	0.30	3
Al	27	45	2	191.039	ppb	0.63	55,131.17	4.060E-01	Pulse	0.30	3
K	39	45	2	20692.989	ppb	0.56	12,049,830.80	8.873E+01	Analog	0.30	3
Ca	44	45	3	408758.707	ppb	0.40	746,103,393.33	2.014E+02	Analog	0.30	3
V	51	45	2	12.548	ppb	1.04	92,267.10	6.795E-01	Pulse	0.30	3
Cr	52	45	2	14.761	ppb	0.56	134,196.24	9.882E-01	Pulse	0.30	3
Mn	55	45	2	433.750	ppb	0.80	2,312,465.82	1.703E+01	Analog	0.30	3
Fe	56	45	2	85.164	ppb	1.31	682,218.15	5.024E+00	Pulse	0.30	3
Co	59	45	2	8.246	ppb	0.92	134,756.92	9.924E-01	Pulse	0.30	3
Ni	60	72	2	10.735	ppb	1.96	38,191.44	4.939E-01	Pulse	0.30	3
Cu	63	72	2	4.616	ppb	3.06	50,666.69	6.553E-01	Pulse	0.30	3
Zn	66	72	2	117.123	ppb	1.48	175,997.78	2.276E+00	Pulse	0.30	3
As	75	72	2	11.085	ppb	1.20	10,146.53	1.312E-01	Pulse	0.75	3
Se	78	72	1	9.352	ppb	1.69	4,001.77	4.086E-02	Pulse	0.30	3
Mo	95	103	2	40.330	ppb	0.36	180,205.48	9.670E-02	Pulse	0.30	3
Ag	107	103	3	8.707	ppb	0.75	331,873.82	7.596E-02	Pulse	0.30	3
Cd	111	115	3	8.354	ppb	0.29	72,146.95	1.462E-02	Pulse	0.30	3
Sb	121	115	3	9.974	ppb	0.48	293,779.93	5.952E-02	Pulse	0.30	3
Ba	137	159	3	248.870	ppb	0.25	3,113,687.16	4.364E-01	Analog	0.30	3
Tl	205	209	3	9.602	ppb	0.52	548,152.24	1.700E-01	Pulse	0.30	3
Pb	208	209	3	10.266	ppb	0.10	788,940.10	2.446E-01	Pulse	0.30	3
U	238	209	3	14.771	ppb	0.07	1,215,016.85	3.767E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	897,906.31	3.31	49.1	Analog	0.30	3
2	Sc	45	135,797.41	0.91	79.0	Pulse	0.30	3
3	Sc	45	3,705,338.31	0.63	87.7	Analog	0.30	3
1	Ge	72	97,937.65	1.02	64.5	Pulse	0.30	3
2	Ge	72	77,343.18	1.77	67.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,863,429.67	0.63	60.8	Analog	0.30	3
3	Rh	103	4,369,199.00	0.49	62.9	Analog	0.30	3
3	In	115	4,935,844.75	0.56	66.5	Analog	0.30	3
3	Tb	159	7,134,803.99	0.87	69.4	Analog	0.30	3
3	Bi	209	3,224,988.43	0.65	55.8	Analog	0.30	3

Quantitation Report

File Name	A0307024.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:44
Sample Name	N018845-009B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

~~NOT REPORTED~~

for 3/10/2016

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	13.094	ppb	0.71	70,155.26	7.563E-02	Pulse	0.30	3
B	11	6	3	3421.234	ppb	0.46	16,794,326.24	1.811E+01	Analog	0.30	3
Na	23	45	2	1433410.864	ppb	0.08	1,868,187,012.16	1.370E+04	Analog	0.30	3
Mg	26	45	2	27001.021	ppb	0.44	3,555,727.76	2.607E+01	Analog	0.30	3
Al	27	45	2	193.485	ppb	0.21	56,056.17	4.110E-01	Pulse	0.30	3
K	39	45	2	20890.701	ppb	0.30	12,216,484.82	8.958E+01	Analog	0.30	3
Ca	44	45	3	410674.867	ppb	0.89	774,460,832.91	2.023E+02	Analog	0.30	3
V	51	45	2	12.648	ppb	1.08	93,402.25	6.848E-01	Pulse	0.30	3
Cr	52	45	2	14.745	ppb	1.12	134,606.16	9.871E-01	Pulse	0.30	3
Mn	55	45	2	435.200	ppb	0.40	2,330,056.59	1.709E+01	Analog	0.30	3
Fe	56	45	2	85.558	ppb	0.86	688,256.74	5.047E+00	Pulse	0.30	3
Co	59	45	2	8.315	ppb	0.65	136,457.88	1.001E+00	Pulse	0.30	3
Ni	60	72	2	10.632	ppb	0.83	38,407.64	4.892E-01	Pulse	0.30	3
Cu	63	72	2	4.510	ppb	1.08	50,405.31	6.421E-01	Pulse	0.30	3
Zn	66	72	2	116.742	ppb	0.50	178,103.80	2.269E+00	Pulse	0.30	3
As	75	72	2	10.839	ppb	1.66	10,069.03	1.283E-01	Pulse	0.75	3
Se	78	72	1	9.679	ppb	4.43	4,125.15	4.229E-02	Pulse	0.30	3
Mo	95	103	2	40.447	ppb	0.93	180,607.56	9.699E-02	Pulse	0.30	3
Ag	107	103	3	8.779	ppb	0.05	342,175.05	7.658E-02	Pulse	0.30	3
Cd	111	115	3	8.427	ppb	0.49	74,749.07	1.474E-02	Pulse	0.30	3
Sb	121	115	3	9.867	ppb	0.30	298,528.58	5.888E-02	Pulse	0.30	3
Ba	137	159	3	249.632	ppb	0.20	3,182,889.75	4.377E-01	Analog	0.30	3
Tl	205	209	3	9.588	ppb	1.18	557,635.19	1.697E-01	Pulse	0.30	3
Pb	208	209	3	10.256	ppb	0.25	803,086.00	2.444E-01	Pulse	0.30	3
U	238	209	3	14.784	ppb	0.71	1,239,017.37	3.771E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	927,609.18	0.45	50.7	Analog	0.30	3
2	Sc	45	136,375.41	1.58	79.3	Pulse	0.30	3
3	Sc	45	3,828,432.72	0.85	90.6	Analog	0.30	3
1	Ge	72	97,537.76	0.36	64.3	Pulse	0.30	3
2	Ge	72	78,509.65	0.88	68.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,862,138.74	0.54	60.7	Analog	0.30	3
3	Rh	103	4,468,443.51	0.27	64.3	Analog	0.30	3
3	In	115	5,069,692.98	0.21	68.3	Analog	0.30	3
3	Tb	159	7,271,163.16	0.63	70.8	Analog	0.30	3
3	Bi	209	3,286,005.82	0.54	56.9	Analog	0.30	3

Quantitation Report

File Name	A0307025.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:50
Sample Name	N018845-010B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	0.007	ppb	35.98	70.00	4.993E-05	Pulse	0.30	3
	B	11	6	3	925.548	ppb	1.12	6,911,682.78	4.940E+00	Analog	0.30	3
	Na	23	45	2	334666.615	ppb	0.90	463,654,548.65	3.201E+03	Analog	0.30	3
	Mg	26	45	2	4950.291	ppb	0.45	692,688.02	4.782E+00	Pulse	0.30	3
	Al	27	45	2	0.608	ppb	67.55	1,802.40	1.243E-02	Pulse	0.30	3
	K	39	45	2	4378.077	ppb	0.21	2,745,375.52	1.895E+01	Analog	0.30	3
	Ca	44	45	3	22297.756	ppb	0.05	41,858,058.26	1.099E+01	Analog	0.30	3
	V	51	45	2	0.812	ppb	4.80	7,384.16	5.100E-02	Pulse	0.30	3
	Cr	52	45	2	0.099	ppb	11.24	1,159.33	7.996E-03	Pulse	0.30	3
OLR	Mn	55	45	2	216.809	ppb	0.52	1,233,020.82	8.513E+00	Analog	0.30	3
	Fe	56	45	2	40.949	ppb	0.86	351,946.41	2.430E+00	Pulse	0.30	3
	Co	59	45	2	0.028	ppb	15.23	505.19	3.484E-03	Pulse	0.30	3
	Ni	60	72	2	0.348	ppb	6.00	1,572.70	1.710E-02	Pulse	0.30	3
	Cu	63	72	2	<0.000	ppb	---	-6,121.74	-6.650E-02	Pulse	0.30	3
	Zn	66	72	2	0.120	ppb	103.76	1,421.19	1.548E-02	Pulse	0.30	3
	As	75	72	2	14.164	ppb	0.83	15,422.27	1.675E-01	Pulse	0.75	3
	Se	78	72	1	0.073	ppb	17.82	41.12	3.484E-04	Pulse	0.30	3
	Mo	95	103	2	43.207	ppb	0.91	239,267.24	1.036E-01	Pulse	0.30	3
	Ag	107	103	3	0.052	ppb	21.91	12,814.11	2.411E-03	Pulse	0.30	3
	Cd	111	115	3	0.033	ppb	14.49	285.34	4.772E-05	Pulse	0.30	3
	Sb	121	115	3	0.036	ppb	6.62	1,720.16	2.878E-04	Pulse	0.30	3
	Ba	137	159	3	34.155	ppb	0.30	511,593.37	5.992E-02	Pulse	0.30	3
	Tl	205	209	3	0.471	ppb	4.55	36,801.00	8.681E-03	Pulse	0.30	3
	Pb	208	209	3	<0.000	ppb	---	-4,032.77	-9.511E-04	Pulse	0.30	3
	U	238	209	3	0.584	ppb	0.76	63,235.61	1.491E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,399,297.34	1.25	76.4	Analog	0.30	3
2	Sc	45	144,856.25	1.89	84.3	Pulse	0.30	3
3	Sc	45	3,809,096.47	0.39	90.2	Analog	0.30	3
1	Ge	72	117,935.30	1.06	77.7	Pulse	0.30	3
2	Ge	72	92,055.44	2.53	80.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,309,358.47	1.17	75.3	Analog	0.30	3
3	Rh	103	5,315,322.63	0.28	76.5	Analog	0.30	3
3	In	115	5,976,639.89	0.39	80.6	Analog	0.30	3
3	Tb	159	8,538,235.08	0.77	83.1	Analog	0.30	3
3	Bi	209	4,240,070.25	0.83	73.4	Analog	0.30	3

Quantitation Report

File Name	A0307026.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:55
Sample Name	N018855-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	0.006	ppb	36.80	28.89	4.672E-05	Pulse	0.30	3
	B	11	6	3	2695.084	ppb	3.09	8,882,040.18	1.427E+01	Analog	0.30	3
	Na	23	45	2	OR	ppb	---	OR	-8.571E-05	Error	0.30	3
	Mg	26	45	2	2942.416	ppb	0.85	331,846.25	2.844E+00	Pulse	0.30	3
	Al	27	45	2	5.510	ppb	3.44	2,632.80	2.256E-02	Pulse	0.30	3
	K	39	45	2	31780.354	ppb	0.58	15,888,669.07	1.362E+02	Analog	0.30	3
	Ca	44	45	3	89425.586	ppb	0.51	141,851,505.67	4.406E+01	Analog	0.30	3
	V	51	45	2	2.817	ppb	1.53	18,482.12	1.584E-01	Pulse	0.30	3
	Cr	52	45	2	17.833	ppb	0.32	139,281.60	1.194E+00	Pulse	0.30	3
	Mn	55	45	2	9.976	ppb	1.74	45,807.34	3.926E-01	Pulse	0.30	3
	Fe	56	45	2	11.236	ppb	0.84	80,095.01	6.864E-01	Pulse	0.30	3
	Co	59	45	2	0.013	ppb	11.56	190.09	1.629E-03	Pulse	0.30	3
	Ni	60	72	2	0.290	ppb	2.30	914.50	1.442E-02	Pulse	0.30	3
	Cu	63	72	2	0.054	ppb	41.27	5,411.19	8.534E-02	Pulse	0.30	3
	Zn	66	72	2	<0.000	ppb	---	552.04	8.707E-03	Pulse	0.30	3
	As	75	72	2	1.999	ppb	2.45	1,510.66	2.383E-02	Pulse	0.75	3
	Se	78	72	1	0.542	ppb	18.42	191.12	2.396E-03	Pulse	0.30	3
OLR	Mo	95	103	2	202.466	ppb	0.57	704,022.20	4.853E-01	Pulse	0.30	3
	Ag	107	103	3	0.255	ppb	27.26	14,681.18	4.138E-03	Pulse	0.30	3
	Cd	111	115	3	0.102	ppb	12.61	689.11	1.675E-04	Pulse	0.30	3
	Sb	121	115	3	0.091	ppb	2.27	2,526.98	6.141E-04	Pulse	0.30	3
	Ba	137	159	3	30.255	ppb	0.42	305,179.54	5.308E-02	Pulse	0.30	3
	Tl	205	209	3	0.627	ppb	1.26	27,996.08	1.143E-02	Pulse	0.30	3
	Pb	208	209	3	<0.000	ppb	---	-31,183.19	-1.273E-02	Pulse	0.30	3
	U	238	209	3	0.077	ppb	2.05	4,872.54	1.990E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	622,738.43	4.00	34.0	Analog	0.30	3
2	Sc	45	116,691.36	1.50	67.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	3,219,898.46	1.44	76.2	Analog	0.30	3
1	Ge	72	79,742.35	0.49	52.5	Pulse	0.30	3
2	Ge	72	63,395.80	1.21	55.3	Pulse	0.30	3
2	Rh	103	1,450,590.14	1.57	47.3	Analog	0.30	3
3	Rh	103	3,551,209.63	1.27	51.1	Analog	0.30	3
3	In	115	4,115,827.97	1.02	55.5	Analog	0.30	3
3	Tb	159	5,749,450.61	0.55	56.0	Analog	0.30	3
3	Bi	209	2,448,789.16	0.86	42.4	Analog	0.30	3

Quantitation Report

File Name	A0307027.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:01
Sample Name	CCV1,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.645	ppb	0.79	192,268.70	1.077E-01	Pulse	0.30	3
B	11	6	3	208.007	ppb	1.44	2,061,429.51	1.155E+00	Analog	0.30	3
Na	23	45	2	1167.962	ppb	5.25	2,452,810.03	1.479E+01	Analog	0.30	3
Mg	26	45	2	195.359	ppb	0.93	31,736.38	1.913E-01	Pulse	0.30	3
Al	27	45	2	15.250	ppb	2.67	7,081.94	4.269E-02	Pulse	0.30	3
K	39	45	2	224.800	ppb	2.22	197,173.63	1.189E+00	Pulse	0.30	3
Ca	44	45	3	192.510	ppb	0.79	419,533.31	1.000E-01	Pulse	0.30	3
V	51	45	2	19.080	ppb	0.38	170,747.64	1.029E+00	Pulse	0.30	3
Cr	52	45	2	19.346	ppb	1.66	214,769.76	1.295E+00	Pulse	0.30	3
Mn	55	45	2	19.158	ppb	0.86	124,916.42	7.530E-01	Pulse	0.30	3
Fe	56	45	2	19.791	ppb	1.08	197,138.59	1.188E+00	Pulse	0.30	3
Co	59	45	2	19.610	ppb	0.77	391,485.98	2.360E+00	Pulse	0.30	3
Ni	60	72	2	19.506	ppb	0.31	98,146.19	8.966E-01	Pulse	0.30	3
Cu	63	72	2	19.360	ppb	0.80	273,348.20	2.497E+00	Pulse	0.30	3
Zn	66	72	2	19.073	ppb	0.25	41,779.88	3.817E-01	Pulse	0.30	3
As	75	72	2	18.950	ppb	0.74	24,530.50	2.241E-01	Pulse	0.75	3
Se	78	72	1	19.014	ppb	0.87	11,879.20	8.305E-02	Pulse	0.30	3
Mo	95	103	2	19.830	ppb	0.38	138,661.15	4.757E-02	Pulse	0.30	3
Ag	107	103	3	18.643	ppb	1.21	1,074,369.43	1.604E-01	Analog	0.30	3
Cd	111	115	3	19.492	ppb	0.97	246,749.89	3.412E-02	Pulse	0.30	3
Sb	121	115	3	19.506	ppb	0.52	841,387.48	1.163E-01	Pulse	0.30	3
Ba	137	159	3	19.874	ppb	0.82	342,089.51	3.488E-02	Pulse	0.30	3
Tl	205	209	3	18.965	ppb	0.26	1,871,411.86	3.353E-01	Analog	0.30	3
Pb	208	209	3	19.262	ppb	0.32	2,560,957.28	4.589E-01	Analog	0.30	3
U	238	209	3	18.755	ppb	0.46	2,669,435.30	4.783E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,785,504.23	1.05	97.5	Analog	0.30	3
2	Sc	45	165,901.84	1.85	96.5	Pulse	0.30	3
3	Sc	45	4,194,122.89	0.35	99.3	Analog	0.30	3
1	Ge	72	143,042.88	0.27	94.2	Pulse	0.30	3
2	Ge	72	109,469.21	1.53	95.4	Pulse	0.30	3
2	Rh	103	2,914,783.74	1.24	95.1	Analog	0.30	3
3	Rh	103	6,698,385.67	0.35	96.4	Analog	0.30	3
3	In	115	7,232,289.44	0.27	97.5	Analog	0.30	3
3	Tb	159	9,809,066.03	0.96	95.5	Analog	0.30	3
3	Bi	209	5,580,486.03	0.19	96.6	Analog	0.30	3

Quantitation Report

File Name	A0307028.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:06
Sample Name	CCB1,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	29.39	40.00	2.242E-05	Pulse	0.30	3
B	11	6	3	13.305	ppb	3.38	227,722.00	1.275E-01	Pulse	0.30	3
Na	23	45	2	410.735	ppb	10.90	1,236,914.78	7.557E+00	Analog	0.30	3
Mg	26	45	2	<0.000	ppb	---	204.45	1.248E-03	Pulse	0.30	3
Al	27	45	2	0.404	ppb	35.12	1,967.96	1.201E-02	Pulse	0.30	3
K	39	45	2	17.633	ppb	21.05	49,549.70	3.027E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	12,980.04	3.140E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,138.98	6.960E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	206.54	1.265E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	124.23	7.592E-04	Pulse	0.30	3
Fe	56	45	2	0.016	ppb	90.85	4,604.64	2.812E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	375.42	10.96	6.672E-05	Pulse	0.30	3
Ni	60	72	2	0.009	ppb	31.32	165.42	1.512E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	8,551.68	7.818E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	997.28	9.114E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	22.22	2.029E-04	Pulse	0.75	3
Se	78	72	1	0.002	ppb	134.48	5.56	3.947E-05	Pulse	0.30	3
Mo	95	103	2	0.190	ppb	4.59	1,446.79	4.994E-04	Pulse	0.30	3
Ag	107	103	3	0.683	ppb	14.23	51,992.11	7.776E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-171.27	-2.380E-05	Pulse	0.30	3
Sb	121	115	3	0.033	ppb	16.40	1,916.86	2.663E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	193.40	1.973E-05	Pulse	0.30	3
Tl	205	209	3	0.056	ppb	4.64	7,492.19	1.346E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	222.96	4.006E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	10.05	405.82	7.293E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,785,606.07	0.78	97.6	Analog	0.30	3
2	Sc	45	163,804.78	1.95	95.3	Pulse	0.30	3
3	Sc	45	4,133,842.61	0.53	97.9	Analog	0.30	3
1	Ge	72	140,510.09	0.97	92.6	Pulse	0.30	3
2	Ge	72	109,342.17	0.94	95.3	Pulse	0.30	3
2	Rh	103	2,897,606.97	1.15	94.5	Analog	0.30	3
3	Rh	103	6,685,239.69	0.27	96.2	Analog	0.30	3
3	In	115	7,198,451.90	0.50	97.0	Analog	0.30	3
3	Tb	159	9,801,052.91	0.19	95.4	Analog	0.30	3
3	Bi	209	5,565,970.61	0.57	96.4	Analog	0.30	3

Quantitation Report

File Name	A0307029.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:12
Sample Name	N018855-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.007	ppb	10.50	44.45	5.043E-05	Pulse	0.30	3
B	11	6	3	2051.313	ppb	1.77	9,584,633.68	1.088E+01	Analog	0.30	3
Na	23	45	2	2989546.856	ppb	1.00	3,871,522,964.53	2.857E+04	Analog	0.30	3
Mg	26	45	2	8581.196	ppb	1.13	1,123,232.45	8.288E+00	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,392.70	1.029E-02	Pulse	0.30	3
K	39	45	2	23645.610	ppb	0.72	13,738,074.51	1.014E+02	Analog	0.30	3
Ca	44	45	3	83270.043	ppb	0.62	155,203,885.47	4.102E+01	Analog	0.30	3
V	51	45	2	1.106	ppb	2.25	9,043.94	6.674E-02	Pulse	0.30	3
Cr	52	45	2	31.295	ppb	0.27	283,759.20	2.094E+00	Pulse	0.30	3
Mn	55	45	2	33.463	ppb	1.28	178,153.31	1.315E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-173,679.23	-1.282E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,047.72	-2.249E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,471.81	-1.951E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-86,384.78	-1.146E+00	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,353.40	-7.098E-02	Pulse	0.30	3
As	75	72	2	1.806	ppb	1.10	1,624.74	2.155E-02	Pulse	0.75	3
Se	78	72	1	0.065	ppb	38.64	28.89	3.117E-04	Pulse	0.30	3
Mo	95	103	2	73.948	ppb	1.40	308,404.61	1.773E-01	Pulse	0.30	3
Ag	107	103	3	0.069	ppb	19.36	10,867.38	2.552E-03	Pulse	0.30	3
Cd	111	115	3	0.017	ppb	64.76	95.47	1.940E-05	Pulse	0.30	3
Sb	121	115	3	0.167	ppb	5.02	5,235.53	1.069E-03	Pulse	0.30	3
Ba	137	159	3	17.028	ppb	0.21	204,674.54	2.989E-02	Pulse	0.30	3
Tl	205	209	3	0.287	ppb	0.21	16,061.53	5.420E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-29,312.69	-9.892E-03	Pulse	0.30	3
U	238	209	3	5.647	ppb	0.48	426,787.07	1.440E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	881,095.92	0.46	48.1	Analog	0.30	3
2	Sc	45	135,547.84	2.90	78.9	Pulse	0.30	3
3	Sc	45	3,783,477.72	1.35	89.6	Analog	0.30	3
1	Ge	72	92,660.14	0.49	61.1	Pulse	0.30	3
2	Ge	72	75,376.60	2.65	65.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,739,512.58	0.81	56.7	Analog	0.30	3
3	Rh	103	4,258,329.00	0.89	61.3	Analog	0.30	3
3	In	115	4,897,022.02	1.00	66.0	Analog	0.30	3
3	Tb	159	6,848,631.50	0.85	66.7	Analog	0.30	3
3	Bi	209	2,963,115.55	0.87	51.3	Analog	0.30	3

Quantitation Report

File Name	A0307030.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:17
Sample Name	N018855-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	80.52	45.56	4.733E-05	Pulse	0.30	3
B	11	6	3	1913.603	ppb	0.54	9,777,614.02	1.015E+01	Analog	0.30	3
Na	23	45	2	2640113.958	ppb	1.10	3,526,240,267.45	2.523E+04	Analog	0.30	3
Mg	26	45	2	6204.747	ppb	1.17	837,712.81	5.993E+00	Pulse	0.30	3
Al	27	45	2	1.075	ppb	31.15	1,872.20	1.340E-02	Pulse	0.30	3
K	39	45	2	17711.193	ppb	0.56	10,621,310.67	7.598E+01	Analog	0.30	3
Ca	44	45	3	92544.557	ppb	0.13	181,472,932.85	4.559E+01	Analog	0.30	3
V	51	45	2	6.505	ppb	2.04	49,738.79	3.559E-01	Pulse	0.30	3
Cr	52	45	2	28.431	ppb	0.65	265,892.60	1.902E+00	Pulse	0.30	3
Mn	55	45	2	5.510	ppb	2.30	30,361.12	2.173E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-230,950.95	-1.652E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,469.82	-2.482E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,716.71	-2.204E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-77,624.63	-9.958E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-442.34	-5.673E-03	Pulse	0.30	3
As	75	72	2	5.628	ppb	2.58	5,198.39	6.670E-02	Pulse	0.75	3
Se	78	72	1	0.126	ppb	17.68	56.67	5.815E-04	Pulse	0.30	3
Mo	95	103	2	100.935	ppb	0.95	438,475.70	2.420E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,458.80	1.893E-03	Pulse	0.30	3
Cd	111	115	3	0.024	ppb	33.77	160.93	3.171E-05	Pulse	0.30	3
Sb	121	115	3	0.031	ppb	6.35	1,300.11	2.561E-04	Pulse	0.30	3
Ba	137	159	3	18.654	ppb	0.65	230,135.26	3.274E-02	Pulse	0.30	3
Tl	205	209	3	0.092	ppb	1.00	6,073.70	1.979E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-24,725.08	-8.058E-03	Pulse	0.30	3
U	238	209	3	1.290	ppb	0.81	101,036.78	3.293E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	963,140.17	1.10	52.6	Analog	0.30	3
2	Sc	45	139,798.64	2.30	81.3	Pulse	0.30	3
3	Sc	45	3,980,330.46	0.76	94.2	Analog	0.30	3
1	Ge	72	97,353.51	1.05	64.1	Pulse	0.30	3
2	Ge	72	77,954.63	1.74	67.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,812,153.22	1.27	59.1	Analog	0.30	3
3	Rh	103	4,469,000.38	0.61	64.3	Analog	0.30	3
3	In	115	5,075,186.39	0.72	68.4	Analog	0.30	3
3	Tb	159	7,029,950.38	0.62	68.4	Analog	0.30	3
3	Bi	209	3,068,563.46	0.54	53.1	Analog	0.30	3

Quantitation Report

File Name	A0307031.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:23
Sample Name	N018855-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	40.45	45.56	4.569E-05	Pulse	0.30	3
B	11	6	3	1836.616	ppb	0.75	9,724,038.64	9.746E+00	Analog	0.30	3
Na	23	45	2	2526022.218	ppb	0.62	3,535,889,796.20	2.414E+04	Analog	0.30	3
Mg	26	45	2	5947.255	ppb	0.92	841,468.69	5.745E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,546.25	1.055E-02	Pulse	0.30	3
K	39	45	2	16996.774	ppb	0.19	10,682,904.63	7.292E+01	Analog	0.30	3
Ca	44	45	3	90094.724	ppb	0.36	182,054,532.84	4.439E+01	Analog	0.30	3
V	51	45	2	6.203	ppb	1.66	49,758.94	3.397E-01	Pulse	0.30	3
Cr	52	45	2	27.242	ppb	0.83	266,977.57	1.823E+00	Pulse	0.30	3
Mn	55	45	2	5.326	ppb	0.82	30,767.90	2.100E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-234,905.86	-1.604E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,506.86	-2.394E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,336.37	-1.653E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-78,276.12	-9.685E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,251.01	-1.550E-02	Pulse	0.30	3
As	75	72	2	5.468	ppb	1.05	5,238.40	6.481E-02	Pulse	0.75	3
Se	78	72	1	0.169	ppb	4.53	76.67	7.677E-04	Pulse	0.30	3
Mo	95	103	2	98.384	ppb	1.52	441,177.15	2.358E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,770.48	1.471E-03	Pulse	0.30	3
Cd	111	115	3	0.024	ppb	26.37	166.71	3.192E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	14.34	1,245.66	2.384E-04	Pulse	0.30	3
Ba	137	159	3	18.047	ppb	0.25	228,409.44	3.167E-02	Pulse	0.30	3
Tl	205	209	3	0.078	ppb	1.88	5,426.75	1.731E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-25,005.15	-7.978E-03	Pulse	0.30	3
U	238	209	3	1.254	ppb	0.76	100,338.23	3.201E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	997,772.99	0.60	54.5	Analog	0.30	3
2	Sc	45	146,499.20	2.46	85.2	Pulse	0.30	3
3	Sc	45	4,101,690.15	0.16	97.1	Analog	0.30	3
1	Ge	72	99,865.21	0.03	65.8	Pulse	0.30	3
2	Ge	72	80,828.92	2.62	70.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,870,497.25	1.34	61.0	Analog	0.30	3
3	Rh	103	4,601,569.20	0.25	66.2	Analog	0.30	3
3	In	115	5,224,144.39	0.23	70.4	Analog	0.30	3
3	Tb	159	7,211,431.21	0.78	70.2	Analog	0.30	3
3	Bi	209	3,134,416.20	0.44	54.3	Analog	0.30	3

Quantitation Report

File Name	A0307032.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:29
Sample Name	N018857-019B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	26.12	32.22	2.083E-05	Pulse	0.30	3
B	11	6	3	544.372	ppb	1.21	4,532,484.17	2.929E+00	Analog	0.30	3
Na	23	45	2	164048.358	ppb	0.50	255,305,927.31	1.571E+03	Analog	0.30	3
Mg	26	45	2	165125.331	ppb	0.51	25,909,387.67	1.594E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-987.15	-6.074E-03	Pulse	0.30	3
K	39	45	2	11790.251	ppb	0.81	8,232,097.72	5.065E+01	Analog	0.30	3
Ca	44	45	3	231616.537	ppb	0.62	500,390,748.10	1.141E+02	Analog	0.30	3
V	51	45	2	3.272	ppb	1.74	29,698.56	1.827E-01	Pulse	0.30	3
Cr	52	45	2	31.228	ppb	1.18	339,507.20	2.089E+00	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-33,418.08	-2.056E-01	Pulse	0.30	3
Fe	56	45	2	2.553	ppb	3.00	28,762.22	1.770E-01	Pulse	0.30	3
Co	59	45	2	0.176	ppb	6.42	3,450.47	2.123E-02	Pulse	0.30	3
Ni	60	72	2	0.166	ppb	12.25	855.50	8.721E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-9,962.22	-1.015E-01	Pulse	0.30	3
Zn	66	72	2	2.459	ppb	5.56	5,954.20	6.067E-02	Pulse	0.30	3
As	75	72	2	1.244	ppb	1.37	1,463.27	1.491E-02	Pulse	0.75	3
Se	78	72	1	14.220	ppb	2.48	7,930.04	6.211E-02	Pulse	0.30	3
Mo	95	103	2	3.437	ppb	1.83	20,124.44	8.283E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,523.02	-4.483E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,505.22	-2.335E-04	Pulse	0.30	3
Sb	121	115	3	0.085	ppb	4.12	3,720.60	5.774E-04	Pulse	0.30	3
Ba	137	159	3	16.772	ppb	0.50	269,732.65	2.944E-02	Pulse	0.30	3
Tl	205	209	3	0.054	ppb	0.80	5,851.41	1.319E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-37,035.28	-8.350E-03	Pulse	0.30	3
U	238	209	3	11.196	ppb	1.23	1,266,634.46	2.856E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,547,504.60	0.68	84.5	Analog	0.30	3
2	Sc	45	162,512.72	0.18	94.6	Pulse	0.30	3
3	Sc	45	4,385,822.47	1.22	103.8	Analog	0.30	3
1	Ge	72	127,660.91	0.65	84.1	Pulse	0.30	3
2	Ge	72	98,131.33	0.56	85.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,429,739.82	0.15	79.3	Analog	0.30	3
3	Rh	103	5,626,517.42	0.87	81.0	Analog	0.30	3
3	In	115	6,444,381.06	0.64	86.9	Analog	0.30	3
3	Tb	159	9,163,337.71	0.32	89.2	Analog	0.30	3
3	Bi	209	4,435,390.52	0.16	76.8	Analog	0.30	3

Quantitation Report

DILUTION TEST - Ba

File Name	A0307033.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:34
Sample Name	N018833-001B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	14.44	8.344E-06	Pulse	0.30	3
B	11	6	3	18.003	ppb	3.64	263,055.66	1.523E-01	Pulse	0.30	3
Na	23	45	2	4987.728	ppb	0.77	8,347,644.46	5.129E+01	Analog	0.30	3
Mg	26	45	2	1154.735	ppb	0.48	181,908.24	1.118E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	170.75	1.050E-03	Pulse	0.30	3
K	39	45	2	217.793	ppb	1.40	188,606.80	1.159E+00	Pulse	0.30	3
Ca	44	45	3	3114.316	ppb	0.18	6,335,876.85	1.539E+00	Analog	0.30	3
V	51	45	2	0.143	ppb	18.12	2,466.96	1.515E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	206.11	1.268E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	5.29	3.244E-05	Pulse	0.30	3
Fe	56	45	2	0.048	ppb	3.76	4,883.85	3.000E-02	Pulse	0.30	3
Co	59	45	2	0.002	ppb	27.92	46.51	2.862E-04	Pulse	0.30	3
Ni	60	72	2	0.038	ppb	8.40	310.76	2.869E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	7,126.49	6.574E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	680.87	6.284E-03	Pulse	0.30	3
As	75	72	2	0.108	ppb	10.14	161.24	1.487E-03	Pulse	0.75	3
Se	78	72	1	0.058	ppb	39.41	40.00	2.830E-04	Pulse	0.30	3
Mo	95	103	2	0.298	ppb	7.05	2,163.56	7.593E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	11,205.61	1.714E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,527.49	-2.138E-04	Pulse	0.30	3
Sb	121	115	3	0.011	ppb	18.26	978.96	1.370E-04	Pulse	0.30	3
Ba	137	159	3	5.817	ppb	1.19	100,212.14	1.023E-02	Pulse	0.30	3
Tl	205	209	3	0.007	ppb	7.52	2,657.01	4.872E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,822.89	-5.177E-04	Pulse	0.30	3
U	238	209	3	0.185	ppb	1.38	25,807.34	4.732E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,727,203.07	0.87	94.4	Analog	0.30	3
2	Sc	45	162,773.21	0.95	94.7	Pulse	0.30	3
3	Sc	45	4,116,083.93	0.05	97.4	Analog	0.30	3
1	Ge	72	140,035.01	4.38	92.3	Pulse	0.30	3
2	Ge	72	108,379.02	1.33	94.5	Pulse	0.30	3
2	Rh	103	2,850,081.80	0.78	93.0	Analog	0.30	3
3	Rh	103	6,537,421.50	0.21	94.1	Analog	0.30	3
3	In	115	7,144,725.78	0.12	96.3	Analog	0.30	3
3	Tb	159	9,797,954.23	0.80	95.4	Analog	0.30	3
3	Bi	209	5,453,571.93	0.58	94.4	Analog	0.30	3

Quantitation Report

File Name	A0307034.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:40
Sample Name	N018833-001B-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.054	ppb	0.83	20,015.71	1.188E-02	Pulse	0.30	3
B	11	6	3	422.638	ppb	0.49	3,854,416.62	2.287E+00	Analog	0.30	3
Na	23	45	2	22379.781	ppb	0.69	35,315,470.03	2.175E+02	Analog	0.30	3
Mg	26	45	2	5634.791	ppb	0.79	883,979.68	5.443E+00	Pulse	0.30	3
Al	27	45	2	35.355	ppb	2.63	13,682.40	8.424E-02	Pulse	0.30	3
K	39	45	2	1041.237	ppb	0.83	760,175.68	4.681E+00	Pulse	0.30	3
Ca	44	45	3	15467.872	ppb	0.11	31,280,484.26	7.625E+00	Analog	0.30	3
V	51	45	2	2.586	ppb	3.44	23,716.69	1.460E-01	Pulse	0.30	3
Cr	52	45	2	2.042	ppb	0.57	22,395.96	1.379E-01	Pulse	0.30	3
Mn	55	45	2	19.743	ppb	1.12	126,032.16	7.760E-01	Pulse	0.30	3
Fe	56	45	2	21.075	ppb	0.84	205,234.21	1.264E+00	Pulse	0.30	3
Co	59	45	2	1.933	ppb	0.46	37,785.45	2.327E-01	Pulse	0.30	3
Ni	60	72	2	2.204	ppb	2.07	10,841.57	1.023E-01	Pulse	0.30	3
Cu	63	72	2	2.126	ppb	1.63	36,480.20	3.443E-01	Pulse	0.30	3
Zn	66	72	2	19.900	ppb	0.83	42,129.12	3.976E-01	Pulse	0.30	3
As	75	72	2	2.571	ppb	2.47	3,241.27	3.058E-02	Pulse	0.75	3
Se	78	72	1	2.422	ppb	9.05	1,450.13	1.060E-02	Pulse	0.30	3
Mo	95	103	2	3.276	ppb	1.79	21,549.59	7.897E-03	Pulse	0.30	3
Ag	107	103	3	3.446	ppb	3.05	198,947.74	3.125E-02	Pulse	0.30	3
Cd	111	115	3	1.509	ppb	2.06	18,566.78	2.633E-03	Pulse	0.30	3
Sb	121	115	3	2.191	ppb	0.85	92,593.44	1.313E-02	Pulse	0.30	3
Ba	137	159	3	50.647	ppb	0.56	866,763.83	8.883E-02	Pulse	0.30	3
Tl	205	209	3	2.105	ppb	0.06	197,754.68	3.753E-02	Pulse	0.30	3
Pb	208	209	3	2.013	ppb	0.78	253,117.19	4.804E-02	Pulse	0.30	3
U	238	209	3	3.181	ppb	0.33	427,510.78	8.114E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,685,489.22	0.68	92.1	Analog	0.30	3
2	Sc	45	162,399.93	0.74	94.5	Pulse	0.30	3
3	Sc	45	4,102,590.60	0.73	97.1	Analog	0.30	3
1	Ge	72	136,738.07	0.61	90.1	Pulse	0.30	3
2	Ge	72	105,957.47	1.36	92.3	Pulse	0.30	3
2	Rh	103	2,728,286.11	1.49	89.0	Analog	0.30	3
3	Rh	103	6,365,013.58	0.72	91.6	Analog	0.30	3
3	In	115	7,052,683.95	0.85	95.1	Analog	0.30	3
3	Tb	159	9,757,272.21	0.67	95.0	Analog	0.30	3
3	Bi	209	5,268,848.71	0.60	91.2	Analog	0.30	3

Quantitation Report

File Name	A0307035.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:45
Sample Name	N018833-001B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.050	ppb	1.68	20,092.44	1.185E-02	Pulse	0.30	3
B	11	6	3	421.412	ppb	0.86	3,865,872.00	2.280E+00	Analog	0.30	3
Na	23	45	2	22592.971	ppb	0.64	35,394,104.75	2.195E+02	Analog	0.30	3
Mg	26	45	2	5693.593	ppb	0.72	886,853.10	5.500E+00	Pulse	0.30	3
Al	27	45	2	36.668	ppb	1.51	14,022.36	8.696E-02	Pulse	0.30	3
K	39	45	2	1052.549	ppb	0.89	762,560.35	4.729E+00	Pulse	0.30	3
Ca	44	45	3	15294.536	ppb	0.47	30,935,073.43	7.539E+00	Analog	0.30	3
V	51	45	2	2.602	ppb	0.52	23,682.14	1.468E-01	Pulse	0.30	3
Cr	52	45	2	2.059	ppb	0.96	22,423.38	1.391E-01	Pulse	0.30	3
Mn	55	45	2	20.051	ppb	0.96	127,081.07	7.881E-01	Pulse	0.30	3
Fe	56	45	2	21.272	ppb	1.15	205,646.44	1.275E+00	Pulse	0.30	3
Co	59	45	2	1.992	ppb	0.69	38,672.81	2.398E-01	Pulse	0.30	3
Ni	60	72	2	2.269	ppb	2.74	11,242.28	1.053E-01	Pulse	0.30	3
Cu	63	72	2	2.181	ppb	0.81	37,490.68	3.511E-01	Pulse	0.30	3
Zn	66	72	2	19.644	ppb	0.39	41,935.94	3.927E-01	Pulse	0.30	3
As	75	72	2	2.599	ppb	1.73	3,302.61	3.092E-02	Pulse	0.75	3
Se	78	72	1	2.382	ppb	6.25	1,429.01	1.043E-02	Pulse	0.30	3
Mo	95	103	2	3.246	ppb	2.33	21,599.71	7.825E-03	Pulse	0.30	3
Ag	107	103	3	3.899	ppb	0.52	224,468.58	3.510E-02	Pulse	0.30	3
Cd	111	115	3	1.531	ppb	0.65	18,892.39	2.670E-03	Pulse	0.30	3
Sb	121	115	3	2.179	ppb	0.68	92,413.96	1.306E-02	Pulse	0.30	3
Ba	137	159	3	50.171	ppb	0.23	861,040.51	8.800E-02	Pulse	0.30	3
Tl	205	209	3	2.074	ppb	0.92	196,728.82	3.700E-02	Pulse	0.30	3
Pb	208	209	3	1.996	ppb	0.10	253,290.82	4.763E-02	Pulse	0.30	3
U	238	209	3	3.143	ppb	0.35	426,384.58	8.019E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,695,303.14	0.57	92.6	Analog	0.30	3
2	Sc	45	161,266.07	1.93	93.8	Pulse	0.30	3
3	Sc	45	4,103,282.44	0.49	97.1	Analog	0.30	3
1	Ge	72	137,008.66	0.38	90.3	Pulse	0.30	3
2	Ge	72	106,792.72	1.88	93.1	Pulse	0.30	3
2	Rh	103	2,760,205.89	1.01	90.0	Analog	0.30	3
3	Rh	103	6,394,845.11	0.20	92.0	Analog	0.30	3
3	In	115	7,075,662.06	0.43	95.4	Analog	0.30	3
3	Tb	159	9,784,496.24	0.10	95.2	Analog	0.30	3
3	Bi	209	5,317,466.87	0.32	92.1	Analog	0.30	3

Quantitation Report

File Name	A0307036.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:51
Sample Name	N018833-001B-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	1.968	ppb	1.32	19,163.63	1.138E-02	Pulse	0.30	3
B	11	6	3	427.858	ppb	0.94	3,898,079.01	2.314E+00	Analog	0.30	3
Na	23	45	2	22538.731	ppb	0.57	35,490,140.03	2.190E+02	Analog	0.30	3
Mg	26	45	2	5644.498	ppb	0.64	883,698.63	5.452E+00	Pulse	0.30	3
Al	27	45	2	36.274	ppb	2.39	13,960.43	8.614E-02	Pulse	0.30	3
K	39	45	2	1035.771	ppb	0.61	754,840.31	4.657E+00	Pulse	0.30	3
Ca	44	45	3	15329.138	ppb	0.54	30,855,168.43	7.556E+00	Analog	0.30	3
V	51	45	2	2.559	ppb	0.43	23,426.26	1.445E-01	Pulse	0.30	3
Cr	52	45	2	2.068	ppb	1.92	22,631.62	1.397E-01	Pulse	0.30	3
Mn	55	45	2	19.892	ppb	1.67	126,706.16	7.819E-01	Pulse	0.30	3
Fe	56	45	2	21.258	ppb	0.32	206,564.43	1.274E+00	Pulse	0.30	3
Co	59	45	2	1.963	ppb	1.61	38,292.88	2.363E-01	Pulse	0.30	3
Ni	60	72	2	2.218	ppb	3.80	10,953.59	1.029E-01	Pulse	0.30	3
Cu	63	72	2	2.233	ppb	1.74	38,061.29	3.576E-01	Pulse	0.30	3
Zn	66	72	2	19.702	ppb	0.94	41,907.25	3.938E-01	Pulse	0.30	3
As	75	72	2	2.561	ppb	1.95	3,242.61	3.047E-02	Pulse	0.75	3
Se	78	72	1	2.435	ppb	4.36	1,481.24	1.066E-02	Pulse	0.30	3
Mo	95	103	2	3.253	ppb	2.71	21,866.71	7.840E-03	Pulse	0.30	3
Ag	107	103	3	3.958	ppb	0.34	226,468.09	3.560E-02	Pulse	0.30	3
Cd	111	115	3	1.496	ppb	3.67	18,484.37	2.609E-03	Pulse	0.30	3
Sb	121	115	3	2.189	ppb	0.65	92,934.22	1.312E-02	Pulse	0.30	3
Ba	137	159	3	50.004	ppb	0.05	864,820.98	8.771E-02	Pulse	0.30	3
Tl	205	209	3	2.084	ppb	0.75	198,340.72	3.716E-02	Pulse	0.30	3
Pb	208	209	3	2.009	ppb	0.33	255,833.35	4.794E-02	Pulse	0.30	3
U	238	209	3	3.160	ppb	0.55	430,255.34	8.062E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,684,324.76	0.57	92.0	Analog	0.30	3
2	Sc	45	162,080.62	1.36	94.3	Pulse	0.30	3
3	Sc	45	4,083,429.35	0.27	96.7	Analog	0.30	3
1	Ge	72	138,935.63	0.22	91.5	Pulse	0.30	3
2	Ge	72	106,418.16	0.95	92.7	Pulse	0.30	3
2	Rh	103	2,788,916.10	1.20	91.0	Analog	0.30	3
3	Rh	103	6,360,940.95	0.40	91.6	Analog	0.30	3
3	In	115	7,084,030.98	0.33	95.5	Analog	0.30	3
3	Tb	159	9,860,356.87	0.48	96.0	Analog	0.30	3
3	Bi	209	5,336,896.24	0.15	92.4	Analog	0.30	3

Quantitation Report

File Name	A0307037.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:56
Sample Name	N018834-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

SAMPLE REFERENCE

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	165.96	22.22	1.340E-05	Pulse	0.30	3
B	11	6	3	34.259	ppb	0.27	394,398.28	2.381E-01	Pulse	0.30	3
Na	23	45	2	21980.630	ppb	0.86	33,909,394.22	2.136E+02	Analog	0.30	3
Mg	26	45	2	5480.090	ppb	0.40	840,241.75	5.294E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	417.34	2.627E-03	Pulse	0.30	3
K	39	45	2	998.120	ppb	0.90	713,664.88	4.496E+00	Pulse	0.30	3
Ca	44	45	3	14832.948	ppb	0.56	29,392,413.73	7.312E+00	Analog	0.30	3
V	51	45	2	0.501	ppb	3.65	5,447.78	3.432E-02	Pulse	0.30	3
Cr	52	45	2	0.007	ppb	110.59	292.29	1.839E-03	Pulse	0.30	3
Mn	55	45	2	0.199	ppb	4.38	1,386.36	8.732E-03	Pulse	0.30	3
Fe	56	45	2	1.679	ppb	4.02	19,949.48	1.257E-01	Pulse	0.30	3
Co	59	45	2	0.009	ppb	38.62	172.72	1.088E-03	Pulse	0.30	3
Ni	60	72	2	0.149	ppb	3.16	836.03	7.942E-03	Pulse	0.30	3
Cu	63	72	2	0.143	ppb	12.05	10,161.92	9.653E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	458.80	4.360E-03	Pulse	0.30	3
As	75	72	2	0.481	ppb	6.79	620.61	5.894E-03	Pulse	0.75	3
Se	78	72	1	0.357	ppb	10.36	213.35	1.587E-03	Pulse	0.30	3
Mo	95	103	2	1.063	ppb	4.05	7,094.07	2.593E-03	Pulse	0.30	3
Ag	107	103	3	0.462	ppb	11.07	37,208.78	5.895E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-6,332.46	-9.054E-04	Pulse	0.30	3
Sb	121	115	3	0.068	ppb	4.91	3,343.84	4.780E-04	Pulse	0.30	3
Ba	137	159	3	27.797	ppb	0.27	474,658.26	4.877E-02	Pulse	0.30	3
Tl	205	209	3	0.006	ppb	29.53	2,450.31	4.670E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,392.25	-2.553E-03	Pulse	0.30	3
U	238	209	3	0.932	ppb	1.61	124,805.27	2.379E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,656,591.80	0.47	90.5	Analog	0.30	3
2	Sc	45	158,726.38	0.84	92.4	Pulse	0.30	3
3	Sc	45	4,019,896.99	0.40	95.2	Analog	0.30	3
1	Ge	72	134,463.34	0.53	88.6	Pulse	0.30	3
2	Ge	72	105,262.73	0.77	91.7	Pulse	0.30	3
2	Rh	103	2,736,397.21	0.61	89.3	Analog	0.30	3
3	Rh	103	6,310,846.99	0.55	90.8	Analog	0.30	3
3	In	115	6,994,417.44	0.65	94.3	Analog	0.30	3
3	Tb	159	9,733,044.58	0.58	94.7	Analog	0.30	3
3	Bi	209	5,245,621.97	0.83	90.8	Analog	0.30	3

Quantitation Report

File Name	A0307038.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:02
Sample Name	N018834-001B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	1.946	ppb	1.41	18,545.15	1.125E-02	Pulse	0.30	3
B	11	6	3	415.363	ppb	0.79	3,706,811.78	2.248E+00	Analog	0.30	3
Na	23	45	2	23593.979	ppb	0.58	35,911,988.08	2.291E+02	Analog	0.30	3
Mg	26	45	2	5937.780	ppb	0.82	899,210.83	5.736E+00	Pulse	0.30	3
Al	27	45	2	36.560	ppb	2.46	13,600.80	8.673E-02	Pulse	0.30	3
K	39	45	2	1086.063	ppb	0.44	763,930.74	4.872E+00	Pulse	0.30	3
Ca	44	45	3	16123.983	ppb	0.75	31,166,536.20	7.948E+00	Analog	0.30	3
V	51	45	2	2.581	ppb	0.87	22,847.62	1.457E-01	Pulse	0.30	3
Cr	52	45	2	2.031	ppb	1.87	21,509.64	1.372E-01	Pulse	0.30	3
Mn	55	45	2	20.066	ppb	1.07	123,655.64	7.887E-01	Pulse	0.30	3
Fe	56	45	2	21.078	ppb	0.13	198,167.72	1.264E+00	Pulse	0.30	3
Co	59	45	2	1.976	ppb	2.07	37,300.67	2.379E-01	Pulse	0.30	3
Ni	60	72	2	2.249	ppb	2.52	10,799.32	1.043E-01	Pulse	0.30	3
Cu	63	72	2	2.216	ppb	2.28	36,793.34	3.555E-01	Pulse	0.30	3
Zn	66	72	2	19.960	ppb	2.46	41,273.04	3.988E-01	Pulse	0.30	3
As	75	72	2	2.691	ppb	2.36	3,312.80	3.200E-02	Pulse	0.75	3
Se	78	72	1	2.455	ppb	1.47	1,432.35	1.075E-02	Pulse	0.30	3
Mo	95	103	2	3.284	ppb	2.29	21,402.77	7.917E-03	Pulse	0.30	3
Ag	107	103	3	3.675	ppb	2.97	204,367.00	3.320E-02	Pulse	0.30	3
Cd	111	115	3	1.525	ppb	1.96	18,330.48	2.659E-03	Pulse	0.30	3
Sb	121	115	3	2.185	ppb	0.15	90,264.81	1.309E-02	Pulse	0.30	3
Ba	137	159	3	50.620	ppb	0.45	859,409.26	8.879E-02	Pulse	0.30	3
Tl	205	209	3	2.081	ppb	1.01	194,261.49	3.712E-02	Pulse	0.30	3
Pb	208	209	3	2.019	ppb	0.86	252,183.00	4.819E-02	Pulse	0.30	3
U	238	209	3	3.227	ppb	0.76	430,846.01	8.233E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,648,590.44	0.32	90.1	Analog	0.30	3
2	Sc	45	156,788.78	1.26	91.2	Pulse	0.30	3
3	Sc	45	3,921,512.27	0.67	92.8	Analog	0.30	3
1	Ge	72	133,253.39	1.07	87.8	Pulse	0.30	3
2	Ge	72	103,521.11	1.57	90.2	Pulse	0.30	3
2	Rh	103	2,703,355.20	0.60	88.2	Analog	0.30	3
3	Rh	103	6,155,828.52	0.26	88.6	Analog	0.30	3
3	In	115	6,893,315.50	0.65	92.9	Analog	0.30	3
3	Tb	159	9,679,385.06	0.23	94.2	Analog	0.30	3
3	Bi	209	5,233,363.33	0.41	90.6	Analog	0.30	3

Quantitation Report

File Name	A0307039.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:07
Sample Name	CCV2,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.291	ppb	1.27	175,072.60	1.056E-01	Pulse	0.30	3
B	11	6	3	192.935	ppb	0.88	1,781,658.54	1.075E+00	Analog	0.30	3
Na	23	45	2	144.251	ppb	10.98	779,317.91	5.011E+00	Pulse	0.30	3
Mg	26	45	2	192.453	ppb	0.97	29,321.84	1.885E-01	Pulse	0.30	3
Al	27	45	2	15.300	ppb	4.86	6,656.46	4.280E-02	Pulse	0.30	3
K	39	45	2	190.610	ppb	0.35	162,170.14	1.043E+00	Pulse	0.30	3
Ca	44	45	3	189.538	ppb	0.23	382,328.57	9.857E-02	Pulse	0.30	3
V	51	45	2	19.185	ppb	0.76	160,987.13	1.035E+00	Pulse	0.30	3
Cr	52	45	2	19.460	ppb	0.25	202,589.72	1.302E+00	Pulse	0.30	3
Mn	55	45	2	19.158	ppb	0.67	117,142.78	7.530E-01	Pulse	0.30	3
Fe	56	45	2	19.735	ppb	2.06	184,351.90	1.185E+00	Pulse	0.30	3
Co	59	45	2	19.606	ppb	0.89	367,016.91	2.359E+00	Pulse	0.30	3
Ni	60	72	2	19.721	ppb	1.01	92,661.33	9.064E-01	Pulse	0.30	3
Cu	63	72	2	20.311	ppb	0.37	267,406.46	2.616E+00	Pulse	0.30	3
Zn	66	72	2	19.190	ppb	0.88	39,246.70	3.839E-01	Pulse	0.30	3
As	75	72	2	19.304	ppb	0.33	23,337.61	2.283E-01	Pulse	0.75	3
Se	78	72	1	18.795	ppb	2.04	10,561.60	8.209E-02	Pulse	0.30	3
Mo	95	103	2	18.928	ppb	0.68	127,420.77	4.541E-02	Pulse	0.30	3
Ag	107	103	3	19.197	ppb	0.95	1,054,132.17	1.651E-01	Analog	0.30	3
Cd	111	115	3	19.204	ppb	0.27	234,564.09	3.361E-02	Pulse	0.30	3
Sb	121	115	3	19.418	ppb	0.10	808,160.64	1.158E-01	Pulse	0.30	3
Ba	137	159	3	19.668	ppb	0.61	330,678.37	3.451E-02	Pulse	0.30	3
Tl	205	209	3	18.811	ppb	1.20	1,831,603.41	3.326E-01	Analog	0.30	3
Pb	208	209	3	19.093	ppb	0.30	2,504,871.74	4.549E-01	Analog	0.30	3
U	238	209	3	18.710	ppb	0.20	2,627,855.10	4.772E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,657,212.63	0.61	90.5	Analog	0.30	3
2	Sc	45	155,556.28	0.76	90.5	Pulse	0.30	3
3	Sc	45	3,878,891.40	0.45	91.8	Analog	0.30	3
1	Ge	72	128,575.52	5.72	84.7	Pulse	0.30	3
2	Ge	72	102,231.91	0.90	89.1	Pulse	0.30	3
2	Rh	103	2,805,985.06	0.52	91.5	Analog	0.30	3
3	Rh	103	6,384,832.96	0.40	91.9	Analog	0.30	3
3	In	115	6,978,204.41	0.15	94.1	Analog	0.30	3
3	Tb	159	9,581,000.69	0.55	93.2	Analog	0.30	3
3	Bi	209	5,506,724.15	0.29	95.4	Analog	0.30	3

Quantitation Report

File Name	A0307040.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:13
Sample Name	CCB2,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	223.83	26.67	1.587E-05	Pulse	0.30	3
B	11	6	3	5.223	ppb	4.19	142,951.64	8.490E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	389,523.82	2.481E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	184.45	1.174E-03	Pulse	0.30	3
Al	27	45	2	0.244	ppb	90.84	1,835.72	1.168E-02	Pulse	0.30	3
K	39	45	2	1.515	ppb	123.96	36,711.25	2.338E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	10,452.60	2.640E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,147.87	7.304E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	195.17	1.241E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	109.92	6.993E-04	Pulse	0.30	3
Fe	56	45	2	0.047	ppb	47.91	4,701.38	2.994E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	166.40	19.60	1.239E-04	Pulse	0.30	3
Ni	60	72	2	0.009	ppb	114.57	160.71	1.537E-03	Pulse	0.30	3
Cu	63	72	2	0.391	ppb	6.45	13,336.45	1.275E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	870.87	8.324E-03	Pulse	0.30	3
As	75	72	2	0.002	ppb	492.88	24.45	2.342E-04	Pulse	0.75	3
Se	78	72	1	0.001	ppb	1086.09	4.44	3.294E-05	Pulse	0.30	3
Mo	95	103	2	0.072	ppb	6.68	615.59	2.163E-04	Pulse	0.30	3
Ag	107	103	3	0.637	ppb	12.85	48,602.25	7.385E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	29.70	-26.08	-3.666E-06	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	4.99	1,725.73	2.427E-04	Pulse	0.30	3
Ba	137	159	3	0.001	ppb	366.62	293.93	3.015E-05	Pulse	0.30	3
Tl	205	209	3	0.011	ppb	7.45	3,052.67	5.518E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.000	ppb	105.49	570.31	1.031E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	8.42	393.47	7.111E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,683,791.61	0.69	92.0	Analog	0.30	3
2	Sc	45	157,102.78	1.56	91.4	Pulse	0.30	3
3	Sc	45	3,960,132.96	0.84	93.7	Analog	0.30	3
1	Ge	72	134,516.78	0.38	88.6	Pulse	0.30	3
2	Ge	72	104,574.20	0.97	91.1	Pulse	0.30	3
2	Rh	103	2,846,550.34	0.91	92.9	Analog	0.30	3
3	Rh	103	6,580,633.24	0.06	94.7	Analog	0.30	3
3	In	115	7,109,602.09	0.21	95.9	Analog	0.30	3
3	Tb	159	9,738,744.02	0.63	94.8	Analog	0.30	3
3	Bi	209	5,532,247.35	0.44	95.8	Analog	0.30	3

Quantitation Report

File Name	A0307041.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:18
Sample Name	LLCCV1,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.479	ppb	1.32	4,603.03	2.778E-03	Pulse	0.30	3
B	11	6	3	55.887	ppb	0.66	583,647.04	3.522E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	360,279.52	2.283E+00	Pulse	0.30	3
Mg	26	45	2	3.348	ppb	14.17	934.51	5.920E-03	Pulse	0.30	3
Al	27	45	2	37.238	ppb	2.29	13,912.86	8.813E-02	Pulse	0.30	3
K	39	45	2	3.894	ppb	40.72	38,500.81	2.439E-01	Pulse	0.30	3
Ca	44	45	3	14.118	ppb	3.65	48,075.74	1.216E-02	Pulse	0.30	3
V	51	45	2	0.941	ppb	0.80	9,139.52	5.790E-02	Pulse	0.30	3
Cr	52	45	2	0.972	ppb	0.43	10,481.06	6.640E-02	Pulse	0.30	3
Mn	55	45	2	0.520	ppb	4.17	3,371.70	2.136E-02	Pulse	0.30	3
Fe	56	45	2	10.385	ppb	1.10	100,471.27	6.365E-01	Pulse	0.30	3
Co	59	45	2	0.473	ppb	0.12	8,992.29	5.697E-02	Pulse	0.30	3
Ni	60	72	2	1.023	ppb	3.46	4,942.54	4.809E-02	Pulse	0.30	3
Cu	63	72	2	1.661	ppb	2.04	29,407.19	2.862E-01	Pulse	0.30	3
Zn	66	72	2	10.849	ppb	1.83	22,890.15	2.228E-01	Pulse	0.30	3
As	75	72	2	0.101	ppb	16.55	144.89	1.409E-03	Pulse	0.75	3
Se	78	72	1	0.529	ppb	10.86	312.24	2.338E-03	Pulse	0.30	3
Mo	95	103	2	0.498	ppb	3.56	3,508.31	1.237E-03	Pulse	0.30	3
Ag	107	103	3	0.135	ppb	4.18	20,360.07	3.116E-03	Pulse	0.30	3
Cd	111	115	3	0.511	ppb	3.11	6,347.46	8.852E-04	Pulse	0.30	3
Sb	121	115	3	0.512	ppb	0.53	22,387.71	3.122E-03	Pulse	0.30	3
Ba	137	159	3	1.092	ppb	2.00	19,243.08	1.944E-03	Pulse	0.30	3
Tl	205	209	3	0.374	ppb	1.52	38,719.25	6.962E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.999	ppb	0.48	132,909.12	2.390E-02	Pulse	0.30	3
U	238	209	3	0.471	ppb	0.90	66,905.88	1.203E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,657,279.16	0.41	90.5	Analog	0.30	3
2	Sc	45	157,849.65	0.63	91.8	Pulse	0.30	3
3	Sc	45	3,955,381.47	0.56	93.6	Analog	0.30	3
1	Ge	72	133,473.67	0.60	87.9	Pulse	0.30	3
2	Ge	72	102,750.82	1.01	89.6	Pulse	0.30	3
2	Rh	103	2,835,229.02	0.89	92.5	Analog	0.30	3
3	Rh	103	6,533,794.49	0.15	94.0	Analog	0.30	3
3	In	115	7,170,845.73	0.40	96.7	Analog	0.30	3
3	Tb	159	9,901,281.24	0.47	96.4	Analog	0.30	3
3	Bi	209	5,561,440.61	0.29	96.3	Analog	0.30	3

Quantitation Report

File Name	A0307042.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:24
Sample Name	ICSA2,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	89.35	31.11	1.812E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	88,619.30	5.149E-02	Pulse	0.30	3
Na	23	45	2	114651.757	ppb	1.03	185,933,177.23	1.099E+03	Analog	0.30	3
Mg	26	45	2	100012.478	ppb	0.69	16,337,787.54	9.656E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,547.69	9.164E-03	Pulse	0.30	3
K	39	45	2	105273.123	ppb	0.22	76,227,959.42	4.505E+02	Analog	0.30	3
Ca	44	45	3	94726.435	ppb	0.58	218,313,407.86	4.667E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	836.73	4.953E-03	Pulse	0.30	3
Cr	52	45	2	0.185	ppb	2.73	2,327.19	1.375E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-16,522.85	-9.763E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-9,383.86	-5.544E-02	Pulse	0.30	3
Co	59	45	2	0.006	ppb	37.78	136.59	8.083E-04	Pulse	0.30	3
Ni	60	72	2	0.330	ppb	6.61	1,725.54	1.626E-02	Pulse	0.30	3
Cu	63	72	2	0.084	ppb	24.16	9,452.58	8.913E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,803.41	-1.701E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	12.33	1.180E-04	Pulse	0.75	3
Se	78	72	1	0.007	ppb	125.66	7.78	6.055E-05	Pulse	0.30	3
Mo	95	103	2	0.039	ppb	21.64	358.91	1.384E-04	Pulse	0.30	3
Ag	107	103	3	0.004	ppb	134.91	12,880.10	2.001E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-536.58	-7.708E-05	Pulse	0.30	3
Sb	121	115	3	0.018	ppb	2.77	1,223.43	1.757E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-21,760.15	-2.290E-03	Pulse	0.30	3
Tl	205	209	3	0.015	ppb	5.19	2,854.84	6.294E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,585.25	-7.905E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	42.67	295.56	6.515E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,721,220.59	0.95	94.0	Analog	0.30	3
2	Sc	45	169,212.60	3.04	98.5	Pulse	0.30	3
3	Sc	45	4,678,240.63	0.97	110.7	Analog	0.30	3
1	Ge	72	127,789.05	1.21	84.2	Pulse	0.30	3
2	Ge	72	106,011.59	2.92	92.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,600,319.23	2.65	84.8	Analog	0.30	3
3	Rh	103	6,435,576.50	0.44	92.6	Analog	0.30	3
3	In	115	6,962,286.58	0.76	93.9	Analog	0.30	3
3	Tb	159	9,501,460.69	0.34	92.5	Analog	0.30	3
3	Bi	209	4,536,030.56	0.32	78.6	Analog	0.30	3

Quantitation Report

File Name	A0307043.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:27
Sample Name	ICSAB,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.263	ppb	0.48	199,424.09	1.170E-01	Pulse	0.30	3
B	11	6	3	218.910	ppb	1.61	2,065,505.16	1.212E+00	Analog	0.30	3
Na	23	45	2	55084.278	ppb	0.34	80,925,519.91	5.299E+02	Analog	0.30	3
Mg	26	45	2	48535.100	ppb	0.64	7,156,835.10	4.686E+01	Analog	0.30	3
Al	27	45	2	16.400	ppb	1.58	6,882.68	4.507E-02	Pulse	0.30	3
K	39	45	2	47861.570	ppb	0.98	31,300,115.37	2.049E+02	Analog	0.30	3
Ca	44	45	3	43909.477	ppb	0.57	97,913,382.99	2.163E+01	Analog	0.30	3
V	51	45	2	22.904	ppb	0.36	188,468.92	1.234E+00	Pulse	0.30	3
Cr	52	45	2	22.967	ppb	0.87	234,670.02	1.537E+00	Pulse	0.30	3
Mn	55	45	2	19.579	ppb	0.58	117,519.69	7.696E-01	Pulse	0.30	3
Fe	56	45	2	20.695	ppb	0.62	189,600.71	1.241E+00	Pulse	0.30	3
Co	59	45	2	21.679	ppb	0.27	398,394.59	2.609E+00	Pulse	0.30	3
Ni	60	72	2	21.581	ppb	0.85	97,766.93	9.918E-01	Pulse	0.30	3
Cu	63	72	2	21.100	ppb	0.67	267,557.66	2.714E+00	Pulse	0.30	3
Zn	66	72	2	18.344	ppb	1.78	36,235.90	3.676E-01	Pulse	0.30	3
As	75	72	2	21.494	ppb	0.75	25,052.59	2.541E-01	Pulse	0.75	3
Se	78	72	1	21.101	ppb	2.79	10,516.03	9.216E-02	Pulse	0.30	3
Mo	95	103	2	23.538	ppb	0.75	150,642.17	5.646E-02	Pulse	0.30	3
Ag	107	103	3	19.762	ppb	0.84	1,167,772.73	1.699E-01	Analog	0.30	3
Cd	111	115	3	19.060	ppb	0.57	262,414.70	3.336E-02	Pulse	0.30	3
Sb	121	115	3	21.957	ppb	0.77	1,029,973.19	1.309E-01	Analog	0.30	3
Ba	137	159	3	18.841	ppb	0.67	368,749.09	3.307E-02	Pulse	0.30	3
Tl	205	209	3	23.343	ppb	0.63	2,282,678.94	4.127E-01	Analog	0.30	3
Pb	208	209	3	22.215	ppb	0.37	2,927,562.56	5.293E-01	Analog	0.30	3
U	238	209	3	23.704	ppb	0.71	3,344,145.69	6.046E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,704,003.75	0.57	93.1	Analog	0.30	3
2	Sc	45	152,714.62	2.07	88.9	Pulse	0.30	3
3	Sc	45	4,525,751.18	0.66	107.1	Analog	0.30	3
1	Ge	72	114,090.22	1.05	75.2	Pulse	0.30	3
2	Ge	72	98,577.60	1.92	85.9	Pulse	0.30	3
2	Rh	103	2,667,953.57	1.66	87.0	Analog	0.30	3
3	Rh	103	6,873,100.31	0.33	98.9	Analog	0.30	3
3	In	115	7,865,610.57	1.02	106.0	Analog	0.30	3
3	Tb	159	11,152,296.36	0.90	108.5	Analog	0.30	3
3	Bi	209	5,531,535.89	0.39	95.8	Analog	0.30	3

Quantitation Report

File Name	A0307044.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:35
Sample Name	N018861-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	0.005	ppb	68.97	44.45	4.169E-05	Pulse	0.30	3
	B	11	6	3	755.061	ppb	1.45	4,302,606.19	4.040E+00	Analog	0.30	3
	Na	23	45	2	1252648.737	ppb	0.61	1,716,529,841.09	1.197E+04	Analog	0.30	3
	Mg	26	45	2	26940.389	ppb	0.58	3,729,618.21	2.601E+01	Analog	0.30	3
	Al	27	45	2	<0.000	ppb	---	1,524.90	1.064E-02	Pulse	0.30	3
	K	39	45	2	17395.382	ppb	0.63	10,700,339.15	7.463E+01	Analog	0.30	3
	Ca	44	45	3	196808.270	ppb	0.50	379,209,732.13	9.695E+01	Analog	0.30	3
	V	51	45	2	1.034	ppb	1.50	9,019.47	6.289E-02	Pulse	0.30	3
OLR	Cr	52	45	2	559.897	ppb	0.95	5,366,692.94	3.743E+01	Analog	0.30	3
	Mn	55	45	2	2.478	ppb	1.23	14,085.22	9.822E-02	Pulse	0.30	3
	Fe	56	45	2	<0.000	ppb	---	-65,648.89	-4.578E-01	Pulse	0.30	3
	Co	59	45	2	0.533	ppb	2.20	9,212.69	6.424E-02	Pulse	0.30	3
	Ni	60	72	2	2.176	ppb	1.25	8,490.21	1.010E-01	Pulse	0.30	3
	Cu	63	72	2	<0.000	ppb	---	-28,528.11	-3.394E-01	Pulse	0.30	3
	Zn	66	72	2	9.228	ppb	3.03	16,090.98	1.914E-01	Pulse	0.30	3
	As	75	72	2	1.226	ppb	2.34	1,235.10	1.469E-02	Pulse	0.75	3
	Se	78	72	1	3.674	ppb	3.32	1,701.28	1.607E-02	Pulse	0.30	3
	Mo	95	103	2	14.852	ppb	0.71	71,364.59	3.564E-02	Pulse	0.30	3
	Ag	107	103	3	0.758	ppb	11.31	39,997.36	8.408E-03	Pulse	0.30	3
	Cd	111	115	3	<0.000	ppb	---	-341.73	-6.344E-05	Pulse	0.30	3
	Sb	121	115	3	0.097	ppb	5.06	3,497.20	6.496E-04	Pulse	0.30	3
	Ba	137	159	3	37.638	ppb	0.13	499,629.55	6.603E-02	Pulse	0.30	3
	Tl	205	209	3	0.036	ppb	8.21	3,451.65	9.931E-04	Pulse	0.30	3
	Pb	208	209	3	<0.000	ppb	---	-32,063.37	-9.226E-03	Pulse	0.30	3
	U	238	209	3	5.970	ppb	0.25	529,252.14	1.523E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,065,013.63	1.40	58.2	Analog	0.30	3
2	Sc	45	143,382.88	1.78	83.4	Pulse	0.30	3
3	Sc	45	3,911,422.44	0.85	92.6	Analog	0.30	3
1	Ge	72	105,853.38	0.91	69.7	Pulse	0.30	3
2	Ge	72	84,043.98	0.70	73.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,002,174.87	1.20	65.3	Analog	0.30	3
3	Rh	103	4,756,149.45	0.41	68.5	Analog	0.30	3
3	In	115	5,383,843.00	0.56	72.6	Analog	0.30	3
3	Tb	159	7,567,248.36	0.73	73.6	Analog	0.30	3
3	Bi	209	3,475,378.87	0.69	60.2	Analog	0.30	3

Quantitation Report

File Name	A0307045.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:40
Sample Name	N018861-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	83.89	30.00	2.051E-05	Pulse	0.30	3
B	11	6	3	147.084	ppb	1.73	1,221,038.58	8.333E-01	Analog	0.30	3
Na	23	45	2	272703.921	ppb	0.64	392,232,016.38	2.609E+03	Analog	0.30	3
Mg	26	45	2	5954.024	ppb	0.25	864,631.68	5.751E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	545.00	3.629E-03	Pulse	0.30	3
K	39	45	2	3768.329	ppb	0.46	2,457,264.58	1.634E+01	Analog	0.30	3
Ca	44	45	3	43173.780	ppb	0.48	81,998,273.22	2.127E+01	Analog	0.30	3
V	51	45	2	0.179	ppb	4.28	2,568.09	1.708E-02	Pulse	0.30	3
Cr	52	45	2	123.470	ppb	0.17	1,241,155.47	8.256E+00	Analog	0.30	3
Mn	55	45	2	0.539	ppb	3.43	3,323.40	2.211E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-11,299.72	-7.521E-02	Pulse	0.30	3
Co	59	45	2	0.121	ppb	4.51	2,201.15	1.464E-02	Pulse	0.30	3
Ni	60	72	2	0.473	ppb	5.40	2,187.63	2.282E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	941.52	9.787E-03	Pulse	0.30	3
Zn	66	72	2	2.025	ppb	5.32	5,013.60	5.229E-02	Pulse	0.30	3
As	75	72	2	0.289	ppb	6.11	347.20	3.625E-03	Pulse	0.75	3
Se	78	72	1	0.797	ppb	9.32	430.02	3.509E-03	Pulse	0.30	3
Mo	95	103	2	2.853	ppb	1.57	16,473.53	6.882E-03	Pulse	0.30	3
Ag	107	103	3	0.137	ppb	2.35	17,118.25	3.136E-03	Pulse	0.30	3
Cd	111	115	3	0.005	ppb	125.24	-5.68	-8.764E-07	Pulse	0.30	3
Sb	121	115	3	0.019	ppb	16.40	1,107.86	1.825E-04	Pulse	0.30	3
Ba	137	159	3	7.925	ppb	0.47	117,508.18	1.392E-02	Pulse	0.30	3
Tl	205	209	3	0.003	ppb	34.62	1,784.63	4.172E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-6,649.15	-1.555E-03	Pulse	0.30	3
U	238	209	3	1.149	ppb	0.50	125,459.50	2.934E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,465,423.32	0.67	80.1	Analog	0.30	3
2	Sc	45	150,341.78	1.64	87.5	Pulse	0.30	3
3	Sc	45	3,854,664.56	0.42	91.2	Analog	0.30	3
1	Ge	72	122,636.97	1.43	80.8	Pulse	0.30	3
2	Ge	72	95,849.71	2.06	83.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,393,634.30	0.99	78.1	Analog	0.30	3
3	Rh	103	5,458,659.57	0.61	78.6	Analog	0.30	3
3	In	115	6,067,657.25	0.97	81.8	Analog	0.30	3
3	Tb	159	8,439,432.72	0.88	82.1	Analog	0.30	3
3	Bi	209	4,276,428.20	1.25	74.1	Analog	0.30	3

Quantitation Report

File Name	A0307046.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:46
Sample Name	N018861-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.009	ppb	20.82	64.45	6.230E-05	Pulse	0.30	3
B	11	6	3	823.129	ppb	1.31	4,553,671.44	4.400E+00	Analog	0.30	3
Na	23	45	2	1489512.652	ppb	0.86	1,921,118,033.60	1.423E+04	Analog	0.30	3
Mg	26	45	2	22864.702	ppb	0.61	2,979,662.08	2.208E+01	Analog	0.30	3
Al	27	45	2	25.760	ppb	6.37	8,698.92	6.441E-02	Pulse	0.30	3
K	39	45	2	15418.069	ppb	0.91	8,930,809.38	6.617E+01	Analog	0.30	3
Ca	44	45	3	182526.823	ppb	0.49	336,985,830.53	8.992E+01	Analog	0.30	3
V	51	45	2	0.711	ppb	1.27	6,153.61	4.561E-02	Pulse	0.30	3
Cr	52	45	2	2.096	ppb	1.55	19,099.38	1.415E-01	Pulse	0.30	3
Mn	55	45	2	1.432	ppb	1.75	7,708.03	5.713E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-23,296.15	-1.725E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,870.51	-1.386E-02	Pulse	0.30	3
Ni	60	72	2	0.606	ppb	4.87	2,282.15	2.894E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-32,294.54	-4.096E-01	Pulse	0.30	3
Zn	66	72	2	0.492	ppb	33.06	1,786.52	2.268E-02	Pulse	0.30	3
As	75	72	2	1.481	ppb	3.95	1,395.59	1.771E-02	Pulse	0.75	3
Se	78	72	1	0.860	ppb	3.20	365.57	3.785E-03	Pulse	0.30	3
Mo	95	103	2	21.675	ppb	2.50	96,266.92	5.200E-02	Pulse	0.30	3
Ag	107	103	3	0.075	ppb	16.35	11,652.93	2.607E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-728.06	-1.440E-04	Pulse	0.30	3
Sb	121	115	3	0.056	ppb	2.36	2,049.10	4.055E-04	Pulse	0.30	3
Ba	137	159	3	32.195	ppb	0.36	401,926.55	5.648E-02	Pulse	0.30	3
Tl	205	209	3	0.524	ppb	2.51	30,901.91	9.609E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-27,367.99	-8.511E-03	Pulse	0.30	3
U	238	209	3	8.767	ppb	0.02	719,058.70	2.236E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,035,073.20	0.52	56.5	Analog	0.30	3
2	Sc	45	134,950.81	2.42	78.5	Pulse	0.30	3
3	Sc	45	3,747,852.96	0.99	88.7	Analog	0.30	3
1	Ge	72	96,574.26	0.61	63.6	Pulse	0.30	3
2	Ge	72	78,860.56	3.00	68.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,851,126.90	1.27	60.4	Analog	0.30	3
3	Rh	103	4,469,025.52	0.18	64.3	Analog	0.30	3
3	In	115	5,053,791.02	0.48	68.1	Analog	0.30	3
3	Tb	159	7,116,247.67	0.62	69.3	Analog	0.30	3
3	Bi	209	3,215,622.49	0.45	55.7	Analog	0.30	3

Quantitation Report

File Name	A0307047.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:52
Sample Name	N018861-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	99.79	32.22	2.185E-05	Pulse	0.30	3
B	11	6	3	160.637	ppb	1.43	1,338,247.60	9.048E-01	Analog	0.30	3
Na	23	45	2	312605.505	ppb	0.77	446,805,646.67	2.990E+03	Analog	0.30	3
Mg	26	45	2	4824.699	ppb	0.66	696,420.43	4.661E+00	Pulse	0.30	3
Al	27	45	2	1.812	ppb	44.26	2,227.51	1.492E-02	Pulse	0.30	3
K	39	45	2	3207.179	ppb	0.97	2,083,605.64	1.394E+01	Analog	0.30	3
Ca	44	45	3	38966.865	ppb	0.47	74,546,508.89	1.920E+01	Analog	0.30	3
V	51	45	2	0.108	ppb	4.75	1,986.87	1.330E-02	Pulse	0.30	3
Cr	52	45	2	0.462	ppb	3.52	4,823.17	3.229E-02	Pulse	0.30	3
Mn	55	45	2	0.304	ppb	5.28	1,920.88	1.286E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	649.59	4.361E-03	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-437.82	-2.931E-03	Pulse	0.30	3
Ni	60	72	2	0.160	ppb	9.33	794.59	8.437E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,703.99	-1.811E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,165.80	1.237E-02	Pulse	0.30	3
As	75	72	2	0.339	ppb	6.44	397.48	4.218E-03	Pulse	0.75	3
Se	78	72	1	0.179	ppb	6.73	96.67	8.122E-04	Pulse	0.30	3
Mo	95	103	2	4.059	ppb	0.52	22,884.88	9.772E-03	Pulse	0.30	3
Ag	107	103	3	0.026	ppb	12.21	11,932.99	2.193E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-123.46	-2.030E-05	Pulse	0.30	3
Sb	121	115	3	0.008	ppb	9.84	707.82	1.164E-04	Pulse	0.30	3
Ba	137	159	3	6.504	ppb	0.64	97,269.27	1.143E-02	Pulse	0.30	3
Tl	205	209	3	0.092	ppb	1.98	8,438.27	1.978E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-5,782.43	-1.355E-03	Pulse	0.30	3
U	238	209	3	1.648	ppb	0.40	179,476.84	4.206E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,479,258.36	0.95	80.8	Analog	0.30	3
2	Sc	45	149,429.05	1.68	86.9	Pulse	0.30	3
3	Sc	45	3,882,652.58	0.32	91.9	Analog	0.30	3
1	Ge	72	119,050.11	0.78	78.4	Pulse	0.30	3
2	Ge	72	94,206.31	0.60	82.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,341,764.29	1.33	76.4	Analog	0.30	3
3	Rh	103	5,440,725.48	0.38	78.3	Analog	0.30	3
3	In	115	6,079,641.66	0.17	82.0	Analog	0.30	3
3	Tb	159	8,507,889.67	0.47	82.8	Analog	0.30	3
3	Bi	209	4,266,842.37	0.15	73.9	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0307048.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:57
Sample Name	N018861-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.012	ppb	12.04	50.00	7.960E-05	Pulse	0.30	3
B	11	6	3	2244.236	ppb	2.80	7,452,813.11	1.190E+01	Analog	0.30	3
Na	23	45	2	2953953.784	ppb	0.88	3,322,825,052.71	2.823E+04	Analog	0.30	3
Mg	26	45	2	19105.595	ppb	0.50	2,171,788.70	1.845E+01	Analog	0.30	3
Al	27	45	2	70.331	ppb	9.39	18,418.00	1.565E-01	Pulse	0.30	3
K	39	45	2	29562.796	ppb	0.95	14,911,412.69	1.267E+02	Analog	0.30	3
Ca	44	45	3	332666.856	ppb	0.79	534,194,636.48	1.639E+02	Analog	0.30	3
V	51	45	2	0.128	ppb	10.10	1,693.49	1.438E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	-1,560.60	-1.325E-02	Pulse	0.30	3
Mn	55	45	2	890.386	ppb	1.25	4,114,903.84	3.496E+01	Analog	0.30	3
Fe	56	45	2	136.499	ppb	1.05	945,994.56	8.036E+00	Analog	0.30	3
Co	59	45	2	0.569	ppb	1.58	8,064.61	6.851E-02	Pulse	0.30	3
Ni	60	72	2	0.487	ppb	12.20	1,498.53	2.345E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-74,653.86	-1.167E+00	Pulse	0.30	3
Zn	66	72	2	54.554	ppb	1.42	68,283.47	1.067E+00	Pulse	0.30	3
As	75	72	2	3.641	ppb	2.31	2,766.66	4.323E-02	Pulse	0.75	3
Se	78	72	1	0.082	ppb	51.92	30.00	3.877E-04	Pulse	0.30	3
Mo	95	103	2	74.338	ppb	0.86	266,642.00	1.782E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,186.26	1.437E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,250.03	-3.004E-04	Pulse	0.30	3
Sb	121	115	3	0.117	ppb	2.45	3,187.12	7.660E-04	Pulse	0.30	3
Ba	137	159	3	153.334	ppb	0.42	1,577,704.75	2.689E-01	Analog	0.30	3
Tl	205	209	3	0.036	ppb	6.32	2,500.31	9.862E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-39,598.53	-1.562E-02	Pulse	0.30	3
U	238	209	3	1.193	ppb	1.97	77,163.68	3.044E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	626,892.21	3.51	34.2	Analog	0.30	3
2	Sc	45	117,721.86	0.93	68.5	Pulse	0.30	3
3	Sc	45	3,259,843.39	0.55	77.2	Analog	0.30	3
1	Ge	72	78,173.80	4.18	51.5	Pulse	0.30	3
2	Ge	72	64,001.47	2.11	55.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,496,164.75	0.45	48.8	Analog	0.30	3
3	Rh	103	3,609,648.32	0.38	52.0	Analog	0.30	3
3	In	115	4,160,813.56	0.30	56.1	Analog	0.30	3
3	Tb	159	5,867,477.14	0.26	57.1	Analog	0.30	3
3	Bi	209	2,535,210.86	0.42	43.9	Analog	0.30	3

Quantitation Report

File Name	A0307049.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:03
Sample Name	N018861-003B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	52.76	31.11	2.224E-05	Pulse	0.30	3
B	11	6	3	326.319	ppb	0.61	2,487,906.86	1.779E+00	Analog	0.30	3
Na	23	45	2	614309.903	ppb	0.83	849,117,969.57	5.873E+03	Analog	0.30	3
Mg	26	45	2	3989.208	ppb	0.50	557,256.05	3.854E+00	Pulse	0.30	3
Al	27	45	2	12.855	ppb	15.41	5,455.82	3.774E-02	Pulse	0.30	3
K	39	45	2	6078.212	ppb	0.82	3,791,592.55	2.622E+01	Analog	0.30	3
Ca	44	45	3	71081.638	ppb	0.29	136,449,924.63	3.502E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	876.73	6.065E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	-108.99	-7.541E-04	Pulse	0.30	3
OLR Mn	55	45	2	194.169	ppb	0.48	1,102,247.18	7.624E+00	Analog	0.30	3
Fe	56	45	2	32.125	ppb	4.97	276,483.92	1.912E+00	Pulse	0.30	3
Co	59	45	2	0.134	ppb	5.89	2,331.68	1.613E-02	Pulse	0.30	3
Ni	60	72	2	0.133	ppb	22.17	642.34	7.216E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-15,066.05	-1.693E-01	Pulse	0.30	3
Zn	66	72	2	11.803	ppb	0.96	21,460.22	2.412E-01	Pulse	0.30	3
As	75	72	2	0.811	ppb	3.37	871.70	9.799E-03	Pulse	0.75	3
Se	78	72	1	0.012	ppb	89.68	8.89	8.068E-05	Pulse	0.30	3
Mo	95	103	2	14.004	ppb	0.68	73,124.69	3.361E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,961.85	1.344E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-278.01	-4.803E-05	Pulse	0.30	3
Sb	121	115	3	0.022	ppb	5.97	1,156.76	1.998E-04	Pulse	0.30	3
Ba	137	159	3	31.795	ppb	0.12	454,526.31	5.578E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,385.68	3.498E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,730.97	-2.457E-03	Pulse	0.30	3
U	238	209	3	0.226	ppb	1.26	22,917.11	5.786E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,398,675.39	0.14	76.4	Analog	0.30	3
2	Sc	45	144,581.92	0.29	84.1	Pulse	0.30	3
3	Sc	45	3,896,436.89	0.80	92.2	Analog	0.30	3
1	Ge	72	110,057.73	0.94	72.5	Pulse	0.30	3
2	Ge	72	88,970.60	0.57	77.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,175,792.82	0.81	71.0	Analog	0.30	3
3	Rh	103	5,180,436.87	1.16	74.6	Analog	0.30	3
3	In	115	5,790,542.18	0.69	78.1	Analog	0.30	3
3	Tb	159	8,148,735.36	0.65	79.3	Analog	0.30	3
3	Bi	209	3,961,314.52	0.83	68.6	Analog	0.30	3

Quantitation Report

File Name	A0307050.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:08
Sample Name	N018861-003B,SAMP,10
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	97.60	23.33	1.540E-05	Pulse	0.30	3
B	11	6	3	162.534	ppb	1.11	1,385,428.15	9.148E-01	Analog	0.30	3
Na	23	45	2	309983.097	ppb	1.29	453,741,277.68	2.965E+03	Analog	0.30	3
Mg	26	45	2	2036.183	ppb	1.56	301,215.79	1.969E+00	Pulse	0.30	3
Al	27	45	2	3.630	ppb	45.35	2,863.42	1.868E-02	Pulse	0.30	3
K	39	45	2	3106.884	ppb	1.43	2,068,066.86	1.352E+01	Analog	0.30	3
Ca	44	45	3	35895.561	ppb	0.40	70,208,226.18	1.769E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	841.17	5.496E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	27.49	1.793E-04	Pulse	0.30	3
Mn	55	45	2	100.261	ppb	1.98	602,370.32	3.937E+00	Pulse	0.30	3
Fe	56	45	2	16.545	ppb	3.25	152,671.33	9.980E-01	Pulse	0.30	3
Co	59	45	2	0.073	ppb	12.23	1,354.73	8.854E-03	Pulse	0.30	3
Ni	60	72	2	0.072	ppb	21.60	427.33	4.394E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,019.57	-2.077E-02	Pulse	0.30	3
Zn	66	72	2	6.187	ppb	1.61	12,910.23	1.327E-01	Pulse	0.30	3
As	75	72	2	0.416	ppb	4.46	499.11	5.131E-03	Pulse	0.75	3
Se	78	72	1	0.005	ppb	111.75	6.67	5.339E-05	Pulse	0.30	3
Mo	95	103	2	6.785	ppb	2.15	39,060.67	1.631E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,531.99	1.365E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-127.47	-2.069E-05	Pulse	0.30	3
Sb	121	115	3	0.009	ppb	23.23	752.27	1.221E-04	Pulse	0.30	3
Ba	137	159	3	15.980	ppb	0.80	239,878.40	2.805E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,125.64	2.612E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,788.26	-1.111E-03	Pulse	0.30	3
U	238	209	3	0.108	ppb	0.66	11,948.08	2.773E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,514,591.68	0.64	82.7	Analog	0.30	3
2	Sc	45	153,046.32	2.30	89.0	Pulse	0.30	3
3	Sc	45	3,969,443.93	0.36	94.0	Analog	0.30	3
1	Ge	72	124,956.37	0.50	82.3	Pulse	0.30	3
2	Ge	72	97,285.05	0.60	84.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,395,497.55	0.62	78.1	Analog	0.30	3
3	Rh	103	5,518,627.62	0.19	79.4	Analog	0.30	3
3	In	115	6,159,088.53	0.35	83.0	Analog	0.30	3
3	Tb	159	8,552,263.28	0.59	83.2	Analog	0.30	3
3	Bi	209	4,309,403.34	0.48	74.6	Analog	0.30	3

Quantitation Report

File Name	A0307051.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:14
Sample Name	N018861-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.014	ppb	41.77	52.23	9.074E-05	Pulse	0.30	3
B	11	6	3	2907.985	ppb	2.71	8,892,315.19	1.540E+01	Analog	0.30	3
Na	23	45	2	3526889.164	ppb	1.11	4,092,440,970.13	3.370E+04	Analog	0.30	3
Mg	26	45	2	9491.279	ppb	1.72	1,113,021.40	9.166E+00	Analog	0.30	3
Al	27	45	2	86.703	ppb	2.04	23,113.75	1.904E-01	Pulse	0.30	3
K	39	45	2	29976.680	ppb	0.75	15,597,940.32	1.284E+02	Analog	0.30	3
Ca	44	45	3	313633.005	ppb	0.56	524,964,974.40	1.545E+02	Analog	0.30	3
V	51	45	2	2.774	ppb	1.81	18,957.06	1.561E-01	Pulse	0.30	3
Cr	52	45	2	112.657	ppb	1.04	914,722.08	7.533E+00	Pulse	0.30	3
Mn	55	45	2	30.700	ppb	1.21	146,472.78	1.206E+00	Pulse	0.30	3
Fe	56	45	2	88.602	ppb	2.40	634,505.77	5.226E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,786.71	-3.119E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,465.27	-2.212E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-70,119.62	-1.060E+00	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-11,965.16	-1.810E-01	Pulse	0.30	3
As	75	72	2	10.456	ppb	0.94	8,181.94	1.237E-01	Pulse	0.75	3
Se	78	72	1	1.048	ppb	8.82	365.58	4.603E-03	Pulse	0.30	3
Mo	95	103	2	83.737	ppb	1.00	299,111.68	2.007E-01	Pulse	0.30	3
Ag	107	103	3	0.324	ppb	2.83	17,082.05	4.722E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,180.59	-2.856E-04	Pulse	0.30	3
Sb	121	115	3	0.065	ppb	5.93	1,890.19	4.572E-04	Pulse	0.30	3
Ba	137	159	3	57.566	ppb	0.18	590,478.47	1.010E-01	Pulse	0.30	3
Tl	205	209	3	0.306	ppb	2.58	14,370.81	5.770E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,578.81	-1.549E-02	Pulse	0.30	3
U	238	209	3	0.672	ppb	1.77	42,748.47	1.716E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	577,650.64	1.56	31.6	Analog	0.30	3
2	Sc	45	121,457.65	3.14	70.7	Pulse	0.30	3
3	Sc	45	3,398,154.57	2.46	80.4	Analog	0.30	3
1	Ge	72	79,420.88	0.35	52.3	Pulse	0.30	3
2	Ge	72	66,123.17	2.50	57.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,489,857.56	1.78	48.6	Analog	0.30	3
3	Rh	103	3,617,174.08	1.80	52.1	Analog	0.30	3
3	In	115	4,133,267.95	1.29	55.7	Analog	0.30	3
3	Tb	159	5,848,106.92	1.41	56.9	Analog	0.30	3
3	Bi	209	2,490,875.81	0.98	43.1	Analog	0.30	3

Quantitation Report

File Name	A0307052.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:19
Sample Name	N018861-004B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	135.46	32.23	2.394E-05	Pulse	0.30	3
B	11	6	3	418.936	ppb	1.39	3,060,894.53	2.267E+00	Analog	0.30	3
Na	23	45	2	767270.755	ppb	0.65	1,069,074,535.18	7.334E+03	Analog	0.30	3
Mg	26	45	2	2057.083	ppb	1.05	289,885.41	1.989E+00	Pulse	0.30	3
Al	27	45	2	14.348	ppb	2.72	5,952.74	4.083E-02	Pulse	0.30	3
K	39	45	2	6458.674	ppb	1.25	4,059,613.10	2.785E+01	Analog	0.30	3
Ca	44	45	3	71226.181	ppb	0.52	138,477,615.71	3.509E+01	Analog	0.30	3
V	51	45	2	0.553	ppb	4.75	5,409.99	3.713E-02	Pulse	0.30	3
Cr	52	45	2	25.999	ppb	0.48	253,557.68	1.740E+00	Pulse	0.30	3
Mn	55	45	2	7.006	ppb	1.60	40,223.97	2.760E-01	Pulse	0.30	3
Fe	56	45	2	22.178	ppb	4.49	193,589.70	1.328E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-976.71	-6.698E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-283.46	-3.227E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-13,678.75	-1.558E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,693.16	-3.069E-02	Pulse	0.30	3
As	75	72	2	2.401	ppb	0.70	2,508.70	2.858E-02	Pulse	0.75	3
Se	78	72	1	0.262	ppb	21.15	128.89	1.174E-03	Pulse	0.30	3
Mo	95	103	2	16.666	ppb	0.99	84,867.62	3.999E-02	Pulse	0.30	3
Ag	107	103	3	0.043	ppb	5.80	11,981.87	2.337E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-277.19	-4.795E-05	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	17.08	755.61	1.309E-04	Pulse	0.30	3
Ba	137	159	3	12.485	ppb	0.26	176,789.12	2.192E-02	Pulse	0.30	3
Tl	205	209	3	0.058	ppb	1.99	5,360.06	1.383E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,494.88	-2.449E-03	Pulse	0.30	3
U	238	209	3	0.135	ppb	1.59	13,478.12	3.476E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,350,058.73	0.58	73.8	Analog	0.30	3
2	Sc	45	145,771.94	1.89	84.8	Pulse	0.30	3
3	Sc	45	3,946,384.14	1.33	93.4	Analog	0.30	3
1	Ge	72	109,603.22	1.38	72.2	Pulse	0.30	3
2	Ge	72	87,797.76	1.73	76.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,122,108.44	1.40	69.2	Analog	0.30	3
3	Rh	103	5,127,525.48	1.79	73.8	Analog	0.30	3
3	In	115	5,776,486.95	1.47	77.9	Analog	0.30	3
3	Tb	159	8,065,124.39	1.46	78.5	Analog	0.30	3
3	Bi	209	3,877,263.00	0.96	67.1	Analog	0.30	3

Quantitation Report

File Name	A0307053.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:25
Sample Name	N018861-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	44.45	38.89	4.835E-05	Pulse	0.30	3
B	11	6	3	1310.170	ppb	2.01	5,599,898.99	6.969E+00	Analog	0.30	3
Na	23	45	2	2121018.421	ppb	1.28	2,541,067,482.14	2.027E+04	Analog	0.30	3
Mg	26	45	2	35356.369	ppb	1.21	4,280,067.37	3.414E+01	Analog	0.30	3
Al	27	45	2	12.503	ppb	7.63	4,639.75	3.702E-02	Pulse	0.30	3
K	39	45	2	15735.542	ppb	1.03	8,466,082.37	6.753E+01	Analog	0.30	3
Ca	44	45	3	402549.495	ppb	0.73	701,392,025.11	1.983E+02	Analog	0.30	3
V	51	45	2	1.729	ppb	2.18	12,552.99	1.001E-01	Pulse	0.30	3
Cr	52	45	2	50.270	ppb	0.85	421,496.95	3.362E+00	Pulse	0.30	3
Mn	55	45	2	16.719	ppb	0.98	82,403.93	6.573E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-16,721.11	-1.333E-01	Pulse	0.30	3
Co	59	45	2	0.061	ppb	7.53	933.24	7.446E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,523.45	-2.191E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-49,638.21	-7.146E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-6,212.97	-8.941E-02	Pulse	0.30	3
As	75	72	2	1.480	ppb	4.48	1,229.90	1.770E-02	Pulse	0.75	3
Se	78	72	1	4.075	ppb	2.98	1,530.14	1.782E-02	Pulse	0.30	3
Mo	95	103	2	25.865	ppb	0.71	99,748.56	6.204E-02	Pulse	0.30	3
Ag	107	103	3	0.630	ppb	2.08	28,555.18	7.319E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,059.09	-4.643E-04	Pulse	0.30	3
Sb	121	115	3	0.099	ppb	8.59	2,947.07	6.644E-04	Pulse	0.30	3
Ba	137	159	3	78.238	ppb	0.44	854,244.90	1.372E-01	Pulse	0.30	3
Tl	205	209	3	0.268	ppb	1.77	13,928.14	5.086E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,628.41	-1.411E-02	Pulse	0.30	3
U	238	209	3	3.272	ppb	0.78	228,572.99	8.348E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	803,659.41	0.91	43.9	Analog	0.30	3
2	Sc	45	125,366.54	0.55	72.9	Pulse	0.30	3
3	Sc	45	3,537,018.52	0.78	83.7	Analog	0.30	3
1	Ge	72	85,867.26	0.48	56.6	Pulse	0.30	3
2	Ge	72	69,458.17	1.53	60.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,607,843.17	1.43	52.4	Analog	0.30	3
3	Rh	103	3,901,207.37	1.21	56.2	Analog	0.30	3
3	In	115	4,433,938.14	1.02	59.8	Analog	0.30	3
3	Tb	159	6,225,681.99	1.01	60.6	Analog	0.30	3
3	Bi	209	2,738,148.88	0.54	47.4	Analog	0.30	3

Quantitation Report

File Name	A0307054.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:30
Sample Name	CCV3,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.257	ppb	0.24	175,809.07	1.054E-01	Pulse	0.30	3
B	11	6	3	192.391	ppb	1.22	1,787,679.07	1.072E+00	Analog	0.30	3
Na	23	45	2	994.607	ppb	6.92	2,008,995.51	1.314E+01	Analog	0.30	3
Mg	26	45	2	198.595	ppb	2.73	29,746.00	1.944E-01	Pulse	0.30	3
Al	27	45	2	15.868	ppb	3.25	6,730.93	4.397E-02	Pulse	0.30	3
K	39	45	2	215.704	ppb	1.65	175,943.22	1.150E+00	Pulse	0.30	3
Ca	44	45	3	199.292	ppb	0.24	404,067.41	1.034E-01	Pulse	0.30	3
V	51	45	2	19.378	ppb	0.82	159,949.03	1.045E+00	Pulse	0.30	3
Cr	52	45	2	19.547	ppb	0.94	200,181.23	1.308E+00	Pulse	0.30	3
Mn	55	45	2	19.159	ppb	1.54	115,235.37	7.531E-01	Pulse	0.30	3
Fe	56	45	2	19.550	ppb	2.02	179,663.40	1.174E+00	Pulse	0.30	3
Co	59	45	2	19.644	ppb	1.07	361,732.72	2.364E+00	Pulse	0.30	3
Ni	60	72	2	19.647	ppb	1.35	91,007.52	9.030E-01	Pulse	0.30	3
Cu	63	72	2	19.916	ppb	0.79	258,658.41	2.566E+00	Pulse	0.30	3
Zn	66	72	2	19.110	ppb	0.31	38,539.31	3.824E-01	Pulse	0.30	3
As	75	72	2	19.252	ppb	1.74	22,944.20	2.277E-01	Pulse	0.75	3
Se	78	72	1	18.855	ppb	1.96	10,835.18	8.235E-02	Pulse	0.30	3
Mo	95	103	2	19.275	ppb	1.09	124,239.08	4.624E-02	Pulse	0.30	3
Ag	107	103	3	18.841	ppb	1.77	1,013,519.19	1.621E-01	Analog	0.30	3
Cd	111	115	3	19.284	ppb	0.89	229,032.44	3.375E-02	Pulse	0.30	3
Sb	121	115	3	19.485	ppb	0.89	788,553.89	1.162E-01	Pulse	0.30	3
Ba	137	159	3	19.902	ppb	0.33	322,027.63	3.493E-02	Pulse	0.30	3
Tl	205	209	3	18.971	ppb	0.63	1,753,622.91	3.355E-01	Analog	0.30	3
Pb	208	209	3	19.249	ppb	0.41	2,397,363.93	4.586E-01	Analog	0.30	3
U	238	209	3	18.903	ppb	0.20	2,520,301.84	4.821E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,667,240.53	0.30	91.1	Analog	0.30	3
2	Sc	45	153,037.70	1.78	89.0	Pulse	0.30	3
3	Sc	45	3,908,878.21	0.19	92.5	Analog	0.30	3
1	Ge	72	131,560.24	0.77	86.7	Pulse	0.30	3
2	Ge	72	100,796.76	1.61	87.8	Pulse	0.30	3
2	Rh	103	2,686,495.34	1.05	87.6	Analog	0.30	3
3	Rh	103	6,253,456.57	0.43	90.0	Analog	0.30	3
3	In	115	6,785,758.76	1.06	91.5	Analog	0.30	3
3	Tb	159	9,220,587.99	0.68	89.7	Analog	0.30	3
3	Bi	209	5,227,588.43	0.28	90.5	Analog	0.30	3

Quantitation Report

File Name	A0307055.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:36
Sample Name	CCB3,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	218.52	21.11	1.308E-05	Pulse	0.30	3
B	11	6	3	5.575	ppb	8.05	139,898.84	8.676E-02	Pulse	0.30	3
Na	23	45	2	341.590	ppb	11.96	1,021,718.70	6.896E+00	Mix	0.30	3
Mg	26	45	2	<0.000	ppb	---	147.78	9.954E-04	Pulse	0.30	3
Al	27	45	2	0.110	ppb	166.76	1,691.26	1.140E-02	Pulse	0.30	3
K	39	45	2	13.201	ppb	28.41	42,039.28	2.837E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	9,654.30	2.562E-03	Pulse	0.30	3
V	51	45	2	0.014	ppb	74.58	1,222.33	8.245E-03	Pulse	0.30	3
Cr	52	45	2	0.017	ppb	24.72	375.66	2.537E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	75.78	5.119E-04	Pulse	0.30	3
Fe	56	45	2	0.068	ppb	17.16	4,626.16	3.120E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	154.81	20.08	1.348E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	81.19	8.214E-04	Pulse	0.30	3
Cu	63	72	2	0.339	ppb	15.23	11,984.87	1.210E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	902.42	9.118E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	20.89	2.103E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	2.22	1.764E-05	Pulse	0.30	3
Mo	95	103	2	0.093	ppb	19.67	702.27	2.668E-04	Pulse	0.30	3
Ag	107	103	3	0.601	ppb	14.79	43,074.09	7.074E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-135.74	-2.041E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	10.33	1,597.93	2.403E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	183.21	2.007E-05	Pulse	0.30	3
Tl	205	209	3	0.007	ppb	3.65	2,495.86	4.845E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	220.01	4.269E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	2.27	383.71	7.449E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,612,710.35	0.89	88.1	Analog	0.30	3
2	Sc	45	148,270.43	1.96	86.3	Pulse	0.30	3
3	Sc	45	3,768,546.16	0.30	89.2	Analog	0.30	3
1	Ge	72	126,508.39	1.00	83.4	Pulse	0.30	3
2	Ge	72	98,954.30	1.68	86.2	Pulse	0.30	3
2	Rh	103	2,634,925.69	0.87	85.9	Analog	0.30	3
3	Rh	103	6,089,992.20	0.40	87.7	Analog	0.30	3
3	In	115	6,651,402.49	0.20	89.7	Analog	0.30	3
3	Tb	159	9,128,620.14	0.13	88.8	Analog	0.30	3
3	Bi	209	5,150,982.22	0.57	89.2	Analog	0.30	3

Quantitation Report

File Name	A0307056.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:41
Sample Name	N018861-005B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	24.09	22.22	1.659E-05	Pulse	0.30	3
B	11	6	3	211.255	ppb	0.55	1,569,301.65	1.172E+00	Analog	0.30	3
Na	23	45	2	438895.217	ppb	0.90	560,230,373.88	4.197E+03	Analog	0.30	3
Mg	26	45	2	7422.085	ppb	0.63	956,954.66	7.169E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,414.56	1.057E-02	Pulse	0.30	3
K	39	45	2	3244.038	ppb	0.27	1,882,730.09	1.410E+01	Analog	0.30	3
Ca	44	45	3	86207.204	ppb	0.31	151,928,407.73	4.247E+01	Analog	0.30	3
V	51	45	2	0.326	ppb	6.12	3,331.59	2.497E-02	Pulse	0.30	3
Cr	52	45	2	10.640	ppb	1.24	95,129.34	7.127E-01	Pulse	0.30	3
Mn	55	45	2	3.547	ppb	2.21	18,709.76	1.402E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	1,246.10	9.270E-03	Pulse	0.30	3
Co	59	45	2	0.017	ppb	5.39	288.69	2.160E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-259.01	-3.084E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,156.19	-1.386E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-280.35	-3.332E-03	Pulse	0.30	3
As	75	72	2	0.304	ppb	6.47	319.36	3.806E-03	Pulse	0.75	3
Se	78	72	1	0.966	ppb	11.23	448.92	4.248E-03	Pulse	0.30	3
Mo	95	103	2	4.778	ppb	1.33	23,846.21	1.150E-02	Pulse	0.30	3
Ag	107	103	3	0.175	ppb	1.71	17,166.91	3.453E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-408.88	-7.251E-05	Pulse	0.30	3
Sb	121	115	3	0.032	ppb	7.16	1,472.37	2.611E-04	Pulse	0.30	3
Ba	137	159	3	15.480	ppb	1.13	219,288.78	2.717E-02	Pulse	0.30	3
Tl	205	209	3	0.048	ppb	5.13	4,814.31	1.202E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,110.81	-1.776E-03	Pulse	0.30	3
U	238	209	3	0.608	ppb	0.17	62,165.19	1.553E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,339,246.46	0.68	73.2	Analog	0.30	3
2	Sc	45	133,506.85	2.68	77.7	Pulse	0.30	3
3	Sc	45	3,577,307.55	0.51	84.7	Analog	0.30	3
1	Ge	72	105,641.05	0.39	69.6	Pulse	0.30	3
2	Ge	72	83,877.14	1.41	73.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,074,208.62	1.70	67.7	Analog	0.30	3
3	Rh	103	4,971,058.22	0.28	71.6	Analog	0.30	3
3	In	115	5,639,310.84	0.79	76.0	Analog	0.30	3
3	Tb	159	8,070,628.70	0.40	78.5	Analog	0.30	3
3	Bi	209	4,003,902.79	1.04	69.3	Analog	0.30	3

Quantitation Report

File Name	A0307057.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:47
Sample Name	N018861-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	50.61	16.66	4.397E-05	Pulse	0.30	3
B	11	6	3	4528.750	ppb	3.39	9,138,978.51	2.395E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	1.350E+04	Error	0.30	3
Mg	26	45	2	6677.068	ppb	0.28	670,349.98	6.449E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,143.24	1.099E-02	Pulse	0.30	3
K	39	45	2	37091.051	ppb	0.43	16,514,369.48	1.589E+02	Analog	0.30	3
Ca	44	45	3	360265.614	ppb	0.22	532,001,676.52	1.775E+02	Analog	0.30	3
V	51	45	2	1.882	ppb	2.40	11,264.27	1.083E-01	Pulse	0.30	3
Cr	52	45	2	0.235	ppb	142.11	1,819.51	1.710E-02	Pulse	0.30	3
Mn	55	45	2	15.134	ppb	15.97	61,673.78	5.951E-01	Pulse	0.30	3
Fe	56	45	2	221.163	ppb	13.95	1,354,999.94	1.300E+01	Analog	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,698.76	-1.676E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,254.54	-2.242E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-31,199.07	-5.575E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,220.72	-9.295E-02	Pulse	0.30	3
As	75	72	2	6.558	ppb	0.62	4,399.10	7.770E-02	Pulse	0.75	3
Se	78	72	1	2.631	ppb	3.40	768.94	1.152E-02	Pulse	0.30	3
Mo	95	103	2	69.545	ppb	1.55	214,278.08	1.667E-01	Pulse	0.30	3
Ag	107	103	3	0.002	ppb	960.61	6,310.72	1.982E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,371.40	-3.720E-04	Pulse	0.30	3
Sb	121	115	3	0.052	ppb	9.73	1,404.57	3.811E-04	Pulse	0.30	3
Ba	137	159	3	45.843	ppb	0.39	418,362.58	8.041E-02	Pulse	0.30	3
Tl	205	209	3	0.036	ppb	2.01	2,162.47	9.886E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-49,333.99	-2.255E-02	Pulse	0.30	3
U	238	209	3	0.163	ppb	2.00	9,125.93	4.172E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	381,876.62	2.99	20.9	Analog	0.30	3
2	Sc	45	103,944.80	2.92	60.5	Pulse	0.30	3
3	Sc	45	2,997,697.07	0.39	71.0	Analog	0.30	3
1	Ge	72	66,776.84	1.18	44.0	Pulse	0.30	3
2	Ge	72	56,618.83	1.48	49.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,285,025.85	1.82	41.9	Analog	0.30	3
3	Rh	103	3,183,632.87	0.25	45.8	Analog	0.30	3
3	In	115	3,686,259.01	0.27	49.7	Analog	0.30	3
3	Tb	159	5,202,803.74	0.49	50.6	Analog	0.30	3
3	Bi	209	2,187,434.44	0.25	37.9	Analog	0.30	3

Quantitation Report

File Name	A0307058.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:53
Sample Name	N018861-006B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	24.84	26.67	2.090E-05	Pulse	0.30	3
B	11	6	3	464.184	ppb	1.01	3,195,659.38	2.506E+00	Analog	0.30	3
Na	23	45	2	869518.710	ppb	0.31	1,153,106,133.93	8.311E+03	Analog	0.30	3
Mg	26	45	2	1373.273	ppb	0.61	184,321.97	1.329E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	399.42	2.889E-03	Pulse	0.30	3
K	39	45	2	7360.902	ppb	0.84	4,399,174.03	3.171E+01	Analog	0.30	3
Ca	44	45	3	76053.412	ppb	0.29	140,976,523.46	3.747E+01	Analog	0.30	3
V	51	45	2	0.310	ppb	4.68	3,346.04	2.410E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	-29.10	-2.088E-04	Pulse	0.30	3
Mn	55	45	2	3.746	ppb	2.42	20,523.85	1.480E-01	Pulse	0.30	3
Fe	56	45	2	41.402	ppb	1.12	340,764.78	2.456E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,227.28	-8.847E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,049.84	-1.240E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-22,819.43	-2.695E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,855.07	-3.373E-02	Pulse	0.30	3
As	75	72	2	1.376	ppb	1.34	1,393.75	1.647E-02	Pulse	0.75	3
Se	78	72	1	0.551	ppb	16.76	257.79	2.434E-03	Pulse	0.30	3
Mo	95	103	2	12.912	ppb	0.64	63,692.92	3.099E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,539.17	1.329E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-335.76	-6.013E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	11.50	908.96	1.628E-04	Pulse	0.30	3
Ba	137	159	3	9.213	ppb	0.64	127,099.63	1.618E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,272.33	3.396E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,685.92	-3.387E-03	Pulse	0.30	3
U	238	209	3	0.033	ppb	1.61	3,278.85	8.753E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,275,269.10	1.05	69.7	Analog	0.30	3
2	Sc	45	138,747.90	2.38	80.7	Pulse	0.30	3
3	Sc	45	3,762,540.74	0.60	89.1	Analog	0.30	3
1	Ge	72	105,885.72	0.39	69.8	Pulse	0.30	3
2	Ge	72	84,655.84	1.67	73.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,055,050.16	1.67	67.0	Analog	0.30	3
3	Rh	103	4,922,642.46	0.78	70.9	Analog	0.30	3
3	In	115	5,584,962.18	0.51	75.3	Analog	0.30	3
3	Tb	159	7,854,519.19	1.07	76.4	Analog	0.30	3
3	Bi	209	3,745,809.25	0.54	64.9	Analog	0.30	3

Quantitation Report

File Name	A0307059.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:58
Sample Name	MB-56419,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	8.081E-06	Pulse	0.30	3
B	11	6	3	6.853	ppb	5.49	154,645.87	9.350E-02	Pulse	0.30	3
Na	23	45	2	659.687	ppb	9.07	1,522,106.18	9.935E+00	Analog	0.30	3
Mg	26	45	2	<0.000	ppb	---	83.34	5.439E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	222.22	1.448E-03	Pulse	0.30	3
K	39	45	2	15.799	ppb	16.80	45,179.63	2.949E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	14,200.66	3.599E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	824.50	5.377E-03	Pulse	0.30	3
Cr	52	45	2	0.006	ppb	23.58	278.49	1.818E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	83.41	5.452E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,602.67	2.351E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	73.71	16.23	1.060E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	68.49	6.697E-04	Pulse	0.30	3
Cu	63	72	2	0.146	ppb	30.31	9,911.65	9.692E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	458.74	4.489E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	16.44	1.610E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	3.33	2.510E-05	Pulse	0.30	3
Mo	95	103	2	0.071	ppb	19.35	582.26	2.157E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,611.74	1.356E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-227.49	-3.330E-05	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	267.79	3.920E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-247.03	-2.639E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	925.62	1.776E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-262.76	-5.043E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	33.12	6.354E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,654,031.05	0.62	90.4	Analog	0.30	3
2	Sc	45	153,280.47	1.34	89.2	Pulse	0.30	3
3	Sc	45	3,946,136.92	0.05	93.4	Analog	0.30	3
1	Ge	72	133,125.96	0.39	87.7	Pulse	0.30	3
2	Ge	72	102,190.64	2.07	89.1	Pulse	0.30	3
2	Rh	103	2,704,909.54	1.87	88.2	Analog	0.30	3
3	Rh	103	6,347,865.25	1.07	91.4	Analog	0.30	3
3	In	115	6,831,595.84	0.30	92.1	Analog	0.30	3
3	Tb	159	9,358,593.75	0.63	91.1	Analog	0.30	3
3	Bi	209	5,211,014.58	0.12	90.2	Analog	0.30	3

Quantitation Report

File Name	A0307060.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:04
Sample Name	LCS-56419,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.863	ppb	1.38	96,276.32	5.697E-02	Pulse	0.30	3
B	11	6	3	1947.566	ppb	0.16	17,459,308.04	1.033E+01	Analog	0.30	3
Na	23	45	2	539.567	ppb	7.00	1,418,222.81	8.787E+00	Analog	0.30	3
Mg	26	45	2	100.917	ppb	1.39	16,169.42	1.001E-01	Pulse	0.30	3
Al	27	45	2	197.729	ppb	0.90	67,783.92	4.198E-01	Pulse	0.30	3
K	39	45	2	104.350	ppb	2.38	108,744.02	6.736E-01	Pulse	0.30	3
Ca	44	45	3	145.390	ppb	0.65	318,133.29	7.682E-02	Pulse	0.30	3
V	51	45	2	10.186	ppb	1.02	89,283.17	5.530E-01	Pulse	0.30	3
Cr	52	45	2	10.248	ppb	0.95	110,840.16	6.865E-01	Pulse	0.30	3
Mn	55	45	2	100.056	ppb	0.76	634,357.32	3.929E+00	Pulse	0.30	3
Fe	56	45	2	102.939	ppb	0.89	979,554.41	6.067E+00	Pulse	0.30	3
Co	59	45	2	9.828	ppb	0.89	190,957.01	1.183E+00	Pulse	0.30	3
Ni	60	72	2	10.573	ppb	0.70	51,294.30	4.865E-01	Pulse	0.30	3
Cu	63	72	2	11.071	ppb	0.88	154,108.62	1.462E+00	Pulse	0.30	3
Zn	66	72	2	103.365	ppb	0.87	211,936.34	2.010E+00	Pulse	0.30	3
As	75	72	2	10.349	ppb	0.37	12,914.99	1.225E-01	Pulse	0.75	3
Se	78	72	1	10.171	ppb	2.96	5,992.46	4.443E-02	Pulse	0.30	3
Mo	95	103	2	10.306	ppb	0.85	69,873.78	2.475E-02	Pulse	0.30	3
Ag	107	103	3	9.752	ppb	0.93	564,988.84	8.484E-02	Pulse	0.30	3
Cd	111	115	3	10.286	ppb	0.84	130,873.75	1.800E-02	Pulse	0.30	3
Sb	121	115	3	10.440	ppb	0.59	452,979.26	6.230E-02	Pulse	0.30	3
Ba	137	159	3	106.409	ppb	0.41	1,851,070.44	1.866E-01	Analog	0.30	3
Tl	205	209	3	7.992	ppb	1.17	794,966.75	1.415E-01	Pulse	0.30	3
Pb	208	209	3	10.360	ppb	0.47	1,386,608.99	2.469E-01	Pulse	0.30	3
U	238	209	3	9.882	ppb	0.29	1,415,766.37	2.521E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,689,943.45	0.55	92.3	Analog	0.30	3
2	Sc	45	161,470.79	1.84	93.9	Pulse	0.30	3
3	Sc	45	4,141,405.49	0.65	98.0	Analog	0.30	3
1	Ge	72	134,847.41	0.58	88.8	Pulse	0.30	3
2	Ge	72	105,443.22	1.63	91.9	Pulse	0.30	3
2	Rh	103	2,823,508.99	0.93	92.1	Analog	0.30	3
3	Rh	103	6,659,528.51	0.27	95.9	Analog	0.30	3
3	In	115	7,271,474.27	0.72	98.0	Analog	0.30	3
3	Tb	159	9,919,697.98	1.00	96.5	Analog	0.30	3
3	Bi	209	5,617,006.16	0.44	97.3	Analog	0.30	3

Quantitation Report

File Name	A0307061.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:09
Sample Name	N018861-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

SAMPLE REFERENCE

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	78.90	24.44	4.786E-05	Pulse	0.30	3
B	11	6	3	3481.274	ppb	1.17	9,378,125.28	1.842E+01	Analog	0.30	3
Na	23	45	2	3714666.106	ppb	0.33	3,820,336,760.85	3.549E+04	Analog	0.30	3
Mg	26	45	2	3260.500	ppb	0.30	339,090.11	3.151E+00	Pulse	0.30	3
Al	27	45	2	14.470	ppb	4.69	4,419.26	4.108E-02	Pulse	0.30	3
K	39	45	2	32069.748	ppb	0.23	14,787,461.31	1.374E+02	Analog	0.30	3
Ca	44	45	3	261927.455	ppb	0.14	407,080,087.27	1.290E+02	Analog	0.30	3
V	51	45	2	2.989	ppb	1.76	18,038.22	1.676E-01	Pulse	0.30	3
Cr	52	45	2	5.492	ppb	0.67	39,667.62	3.686E-01	Pulse	0.30	3
Mn	55	45	2	23.460	ppb	1.13	99,221.38	9.219E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-269,408.94	-2.503E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-4,188.44	-3.892E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-3,502.39	-5.652E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-85,916.29	-1.386E+00	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-12,356.31	-1.994E-01	Pulse	0.30	3
As	75	72	2	14.700	ppb	2.00	10,772.01	1.739E-01	Pulse	0.75	3
Se	78	72	1	0.267	ppb	6.36	87.78	1.194E-03	Pulse	0.30	3
Mo	95	103	2	89.459	ppb	1.76	300,198.13	2.145E-01	Pulse	0.30	3
Ag	107	103	3	0.390	ppb	14.89	18,818.15	5.281E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-769.58	-1.858E-04	Pulse	0.30	3
Sb	121	115	3	0.142	ppb	0.70	3,793.94	9.168E-04	Pulse	0.30	3
Ba	137	159	3	40.438	ppb	0.40	411,010.30	7.093E-02	Pulse	0.30	3
Tl	205	209	3	1.031	ppb	0.39	45,796.01	1.857E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-41,535.26	-1.684E-02	Pulse	0.30	3
U	238	209	3	0.098	ppb	1.94	6,220.76	2.522E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	509,059.01	0.80	27.8	Analog	0.30	3
2	Sc	45	107,626.67	2.32	62.6	Pulse	0.30	3
3	Sc	45	3,154,916.79	1.44	74.7	Analog	0.30	3
1	Ge	72	73,439.68	1.76	48.4	Pulse	0.30	3
2	Ge	72	61,963.84	2.14	54.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,399,640.47	1.14	45.7	Analog	0.30	3
3	Rh	103	3,566,450.33	1.43	51.3	Analog	0.30	3
3	In	115	4,138,338.71	1.90	55.8	Analog	0.30	3
3	Tb	159	5,794,513.18	1.58	56.4	Analog	0.30	3
3	Bi	209	2,466,514.56	1.10	42.7	Analog	0.30	3

Quantitation Report

File Name	A0307062.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:15
Sample Name	N018861-007B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	51.69	26.67	2.082E-05	Pulse	0.30	3
B	11	6	3	451.669	ppb	0.89	3,123,091.80	2.440E+00	Analog	0.30	3
Na	23	45	2	757731.283	ppb	0.47	1,013,491,664.90	7.243E+03	Analog	0.30	3
Mg	26	45	2	670.536	ppb	0.63	90,959.73	6.501E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,324.38	9.478E-03	Pulse	0.30	3
K	39	45	2	6323.943	ppb	0.73	3,816,285.64	2.728E+01	Analog	0.30	3
Ca	44	45	3	54453.233	ppb	0.51	99,582,785.18	2.683E+01	Analog	0.30	3
V	51	45	2	0.561	ppb	2.36	5,254.40	3.756E-02	Pulse	0.30	3
Cr	52	45	2	1.131	ppb	1.84	10,778.38	7.701E-02	Pulse	0.30	3
Mn	55	45	2	4.898	ppb	0.98	27,033.99	1.932E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-67,952.37	-4.856E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,088.31	-7.778E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-850.71	-9.910E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-17,669.08	-2.058E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,843.85	-3.313E-02	Pulse	0.30	3
As	75	72	2	3.262	ppb	1.10	3,325.90	3.875E-02	Pulse	0.75	3
Se	78	72	1	0.031	ppb	34.69	17.78	1.646E-04	Pulse	0.30	3
Mo	95	103	2	16.647	ppb	1.18	84,130.24	3.994E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,122.47	1.828E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-166.00	-2.932E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	3.73	1,350.11	2.379E-04	Pulse	0.30	3
Ba	137	159	3	8.174	ppb	1.21	114,707.65	1.436E-02	Pulse	0.30	3
Tl	205	209	3	0.213	ppb	2.25	15,855.73	4.126E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,792.55	-2.549E-03	Pulse	0.30	3
U	238	209	3	0.020	ppb	9.51	2,067.71	5.385E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,279,995.00	0.66	69.9	Analog	0.30	3
2	Sc	45	139,931.13	2.00	81.4	Pulse	0.30	3
3	Sc	45	3,711,749.04	0.82	87.9	Analog	0.30	3
1	Ge	72	107,925.58	0.57	71.1	Pulse	0.30	3
2	Ge	72	85,832.71	0.65	74.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,106,210.72	1.25	68.7	Analog	0.30	3
3	Rh	103	4,990,017.04	1.11	71.8	Analog	0.30	3
3	In	115	5,674,600.77	1.61	76.5	Analog	0.30	3
3	Tb	159	7,987,046.96	1.00	77.7	Analog	0.30	3
3	Bi	209	3,842,174.91	1.29	66.5	Analog	0.30	3

Quantitation Report

File Name	A0307063.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:20
Sample Name	N018861-007B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

dilution test and reference sample for Mo

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	138.70	24.45	1.600E-05	Pulse	0.30	3
B	11	6	3	94.107	ppb	0.74	846,662.82	5.538E-01	Pulse	0.30	3
Na	23	45	2	155139.311	ppb	0.38	218,645,534.52	1.486E+03	Analog	0.30	3
Mg	26	45	2	134.276	ppb	1.01	19,473.07	1.323E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	541.43	3.681E-03	Pulse	0.30	3
K	39	45	2	1304.518	ppb	0.48	854,442.13	5.807E+00	Pulse	0.30	3
Ca	44	45	3	11217.290	ppb	0.29	21,349,592.60	5.531E+00	Analog	0.30	3
V	51	45	2	0.085	ppb	8.60	1,773.51	1.205E-02	Pulse	0.30	3
Cr	52	45	2	0.234	ppb	2.11	2,510.89	1.706E-02	Pulse	0.30	3
Mn	55	45	2	1.026	ppb	3.53	6,064.14	4.122E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-11,392.45	-7.742E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-190.53	-1.295E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-120.81	-1.246E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	4,624.22	4.776E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-292.16	-3.030E-03	Pulse	0.30	3
As	75	72	2	0.640	ppb	4.75	751.53	7.774E-03	Pulse	0.75	3
Se	78	72	1	0.008	ppb	123.52	7.78	6.306E-05	Pulse	0.30	3
Mo	95	103	2	3.246	ppb	3.27	18,995.25	7.824E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,897.00	1.553E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	7.85	-21.00	-3.277E-06	Pulse	0.30	3
Sb	121	115	3	0.002	ppb	82.54	537.81	8.391E-05	Pulse	0.30	3
Ba	137	159	3	1.676	ppb	3.37	26,578.35	2.966E-03	Pulse	0.30	3
Tl	205	209	3	0.056	ppb	1.95	6,238.23	1.342E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,923.22	-4.137E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	16.29	488.34	1.050E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,528,873.08	0.27	83.5	Analog	0.30	3
2	Sc	45	147,151.93	1.37	85.6	Pulse	0.30	3
3	Sc	45	3,860,207.62	0.94	91.4	Analog	0.30	3
1	Ge	72	123,461.02	0.39	81.3	Pulse	0.30	3
2	Ge	72	96,710.97	1.61	84.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,427,565.45	0.57	79.2	Analog	0.30	3
3	Rh	103	5,730,407.62	0.29	82.5	Analog	0.30	3
3	In	115	6,410,753.64	0.80	86.4	Analog	0.30	3
3	Tb	159	8,960,981.32	0.69	87.2	Analog	0.30	3
3	Bi	209	4,648,386.53	0.75	80.5	Analog	0.30	3

Quantitation Report

File Name	A0307064.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:26
Sample Name	N018861-007B-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	17.074	ppb	1.22	56,607.42	9.862E-02	Pulse	0.30	3
B	11	6	3	5809.462	ppb	0.56	17,624,729.81	3.070E+01	Analog	0.30	3
Na	23	45	2	3456442.669	ppb	0.34	3,827,185,862.97	3.303E+04	Analog	0.30	3
Mg	26	45	2	3119.525	ppb	0.94	349,292.22	3.015E+00	Pulse	0.30	3
Al	27	45	2	199.374	ppb	1.65	49,031.71	4.232E-01	Pulse	0.30	3
K	39	45	2	29639.424	ppb	0.46	14,716,082.42	1.270E+02	Analog	0.30	3
Ca	44	45	3	244555.164	ppb	0.31	403,128,687.33	1.205E+02	Analog	0.30	3
V	51	45	2	12.453	ppb	2.43	78,127.85	6.744E-01	Pulse	0.30	3
Cr	52	45	2	14.146	ppb	1.33	109,736.36	9.471E-01	Pulse	0.30	3
Mn	55	45	2	106.088	ppb	1.78	482,617.27	4.166E+00	Pulse	0.30	3
Fe	56	45	2	44.724	ppb	5.90	306,972.89	2.651E+00	Pulse	0.30	3
Co	59	45	2	7.504	ppb	0.79	104,643.93	9.031E-01	Pulse	0.30	3
Ni	60	72	2	7.791	ppb	4.31	23,362.82	3.588E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,365.42	-2.820E-01	Pulse	0.30	3
Zn	66	72	2	63.377	ppb	0.46	80,571.81	1.238E+00	Pulse	0.30	3
As	75	72	2	22.533	ppb	1.34	17,345.26	2.664E-01	Pulse	0.75	3
Se	78	72	1	7.978	ppb	2.12	2,704.78	3.486E-02	Pulse	0.30	3
Mo	95	103	2	96.298	ppb	1.10	344,807.09	2.308E-01	Pulse	0.30	3
Ag	107	103	3	17.052	ppb	0.07	550,596.49	1.469E-01	Pulse	0.30	3
Cd	111	115	3	7.878	ppb	1.15	59,986.73	1.378E-02	Pulse	0.30	3
Sb	121	115	3	9.382	ppb	0.67	243,703.47	5.599E-02	Pulse	0.30	3
Ba	137	159	3	135.738	ppb	0.42	1,458,254.04	2.380E-01	Analog	0.30	3
Tl	205	209	3	9.469	ppb	1.16	438,550.79	1.676E-01	Pulse	0.30	3
Pb	208	209	3	10.134	ppb	0.18	631,775.29	2.415E-01	Pulse	0.30	3
U	238	209	3	12.299	ppb	0.47	820,772.00	3.137E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	574,039.34	1.42	31.4	Analog	0.30	3
2	Sc	45	115,884.56	2.37	67.4	Pulse	0.30	3
3	Sc	45	3,346,340.50	1.39	79.2	Analog	0.30	3
1	Ge	72	77,612.47	2.74	51.1	Pulse	0.30	3
2	Ge	72	65,106.65	1.09	56.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,493,594.88	0.81	48.7	Analog	0.30	3
3	Rh	103	3,748,751.33	0.89	54.0	Analog	0.30	3
3	In	115	4,352,417.74	1.11	58.7	Analog	0.30	3
3	Tb	159	6,126,298.94	0.85	59.6	Analog	0.30	3
3	Bi	209	2,616,341.21	0.69	45.3	Analog	0.30	3

Quantitation Report

File Name	A0307065.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:31
Sample Name	N018861-007B-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.072	ppb	1.49	15,805.65	1.198E-02	Pulse	0.30	3
B	11	6	3	831.186	ppb	0.76	5,861,270.66	4.442E+00	Analog	0.30	3
Na	23	45	2	749473.490	ppb	0.62	1,025,565,566.94	7.164E+03	Analog	0.30	3
Mg	26	45	2	678.697	ppb	0.60	94,186.87	6.580E-01	Pulse	0.30	3
Al	27	45	2	39.989	ppb	1.32	13,431.98	9.382E-02	Pulse	0.30	3
K	39	45	2	6219.838	ppb	0.74	3,840,621.89	2.683E+01	Analog	0.30	3
Ca	44	45	3	52982.497	ppb	0.26	101,152,629.61	2.610E+01	Analog	0.30	3
V	51	45	2	2.594	ppb	1.90	20,961.73	1.464E-01	Pulse	0.30	3
Cr	52	45	2	3.089	ppb	0.48	29,760.90	2.079E-01	Pulse	0.30	3
Mn	55	45	2	23.294	ppb	0.80	131,040.00	9.154E-01	Pulse	0.30	3
Fe	56	45	2	10.352	ppb	3.41	90,818.80	6.346E-01	Pulse	0.30	3
Co	59	45	2	1.727	ppb	1.73	29,765.01	2.079E-01	Pulse	0.30	3
Ni	60	72	2	1.764	ppb	4.93	7,226.40	8.210E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,721.96	3.090E-02	Pulse	0.30	3
Zn	66	72	2	14.967	ppb	1.74	26,621.12	3.023E-01	Pulse	0.30	3
As	75	72	2	5.047	ppb	2.45	5,267.32	5.984E-02	Pulse	0.75	3
Se	78	72	1	1.700	ppb	4.78	830.06	7.454E-03	Pulse	0.30	3
Mo	95	103	2	18.505	ppb	1.04	96,883.34	4.440E-02	Pulse	0.30	3
Ag	107	103	3	3.810	ppb	0.89	178,557.49	3.435E-02	Pulse	0.30	3
Cd	111	115	3	1.887	ppb	0.68	19,499.43	3.294E-03	Pulse	0.30	3
Sb	121	115	3	2.101	ppb	0.99	74,536.54	1.259E-02	Pulse	0.30	3
Ba	137	159	3	28.751	ppb	0.96	420,531.94	5.044E-02	Pulse	0.30	3
Tl	205	209	3	2.069	ppb	0.78	147,730.61	3.690E-02	Pulse	0.30	3
Pb	208	209	3	2.076	ppb	0.46	198,384.81	4.955E-02	Pulse	0.30	3
U	238	209	3	2.430	ppb	0.21	248,165.55	6.199E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,319,458.64	0.93	72.1	Analog	0.30	3
2	Sc	45	143,156.57	1.51	83.3	Pulse	0.30	3
3	Sc	45	3,874,922.16	0.85	91.7	Analog	0.30	3
1	Ge	72	111,354.46	0.30	73.4	Pulse	0.30	3
2	Ge	72	88,045.45	1.11	76.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,182,119.32	0.70	71.2	Analog	0.30	3
3	Rh	103	5,198,989.65	1.12	74.8	Analog	0.30	3
3	In	115	5,919,481.95	1.64	79.8	Analog	0.30	3
3	Tb	159	8,336,845.02	0.89	81.1	Analog	0.30	3
3	Bi	209	4,003,636.15	0.82	69.3	Analog	0.30	3

Quantitation Report

File Name	A0307066.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:37
Sample Name	CCV4,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.235	ppb	0.79	171,656.88	1.053E-01	Pulse	0.30	3
B	11	6	3	205.267	ppb	0.82	1,858,229.75	1.140E+00	Analog	0.30	3
Na	23	45	2	871.584	ppb	6.15	1,839,867.53	1.196E+01	Analog	0.30	3
Mg	26	45	2	190.730	ppb	1.89	28,749.73	1.868E-01	Pulse	0.30	3
Al	27	45	2	15.430	ppb	7.91	6,627.61	4.306E-02	Pulse	0.30	3
K	39	45	2	204.205	ppb	1.88	169,375.68	1.101E+00	Pulse	0.30	3
Ca	44	45	3	192.980	ppb	0.33	393,835.02	1.003E-01	Pulse	0.30	3
V	51	45	2	18.965	ppb	1.30	157,455.57	1.023E+00	Pulse	0.30	3
Cr	52	45	2	19.257	ppb	1.36	198,331.39	1.289E+00	Pulse	0.30	3
Mn	55	45	2	19.171	ppb	1.43	115,965.61	7.536E-01	Pulse	0.30	3
Fe	56	45	2	19.647	ppb	3.65	181,546.80	1.180E+00	Pulse	0.30	3
Co	59	45	2	19.477	ppb	1.25	360,708.98	2.344E+00	Pulse	0.30	3
Ni	60	72	2	19.463	ppb	0.87	90,480.46	8.946E-01	Pulse	0.30	3
Cu	63	72	2	19.868	ppb	0.80	258,964.19	2.560E+00	Pulse	0.30	3
Zn	66	72	2	19.003	ppb	1.66	38,466.22	3.803E-01	Pulse	0.30	3
As	75	72	2	18.971	ppb	1.40	22,690.51	2.244E-01	Pulse	0.75	3
Se	78	72	1	19.138	ppb	0.83	10,945.21	8.359E-02	Pulse	0.30	3
Mo	95	103	2	18.990	ppb	1.21	123,778.95	4.556E-02	Pulse	0.30	3
Ag	107	103	3	19.057	ppb	0.91	1,046,531.29	1.639E-01	Analog	0.30	3
Cd	111	115	3	19.048	ppb	0.77	232,556.38	3.334E-02	Pulse	0.30	3
Sb	121	115	3	19.273	ppb	0.76	801,774.18	1.149E-01	Pulse	0.30	3
Ba	137	159	3	19.798	ppb	0.74	330,001.31	3.474E-02	Pulse	0.30	3
Tl	205	209	3	19.031	ppb	0.53	1,816,165.74	3.365E-01	Analog	0.30	3
Pb	208	209	3	19.201	ppb	0.38	2,468,931.24	4.575E-01	Analog	0.30	3
U	238	209	3	18.826	ppb	0.81	2,591,434.73	4.802E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,629,842.85	0.99	89.0	Analog	0.30	3
2	Sc	45	153,911.33	1.79	89.5	Pulse	0.30	3
3	Sc	45	3,928,068.52	0.19	93.0	Analog	0.30	3
1	Ge	72	130,942.36	1.27	86.3	Pulse	0.30	3
2	Ge	72	101,146.08	1.11	88.2	Pulse	0.30	3
2	Rh	103	2,716,989.79	1.20	88.6	Analog	0.30	3
3	Rh	103	6,384,714.07	0.26	91.9	Analog	0.30	3
3	In	115	6,975,189.65	0.41	94.0	Analog	0.30	3
3	Tb	159	9,498,284.51	0.27	92.4	Analog	0.30	3
3	Bi	209	5,397,093.18	0.52	93.5	Analog	0.30	3

Quantitation Report

File Name	A0307067.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:42
Sample Name	CCB4,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	191.92	25.56	1.590E-05	Pulse	0.30	3
B	11	6	3	11.936	ppb	1.53	193,305.62	1.203E-01	Pulse	0.30	3
Na	23	45	2	351.515	ppb	13.43	1,046,904.23	6.991E+00	Mix	0.30	3
Mg	26	45	2	<0.000	ppb	---	127.78	8.541E-04	Pulse	0.30	3
Al	27	45	2	0.300	ppb	55.94	1,767.93	1.180E-02	Pulse	0.30	3
K	39	45	2	9.998	ppb	29.06	40,447.68	2.700E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	9,563.12	2.472E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	876.73	5.851E-03	Pulse	0.30	3
Cr	52	45	2	0.005	ppb	48.31	258.96	1.729E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	99.25	6.614E-04	Pulse	0.30	3
Fe	56	45	2	0.069	ppb	8.00	4,678.77	3.123E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	517.50	10.05	6.733E-05	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	93.41	9.226E-04	Pulse	0.30	3
Cu	63	72	2	0.425	ppb	13.29	13,329.95	1.318E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	877.93	8.671E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	105.69	24.89	2.465E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	2.22	1.741E-05	Pulse	0.30	3
Mo	95	103	2	0.097	ppb	7.72	747.83	2.770E-04	Pulse	0.30	3
Ag	107	103	3	0.645	ppb	11.98	47,221.35	7.447E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-127.79	-1.864E-05	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	8.19	1,679.05	2.449E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	184.86	1.969E-05	Pulse	0.30	3
Tl	205	209	3	0.056	ppb	5.27	7,119.76	1.350E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	209.56	3.973E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	11.38	381.73	7.235E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,606,587.15	0.35	87.8	Analog	0.30	3
2	Sc	45	149,834.30	1.39	87.2	Pulse	0.30	3
3	Sc	45	3,868,296.40	0.56	91.6	Analog	0.30	3
1	Ge	72	127,959.20	0.69	84.3	Pulse	0.30	3
2	Ge	72	101,093.78	2.19	88.1	Pulse	0.30	3
2	Rh	103	2,699,916.07	1.55	88.1	Analog	0.30	3
3	Rh	103	6,338,950.81	0.53	91.2	Analog	0.30	3
3	In	115	6,855,454.62	0.30	92.4	Analog	0.30	3
3	Tb	159	9,389,099.86	0.07	91.4	Analog	0.30	3
3	Bi	209	5,274,668.53	0.85	91.3	Analog	0.30	3

Quantitation Report

File Name	A0307068.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:48
Sample Name	N018861-007B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	17.842	ppb	2.16	56,447.11	1.031E-01	Pulse	0.30	3
B	11	6	3	6074.535	ppb	1.15	17,586,062.40	3.210E+01	Analog	0.30	3
Na	23	45	2	3531819.746	ppb	1.16	3,924,798,910.41	3.375E+04	Analog	0.30	3
Mg	26	45	2	3192.572	ppb	0.87	358,776.00	3.085E+00	Pulse	0.30	3
Al	27	45	2	202.666	ppb	0.50	50,006.98	4.300E-01	Pulse	0.30	3
K	39	45	2	30628.652	ppb	1.03	15,261,522.27	1.312E+02	Analog	0.30	3
Ca	44	45	3	249445.657	ppb	0.29	413,799,118.28	1.229E+02	Analog	0.30	3
V	51	45	2	12.704	ppb	0.70	79,985.93	6.878E-01	Pulse	0.30	3
Cr	52	45	2	14.290	ppb	1.38	111,267.53	9.567E-01	Pulse	0.30	3
Mn	55	45	2	108.479	ppb	0.35	495,365.59	4.260E+00	Pulse	0.30	3
Fe	56	45	2	44.213	ppb	1.13	304,801.73	2.621E+00	Pulse	0.30	3
Co	59	45	2	7.610	ppb	0.70	106,500.92	9.159E-01	Pulse	0.30	3
Ni	60	72	2	7.856	ppb	1.52	23,936.69	3.618E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-19,779.88	-2.989E-01	Pulse	0.30	3
Zn	66	72	2	63.252	ppb	1.00	81,723.67	1.235E+00	Pulse	0.30	3
As	75	72	2	22.810	ppb	1.12	17,845.29	2.697E-01	Pulse	0.75	3
Se	78	72	1	7.949	ppb	6.05	2,705.89	3.474E-02	Pulse	0.30	3
Mo	95	103	2	97.853	ppb	0.66	352,784.28	2.346E-01	Pulse	0.30	3
Ag	107	103	3	8.521	ppb	0.38	280,462.52	7.438E-02	Pulse	0.30	3
Cd	111	115	3	8.011	ppb	0.45	61,742.41	1.402E-02	Pulse	0.30	3
Sb	121	115	3	9.529	ppb	0.61	250,502.44	5.687E-02	Pulse	0.30	3
Ba	137	159	3	136.254	ppb	0.59	1,484,613.68	2.389E-01	Analog	0.30	3
Tl	205	209	3	9.728	ppb	0.81	453,174.25	1.722E-01	Pulse	0.30	3
Pb	208	209	3	10.252	ppb	0.35	642,901.73	2.443E-01	Pulse	0.30	3
U	238	209	3	12.507	ppb	0.43	839,548.12	3.190E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	547,915.75	2.37	29.9	Analog	0.30	3
2	Sc	45	116,288.29	1.30	67.7	Pulse	0.30	3
3	Sc	45	3,367,587.66	1.68	79.7	Analog	0.30	3
1	Ge	72	77,888.88	0.57	51.3	Pulse	0.30	3
2	Ge	72	66,165.74	0.82	57.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,503,820.46	1.56	49.1	Analog	0.30	3
3	Rh	103	3,770,989.87	1.07	54.3	Analog	0.30	3
3	In	115	4,405,048.49	1.00	59.4	Analog	0.30	3
3	Tb	159	6,213,535.46	1.21	60.5	Analog	0.30	3
3	Bi	209	2,631,807.70	1.20	45.6	Analog	0.30	3

Quantitation Report

File Name	A0307069.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:53
Sample Name	N018861-007B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.125	ppb	2.50	15,925.82	1.228E-02	Pulse	0.30	3
B	11	6	3	853.881	ppb	0.11	5,914,287.41	4.562E+00	Analog	0.30	3
Na	23	45	2	764452.693	ppb	0.43	1,039,342,277.84	7.307E+03	Analog	0.30	3
Mg	26	45	2	694.499	ppb	0.52	95,753.81	6.732E-01	Pulse	0.30	3
Al	27	45	2	39.729	ppb	2.08	13,269.66	9.328E-02	Pulse	0.30	3
K	39	45	2	6449.383	ppb	0.34	3,955,784.32	2.781E+01	Analog	0.30	3
Ca	44	45	3	55046.384	ppb	0.59	104,933,671.77	2.712E+01	Analog	0.30	3
V	51	45	2	2.659	ppb	2.02	21,319.95	1.499E-01	Pulse	0.30	3
Cr	52	45	2	3.155	ppb	1.33	30,194.56	2.123E-01	Pulse	0.30	3
Mn	55	45	2	24.057	ppb	0.74	134,456.87	9.454E-01	Pulse	0.30	3
Fe	56	45	2	10.514	ppb	1.60	91,620.93	6.441E-01	Pulse	0.30	3
Co	59	45	2	1.780	ppb	0.27	30,482.14	2.143E-01	Pulse	0.30	3
Ni	60	72	2	1.767	ppb	2.79	7,135.87	8.223E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,300.91	3.805E-02	Pulse	0.30	3
Zn	66	72	2	14.894	ppb	2.03	26,111.89	3.009E-01	Pulse	0.30	3
As	75	72	2	5.209	ppb	2.18	5,358.00	6.176E-02	Pulse	0.75	3
Se	78	72	1	1.890	ppb	14.94	926.73	8.279E-03	Pulse	0.30	3
Mo	95	103	2	19.395	ppb	0.76	99,024.14	4.653E-02	Pulse	0.30	3
Ag	107	103	3	1.930	ppb	0.74	94,604.73	1.837E-02	Pulse	0.30	3
Cd	111	115	3	1.870	ppb	2.69	19,108.17	3.265E-03	Pulse	0.30	3
Sb	121	115	3	2.171	ppb	0.80	76,160.21	1.301E-02	Pulse	0.30	3
Ba	137	159	3	29.673	ppb	0.54	429,565.22	5.206E-02	Pulse	0.30	3
Tl	205	209	3	2.162	ppb	0.65	151,673.65	3.855E-02	Pulse	0.30	3
Pb	208	209	3	2.140	ppb	0.46	200,896.69	5.106E-02	Pulse	0.30	3
U	238	209	3	2.513	ppb	0.42	252,268.57	6.412E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,296,483.56	0.67	70.8	Analog	0.30	3
2	Sc	45	142,234.69	1.16	82.8	Pulse	0.30	3
3	Sc	45	3,869,206.33	0.63	91.6	Analog	0.30	3
1	Ge	72	111,806.93	1.15	73.7	Pulse	0.30	3
2	Ge	72	86,770.12	0.82	75.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,128,237.69	1.17	69.4	Analog	0.30	3
3	Rh	103	5,151,049.44	0.45	74.1	Analog	0.30	3
3	In	115	5,853,598.52	0.31	78.9	Analog	0.30	3
3	Tb	159	8,251,851.20	1.14	80.3	Analog	0.30	3
3	Bi	209	3,934,456.26	0.97	68.1	Analog	0.30	3

Quantitation Report

File Name	A0307070.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:59
Sample Name	N018861-007B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	16.847	ppb	2.25	56,083.72	9.731E-02	Pulse	0.30	3
B	11	6	3	5784.505	ppb	1.82	17,620,044.83	3.057E+01	Analog	0.30	3
Na	23	45	2	3445783.607	ppb	0.45	3,952,832,829.99	3.293E+04	Analog	0.30	3
Mg	26	45	2	3099.129	ppb	0.51	359,528.23	2.995E+00	Pulse	0.30	3
Al	27	45	2	200.098	ppb	0.57	50,982.10	4.247E-01	Pulse	0.30	3
K	39	45	2	29827.010	ppb	0.46	15,342,483.94	1.278E+02	Analog	0.30	3
Ca	44	45	3	246655.019	ppb	0.09	412,332,313.86	1.215E+02	Analog	0.30	3
V	51	45	2	12.465	ppb	1.77	81,049.00	6.751E-01	Pulse	0.30	3
Cr	52	45	2	14.088	ppb	0.52	113,236.65	9.432E-01	Pulse	0.30	3
Mn	55	45	2	106.237	ppb	0.17	500,799.50	4.172E+00	Pulse	0.30	3
Fe	56	45	2	44.243	ppb	1.57	314,858.19	2.623E+00	Pulse	0.30	3
Co	59	45	2	7.516	ppb	0.35	108,585.29	9.045E-01	Pulse	0.30	3
Ni	60	72	2	7.777	ppb	2.19	24,189.83	3.581E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,533.79	-2.744E-01	Pulse	0.30	3
Zn	66	72	2	62.647	ppb	1.17	82,657.91	1.223E+00	Pulse	0.30	3
As	75	72	2	22.457	ppb	2.25	17,935.64	2.655E-01	Pulse	0.75	3
Se	78	72	1	8.242	ppb	4.59	2,942.61	3.601E-02	Pulse	0.30	3
Mo	95	103	2	96.398	ppb	0.63	351,907.56	2.311E-01	Pulse	0.30	3
Ag	107	103	3	15.740	ppb	0.46	513,094.29	1.357E-01	Pulse	0.30	3
Cd	111	115	3	7.928	ppb	1.39	61,068.16	1.387E-02	Pulse	0.30	3
Sb	121	115	3	9.430	ppb	0.62	247,761.00	5.628E-02	Pulse	0.30	3
Ba	137	159	3	135.251	ppb	0.29	1,465,975.22	2.372E-01	Analog	0.30	3
Tl	205	209	3	9.510	ppb	1.13	440,269.61	1.683E-01	Pulse	0.30	3
Pb	208	209	3	10.182	ppb	0.42	634,580.94	2.426E-01	Pulse	0.30	3
U	238	209	3	12.280	ppb	0.22	819,163.68	3.132E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	576,451.59	1.57	31.5	Analog	0.30	3
2	Sc	45	120,049.07	1.68	69.8	Pulse	0.30	3
3	Sc	45	3,393,508.49	0.13	80.3	Analog	0.30	3
1	Ge	72	81,696.33	0.65	53.8	Pulse	0.30	3
2	Ge	72	67,568.31	2.40	58.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,522,774.84	1.32	49.7	Analog	0.30	3
3	Rh	103	3,780,414.53	0.38	54.4	Analog	0.30	3
3	In	115	4,402,485.90	0.50	59.4	Analog	0.30	3
3	Tb	159	6,180,744.28	0.38	60.2	Analog	0.30	3
3	Bi	209	2,615,443.24	0.61	45.3	Analog	0.30	3

Quantitation Report

File Name	A0307071.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:05
Sample Name	N018861-007B-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.114	ppb	0.58	15,942.49	1.222E-02	Pulse	0.30	3
B	11	6	3	859.791	ppb	0.50	5,992,472.62	4.593E+00	Analog	0.30	3
Na	23	45	2	765958.497	ppb	0.74	1,047,325,326.62	7.322E+03	Analog	0.30	3
Mg	26	45	2	692.048	ppb	1.43	95,956.48	6.709E-01	Pulse	0.30	3
Al	27	45	2	39.828	ppb	1.61	13,371.80	9.349E-02	Pulse	0.30	3
K	39	45	2	6447.395	ppb	0.64	3,977,008.28	2.780E+01	Analog	0.30	3
Ca	44	45	3	55478.474	ppb	0.29	105,973,412.86	2.733E+01	Analog	0.30	3
V	51	45	2	2.683	ppb	1.67	21,623.72	1.512E-01	Pulse	0.30	3
Cr	52	45	2	3.165	ppb	0.85	30,469.30	2.130E-01	Pulse	0.30	3
Mn	55	45	2	24.102	ppb	0.45	135,478.74	9.471E-01	Pulse	0.30	3
Fe	56	45	2	10.719	ppb	1.17	93,852.87	6.561E-01	Pulse	0.30	3
Co	59	45	2	1.790	ppb	1.89	30,814.65	2.154E-01	Pulse	0.30	3
Ni	60	72	2	1.825	ppb	3.19	7,457.90	8.489E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,457.85	2.801E-02	Pulse	0.30	3
Zn	66	72	2	15.102	ppb	1.44	26,798.23	3.049E-01	Pulse	0.30	3
As	75	72	2	5.247	ppb	1.82	5,466.04	6.221E-02	Pulse	0.75	3
Se	78	72	1	1.911	ppb	11.65	920.06	8.371E-03	Pulse	0.30	3
Mo	95	103	2	19.461	ppb	1.74	100,523.69	4.669E-02	Pulse	0.30	3
Ag	107	103	3	2.029	ppb	1.04	99,306.95	1.921E-02	Pulse	0.30	3
Cd	111	115	3	1.875	ppb	1.35	19,361.67	3.273E-03	Pulse	0.30	3
Sb	121	115	3	2.139	ppb	0.36	75,841.46	1.282E-02	Pulse	0.30	3
Ba	137	159	3	29.688	ppb	0.88	431,977.98	5.208E-02	Pulse	0.30	3
Tl	205	209	3	2.173	ppb	0.11	154,196.04	3.874E-02	Pulse	0.30	3
Pb	208	209	3	2.117	ppb	0.54	201,097.27	5.052E-02	Pulse	0.30	3
U	238	209	3	2.507	ppb	0.51	254,580.98	6.396E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,304,721.27	0.40	71.3	Analog	0.30	3
2	Sc	45	143,043.17	0.63	83.2	Pulse	0.30	3
3	Sc	45	3,877,062.06	0.40	91.8	Analog	0.30	3
1	Ge	72	110,005.68	1.10	72.5	Pulse	0.30	3
2	Ge	72	87,883.78	1.47	76.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,153,217.85	0.76	70.2	Analog	0.30	3
3	Rh	103	5,169,197.91	0.39	74.4	Analog	0.30	3
3	In	115	5,915,546.37	0.53	79.8	Analog	0.30	3
3	Tb	159	8,293,961.06	0.33	80.7	Analog	0.30	3
3	Bi	209	3,980,346.33	0.64	68.9	Analog	0.30	3

Quantitation Report

File Name	A0307072.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:10
Sample Name	N018843-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	40.13	30.00	2.031E-05	Pulse	0.30	3
B	11	6	3	143.190	ppb	0.60	1,199,770.72	8.127E-01	Analog	0.30	3
Na	23	45	2	109824.797	ppb	1.00	150,657,545.53	1.053E+03	Analog	0.30	3
Mg	26	45	2	27313.645	ppb	0.89	3,773,806.54	2.637E+01	Analog	0.30	3
Al	27	45	2	2.429	ppb	22.73	2,316.28	1.620E-02	Pulse	0.30	3
K	39	45	2	5044.834	ppb	0.68	3,119,980.40	2.180E+01	Analog	0.30	3
Ca	44	45	3	72968.437	ppb	0.63	136,356,572.41	3.595E+01	Analog	0.30	3
V	51	45	2	2.279	ppb	1.76	18,538.75	1.295E-01	Pulse	0.30	3
Cr	52	45	2	0.101	ppb	6.11	1,165.03	8.145E-03	Pulse	0.30	3
Mn	55	45	2	0.037	ppb	161.79	340.64	2.383E-03	Pulse	0.30	3
Fe	56	45	2	35.254	ppb	0.29	299,887.96	2.096E+00	Pulse	0.30	3
Co	59	45	2	0.045	ppb	13.01	778.48	5.437E-03	Pulse	0.30	3
Ni	60	72	2	1.341	ppb	2.38	5,854.12	6.268E-02	Pulse	0.30	3
Cu	63	72	2	1.893	ppb	2.16	29,436.80	3.151E-01	Pulse	0.30	3
Zn	66	72	2	2.748	ppb	3.49	6,188.18	6.626E-02	Pulse	0.30	3
As	75	72	2	2.264	ppb	3.92	2,517.36	2.696E-02	Pulse	0.75	3
Se	78	72	1	1.608	ppb	4.12	836.72	7.049E-03	Pulse	0.30	3
Mo	95	103	2	5.569	ppb	0.69	31,805.78	1.339E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	10,080.78	1.809E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-217.69	-3.439E-05	Pulse	0.30	3
Sb	121	115	3	0.311	ppb	1.47	12,202.94	1.928E-03	Pulse	0.30	3
Ba	137	159	3	137.319	ppb	0.51	2,135,262.01	2.408E-01	Analog	0.30	3
Tl	205	209	3	0.291	ppb	3.95	24,830.39	5.493E-03	Pulse	0.30	3
Pb	208	209	3	0.221	ppb	0.68	24,207.88	5.355E-03	Pulse	0.30	3
U	238	209	3	4.756	ppb	0.82	548,373.10	1.213E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,476,296.04	0.85	80.7	Analog	0.30	3
2	Sc	45	143,101.43	1.79	83.3	Pulse	0.30	3
3	Sc	45	3,793,109.11	0.52	89.8	Analog	0.30	3
1	Ge	72	118,695.32	0.66	78.2	Pulse	0.30	3
2	Ge	72	93,413.99	1.37	81.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,374,852.78	0.71	77.5	Analog	0.30	3
3	Rh	103	5,574,072.28	0.16	80.2	Analog	0.30	3
3	In	115	6,329,473.97	0.29	85.3	Analog	0.30	3
3	Tb	159	8,867,293.62	0.93	86.3	Analog	0.30	3
3	Bi	209	4,520,421.74	0.18	78.3	Analog	0.30	3

Quantitation Report

File Name	A0307073.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:16
Sample Name	N018843-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	21.91	37.78	2.695E-05	Pulse	0.30	3
B	11	6	3	140.538	ppb	1.22	1,119,288.72	7.987E-01	Analog	0.30	3
Na	23	45	2	113884.977	ppb	0.80	150,966,958.86	1.092E+03	Analog	0.30	3
Mg	26	45	2	28497.737	ppb	0.71	3,805,145.22	2.752E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	642.80	4.654E-03	Pulse	0.30	3
K	39	45	2	5302.325	ppb	1.20	3,167,296.27	2.291E+01	Analog	0.30	3
Ca	44	45	3	76924.209	ppb	0.53	136,440,623.52	3.790E+01	Analog	0.30	3
V	51	45	2	2.385	ppb	1.01	18,700.02	1.352E-01	Pulse	0.30	3
Cr	52	45	2	0.026	ppb	9.66	435.67	3.152E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,245.29	-1.625E-02	Pulse	0.30	3
Fe	56	45	2	1.000	ppb	1.47	11,875.80	8.587E-02	Pulse	0.30	3
Co	59	45	2	0.025	ppb	7.01	425.90	3.078E-03	Pulse	0.30	3
Ni	60	72	2	0.737	ppb	5.07	3,173.34	3.494E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	6,426.27	7.075E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-527.54	-5.805E-03	Pulse	0.30	3
As	75	72	2	2.367	ppb	0.70	2,559.94	2.818E-02	Pulse	0.75	3
Se	78	72	1	1.705	ppb	3.48	868.95	7.474E-03	Pulse	0.30	3
Mo	95	103	2	5.629	ppb	1.15	31,259.12	1.354E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,189.82	1.716E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-385.76	-6.279E-05	Pulse	0.30	3
Sb	121	115	3	0.311	ppb	1.43	11,818.23	1.924E-03	Pulse	0.30	3
Ba	137	159	3	143.507	ppb	0.24	2,173,806.55	2.517E-01	Analog	0.30	3
Tl	205	209	3	0.159	ppb	2.62	13,893.66	3.174E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,017.28	-2.060E-03	Pulse	0.30	3
U	238	209	3	5.044	ppb	1.09	563,242.10	1.287E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,401,412.22	0.77	76.6	Analog	0.30	3
2	Sc	45	138,294.92	1.72	80.5	Pulse	0.30	3
3	Sc	45	3,600,272.24	0.55	85.2	Analog	0.30	3
1	Ge	72	116,264.04	0.27	76.6	Pulse	0.30	3
2	Ge	72	90,858.39	1.75	79.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,309,486.86	1.05	75.3	Analog	0.30	3
3	Rh	103	5,354,169.92	0.25	77.1	Analog	0.30	3
3	In	115	6,143,565.45	0.73	82.8	Analog	0.30	3
3	Tb	159	8,637,908.06	0.21	84.1	Analog	0.30	3
3	Bi	209	4,378,062.12	0.57	75.8	Analog	0.30	3

Quantitation Report

File Name	A0307074.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:21
Sample Name	N018843-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	144.10	23.34	1.667E-05	Pulse	0.30	3
B	11	6	3	129.512	ppb	1.05	1,037,477.35	7.406E-01	Analog	0.30	3
Na	23	45	2	110999.964	ppb	0.24	142,566,184.54	1.064E+03	Analog	0.30	3
Mg	26	45	2	27947.116	ppb	0.49	3,615,246.51	2.699E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,206.26	9.007E-03	Pulse	0.30	3
K	39	45	2	5145.962	ppb	0.50	2,979,207.63	2.224E+01	Analog	0.30	3
Ca	44	45	3	74596.457	ppb	0.65	127,885,771.43	3.675E+01	Analog	0.30	3
V	51	45	2	2.279	ppb	2.40	17,360.84	1.296E-01	Pulse	0.30	3
Cr	52	45	2	0.086	ppb	5.48	961.38	7.174E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	48.40	3.591E-04	Pulse	0.30	3
Fe	56	45	2	2.797	ppb	0.54	25,631.29	1.913E-01	Pulse	0.30	3
Co	59	45	2	0.043	ppb	6.40	700.66	5.229E-03	Pulse	0.30	3
Ni	60	72	2	1.349	ppb	1.74	5,686.05	6.305E-02	Pulse	0.30	3
Cu	63	72	2	0.701	ppb	1.55	14,997.27	1.663E-01	Pulse	0.30	3
Zn	66	72	2	0.393	ppb	2.92	1,871.66	2.075E-02	Pulse	0.30	3
As	75	72	2	2.360	ppb	1.20	2,534.28	2.810E-02	Pulse	0.75	3
Se	78	72	1	1.497	ppb	7.39	747.83	6.566E-03	Pulse	0.30	3
Mo	95	103	2	5.443	ppb	2.73	29,923.23	1.309E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,288.73	1.565E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-318.64	-5.254E-05	Pulse	0.30	3
Sb	121	115	3	0.307	ppb	2.29	11,545.81	1.903E-03	Pulse	0.30	3
Ba	137	159	3	137.825	ppb	0.16	2,088,421.22	2.417E-01	Analog	0.30	3
Tl	205	209	3	0.107	ppb	0.25	9,934.83	2.255E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,186.48	-9.503E-04	Pulse	0.30	3
U	238	209	3	4.764	ppb	1.00	535,445.68	1.215E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,400,941.77	0.19	76.5	Analog	0.30	3
2	Sc	45	133,971.48	1.09	77.9	Pulse	0.30	3
3	Sc	45	3,479,862.24	0.51	82.4	Analog	0.30	3
1	Ge	72	113,949.50	1.01	75.1	Pulse	0.30	3
2	Ge	72	90,197.27	1.51	78.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,285,971.30	0.76	74.6	Analog	0.30	3
3	Rh	103	5,297,782.63	0.20	76.3	Analog	0.30	3
3	In	115	6,065,638.66	0.27	81.8	Analog	0.30	3
3	Tb	159	8,640,662.93	0.59	84.1	Analog	0.30	3
3	Bi	209	4,406,235.39	0.71	76.3	Analog	0.30	3

Quantitation Report

File Name	A0307075.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:27
Sample Name	N018843-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	220.43	21.11	1.553E-05	Pulse	0.30	3
B	11	6	3	128.750	ppb	2.19	1,000,115.93	7.365E-01	Analog	0.30	3
Na	23	45	2	110066.194	ppb	0.32	138,664,571.27	1.055E+03	Analog	0.30	3
Mg	26	45	2	27620.042	ppb	0.59	3,504,346.37	2.667E+01	Analog	0.30	3
Al	27	45	2	6.075	ppb	4.41	3,118.88	2.373E-02	Pulse	0.30	3
K	39	45	2	5111.751	ppb	0.24	2,902,792.28	2.209E+01	Analog	0.30	3
Ca	44	45	3	74079.352	ppb	0.57	124,555,223.70	3.650E+01	Analog	0.30	3
V	51	45	2	2.328	ppb	0.19	17,367.51	1.322E-01	Pulse	0.30	3
Cr	52	45	2	0.057	ppb	11.56	682.28	5.189E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-676.52	-5.145E-03	Pulse	0.30	3
Fe	56	45	2	10.811	ppb	4.06	86,926.78	6.615E-01	Pulse	0.30	3
Co	59	45	2	0.033	ppb	1.38	530.13	4.035E-03	Pulse	0.30	3
Ni	60	72	2	0.738	ppb	1.29	3,083.30	3.497E-02	Pulse	0.30	3
Cu	63	72	2	0.100	ppb	38.00	8,029.17	9.108E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	136.73	1.544E-03	Pulse	0.30	3
As	75	72	2	2.260	ppb	2.66	2,372.37	2.691E-02	Pulse	0.75	3
Se	78	72	1	1.622	ppb	10.80	806.72	7.110E-03	Pulse	0.30	3
Mo	95	103	2	5.346	ppb	0.44	29,033.69	1.286E-02	Pulse	0.30	3
Ag	107	103	3	0.002	ppb	401.71	10,444.71	1.988E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-25,886.50	-4.284E-03	Pulse	0.30	3
Sb	121	115	3	0.304	ppb	1.31	11,376.69	1.883E-03	Pulse	0.30	3
Ba	137	159	3	134.103	ppb	0.75	2,024,750.17	2.352E-01	Analog	0.30	3
Tl	205	209	3	0.087	ppb	2.14	8,323.80	1.897E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-55,068.61	-1.255E-02	Pulse	0.30	3
U	238	209	3	4.799	ppb	0.70	537,220.41	1.224E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,357,872.37	0.35	74.2	Analog	0.30	3
2	Sc	45	131,403.77	1.28	76.5	Pulse	0.30	3
3	Sc	45	3,412,878.01	0.58	80.8	Analog	0.30	3
1	Ge	72	113,486.03	0.55	74.8	Pulse	0.30	3
2	Ge	72	88,164.00	1.36	76.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,258,287.92	0.83	73.7	Analog	0.30	3
3	Rh	103	5,252,076.80	0.38	75.6	Analog	0.30	3
3	In	115	6,042,658.53	0.43	81.5	Analog	0.30	3
3	Tb	159	8,609,849.46	0.32	83.8	Analog	0.30	3
3	Bi	209	4,388,656.88	0.29	76.0	Analog	0.30	3

Quantitation Report

File Name	A0307076.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:32
Sample Name	N018843-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	82.29	21.11	1.556E-05	Pulse	0.30	3
B	11	6	3	134.340	ppb	0.44	1,040,067.87	7.660E-01	Analog	0.30	3
Na	23	45	2	117154.655	ppb	0.31	149,350,118.88	1.123E+03	Analog	0.30	3
Mg	26	45	2	29639.203	ppb	0.91	3,806,190.78	2.862E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	724.93	5.446E-03	Pulse	0.30	3
K	39	45	2	5449.929	ppb	0.37	3,130,421.62	2.354E+01	Analog	0.30	3
Ca	44	45	3	79916.777	ppb	0.67	136,791,542.41	3.937E+01	Analog	0.30	3
V	51	45	2	2.438	ppb	2.01	18,367.52	1.381E-01	Pulse	0.30	3
Cr	52	45	2	0.124	ppb	9.07	1,291.76	9.721E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,666.56	-2.004E-02	Pulse	0.30	3
Fe	56	45	2	0.912	ppb	4.31	10,735.29	8.073E-02	Pulse	0.30	3
Co	59	45	2	0.025	ppb	18.27	406.85	3.057E-03	Pulse	0.30	3
Ni	60	72	2	0.776	ppb	5.03	3,238.65	3.674E-02	Pulse	0.30	3
Cu	63	72	2	0.015	ppb	219.86	7,092.14	8.052E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-653.81	-7.417E-03	Pulse	0.30	3
As	75	72	2	2.501	ppb	1.82	2,621.73	2.976E-02	Pulse	0.75	3
Se	78	72	1	1.724	ppb	1.79	842.28	7.556E-03	Pulse	0.30	3
Mo	95	103	2	5.858	ppb	0.91	31,339.23	1.409E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,091.55	1.353E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-352.52	-5.876E-05	Pulse	0.30	3
Sb	121	115	3	0.333	ppb	2.26	12,333.06	2.056E-03	Pulse	0.30	3
Ba	137	159	3	149.526	ppb	0.47	2,244,494.34	2.622E-01	Analog	0.30	3
Tl	205	209	3	0.061	ppb	4.50	6,225.99	1.439E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-8,835.31	-2.043E-03	Pulse	0.30	3
U	238	209	3	5.253	ppb	0.53	579,623.33	1.340E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,357,732.58	0.68	74.2	Analog	0.30	3
2	Sc	45	133,001.71	1.76	77.4	Pulse	0.30	3
3	Sc	45	3,474,442.59	0.70	82.2	Analog	0.30	3
1	Ge	72	111,466.72	0.86	73.4	Pulse	0.30	3
2	Ge	72	88,120.40	1.54	76.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,225,033.99	0.87	72.6	Analog	0.30	3
3	Rh	103	5,241,654.19	0.30	75.4	Analog	0.30	3
3	In	115	5,999,667.93	0.45	80.9	Analog	0.30	3
3	Tb	159	8,559,934.67	1.00	83.3	Analog	0.30	3
3	Bi	209	4,326,032.75	0.79	74.9	Analog	0.30	3

Quantitation Report

File Name	A0307077.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:38
Sample Name	N018843-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	172.77	23.34	1.760E-05	Pulse	0.30	3
B	11	6	3	116.267	ppb	0.94	891,723.15	6.707E-01	Pulse	0.30	3
Na	23	45	2	106024.997	ppb	0.43	132,277,242.48	1.017E+03	Analog	0.30	3
Mg	26	45	2	26743.039	ppb	1.21	3,359,468.07	2.582E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	703.93	5.407E-03	Pulse	0.30	3
K	39	45	2	4918.540	ppb	0.64	2,766,728.67	2.126E+01	Analog	0.30	3
Ca	44	45	3	71441.298	ppb	0.13	119,042,993.78	3.520E+01	Analog	0.30	3
V	51	45	2	2.199	ppb	2.29	16,304.14	1.253E-01	Pulse	0.30	3
Cr	52	45	2	0.033	ppb	14.03	470.36	3.617E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,022.05	-1.555E-02	Pulse	0.30	3
Fe	56	45	2	1.177	ppb	3.73	12,524.43	9.623E-02	Pulse	0.30	3
Co	59	45	2	0.029	ppb	21.83	464.59	3.574E-03	Pulse	0.30	3
Ni	60	72	2	0.661	ppb	7.28	2,733.19	3.147E-02	Pulse	0.30	3
Cu	63	72	2	0.022	ppb	104.04	7,065.70	8.139E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-462.35	-5.329E-03	Pulse	0.30	3
As	75	72	2	2.256	ppb	5.15	2,330.58	2.687E-02	Pulse	0.75	3
Se	78	72	1	1.712	ppb	8.57	845.62	7.505E-03	Pulse	0.30	3
Mo	95	103	2	5.321	ppb	3.09	28,210.10	1.280E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,331.72	1.235E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-16,447.64	-2.796E-03	Pulse	0.30	3
Sb	121	115	3	0.296	ppb	0.90	10,787.44	1.834E-03	Pulse	0.30	3
Ba	137	159	3	132.773	ppb	0.78	1,954,452.25	2.328E-01	Analog	0.30	3
Tl	205	209	3	0.055	ppb	6.90	5,675.77	1.335E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,449.57	-9.063E-03	Pulse	0.30	3
U	238	209	3	4.724	ppb	0.76	512,387.76	1.205E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,329,611.70	0.88	72.6	Analog	0.30	3
2	Sc	45	130,116.30	1.86	75.7	Pulse	0.30	3
3	Sc	45	3,382,214.85	0.32	80.1	Analog	0.30	3
1	Ge	72	112,715.38	1.23	74.3	Pulse	0.30	3
2	Ge	72	86,799.00	2.16	75.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,204,002.75	0.89	71.9	Analog	0.30	3
3	Rh	103	5,125,458.64	0.21	73.8	Analog	0.30	3
3	In	115	5,880,903.46	0.25	79.3	Analog	0.30	3
3	Tb	159	8,394,207.93	0.57	81.7	Analog	0.30	3
3	Bi	209	4,251,789.80	0.63	73.6	Analog	0.30	3

Quantitation Report

File Name	A0307078.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:43
Sample Name	CCV5,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.045	ppb	0.70	148,308.40	1.042E-01	Pulse	0.30	3
B	11	6	3	187.478	ppb	1.35	1,488,806.66	1.046E+00	Analog	0.30	3
Na	23	45	2	347.358	ppb	7.42	962,847.69	6.951E+00	Pulse	0.30	3
Mg	26	45	2	197.975	ppb	0.47	26,849.84	1.938E-01	Pulse	0.30	3
Al	27	45	2	15.334	ppb	2.58	5,937.52	4.287E-02	Pulse	0.30	3
K	39	45	2	195.003	ppb	0.50	147,016.64	1.061E+00	Pulse	0.30	3
Ca	44	45	3	192.542	ppb	1.14	343,322.34	1.000E-01	Pulse	0.30	3
V	51	45	2	19.156	ppb	0.50	143,138.92	1.033E+00	Pulse	0.30	3
Cr	52	45	2	19.318	ppb	0.61	179,091.19	1.293E+00	Pulse	0.30	3
Mn	55	45	2	19.019	ppb	0.95	103,560.29	7.476E-01	Pulse	0.30	3
Fe	56	45	2	19.584	ppb	0.59	162,933.56	1.176E+00	Pulse	0.30	3
Co	59	45	2	19.373	ppb	0.71	322,942.91	2.331E+00	Pulse	0.30	3
Ni	60	72	2	19.198	ppb	1.26	80,964.86	8.824E-01	Pulse	0.30	3
Cu	63	72	2	19.973	ppb	1.71	236,115.74	2.573E+00	Pulse	0.30	3
Zn	66	72	2	18.857	ppb	1.34	34,638.71	3.775E-01	Pulse	0.30	3
As	75	72	2	19.105	ppb	0.99	20,734.59	2.259E-01	Pulse	0.75	3
Se	78	72	1	18.725	ppb	4.00	9,765.54	8.178E-02	Pulse	0.30	3
Mo	95	103	2	18.977	ppb	0.62	113,336.34	4.553E-02	Pulse	0.30	3
Ag	107	103	3	19.147	ppb	0.31	938,642.72	1.647E-01	Pulse	0.30	3
Cd	111	115	3	19.241	ppb	0.68	213,102.29	3.368E-02	Pulse	0.30	3
Sb	121	115	3	19.317	ppb	0.33	728,988.31	1.152E-01	Pulse	0.30	3
Ba	137	159	3	19.696	ppb	0.93	301,592.45	3.456E-02	Pulse	0.30	3
Tl	205	209	3	19.206	ppb	0.34	1,694,017.27	3.396E-01	Analog	0.30	3
Pb	208	209	3	19.160	ppb	0.69	2,276,991.23	4.565E-01	Analog	0.30	3
U	238	209	3	19.047	ppb	0.05	2,423,304.26	4.858E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,422,989.02	1.09	77.7	Analog	0.30	3
2	Sc	45	138,521.37	0.37	80.6	Pulse	0.30	3
3	Sc	45	3,431,826.96	0.82	81.2	Analog	0.30	3
1	Ge	72	119,334.59	2.37	78.6	Pulse	0.30	3
2	Ge	72	91,764.85	1.66	80.0	Pulse	0.30	3
2	Rh	103	2,489,512.76	1.07	81.2	Analog	0.30	3
3	Rh	103	5,699,819.15	0.44	82.0	Analog	0.30	3
3	In	115	6,327,466.97	0.03	85.3	Analog	0.30	3
3	Tb	159	8,726,002.51	0.66	84.9	Analog	0.30	3
3	Bi	209	4,988,188.64	0.27	86.4	Analog	0.30	3

Quantitation Report

File Name	A0307079.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:49
Sample Name	CCB5,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	218.68	21.11	1.425E-05	Pulse	0.30	3
B	11	6	3	3.154	ppb	10.22	109,698.92	7.399E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	495,331.69	3.574E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	203.34	1.468E-03	Pulse	0.30	3
Al	27	45	2	0.071	ppb	277.62	1,570.12	1.132E-02	Pulse	0.30	3
K	39	45	2	0.427	ppb	617.10	31,752.19	2.291E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	8,943.89	2.560E-03	Pulse	0.30	3
V	51	45	2	0.072	ppb	9.85	1,574.59	1.136E-02	Pulse	0.30	3
Cr	52	45	2	0.001	ppb	269.00	202.83	1.464E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	94.73	6.832E-04	Pulse	0.30	3
Fe	56	45	2	0.070	ppb	9.90	4,339.65	3.129E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	3.94	2.810E-05	Pulse	0.30	3
Ni	60	72	2	0.002	ppb	375.48	110.60	1.202E-03	Pulse	0.30	3
Cu	63	72	2	0.505	ppb	7.56	13,033.87	1.417E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	750.60	8.160E-03	Pulse	0.30	3
As	75	72	2	0.004	ppb	47.71	24.00	2.609E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	3.33	2.834E-05	Pulse	0.30	3
Mo	95	103	2	0.067	ppb	5.90	518.92	2.049E-04	Pulse	0.30	3
Ag	107	103	3	0.619	ppb	12.34	42,317.49	7.232E-03	Pulse	0.30	3
Cd	111	115	3	0.002	ppb	111.06	-49.93	-7.711E-06	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	5.83	1,582.37	2.445E-04	Pulse	0.30	3
Ba	137	159	3	0.004	ppb	31.10	319.56	3.557E-05	Pulse	0.30	3
Tl	205	209	3	0.021	ppb	8.06	3,730.63	7.327E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.001	ppb	59.67	542.85	1.066E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	23.32	394.32	7.743E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,482,713.11	0.44	81.0	Analog	0.30	3
2	Sc	45	138,681.76	1.98	80.7	Pulse	0.30	3
3	Sc	45	3,494,537.55	0.44	82.7	Analog	0.30	3
1	Ge	72	117,380.61	0.22	77.3	Pulse	0.30	3
2	Ge	72	91,960.03	0.85	80.1	Pulse	0.30	3
2	Rh	103	2,533,105.86	1.28	82.6	Analog	0.30	3
3	Rh	103	5,849,675.26	0.66	84.2	Analog	0.30	3
3	In	115	6,471,822.02	0.32	87.3	Analog	0.30	3
3	Tb	159	8,980,966.53	0.60	87.4	Analog	0.30	3
3	Bi	209	5,092,200.62	0.44	88.2	Analog	0.30	3

Quantitation Report

File Name	A0307080.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:54
Sample Name	N018843-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	91.86	25.56	1.946E-05	Pulse	0.30	3
B	11	6	3	116.251	ppb	0.26	881,734.82	6.706E-01	Pulse	0.30	3
Na	23	45	2	107327.597	ppb	0.09	132,436,989.14	1.029E+03	Analog	0.30	3
Mg	26	45	2	26992.331	ppb	0.51	3,354,168.00	2.606E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	799.01	6.204E-03	Pulse	0.30	3
K	39	45	2	5001.641	ppb	0.57	2,782,540.83	2.162E+01	Analog	0.30	3
Ca	44	45	3	73219.881	ppb	0.56	120,852,783.75	3.607E+01	Analog	0.30	3
V	51	45	2	2.243	ppb	1.46	16,425.43	1.276E-01	Pulse	0.30	3
Cr	52	45	2	0.021	ppb	15.01	362.80	2.821E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,991.18	-1.548E-02	Pulse	0.30	3
Fe	56	45	2	2.129	ppb	2.14	19,572.40	1.521E-01	Pulse	0.30	3
Co	59	45	2	0.024	ppb	9.38	384.74	2.990E-03	Pulse	0.30	3
Ni	60	72	2	0.679	ppb	3.07	2,770.54	3.230E-02	Pulse	0.30	3
Cu	63	72	2	0.171	ppb	23.38	8,575.52	9.999E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-427.13	-4.982E-03	Pulse	0.30	3
As	75	72	2	2.217	ppb	2.73	2,264.81	2.641E-02	Pulse	0.75	3
Se	78	72	1	1.719	ppb	2.45	813.39	7.536E-03	Pulse	0.30	3
Mo	95	103	2	5.383	ppb	2.41	28,401.49	1.295E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,884.13	1.145E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-24,721.23	-4.148E-03	Pulse	0.30	3
Sb	121	115	3	0.317	ppb	1.08	11,684.79	1.961E-03	Pulse	0.30	3
Ba	137	159	3	134.091	ppb	0.33	2,008,582.70	2.351E-01	Analog	0.30	3
Tl	205	209	3	0.052	ppb	5.47	5,539.04	1.272E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-53,545.37	-1.230E-02	Pulse	0.30	3
U	238	209	3	4.792	ppb	0.72	532,317.86	1.222E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,314,832.51	0.46	71.8	Analog	0.30	3
2	Sc	45	128,697.56	1.49	74.9	Pulse	0.30	3
3	Sc	45	3,350,344.95	1.07	79.3	Analog	0.30	3
1	Ge	72	107,922.35	0.26	71.1	Pulse	0.30	3
2	Ge	72	85,767.13	1.54	74.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,193,481.58	0.75	71.6	Analog	0.30	3
3	Rh	103	5,137,918.60	0.39	74.0	Analog	0.30	3
3	In	115	5,959,257.35	0.29	80.3	Analog	0.30	3
3	Tb	159	8,541,865.15	0.76	83.1	Analog	0.30	3
3	Bi	209	4,355,452.82	1.46	75.4	Analog	0.30	3

Quantitation Report

File Name	A0307081.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:00
Sample Name	N018843-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	97.42	36.67	2.858E-05	Pulse	0.30	3
B	11	6	3	117.504	ppb	0.44	871,383.04	6.772E-01	Pulse	0.30	3
Na	23	45	2	111516.089	ppb	0.22	133,412,882.45	1.069E+03	Analog	0.30	3
Mg	26	45	2	28198.318	ppb	0.59	3,397,688.98	2.723E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	562.31	4.504E-03	Pulse	0.30	3
K	39	45	2	5184.694	ppb	0.59	2,795,595.38	2.240E+01	Analog	0.30	3
Ca	44	45	3	75528.677	ppb	0.04	120,215,051.54	3.721E+01	Analog	0.30	3
V	51	45	2	2.329	ppb	0.70	16,503.27	1.322E-01	Pulse	0.30	3
Cr	52	45	2	0.042	ppb	25.72	523.08	4.195E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,132.20	-1.709E-02	Pulse	0.30	3
Fe	56	45	2	1.648	ppb	3.30	15,463.09	1.239E-01	Pulse	0.30	3
Co	59	45	2	0.029	ppb	27.85	450.40	3.604E-03	Pulse	0.30	3
Ni	60	72	2	0.739	ppb	7.77	2,902.66	3.501E-02	Pulse	0.30	3
Cu	63	72	2	0.256	ppb	13.27	9,167.04	1.106E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-12.64	-1.562E-04	Pulse	0.30	3
As	75	72	2	2.339	ppb	2.12	2,307.79	2.784E-02	Pulse	0.75	3
Se	78	72	1	1.838	ppb	1.94	847.84	8.056E-03	Pulse	0.30	3
Mo	95	103	2	5.559	ppb	2.93	28,659.79	1.337E-02	Pulse	0.30	3
Ag	107	103	3	0.015	ppb	74.26	10,437.16	2.095E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-24,774.84	-4.290E-03	Pulse	0.30	3
Sb	121	115	3	0.320	ppb	3.76	11,435.70	1.981E-03	Pulse	0.30	3
Ba	137	159	3	137.541	ppb	0.71	2,000,495.44	2.412E-01	Analog	0.30	3
Tl	205	209	3	0.047	ppb	5.12	5,016.60	1.189E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-54,352.45	-1.289E-02	Pulse	0.30	3
U	238	209	3	4.964	ppb	0.37	534,054.09	1.266E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,286,739.84	0.70	70.3	Analog	0.30	3
2	Sc	45	124,792.64	1.21	72.6	Pulse	0.30	3
3	Sc	45	3,230,696.55	0.49	76.5	Analog	0.30	3
1	Ge	72	105,241.58	0.64	69.3	Pulse	0.30	3
2	Ge	72	82,876.75	1.15	72.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,143,677.09	0.63	69.9	Analog	0.30	3
3	Rh	103	4,982,431.00	0.48	71.7	Analog	0.30	3
3	In	115	5,774,987.51	0.70	77.9	Analog	0.30	3
3	Tb	159	8,294,128.77	0.87	80.7	Analog	0.30	3
3	Bi	209	4,217,785.63	0.62	73.0	Analog	0.30	3

Quantitation Report

File Name	A0307082.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:05
Sample Name	N018843-009B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	98.72	27.78	2.142E-05	Pulse	0.30	3
B	11	6	3	115.578	ppb	0.24	865,141.89	6.671E-01	Pulse	0.30	3
Na	23	45	2	110304.141	ppb	0.49	132,693,231.36	1.058E+03	Analog	0.30	3
Mg	26	45	2	27700.244	ppb	0.22	3,356,037.59	2.675E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	607.58	4.839E-03	Pulse	0.30	3
K	39	45	2	5097.807	ppb	1.14	2,764,329.37	2.203E+01	Analog	0.30	3
Ca	44	45	3	75261.051	ppb	0.39	120,652,854.87	3.708E+01	Analog	0.30	3
V	51	45	2	2.292	ppb	1.73	16,345.27	1.303E-01	Pulse	0.30	3
Cr	52	45	2	0.065	ppb	7.48	720.23	5.742E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-657.72	-5.240E-03	Pulse	0.30	3
Fe	56	45	2	0.547	ppb	14.57	7,433.67	5.928E-02	Pulse	0.30	3
Co	59	45	2	0.031	ppb	14.68	475.84	3.788E-03	Pulse	0.30	3
Ni	60	72	2	0.771	ppb	2.34	3,051.52	3.649E-02	Pulse	0.30	3
Cu	63	72	2	0.140	ppb	3.44	8,044.49	9.618E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-182.01	-2.177E-03	Pulse	0.30	3
As	75	72	2	2.266	ppb	1.52	2,257.68	2.699E-02	Pulse	0.75	3
Se	78	72	1	1.628	ppb	10.49	761.16	7.139E-03	Pulse	0.30	3
Mo	95	103	2	5.454	ppb	1.16	28,526.27	1.312E-02	Pulse	0.30	3
Ag	107	103	3	0.044	ppb	27.72	11,825.82	2.341E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-16,639.10	-2.838E-03	Pulse	0.30	3
Sb	121	115	3	0.310	ppb	1.06	11,229.97	1.919E-03	Pulse	0.30	3
Ba	137	159	3	136.369	ppb	0.35	2,019,320.32	2.391E-01	Analog	0.30	3
Tl	205	209	3	0.040	ppb	4.14	4,579.80	1.064E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,761.62	-9.024E-03	Pulse	0.30	3
U	238	209	3	4.917	ppb	0.47	539,930.32	1.254E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,296,956.28	0.45	70.9	Analog	0.30	3
2	Sc	45	125,473.48	1.12	73.0	Pulse	0.30	3
3	Sc	45	3,254,003.84	0.19	77.0	Analog	0.30	3
1	Ge	72	106,605.19	0.46	70.2	Pulse	0.30	3
2	Ge	72	83,642.77	1.03	72.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,174,854.67	0.87	70.9	Analog	0.30	3
3	Rh	103	5,051,903.19	0.30	72.7	Analog	0.30	3
3	In	115	5,853,141.46	0.39	78.9	Analog	0.30	3
3	Tb	159	8,443,951.33	0.38	82.2	Analog	0.30	3
3	Bi	209	4,305,201.33	0.77	74.6	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307083.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:11
Sample Name	N018843-010B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	250.98	22.22	1.704E-05	Pulse	0.30	3
B	11	6	3	111.101	ppb	0.48	836,116.53	6.434E-01	Pulse	0.30	3
Na	23	45	2	106969.990	ppb	0.73	129,015,462.52	1.026E+03	Analog	0.30	3
Mg	26	45	2	27054.081	ppb	1.26	3,285,840.26	2.612E+01	Analog	0.30	3
Al	27	45	2	0.899	ppb	16.54	1,640.29	1.303E-02	Pulse	0.30	3
K	39	45	2	4993.638	ppb	0.52	2,715,418.15	2.159E+01	Analog	0.30	3
Ca	44	45	3	72780.446	ppb	0.43	117,005,109.37	3.586E+01	Analog	0.30	3
V	51	45	2	2.284	ppb	1.91	16,337.54	1.298E-01	Pulse	0.30	3
Cr	52	45	2	0.074	ppb	8.60	797.94	6.339E-03	Pulse	0.30	3
Mn	55	45	2	0.064	ppb	39.21	431.67	3.442E-03	Pulse	0.30	3
Fe	56	45	2	13.757	ppb	0.27	104,962.92	8.344E-01	Pulse	0.30	3
Co	59	45	2	0.026	ppb	15.44	397.39	3.155E-03	Pulse	0.30	3
Ni	60	72	2	0.727	ppb	1.56	2,921.08	3.449E-02	Pulse	0.30	3
Cu	63	72	2	0.032	ppb	64.07	7,000.26	8.266E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-98.40	-1.167E-03	Pulse	0.30	3
As	75	72	2	2.300	ppb	1.94	2,319.68	2.739E-02	Pulse	0.75	3
Se	78	72	1	1.727	ppb	6.67	816.72	7.569E-03	Pulse	0.30	3
Mo	95	103	2	5.293	ppb	0.99	27,783.69	1.273E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,800.65	1.536E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-24,006.46	-4.075E-03	Pulse	0.30	3
Sb	121	115	3	0.298	ppb	3.35	10,874.16	1.846E-03	Pulse	0.30	3
Ba	137	159	3	133.172	ppb	0.88	1,969,762.93	2.335E-01	Analog	0.30	3
Tl	205	209	3	0.033	ppb	2.66	4,104.07	9.490E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-51,969.62	-1.202E-02	Pulse	0.30	3
U	238	209	3	4.721	ppb	0.93	520,731.27	1.204E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,299,471.67	0.57	71.0	Analog	0.30	3
2	Sc	45	125,800.96	1.95	73.2	Pulse	0.30	3
3	Sc	45	3,263,180.51	0.47	77.2	Analog	0.30	3
1	Ge	72	107,896.68	0.37	71.1	Pulse	0.30	3
2	Ge	72	84,701.60	1.22	73.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,182,438.91	1.30	71.2	Analog	0.30	3
3	Rh	103	5,078,182.77	0.44	73.1	Analog	0.30	3
3	In	115	5,891,163.48	0.30	79.4	Analog	0.30	3
3	Tb	159	8,434,559.18	0.36	82.1	Analog	0.30	3
3	Bi	209	4,324,320.52	1.22	74.9	Analog	0.30	3

Quantitation Report

File Name	A0307084.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:17
Sample Name	N018843-010B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Ba only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	287.78	17.78	1.285E-05	Pulse	0.30	3
B	11	6	3	22.515	ppb	3.77	243,559.04	1.761E-01	Pulse	0.30	3
Na	23	45	2	22164.127	ppb	0.71	28,071,534.03	2.154E+02	Analog	0.30	3
Mg	26	45	2	5551.566	ppb	0.65	698,886.32	5.363E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	901.48	6.919E-03	Pulse	0.30	3
K	39	45	2	1014.116	ppb	0.66	594,888.19	4.565E+00	Pulse	0.30	3
Ca	44	45	3	15125.858	ppb	1.02	24,947,073.79	7.456E+00	Analog	0.30	3
V	51	45	2	0.533	ppb	6.07	4,697.52	3.606E-02	Pulse	0.30	3
Cr	52	45	2	0.011	ppb	50.94	281.83	2.165E-03	Pulse	0.30	3
Mn	55	45	2	0.037	ppb	40.29	313.30	2.402E-03	Pulse	0.30	3
Fe	56	45	2	3.013	ppb	1.76	26,581.54	2.040E-01	Pulse	0.30	3
Co	59	45	2	0.006	ppb	23.03	95.76	7.351E-04	Pulse	0.30	3
Ni	60	72	2	0.159	ppb	11.32	752.92	8.413E-03	Pulse	0.30	3
Cu	63	72	2	0.253	ppb	17.64	9,872.68	1.102E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	403.31	4.504E-03	Pulse	0.30	3
As	75	72	2	0.506	ppb	2.34	554.37	6.189E-03	Pulse	0.75	3
Se	78	72	1	0.392	ppb	14.74	196.68	1.740E-03	Pulse	0.30	3
Mo	95	103	2	1.037	ppb	3.99	5,869.09	2.531E-03	Pulse	0.30	3
Ag	107	103	3	0.130	ppb	4.06	16,694.77	3.077E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-5,204.02	-8.518E-04	Pulse	0.30	3
Sb	121	115	3	0.059	ppb	5.58	2,572.54	4.211E-04	Pulse	0.30	3
Ba	137	159	3	28.257	ppb	0.45	423,425.54	4.958E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,620.16	3.475E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,902.24	-2.338E-03	Pulse	0.30	3
U	238	209	3	0.917	ppb	1.40	109,207.94	2.342E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,382,865.32	0.21	75.5	Analog	0.30	3
2	Sc	45	130,323.68	1.05	75.8	Pulse	0.30	3
3	Sc	45	3,346,088.63	1.05	79.2	Analog	0.30	3
1	Ge	72	113,032.13	0.26	74.5	Pulse	0.30	3
2	Ge	72	89,559.36	1.19	78.1	Pulse	0.30	3
2	Rh	103	2,319,156.88	1.31	75.6	Analog	0.30	3
3	Rh	103	5,426,204.71	0.41	78.1	Analog	0.30	3
3	In	115	6,109,086.44	0.29	82.4	Analog	0.30	3
3	Tb	159	8,540,987.65	0.18	83.1	Analog	0.30	3
3	Bi	209	4,663,839.76	0.42	80.8	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307085.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:22
Sample Name	N018843-010B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.350	ppb	0.67	70,565.79	5.401E-02	Pulse	0.30	3
B	11	6	3	1904.847	ppb	0.59	13,203,381.13	1.011E+01	Analog	0.30	3
Na	23	45	2	107793.543	ppb	0.87	131,615,289.15	1.034E+03	Analog	0.30	3
Mg	26	45	2	27349.849	ppb	0.27	3,363,376.83	2.641E+01	Analog	0.30	3
Al	27	45	2	200.077	ppb	0.90	54,093.28	4.247E-01	Pulse	0.30	3
K	39	45	2	5156.243	ppb	0.39	2,837,799.99	2.228E+01	Analog	0.30	3
Ca	44	45	3	73266.186	ppb	0.98	121,377,618.19	3.610E+01	Analog	0.30	3
V	51	45	2	12.722	ppb	1.55	87,717.41	6.888E-01	Pulse	0.30	3
Cr	52	45	2	10.089	ppb	0.52	86,090.62	6.759E-01	Pulse	0.30	3
Mn	55	45	2	96.835	ppb	0.75	484,250.77	3.803E+00	Pulse	0.30	3
Fe	56	45	2	102.092	ppb	0.27	766,362.13	6.017E+00	Pulse	0.30	3
Co	59	45	2	9.336	ppb	0.53	143,093.25	1.124E+00	Pulse	0.30	3
Ni	60	72	2	10.174	ppb	0.55	40,089.18	4.681E-01	Pulse	0.30	3
Cu	63	72	2	9.279	ppb	0.96	105,989.13	1.238E+00	Pulse	0.30	3
Zn	66	72	2	84.884	ppb	0.47	141,566.47	1.653E+00	Pulse	0.30	3
As	75	72	2	12.291	ppb	1.82	12,451.71	1.454E-01	Pulse	0.75	3
Se	78	72	1	10.409	ppb	0.16	4,836.47	4.547E-02	Pulse	0.30	3
Mo	95	103	2	16.462	ppb	0.89	87,007.71	3.950E-02	Pulse	0.30	3
Ag	107	103	3	5.344	ppb	8.68	246,240.38	4.739E-02	Pulse	0.30	3
Cd	111	115	3	7.017	ppb	0.48	73,404.85	1.228E-02	Pulse	0.30	3
Sb	121	115	3	10.557	ppb	0.89	376,695.16	6.300E-02	Pulse	0.30	3
OLR Ba	137	159	3	234.624	ppb	1.07	3,511,207.50	4.114E-01	Analog	0.30	3
Tl	205	209	3	10.434	ppb	0.25	804,717.27	1.847E-01	Pulse	0.30	3
Pb	208	209	3	9.950	ppb	0.36	1,033,262.81	2.371E-01	Pulse	0.30	3
U	238	209	3	15.919	ppb	0.60	1,769,440.13	4.060E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,306,496.64	0.60	71.4	Analog	0.30	3
2	Sc	45	127,364.18	2.42	74.1	Pulse	0.30	3
3	Sc	45	3,362,808.25	0.69	79.6	Analog	0.30	3
1	Ge	72	106,355.19	1.34	70.1	Pulse	0.30	3
2	Ge	72	85,640.90	2.15	74.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,202,663.63	1.23	71.8	Analog	0.30	3
3	Rh	103	5,194,980.17	0.53	74.8	Analog	0.30	3
3	In	115	5,979,793.57	0.63	80.6	Analog	0.30	3
3	Tb	159	8,534,608.69	0.87	83.1	Analog	0.30	3
3	Bi	209	4,358,083.06	0.67	75.5	Analog	0.30	3

Quantitation Report

File Name	A0307086.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:28
Sample Name	~~N018843-010B-MSD,MSD,1~~ **N018843-010B,MS,MS,5**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Ba only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	1.999	ppb	2.92	15,622.25	1.156E-02	Pulse	0.30	3
B	11	6	3	424.339	ppb	0.85	3,103,966.38	2.296E+00	Analog	0.30	3
Na	23	45	2	22172.271	ppb	0.93	28,454,058.74	2.155E+02	Analog	0.30	3
Mg	26	45	2	5610.458	ppb	0.80	715,636.89	5.420E+00	Pulse	0.30	3
Al	27	45	2	37.659	ppb	2.93	11,749.90	8.900E-02	Pulse	0.30	3
K	39	45	2	1046.247	ppb	1.07	620,887.52	4.702E+00	Pulse	0.30	3
Ca	44	45	3	15315.612	ppb	0.76	25,138,766.29	7.550E+00	Analog	0.30	3
V	51	45	2	2.611	ppb	0.84	19,458.71	1.474E-01	Pulse	0.30	3
Cr	52	45	2	2.100	ppb	4.18	18,718.18	1.418E-01	Pulse	0.30	3
Mn	55	45	2	20.291	ppb	2.09	105,297.25	7.975E-01	Pulse	0.30	3
Fe	56	45	2	21.690	ppb	1.25	171,632.58	1.300E+00	Pulse	0.30	3
Co	59	45	2	1.986	ppb	1.15	31,567.47	2.391E-01	Pulse	0.30	3
Ni	60	72	2	2.199	ppb	1.56	9,135.37	1.021E-01	Pulse	0.30	3
Cu	63	72	2	2.275	ppb	0.80	32,476.85	3.628E-01	Pulse	0.30	3
Zn	66	72	2	19.527	ppb	1.05	34,943.75	3.904E-01	Pulse	0.30	3
As	75	72	2	2.564	ppb	3.12	2,730.12	3.050E-02	Pulse	0.75	3
Se	78	72	1	2.454	ppb	4.18	1,252.32	1.074E-02	Pulse	0.30	3
Mo	95	103	2	3.281	ppb	2.65	18,433.47	7.909E-03	Pulse	0.30	3
Ag	107	103	3	2.962	ppb	5.91	146,476.87	2.714E-02	Pulse	0.30	3
Cd	111	115	3	1.569	ppb	1.95	16,781.56	2.737E-03	Pulse	0.30	3
Sb	121	115	3	2.217	ppb	1.42	81,460.25	1.329E-02	Pulse	0.30	3
Ba	137	159	3	50.010	ppb	0.38	750,412.06	8.772E-02	Pulse	0.30	3
Tl	205	209	3	2.077	ppb	0.40	172,544.66	3.704E-02	Pulse	0.30	3
Pb	208	209	3	2.033	ppb	0.75	226,085.80	4.853E-02	Pulse	0.30	3
U	238	209	3	3.159	ppb	0.41	375,446.66	8.059E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,352,051.62	0.88	73.9	Analog	0.30	3
2	Sc	45	132,060.16	1.85	76.8	Pulse	0.30	3
3	Sc	45	3,329,882.42	0.45	78.8	Analog	0.30	3
1	Ge	72	116,575.50	0.11	76.8	Pulse	0.30	3
2	Ge	72	89,504.61	1.19	78.0	Pulse	0.30	3
2	Rh	103	2,330,678.28	0.30	76.0	Analog	0.30	3
3	Rh	103	5,396,904.85	0.37	77.7	Analog	0.30	3
3	In	115	6,130,645.66	0.04	82.7	Analog	0.30	3
3	Tb	159	8,554,805.50	0.54	83.3	Analog	0.30	3
3	Bi	209	4,658,911.01	0.55	80.7	Analog	0.30	3

Quantitation Report

File Name	A0307087.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:33
Sample Name	N018844-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	9.39	43.34	3.435E-05	Pulse	0.30	3
B	11	6	3	124.063	ppb	1.57	897,556.17	7.118E-01	Pulse	0.30	3
Na	23	45	2	110221.939	ppb	0.91	128,840,703.64	1.057E+03	Analog	0.30	3
Mg	26	45	2	27846.764	ppb	0.99	3,278,363.91	2.689E+01	Analog	0.30	3
Al	27	45	2	12.404	ppb	7.10	4,487.61	3.681E-02	Pulse	0.30	3
K	39	45	2	5128.601	ppb	1.41	2,702,260.90	2.216E+01	Analog	0.30	3
Ca	44	45	3	74436.612	ppb	0.37	116,007,497.16	3.667E+01	Analog	0.30	3
V	51	45	2	2.344	ppb	2.06	16,224.10	1.330E-01	Pulse	0.30	3
Cr	52	45	2	0.126	ppb	15.03	1,195.39	9.801E-03	Pulse	0.30	3
Mn	55	45	2	0.537	ppb	5.93	2,684.79	2.201E-02	Pulse	0.30	3
Fe	56	45	2	18.089	ppb	3.96	132,741.05	1.089E+00	Pulse	0.30	3
Co	59	45	2	0.035	ppb	1.84	517.56	4.245E-03	Pulse	0.30	3
Ni	60	72	2	0.710	ppb	4.51	2,811.18	3.370E-02	Pulse	0.30	3
Cu	63	72	2	0.178	ppb	17.83	8,413.68	1.009E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-18.28	-2.267E-04	Pulse	0.30	3
As	75	72	2	2.337	ppb	3.40	2,320.59	2.782E-02	Pulse	0.75	3
Se	78	72	1	1.674	ppb	15.55	776.72	7.337E-03	Pulse	0.30	3
Mo	95	103	2	5.383	ppb	1.16	28,081.05	1.295E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,894.46	1.775E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-23,645.64	-4.063E-03	Pulse	0.30	3
Sb	121	115	3	0.302	ppb	1.22	10,903.12	1.873E-03	Pulse	0.30	3
Ba	137	159	3	134.010	ppb	0.37	1,973,064.23	2.350E-01	Analog	0.30	3
Tl	205	209	3	0.027	ppb	4.54	3,568.36	8.269E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-48,906.59	-1.133E-02	Pulse	0.30	3
U	238	209	3	4.780	ppb	0.11	526,208.39	1.219E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,261,117.41	1.45	68.9	Analog	0.30	3
2	Sc	45	121,935.28	1.56	70.9	Pulse	0.30	3
3	Sc	45	3,163,401.20	0.62	74.9	Analog	0.30	3
1	Ge	72	105,792.80	1.07	69.7	Pulse	0.30	3
2	Ge	72	83,423.81	1.11	72.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,168,983.82	0.58	70.8	Analog	0.30	3
3	Rh	103	5,010,567.91	0.33	72.1	Analog	0.30	3
3	In	115	5,819,484.76	0.78	78.5	Analog	0.30	3
3	Tb	159	8,395,907.45	0.63	81.7	Analog	0.30	3
3	Bi	209	4,315,559.14	0.67	74.7	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0307088.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:39
Sample Name	N018845-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	100.69	23.33	2.799E-05	Pulse	0.30	3
B	11	6	3	1635.987	ppb	1.83	7,220,031.58	8.688E+00	Analog	0.30	3
Na	23	45	2	2000092.414	ppb	0.35	2,057,403,382.67	1.911E+04	Analog	0.30	3
Mg	26	45	2	1870.787	ppb	0.70	194,720.21	1.809E+00	Pulse	0.30	3
Al	27	45	2	0.672	ppb	101.06	1,354.02	1.257E-02	Pulse	0.30	3
K	39	45	2	21582.196	ppb	0.50	9,961,313.60	9.254E+01	Analog	0.30	3
Ca	44	45	3	75441.191	ppb	0.71	112,992,729.43	3.717E+01	Analog	0.30	3
V	51	45	2	3.143	ppb	1.51	18,929.35	1.758E-01	Pulse	0.30	3
Cr	52	45	2	7.926	ppb	0.90	57,191.20	5.313E-01	Pulse	0.30	3
Mn	55	45	2	10.171	ppb	1.46	43,082.53	4.002E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-138,230.27	-1.284E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,600.74	-1.487E-02	Pulse	0.30	3
Ni	60	72	2	0.240	ppb	18.00	811.00	1.211E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-41,051.81	-6.122E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,904.50	-8.806E-02	Pulse	0.30	3
As	75	72	2	5.693	ppb	0.18	4,524.10	6.747E-02	Pulse	0.75	3
Se	78	72	1	0.422	ppb	5.94	154.45	1.871E-03	Pulse	0.30	3
Mo	95	103	2	62.866	ppb	1.23	237,337.46	1.507E-01	Pulse	0.30	3
Ag	107	103	3	0.416	ppb	8.03	21,256.55	5.501E-03	Pulse	0.30	3
Cd	111	115	3	0.012	ppb	64.73	46.90	1.043E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	8.86	724.50	1.615E-04	Pulse	0.30	3
Ba	137	159	3	53.035	ppb	0.50	591,936.07	9.302E-02	Pulse	0.30	3
Tl	205	209	3	0.113	ppb	4.07	6,903.01	2.350E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-20,947.34	-7.131E-03	Pulse	0.30	3
U	238	209	3	3.192	ppb	0.63	239,223.39	8.144E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	831,158.29	0.92	45.4	Analog	0.30	3
2	Sc	45	107,644.10	1.43	62.6	Pulse	0.30	3
3	Sc	45	3,040,115.41	0.12	72.0	Analog	0.30	3
1	Ge	72	82,526.15	0.77	54.4	Pulse	0.30	3
2	Ge	72	67,051.21	1.41	58.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,574,607.93	1.09	51.4	Analog	0.30	3
3	Rh	103	3,864,011.75	0.10	55.6	Analog	0.30	3
3	In	115	4,485,528.70	0.60	60.5	Analog	0.30	3
3	Tb	159	6,363,420.18	0.84	61.9	Analog	0.30	3
3	Bi	209	2,937,462.60	0.53	50.9	Analog	0.30	3

Quantitation Report

File Name	A0307089.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:44
Sample Name	N018845-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	632.50	15.55	1.175E-05	Pulse	0.30	3
B	11	6	3	308.941	ppb	0.52	2,232,543.13	1.687E+00	Analog	0.30	3
Na	23	45	2	406325.280	ppb	0.50	508,702,841.31	3.886E+03	Analog	0.30	3
Mg	26	45	2	384.406	ppb	1.36	48,934.01	3.738E-01	Pulse	0.30	3
Al	27	45	2	12.387	ppb	4.98	4,812.68	3.678E-02	Pulse	0.30	3
K	39	45	2	4334.804	ppb	0.27	2,456,814.06	1.877E+01	Analog	0.30	3
Ca	44	45	3	15660.134	ppb	0.02	27,181,372.37	7.719E+00	Analog	0.30	3
V	51	45	2	0.584	ppb	4.00	5,075.43	3.876E-02	Pulse	0.30	3
Cr	52	45	2	1.614	ppb	0.41	14,305.35	1.093E-01	Pulse	0.30	3
Mn	55	45	2	2.078	ppb	1.63	10,800.96	8.250E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,654.68	-2.265E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-341.15	-2.602E-03	Pulse	0.30	3
Ni	60	72	2	0.063	ppb	56.44	335.34	4.014E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,446.49	-2.934E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-151.13	-1.821E-03	Pulse	0.30	3
As	75	72	2	1.279	ppb	0.92	1,277.70	1.532E-02	Pulse	0.75	3
Se	78	72	1	0.078	ppb	23.41	38.89	3.690E-04	Pulse	0.30	3
Mo	95	103	2	11.890	ppb	1.49	60,105.45	2.854E-02	Pulse	0.30	3
Ag	107	103	3	0.025	ppb	4.43	11,012.25	2.180E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	2.07	32.33	5.583E-06	Pulse	0.30	3
Sb	121	115	3	0.001	ppb	36.99	451.14	7.792E-05	Pulse	0.30	3
Ba	137	159	3	10.776	ppb	0.41	154,609.30	1.892E-02	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	14.44	2,451.42	5.993E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,568.76	-1.117E-03	Pulse	0.30	3
U	238	209	3	0.613	ppb	0.79	64,049.79	1.566E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,323,322.24	0.35	72.3	Analog	0.30	3
2	Sc	45	130,910.21	1.43	76.2	Pulse	0.30	3
3	Sc	45	3,521,220.57	0.28	83.4	Analog	0.30	3
1	Ge	72	105,388.50	0.49	69.4	Pulse	0.30	3
2	Ge	72	83,409.22	1.01	72.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,105,662.75	0.72	68.7	Analog	0.30	3
3	Rh	103	5,051,346.59	0.10	72.7	Analog	0.30	3
3	In	115	5,790,286.41	0.19	78.1	Analog	0.30	3
3	Tb	159	8,170,313.56	0.53	79.5	Analog	0.30	3
3	Bi	209	4,090,827.58	0.42	70.8	Analog	0.30	3

Quantitation Report

File Name	A0307090.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:50
Sample Name	CCV6,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	17.809	ppb	1.94	150,749.75	1.029E-01	Pulse	0.30	3
B	11	6	3	186.894	ppb	2.43	1,528,956.09	1.043E+00	Analog	0.30	3
Na	23	45	2	319.413	ppb	10.50	936,013.22	6.684E+00	Pulse	0.30	3
Mg	26	45	2	193.775	ppb	2.52	26,581.73	1.898E-01	Pulse	0.30	3
Al	27	45	2	15.266	ppb	5.37	5,987.54	4.273E-02	Pulse	0.30	3
K	39	45	2	195.175	ppb	1.56	148,780.74	1.062E+00	Pulse	0.30	3
Ca	44	45	3	193.988	ppb	0.22	352,665.84	1.008E-01	Pulse	0.30	3
V	51	45	2	19.116	ppb	0.95	144,461.59	1.031E+00	Pulse	0.30	3
Cr	52	45	2	19.294	ppb	0.92	180,897.93	1.291E+00	Pulse	0.30	3
Mn	55	45	2	19.161	ppb	0.48	105,524.57	7.532E-01	Pulse	0.30	3
Fe	56	45	2	19.445	ppb	0.60	163,653.91	1.168E+00	Pulse	0.30	3
Co	59	45	2	19.488	ppb	0.89	328,538.33	2.345E+00	Pulse	0.30	3
Ni	60	72	2	19.259	ppb	0.71	82,075.86	8.852E-01	Pulse	0.30	3
Cu	63	72	2	20.058	ppb	0.89	239,586.60	2.584E+00	Pulse	0.30	3
Zn	66	72	2	18.852	ppb	0.88	34,992.71	3.774E-01	Pulse	0.30	3
As	75	72	2	19.086	ppb	0.83	20,925.96	2.257E-01	Pulse	0.75	3
Se	78	72	1	18.873	ppb	1.59	9,838.94	8.243E-02	Pulse	0.30	3
Mo	95	103	2	18.828	ppb	0.85	113,141.27	4.517E-02	Pulse	0.30	3
Ag	107	103	3	18.746	ppb	0.83	937,644.45	1.613E-01	Pulse	0.30	3
Cd	111	115	3	19.015	ppb	0.31	213,491.12	3.328E-02	Pulse	0.30	3
Sb	121	115	3	19.206	ppb	0.73	734,715.80	1.145E-01	Pulse	0.30	3
Ba	137	159	3	19.599	ppb	0.62	302,229.72	3.439E-02	Pulse	0.30	3
Tl	205	209	3	18.992	ppb	2.07	1,667,059.92	3.358E-01	Analog	0.30	3
Pb	208	209	3	19.127	ppb	0.46	2,262,168.52	4.557E-01	Analog	0.30	3
U	238	209	3	18.930	ppb	0.65	2,396,984.12	4.828E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,465,793.98	1.49	80.1	Analog	0.30	3
2	Sc	45	140,105.07	1.54	81.5	Pulse	0.30	3
3	Sc	45	3,500,085.57	0.25	82.9	Analog	0.30	3
1	Ge	72	119,369.25	0.97	78.7	Pulse	0.30	3
2	Ge	72	92,720.28	1.29	80.8	Pulse	0.30	3
2	Rh	103	2,504,572.74	1.36	81.7	Analog	0.30	3
3	Rh	103	5,814,263.31	0.60	83.7	Analog	0.30	3
3	In	115	6,414,425.53	1.12	86.5	Analog	0.30	3
3	Tb	159	8,787,476.47	0.02	85.5	Analog	0.30	3
3	Bi	209	4,964,427.67	0.55	86.0	Analog	0.30	3

Quantitation Report

File Name	A0307091.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:55
Sample Name	CCB6,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	101.43	25.56	1.738E-05	Pulse	0.30	3
B	11	6	3	4.629	ppb	3.63	120,247.53	8.177E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	476,845.41	3.473E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	185.56	1.352E-03	Pulse	0.30	3
Al	27	45	2	0.291	ppb	91.28	1,619.02	1.178E-02	Pulse	0.30	3
K	39	45	2	2.622	ppb	96.47	32,748.44	2.385E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	10,143.33	2.893E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	980.07	7.130E-03	Pulse	0.30	3
Cr	52	45	2	0.001	ppb	157.92	201.75	1.469E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	79.14	5.767E-04	Pulse	0.30	3
Fe	56	45	2	0.114	ppb	26.10	4,658.96	3.391E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	202.02	11.73	8.486E-05	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	100.61	1.093E-03	Pulse	0.30	3
Cu	63	72	2	0.512	ppb	4.25	13,097.65	1.426E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	750.63	8.171E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	151.50	22.67	2.466E-04	Pulse	0.75	3
Se	78	72	1	0.011	ppb	93.92	8.89	7.539E-05	Pulse	0.30	3
Mo	95	103	2	0.077	ppb	11.44	575.59	2.288E-04	Pulse	0.30	3
Ag	107	103	3	0.624	ppb	14.15	42,569.26	7.273E-03	Pulse	0.30	3
Cd	111	115	3	0.001	ppb	76.54	-59.56	-9.299E-06	Pulse	0.30	3
Sb	121	115	3	0.027	ppb	2.67	1,491.24	2.328E-04	Pulse	0.30	3
Ba	137	159	3	0.002	ppb	237.91	281.55	3.190E-05	Pulse	0.30	3
Tl	205	209	3	0.008	ppb	14.24	2,520.32	5.054E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	414.92	8.322E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	17.06	346.51	6.949E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,470,499.02	0.55	80.3	Analog	0.30	3
2	Sc	45	137,384.63	1.68	79.9	Pulse	0.30	3
3	Sc	45	3,507,525.33	0.53	83.0	Analog	0.30	3
1	Ge	72	117,770.79	0.27	77.6	Pulse	0.30	3
2	Ge	72	91,840.94	1.84	80.0	Pulse	0.30	3
2	Rh	103	2,514,564.63	1.41	82.0	Analog	0.30	3
3	Rh	103	5,852,444.22	0.31	84.2	Analog	0.30	3
3	In	115	6,406,671.32	0.37	86.4	Analog	0.30	3
3	Tb	159	8,822,683.13	0.28	85.9	Analog	0.30	3
3	Bi	209	4,986,557.25	0.62	86.4	Analog	0.30	3

Quantitation Report

File Name	A0307092.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 04:01
Sample Name	LLCCV2,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.462	ppb	5.62	3,825.04	2.680E-03	Pulse	0.30	3
B	11	6	3	54.158	ppb	0.99	489,580.24	3.430E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	422,830.70	3.101E+00	Pulse	0.30	3
Mg	26	45	2	3.555	ppb	8.72	834.50	6.119E-03	Pulse	0.30	3
Al	27	45	2	37.365	ppb	0.72	12,060.25	8.839E-02	Pulse	0.30	3
K	39	45	2	4.219	ppb	47.07	33,457.72	2.453E-01	Pulse	0.30	3
Ca	44	45	3	14.094	ppb	1.95	41,585.08	1.214E-02	Pulse	0.30	3
V	51	45	2	0.931	ppb	3.21	7,822.17	5.735E-02	Pulse	0.30	3
Cr	52	45	2	0.981	ppb	2.22	9,139.06	6.699E-02	Pulse	0.30	3
Mn	55	45	2	0.504	ppb	2.83	2,825.41	2.071E-02	Pulse	0.30	3
Fe	56	45	2	11.253	ppb	12.85	93,813.40	6.874E-01	Pulse	0.30	3
Co	59	45	2	0.468	ppb	0.81	7,684.87	5.633E-02	Pulse	0.30	3
Ni	60	72	2	0.983	ppb	5.17	4,133.37	4.623E-02	Pulse	0.30	3
Cu	63	72	2	1.763	ppb	3.31	26,733.69	2.988E-01	Pulse	0.30	3
Zn	66	72	2	10.785	ppb	0.99	19,820.52	2.215E-01	Pulse	0.30	3
As	75	72	2	0.101	ppb	6.54	126.22	1.410E-03	Pulse	0.75	3
Se	78	72	1	0.530	ppb	13.83	268.90	2.344E-03	Pulse	0.30	3
Mo	95	103	2	0.503	ppb	2.19	3,108.21	1.250E-03	Pulse	0.30	3
Ag	107	103	3	0.125	ppb	3.50	17,536.25	3.033E-03	Pulse	0.30	3
Cd	111	115	3	0.495	ppb	2.40	5,486.36	8.568E-04	Pulse	0.30	3
Sb	121	115	3	0.510	ppb	1.87	19,930.00	3.112E-03	Pulse	0.30	3
Ba	137	159	3	1.098	ppb	1.46	17,389.30	1.954E-03	Pulse	0.30	3
Tl	205	209	3	0.332	ppb	2.34	31,224.86	6.215E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.985	ppb	0.42	118,379.79	2.356E-02	Pulse	0.30	3
U	238	209	3	0.464	ppb	0.67	59,504.71	1.184E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,427,211.95	1.04	78.0	Analog	0.30	3
2	Sc	45	136,439.79	1.85	79.4	Pulse	0.30	3
3	Sc	45	3,424,435.89	0.33	81.1	Analog	0.30	3
1	Ge	72	114,732.85	0.64	75.6	Pulse	0.30	3
2	Ge	72	89,468.66	1.80	78.0	Pulse	0.30	3
2	Rh	103	2,486,822.85	0.66	81.1	Analog	0.30	3
3	Rh	103	5,782,030.19	0.55	83.2	Analog	0.30	3
3	In	115	6,403,279.74	0.21	86.3	Analog	0.30	3
3	Tb	159	8,899,868.90	0.41	86.6	Analog	0.30	3
3	Bi	209	5,024,084.65	0.32	87.0	Analog	0.30	3

Quantitation Report

File Name	A0307093.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 04:06
Sample Name	ICSA3,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	143.41	22.22	1.577E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	68,643.22	4.862E-02	Pulse	0.30	3
Na	23	45	2	115942.280	ppb	0.22	155,311,277.68	1.111E+03	Analog	0.30	3
Mg	26	45	2	100742.989	ppb	0.34	13,593,292.30	9.727E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,311.29	9.377E-03	Pulse	0.30	3
K	39	45	2	106373.469	ppb	0.58	63,618,632.94	4.552E+02	Analog	0.30	3
Ca	44	45	3	95385.655	ppb	0.32	178,915,972.89	4.699E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	682.27	4.877E-03	Pulse	0.30	3
Cr	52	45	2	0.175	ppb	3.89	1,830.82	1.309E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-13,816.99	-9.886E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-7,988.88	-5.711E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	15.83	155.61	1.111E-03	Pulse	0.30	3
Ni	60	72	2	0.302	ppb	10.78	1,327.50	1.496E-02	Pulse	0.30	3
Cu	63	72	2	0.199	ppb	13.71	9,169.45	1.035E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,630.62	-1.841E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	4.12	4.746E-05	Pulse	0.75	3
Se	78	72	1	0.021	ppb	86.68	13.33	1.228E-04	Pulse	0.30	3
Mo	95	103	2	0.043	ppb	22.70	325.57	1.480E-04	Pulse	0.30	3
Ag	107	103	3	0.001	ppb	360.36	10,694.48	1.979E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-435.90	-7.281E-05	Pulse	0.30	3
Sb	121	115	3	0.017	ppb	9.18	1,051.19	1.756E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-16,898.40	-2.026E-03	Pulse	0.30	3
Tl	205	209	3	0.013	ppb	14.52	2,349.17	5.857E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,285.99	-5.700E-04	Pulse	0.30	3
U	238	209	3	0.004	ppb	103.80	545.35	1.363E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,412,008.23	1.15	77.1	Analog	0.30	3
2	Sc	45	139,750.46	2.26	81.3	Pulse	0.30	3
3	Sc	45	3,807,363.28	0.57	90.1	Analog	0.30	3
1	Ge	72	108,470.45	0.23	71.5	Pulse	0.30	3
2	Ge	72	88,581.89	2.57	77.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,195,659.52	2.36	71.6	Analog	0.30	3
3	Rh	103	5,404,293.53	0.43	77.8	Analog	0.30	3
3	In	115	5,986,277.83	0.59	80.7	Analog	0.30	3
3	Tb	159	8,341,254.74	0.18	81.2	Analog	0.30	3
3	Bi	209	4,011,544.10	0.56	69.5	Analog	0.30	3

Quantitation Report

File Name	A0307094.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 04:09
Sample Name	ICSAB3,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.584	ppb	0.58	211,218.54	1.189E-01	Pulse	0.30	3
B	11	6	3	193.505	ppb	1.53	1,915,435.26	1.078E+00	Analog	0.30	3
Na	23	45	2	54133.248	ppb	0.74	84,409,953.19	5.208E+02	Analog	0.30	3
Mg	26	45	2	47931.155	ppb	0.20	7,499,793.43	4.628E+01	Analog	0.30	3
Al	27	45	2	16.504	ppb	2.90	7,336.52	4.528E-02	Pulse	0.30	3
K	39	45	2	46872.415	ppb	0.69	32,528,084.79	2.007E+02	Analog	0.30	3
Ca	44	45	3	43603.905	ppb	0.07	101,579,788.49	2.148E+01	Analog	0.30	3
V	51	45	2	22.932	ppb	0.15	200,237.55	1.236E+00	Pulse	0.30	3
Cr	52	45	2	22.308	ppb	0.34	241,913.23	1.493E+00	Pulse	0.30	3
Mn	55	45	2	19.559	ppb	1.07	124,592.19	7.688E-01	Pulse	0.30	3
Fe	56	45	2	20.480	ppb	1.63	199,108.93	1.229E+00	Pulse	0.30	3
Co	59	45	2	21.902	ppb	0.73	427,094.95	2.636E+00	Pulse	0.30	3
Ni	60	72	2	22.230	ppb	1.04	105,226.63	1.022E+00	Pulse	0.30	3
Cu	63	72	2	22.079	ppb	0.74	292,199.22	2.837E+00	Pulse	0.30	3
Zn	66	72	2	19.024	ppb	1.69	39,215.80	3.807E-01	Pulse	0.30	3
As	75	72	2	21.531	ppb	1.70	26,225.02	2.546E-01	Pulse	0.75	3
Se	78	72	1	20.039	ppb	1.04	10,690.59	8.752E-02	Pulse	0.30	3
Mo	95	103	2	23.541	ppb	1.61	156,305.60	5.647E-02	Pulse	0.30	3
Ag	107	103	3	19.600	ppb	0.13	1,210,269.76	1.685E-01	Analog	0.30	3
Cd	111	115	3	19.281	ppb	0.27	272,445.66	3.375E-02	Pulse	0.30	3
Sb	121	115	3	22.155	ppb	0.14	1,066,612.15	1.321E-01	Analog	0.30	3
Ba	137	159	3	19.007	ppb	0.50	380,898.50	3.336E-02	Pulse	0.30	3
Tl	205	209	3	23.251	ppb	1.17	2,301,689.33	4.111E-01	Analog	0.30	3
Pb	208	209	3	22.387	ppb	0.71	2,986,541.72	5.333E-01	Analog	0.30	3
U	238	209	3	23.698	ppb	0.89	3,384,496.33	6.044E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,776,612.74	0.40	97.1	Analog	0.30	3
2	Sc	45	162,057.03	1.93	94.3	Pulse	0.30	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	4,728,108.02	0.35	111.9	Analog	0.30	3
1	Ge	72	122,164.28	1.78	80.5	Pulse	0.30	3
2	Ge	72	103,010.46	1.46	89.8	Pulse	0.30	3
2	Rh	103	2,767,708.71	1.33	90.3	Analog	0.30	3
3	Rh	103	7,181,561.35	0.47	103.4	Analog	0.30	3
3	In	115	8,072,527.20	0.25	108.8	Analog	0.30	3
3	Tb	159	11,419,229.27	0.60	111.1	Analog	0.30	3
3	Bi	209	5,599,851.72	0.86	97.0	Analog	0.30	3

RAW DATA

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

3/9/201

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0308001	RINSE,RINSE,1	rinse	1.000				
2	C:\ICPMH\1\METHODS\DEFAULT.M	CalBlk	1101	A0308002	Cal Blank,IBLK,1	initial blank	Level 1				
3	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1102	A0308003	Std-0.1/1 ppb	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H	Level 2				
4	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1103	A0308004	Std-0.5/5 ppb	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H	Level 3				
5	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1104	A0308005	Std-5/50 ppb	5/50 ug/L, 1.25<50mL of 2MWST- 151207H	Level 4				
6	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1105	A0308006	Std-10/100 ppb	10/100 ug/L,2.5<50mL of 2MWST- 151207H	Level 5				
7	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1106	A0308007	Std-20/200 ppb	20/200 ug/L,5<50mL of 2MWST- 151207H	Level 6				
8	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1107	A0308008	Std-40/400 ppb	40/400 ug/L, 10<50mL of 2MWST- 151207H	Level 7				
9	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1206	A0308009	Std-100/1000 ppb	100/1000ug/L,10<20mL of 2MWST- 151207H	Level 8				
10	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1207	A0308010	Std-200/2000 ppb	200/2000ug/L, 2MWST- 151207H	Level 9				
11	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICV	1301	A0308011	ICV,ICV,1	10/100 ug/L,200mL of 2MWST- 151207I	1.000				
12	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1302	A0308012	ICB,ICB,1		1.000				
13	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308013	LLICV,CCV1,1	2MWST- 151207J	1.000				
14	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0308014	ICSA1,ICSA,1	2MWST- 151207K	1.000				
15	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0308015	ICSAB1,ICSAB,1	2MWST- 151207L	1.000				
16	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308016	LLICV,CCV1,1	2MWST- 151207J	1.000				
17	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2411	A0308017	N018845-002B,SAMP,1		1.000				
18	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2412	A0308018	N018845-002B,SAMP,5		1.000				
19	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2501	A0308019	N018845-003B,SAMP,1		1.000				
20	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2502	A0308020	N018845-003B,SAMP,5		1.000				
21	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2503	A0308021	N018845-004B,SAMP,1		1.000				
22	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2504	A0308022	N018845-004B,SAMP,5		1.000				
23	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2505	A0308023	N018845-006B,SAMP,1		1.000				
24	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2506	A0308024	N018845-006B,SAMP,5		1.000				
25	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2507	A0308025	N018845-007B,SAMP,1		1.000				
26	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2508	A0308026	N018845-007B,SAMP,5		1.000				
27	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308027	CCV1,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
28	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308028	CCB1,CCB,1		1.000				
29	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2509	A0308029	N018845-008B,SAMP,1		1.000				
30	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2510	A0308030	N018845-008B,SAMP,5		1.000				
31	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2511	A0308031	N018845-005B,SAMP,1		1.000				
32	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2512	A0308032	N018845-005B,SAMP,5		1.000				
33	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3301	A0308033	N018845-005B,SAMP,500		1.000				
34	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3302	A0308034	RINSE,RINSE,1		1.000				
35	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3303	A0308035	RINSE,RINSE,1		1.000				
36	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3304	A0308036	N018845-009B,SAMP,25		1.000				
37	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3305	A0308037	N018845-009B-PS,PS,5		1.000				
38	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3306	A0308038	N018845-009B-MS,MS,5		1.000				
39	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308039	CCV2,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
40	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308040	CCB2,CCB,1		1.000				
41	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3307	A0308041	N018845-009B-MSD,MSD,5		1.000				
42	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3308	A0308042	N018845-010B,SAMP,5		1.000				
43	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3309	A0308043	N018855-001B,SAMP,5		1.000				
44	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3310	A0308044	N018855-002B,SAMP,5		1.000				
45	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3311	A0308045	N018855-003B,SAMP,5		1.000				
46	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3312	A0308046	N018855-004B,SAMP,5		1.000				
47	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4101	A0308047	N018396-002B,SAMP,5		1.000				
48	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3402	A0308048	N018861-004B,SAMP,25		1.000				
49	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3403	A0308049	N018861-005B,SAMP,25		1.000				
50	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3404	A0308050	N018861-006B,SAMP,25		1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
51	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308051	CCV3,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
52	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308052	CCB3,CCB,1		1.000				
53	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3405	A0308053	N018861-007B,SAMP,125		1.000				
54	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3406	A0308054	N018861-007B-PS,PS,25		1.000				
55	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3407	A0308055	N018861-007B-MS,MS,25		1.000				
56	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3408	A0308056	N018861-007B-MSD,MSD,25		1.000				
57	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308057	CCV4,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
58	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308058	CCB4,CCB,1		1.000				
59	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308059	LLCCV1,CCV2,1	2MWST- 151207J	1.000				
60	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0308060	ICSA2,ICSA,1	2MWST- 151207K	1.000				
61	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0308061	ICSAB2,ICSAB,1	2MWST- 151207L	1.000				
62	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4101	A0308062	MB-56504,MBLK,1		1.000				
63	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4102	A0308063	LCS-56504,LCS,1		1.000				
64	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4103	A0308064	N018898-003A,SAMP,1		1.000				
65	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4104	A0308065	N018910-001B,SAMP,1		1.000				
66	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4105	A0308066	N018910-002B,SAMP,1		1.000				
67	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4106	A0308067	N018910-003B,SAMP,1		1.000				
68	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4107	A0308068	N018918-001C,SAMP,1		1.000				
69	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4108	A0308069	N018918-002E,SAMP,1		1.000				
70	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4109	A0308070	N018918-003C,SAMP,1		1.000				
71	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4110	A0308071	N018918-003C,SAMP,5		1.000				
72	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308072	CCV5,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
73	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308073	CCB5,CCB,1		1.000				
74	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4111	A0308074	N018919-001B,SAMP,1		1.000				
75	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4112	A0308075	N018919-002B,SAMP,1		1.000				
76	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4201	A0308076	N018935-001B,SAMP,1		1.000				
77	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4202	A0308077	N018936-001A,SAMP,1		1.000				
78	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4203	A0308078	N018936-002B,SAMP,1		1.000				
79	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4106	A0308079	N018910-003B,SAMP,1		1.000				
80	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4204	A0308080	N018910-002B,SAMP,25		1.000				
81	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4205	A0308081	N018910-003B,SAMP,25		1.000				
82	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4206	A0308082	N018918-001C,SAMP,5		1.000				
83	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4108	A0308083	N018918-002E,SAMP,1		1.000				
84	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308084	CCV6,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
85	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308085	CCB6,CCB,1		1.000				
86	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4207	A0308086	N018918-002E,SAMP,5		1.000				
87	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4208	A0308087	N018918-002E,SAMP,25		1.000				
88	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4209	A0308088	N018918-003C,SAMP,25		1.000				
89	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4210	A0308089	N018918-003C,SAMP,125		1.000				
90	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4211	A0308090	N018918-003C-PS,PS,1		1.000				
91	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4212	A0308091	N018918-003C-PS,PS,5		1.000				
92	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4301	A0308092	N018918-003C-PS,PS,25		1.000				
93	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4302	A0308093	N018918-003C-MS,MS,1		1.000				
94	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4303	A0308094	N018918-003C-MS,MS,5		1.000				
95	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4304	A0308095	N018918-003C-MS,MS,25		1.000				
96	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308096	CCV7,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
97	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308097	CCB7,CCB,1		1.000				
98	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4305	A0308098	N018918-003C-MSD,MSD,1		1.000				
99	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4306	A0308099	N018918-003C-MSD,MSD,5		1.000				
100	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4307	A0308100	N018918-003C-MSD,MSD,25		1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
101	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4308	A0308101	N018919-002B,SAMP,5		1.000				
102	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4309	A0308102	N018919-002B-MS,MS,1		1.000				
103	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4310	A0308103	N018919-002B-MSD,MSD,1		1.000				
104	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4311	A0308104	N018935-001A,SAMP,25		1.000				
105	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4312	A0308105	N018936-001A,SAMP,5		1.000				
106	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308106	CCV8,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
107	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308107	CCB8,CCB,1		1.000				
108	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308108	LLCCV2,CCV2,1	2MWST- 151207J	1.000				
109	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0308109	ICSA3,ICSA,1	2MWST- 151207K	1.000				
110	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0308110	ICSAB3,ICSAB,1	2MWST- 151207L	1.000				

Quantitation Report

File Name	A0308002.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:24
Sample Name	Cal Blank,IBLK,1
Sample Type	CalBlk
Comment	initial blank
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	---	18.89	1.671E-05	Pulse	0.30	3
B	11	6	3	0.000	ppb	---	16,424.78	1.454E-02	Pulse	0.30	3
Na	23	45	2	0.000	ppb	---	108,014.16	1.018E+00	Pulse	0.30	3
Mg	26	45	2	0.000	ppb	---	194.45	1.830E-03	Pulse	0.30	3
Al	27	45	2	0.000	ppb	---	1,251.19	1.178E-02	Pulse	0.30	3
K	39	45	2	0.000	ppb	---	23,884.40	2.250E-01	Pulse	0.30	3
Ca	44	45	3	0.000	ppb	---	6,285.96	2.260E-03	Pulse	0.30	3
V	51	45	2	0.000	ppb	---	570.04	5.374E-03	Pulse	0.30	3
Cr	52	45	2	0.000	ppb	---	182.11	1.719E-03	Pulse	0.30	3
Mn	55	45	2	0.000	ppb	---	62.15	5.860E-04	Pulse	0.30	3
Fe	56	45	2	0.000	ppb	---	3,537.11	3.332E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	---	6.55	6.108E-05	Pulse	0.30	3
Ni	60	72	2	0.000	ppb	---	96.53	1.318E-03	Pulse	0.30	3
Cu	63	72	2	0.000	ppb	---	15,294.14	2.091E-01	Pulse	0.30	3
Zn	66	72	2	0.000	ppb	---	582.83	7.972E-03	Pulse	0.30	3
As	75	72	2	0.000	ppb	---	8.89	1.220E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	0.00		Pulse	0.30	3
Mo	95	103	2	0.000	ppb	---	27.78	1.305E-05	Pulse	0.30	3
Ag	107	103	3	0.000	ppb	---	11,042.42	2.224E-03	Pulse	0.30	3
Cd	111	115	3	0.000	ppb	---	10.16	1.827E-06	Pulse	0.30	3
Sb	121	115	3	0.000	ppb	---	292.24	5.287E-05	Pulse	0.30	3
Ba	137	159	3	0.000	ppb	---	320.81	4.079E-05	Pulse	0.30	3
Tl	205	209	3	0.000	ppb	---	1,310.11	2.929E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.000	ppb	---	861.83	1.926E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	---	112.27	2.510E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,129,826.77	1.01	100.0	Analog	0.30	3
2	Sc	45	106,194.34	1.74	100.0	Pulse	0.30	3
3	Sc	45	2,781,191.62	0.67	100.0	Analog	0.30	3
1	Ge	72	90,543.70	0.91	100.0	Pulse	0.30	3
2	Ge	72	73,165.43	1.23	100.0	Pulse	0.30	3
2	Rh	103	2,123,839.92	0.58	100.0	Analog	0.30	3
3	Rh	103	4,964,193.43	0.72	100.0	Analog	0.30	3
3	In	115	5,530,685.25	0.84	100.0	Analog	0.30	3
3	Tb	159	7,866,035.92	0.32	100.0	Analog	0.30	3
3	Bi	209	4,473,938.61	0.44	100.0	Analog	0.30	3

Quantitation Report

File Name	A0308003.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:30
Sample Name	Std-0.1/1 ppb
Sample Type	CalStd
Comment	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

As only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.091	ppb	6.39	562.26	5.109E-04	Pulse	0.30	3
B	11	6	3	0.077	ppb	218.25	16,439.25	1.492E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	98,405.96	9.682E-01	Pulse	0.30	3
Mg	26	45	2	1.223	ppb	3.68	306.68	3.015E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	266.65	2.618E-03	Pulse	0.30	3
K	39	45	2	5.696	ppb	44.24	25,321.04	2.491E-01	Pulse	0.30	3
Ca	44	45	3	4.471	ppb	9.14	12,151.59	4.472E-03	Pulse	0.30	3
V	51	45	2	0.112	ppb	12.72	1,174.54	1.156E-02	Pulse	0.30	3
Cr	52	45	2	0.079	ppb	11.83	739.93	7.269E-03	Pulse	0.30	3
Mn	55	45	2	0.095	ppb	7.17	439.62	4.324E-03	Pulse	0.30	3
Fe	56	45	2	0.380	ppb	9.64	5,720.44	5.624E-02	Pulse	0.30	3
Co	59	45	2	0.091	ppb	5.01	1,174.42	1.155E-02	Pulse	0.30	3
Ni	60	72	2	0.087	ppb	12.45	376.53	5.305E-03	Pulse	0.30	3
Cu	63	72	2	0.283	ppb	10.72	17,429.63	2.455E-01	Pulse	0.30	3
Zn	66	72	2	0.487	ppb	8.18	1,227.32	1.729E-02	Pulse	0.30	3
As	75	72	2	0.084	ppb	21.39	79.56	1.119E-03	Pulse	0.75	3
Se	78	72	1	0.145	ppb	24.50	55.56	6.282E-04	Pulse	0.30	3
Mo	95	103	2	0.087	ppb	8.46	437.80	2.130E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,093.57	1.864E-03	Pulse	0.30	3
Cd	111	115	3	0.090	ppb	12.70	844.42	1.563E-04	Pulse	0.30	3
Sb	121	115	3	0.093	ppb	14.77	3,329.72	6.162E-04	Pulse	0.30	3
Ba	137	159	3	0.153	ppb	4.81	2,364.73	3.074E-04	Pulse	0.30	3
Tl	205	209	3	0.068	ppb	2.71	6,503.92	1.485E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.094	ppb	2.91	10,661.51	2.434E-03	Pulse	0.30	3
U	238	209	3	0.085	ppb	3.42	9,601.44	2.192E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,101,041.42	1.06	97.5	Analog	0.30	3
2	Sc	45	101,729.01	2.54	95.8	Pulse	0.30	3
3	Sc	45	2,717,300.37	0.28	97.7	Analog	0.30	3
1	Ge	72	88,372.69	0.83	97.6	Pulse	0.30	3
2	Ge	72	70,975.76	1.40	97.0	Pulse	0.30	3
2	Rh	103	2,056,633.37	0.91	96.8	Analog	0.30	3
3	Rh	103	4,877,479.62	0.28	98.3	Analog	0.30	3
3	In	115	5,403,930.60	0.52	97.7	Analog	0.30	3
3	Tb	159	7,692,505.86	0.32	97.8	Analog	0.30	3
3	Bi	209	4,381,027.82	1.00	97.9	Analog	0.30	3

Quantitation Report

File Name	A0308004.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:35
Sample Name	Std-0.5/5 ppb
Sample Type	CalStd
Comment	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.446	ppb	4.54	2,625.87	2.443E-03	Pulse	0.30	3
B	11	6	3	3.345	ppb	3.70	33,432.58	3.110E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	96,607.70	9.456E-01	Pulse	0.30	3
Mg	26	45	2	5.326	ppb	2.05	714.49	6.991E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	358.85	3.515E-03	Pulse	0.30	3
K	39	45	2	5.653	ppb	53.64	25,423.41	2.489E-01	Pulse	0.30	3
Ca	44	45	3	9.527	ppb	4.26	18,591.00	6.973E-03	Pulse	0.30	3
V	51	45	2	0.455	ppb	2.02	3,125.99	3.059E-02	Pulse	0.30	3
Cr	52	45	2	0.443	ppb	2.19	3,361.44	3.289E-02	Pulse	0.30	3
Mn	55	45	2	0.483	ppb	2.82	1,995.42	1.952E-02	Pulse	0.30	3
Fe	56	45	2	1.046	ppb	6.03	9,839.83	9.632E-02	Pulse	0.30	3
Co	59	45	2	0.456	ppb	1.95	5,916.73	5.788E-02	Pulse	0.30	3
Ni	60	72	2	0.451	ppb	4.45	1,564.37	2.200E-02	Pulse	0.30	3
Cu	63	72	2	0.619	ppb	6.29	20,533.16	2.887E-01	Pulse	0.30	3
Zn	66	72	2	0.456	ppb	4.98	1,187.23	1.669E-02	Pulse	0.30	3
As	75	72	2	0.431	ppb	14.12	373.34	5.244E-03	Pulse	0.75	3
Se	78	72	1	0.482	ppb	10.17	183.34	2.083E-03	Pulse	0.30	3
Mo	95	103	2	0.459	ppb	6.03	2,190.24	1.070E-03	Pulse	0.30	3
Ag	107	103	3	0.182	ppb	6.12	18,147.62	3.774E-03	Pulse	0.30	3
Cd	111	115	3	0.446	ppb	1.37	4,117.62	7.645E-04	Pulse	0.30	3
Sb	121	115	3	0.463	ppb	0.90	15,457.01	2.870E-03	Pulse	0.30	3
Ba	137	159	3	0.489	ppb	1.79	6,853.90	8.939E-04	Pulse	0.30	3
Tl	205	209	3	0.368	ppb	2.81	29,463.39	6.794E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.451	ppb	2.42	47,513.03	1.096E-02	Pulse	0.30	3
U	238	209	3	0.442	ppb	1.29	48,855.28	1.127E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,075,276.77	1.00	95.2	Analog	0.30	3
2	Sc	45	102,210.99	2.10	96.2	Pulse	0.30	3
3	Sc	45	2,666,276.84	0.46	95.9	Analog	0.30	3
1	Ge	72	88,064.63	1.25	97.3	Pulse	0.30	3
2	Ge	72	71,114.01	1.78	97.2	Pulse	0.30	3
2	Rh	103	2,046,142.38	1.68	96.3	Analog	0.30	3
3	Rh	103	4,808,532.32	0.17	96.9	Analog	0.30	3
3	In	115	5,386,159.03	0.39	97.4	Analog	0.30	3
3	Tb	159	7,667,344.61	0.21	97.5	Analog	0.30	3
3	Bi	209	4,336,213.86	0.73	96.9	Analog	0.30	3

Quantitation Report

File Name	A0308005.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:41
Sample Name	Std-5/50 ppb
Sample Type	CalStd
Comment	5/50 ug/L, 1.25<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	4.641	ppb	0.65	27,052.20	2.525E-02	Pulse	0.30	3
B	11	6	3	43.919	ppb	0.36	248,469.55	2.319E-01	Pulse	0.30	3
Na	23	45	2	33.179	ppb	6.48	140,033.55	1.384E+00	Pulse	0.30	3
Mg	26	45	2	48.637	ppb	2.80	4,956.49	4.896E-02	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,157.37	1.143E-02	Pulse	0.30	3
K	39	45	2	46.623	ppb	5.37	42,703.18	4.219E-01	Pulse	0.30	3
Ca	44	45	3	52.924	ppb	0.88	75,142.54	2.844E-02	Pulse	0.30	3
V	51	45	2	4.688	ppb	1.46	26,841.46	2.652E-01	Pulse	0.30	3
Cr	52	45	2	4.616	ppb	0.83	33,026.54	3.263E-01	Pulse	0.30	3
Mn	55	45	2	4.710	ppb	1.41	18,755.80	1.853E-01	Pulse	0.30	3
Fe	56	45	2	5.320	ppb	4.99	35,827.33	3.539E-01	Pulse	0.30	3
Co	59	45	2	4.677	ppb	1.46	60,059.68	5.934E-01	Pulse	0.30	3
Ni	60	72	2	4.702	ppb	1.26	15,241.05	2.169E-01	Pulse	0.30	3
Cu	63	72	2	4.825	ppb	1.41	58,315.77	8.299E-01	Pulse	0.30	3
Zn	66	72	2	4.739	ppb	1.95	6,926.71	9.857E-02	Pulse	0.30	3
As	75	72	2	4.672	ppb	2.57	3,904.07	5.558E-02	Pulse	0.75	3
Se	78	72	1	4.613	ppb	5.25	1,731.27	1.995E-02	Pulse	0.30	3
Mo	95	103	2	4.640	ppb	1.78	21,892.32	1.070E-02	Pulse	0.30	3
Ag	107	103	3	4.211	ppb	1.18	182,135.97	3.800E-02	Pulse	0.30	3
Cd	111	115	3	4.659	ppb	0.97	42,919.41	7.971E-03	Pulse	0.30	3
Sb	121	115	3	4.642	ppb	0.75	152,396.04	2.831E-02	Pulse	0.30	3
Ba	137	159	3	4.700	ppb	0.44	63,710.10	8.242E-03	Pulse	0.30	3
Tl	205	209	3	4.362	ppb	0.71	342,959.72	7.728E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	4.624	ppb	0.59	490,175.31	1.105E-01	Pulse	0.30	3
U	238	209	3	4.535	ppb	0.62	511,553.33	1.153E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,071,383.68	0.52	94.8	Analog	0.30	3
2	Sc	45	101,219.46	0.94	95.3	Pulse	0.30	3
3	Sc	45	2,642,046.28	0.86	95.0	Analog	0.30	3
1	Ge	72	86,784.39	0.98	95.8	Pulse	0.30	3
2	Ge	72	70,269.47	1.75	96.0	Pulse	0.30	3
2	Rh	103	2,046,093.28	0.73	96.3	Analog	0.30	3
3	Rh	103	4,793,539.03	0.68	96.6	Analog	0.30	3
3	In	115	5,384,058.14	0.51	97.3	Analog	0.30	3
3	Tb	159	7,730,202.18	1.00	98.3	Analog	0.30	3
3	Bi	209	4,437,908.75	0.42	99.2	Analog	0.30	3

Quantitation Report

File Name	A0308006.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:46
Sample Name	Std-10/100 ppb
Sample Type	CalStd
Comment	10/100 ug/L,2.5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.437	ppb	1.95	54,478.67	5.133E-02	Pulse	0.30	3
B	11	6	3	90.222	ppb	1.33	489,387.21	4.611E-01	Pulse	0.30	3
Na	23	45	2	74.711	ppb	2.90	183,156.49	1.842E+00	Pulse	0.30	3
Mg	26	45	2	95.767	ppb	1.43	9,410.77	9.463E-02	Pulse	0.30	3
Al	27	45	2	5.413	ppb	8.23	2,242.63	2.255E-02	Pulse	0.30	3
K	39	45	2	94.178	ppb	1.24	61,929.72	6.227E-01	Pulse	0.30	3
Ca	44	45	3	98.282	ppb	1.15	131,588.44	5.088E-02	Pulse	0.30	3
V	51	45	2	9.505	ppb	1.27	52,921.92	5.322E-01	Pulse	0.30	3
Cr	52	45	2	9.326	ppb	1.17	65,379.40	6.574E-01	Pulse	0.30	3
Mn	55	45	2	9.578	ppb	1.63	37,406.57	3.762E-01	Pulse	0.30	3
Fe	56	45	2	9.601	ppb	0.37	60,851.29	6.118E-01	Pulse	0.30	3
Co	59	45	2	9.471	ppb	0.93	119,500.77	1.202E+00	Pulse	0.30	3
Ni	60	72	2	9.515	ppb	0.27	30,094.36	4.376E-01	Pulse	0.30	3
Cu	63	72	2	9.563	ppb	1.02	99,001.17	1.440E+00	Pulse	0.30	3
Zn	66	72	2	9.451	ppb	1.77	12,976.11	1.887E-01	Pulse	0.30	3
As	75	72	2	9.372	ppb	2.17	7,659.21	1.114E-01	Pulse	0.75	3
Se	78	72	1	9.617	ppb	1.71	3,570.54	4.160E-02	Pulse	0.30	3
Mo	95	103	2	9.240	ppb	1.96	43,302.70	2.129E-02	Pulse	0.30	3
Ag	107	103	3	9.186	ppb	0.30	378,187.18	8.027E-02	Pulse	0.30	3
Cd	111	115	3	9.391	ppb	0.50	85,685.46	1.606E-02	Pulse	0.30	3
Sb	121	115	3	9.361	ppb	1.23	304,145.89	5.702E-02	Pulse	0.30	3
Ba	137	159	3	9.497	ppb	0.50	127,664.59	1.661E-02	Pulse	0.30	3
Tl	205	209	3	9.178	ppb	1.03	717,245.63	1.623E-01	Pulse	0.30	3
Pb	208	209	3	9.343	ppb	0.71	985,587.76	2.230E-01	Pulse	0.30	3
U	238	209	3	9.573	ppb	1.22	1,075,480.38	2.433E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,061,463.83	1.13	93.9	Analog	0.30	3
2	Sc	45	99,453.17	1.31	93.7	Pulse	0.30	3
3	Sc	45	2,586,412.39	1.24	93.0	Analog	0.30	3
1	Ge	72	85,838.52	0.66	94.8	Pulse	0.30	3
2	Ge	72	68,767.44	1.11	94.0	Pulse	0.30	3
2	Rh	103	2,033,311.67	0.98	95.7	Analog	0.30	3
3	Rh	103	4,711,477.36	0.59	94.9	Analog	0.30	3
3	In	115	5,333,837.03	0.32	96.4	Analog	0.30	3
3	Tb	159	7,684,899.54	0.51	97.7	Analog	0.30	3
3	Bi	209	4,420,046.67	0.50	98.8	Analog	0.30	3

Quantitation Report

File Name	A0308007.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:52
Sample Name	Std-20/200 ppb
Sample Type	CalStd
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.614	ppb	1.20	106,393.98	1.012E-01	Pulse	0.30	3
B	11	6	3	189.843	ppb	2.82	1,002,701.50	9.542E-01	Analog	0.30	3
Na	23	45	2	191.849	ppb	0.06	309,440.38	3.134E+00	Pulse	0.30	3
Mg	26	45	2	192.374	ppb	2.68	18,587.54	1.882E-01	Pulse	0.30	3
Al	27	45	2	15.635	ppb	5.54	4,234.42	4.290E-02	Pulse	0.30	3
K	39	45	2	189.587	ppb	0.09	101,262.23	1.026E+00	Pulse	0.30	3
Ca	44	45	3	191.715	ppb	0.29	248,509.00	9.710E-02	Pulse	0.30	3
V	51	45	2	18.973	ppb	0.38	104,349.97	1.057E+00	Pulse	0.30	3
Cr	52	45	2	18.811	ppb	0.62	130,745.20	1.324E+00	Pulse	0.30	3
Mn	55	45	2	19.296	ppb	1.32	74,766.48	7.572E-01	Pulse	0.30	3
Fe	56	45	2	19.217	ppb	1.30	117,613.75	1.191E+00	Pulse	0.30	3
Co	59	45	2	19.073	ppb	0.11	238,907.02	2.420E+00	Pulse	0.30	3
Ni	60	72	2	19.000	ppb	0.58	59,636.64	8.726E-01	Pulse	0.30	3
Cu	63	72	2	18.961	ppb	0.32	181,045.42	2.649E+00	Pulse	0.30	3
Zn	66	72	2	18.910	ppb	1.02	25,255.01	3.695E-01	Pulse	0.30	3
As	75	72	2	18.889	ppb	1.26	15,332.17	2.243E-01	Pulse	0.75	3
Se	78	72	1	19.803	ppb	3.64	7,277.49	8.565E-02	Pulse	0.30	3
Mo	95	103	2	18.742	ppb	1.26	87,618.76	4.318E-02	Pulse	0.30	3
Ag	107	103	3	18.672	ppb	0.66	749,368.18	1.609E-01	Pulse	0.30	3
Cd	111	115	3	18.938	ppb	0.82	171,359.35	3.239E-02	Pulse	0.30	3
Sb	121	115	3	18.765	ppb	0.63	604,370.16	1.143E-01	Pulse	0.30	3
Ba	137	159	3	18.942	ppb	0.65	253,292.76	3.309E-02	Pulse	0.30	3
Tl	205	209	3	19.315	ppb	0.69	1,503,607.69	3.412E-01	Analog	0.30	3
Pb	208	209	3	18.985	ppb	1.19	1,995,882.25	4.529E-01	Analog	0.30	3
U	238	209	3	18.964	ppb	0.89	2,124,079.30	4.820E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,051,116.67	1.37	93.0	Analog	0.30	3
2	Sc	45	98,731.09	0.68	93.0	Pulse	0.30	3
3	Sc	45	2,559,215.92	0.42	92.0	Analog	0.30	3
1	Ge	72	84,985.27	0.82	93.9	Pulse	0.30	3
2	Ge	72	68,345.62	0.98	93.4	Pulse	0.30	3
2	Rh	103	2,029,111.57	0.65	95.5	Analog	0.30	3
3	Rh	103	4,658,691.70	0.51	93.8	Analog	0.30	3
3	In	115	5,289,829.97	0.49	95.6	Analog	0.30	3
3	Tb	159	7,654,206.21	0.37	97.3	Analog	0.30	3
3	Bi	209	4,407,214.69	0.83	98.5	Analog	0.30	3

Quantitation Report

File Name	A0308008.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:57
Sample Name	Std-40/400 ppb
Sample Type	CalStd
Comment	40/400 ug/L, 10<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	38.136	ppb	0.48	216,551.44	2.074E-01	Pulse	0.30	3
B	11	6	3	388.791	ppb	0.72	2,024,565.63	1.939E+00	Analog	0.30	3
Na	23	45	2	364.964	ppb	2.35	498,317.36	5.044E+00	Pulse	0.30	3
Mg	26	45	2	396.539	ppb	1.92	38,141.78	3.861E-01	Pulse	0.30	3
Al	27	45	2	36.905	ppb	0.87	8,421.96	8.523E-02	Pulse	0.30	3
K	39	45	2	392.251	ppb	1.14	185,894.67	1.881E+00	Pulse	0.30	3
Ca	44	45	3	382.409	ppb	0.16	492,836.91	1.914E-01	Pulse	0.30	3
V	51	45	2	38.663	ppb	1.08	212,246.39	2.148E+00	Pulse	0.30	3
Cr	52	45	2	38.674	ppb	1.62	268,803.19	2.721E+00	Pulse	0.30	3
Mn	55	45	2	39.398	ppb	1.36	152,694.47	1.546E+00	Pulse	0.30	3
Fe	56	45	2	39.288	ppb	1.41	237,174.46	2.401E+00	Pulse	0.30	3
Co	59	45	2	38.935	ppb	1.13	488,033.24	4.939E+00	Pulse	0.30	3
Ni	60	72	2	38.310	ppb	0.42	122,057.42	1.758E+00	Pulse	0.30	3
Cu	63	72	2	38.027	ppb	0.76	354,253.17	5.102E+00	Pulse	0.30	3
Zn	66	72	2	38.515	ppb	1.37	51,677.95	7.444E-01	Pulse	0.30	3
As	75	72	2	38.030	ppb	1.69	31,349.59	4.515E-01	Pulse	0.75	3
Se	78	72	1	40.534	ppb	1.82	14,741.64	1.753E-01	Pulse	0.30	3
Mo	95	103	2	38.940	ppb	1.16	181,283.34	8.970E-02	Pulse	0.30	3
Ag	107	103	3	40.082	ppb	0.28	1,597,182.12	3.427E-01	Analog	0.30	3
Cd	111	115	3	38.211	ppb	0.73	346,688.98	6.536E-02	Pulse	0.30	3
Sb	121	115	3	38.674	ppb	0.59	1,248,697.82	2.354E-01	Analog	0.30	3
Ba	137	159	3	38.316	ppb	0.49	515,216.46	6.690E-02	Pulse	0.30	3
Tl	205	209	3	38.571	ppb	1.16	3,060,627.59	6.810E-01	Analog	0.30	3
Pb	208	209	3	38.452	ppb	0.83	4,121,544.53	9.171E-01	Analog	0.30	3
U	238	209	3	38.412	ppb	0.88	4,387,363.88	9.762E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,044,210.31	0.07	92.4	Analog	0.30	3
2	Sc	45	98,814.84	1.84	93.1	Pulse	0.30	3
3	Sc	45	2,574,351.52	0.22	92.6	Analog	0.30	3
1	Ge	72	84,090.32	0.28	92.9	Pulse	0.30	3
2	Ge	72	69,433.46	1.39	94.9	Pulse	0.30	3
2	Rh	103	2,021,066.55	0.77	95.2	Analog	0.30	3
3	Rh	103	4,659,923.92	0.25	93.9	Analog	0.30	3
3	In	115	5,304,319.56	0.66	95.9	Analog	0.30	3
3	Tb	159	7,701,913.22	0.46	97.9	Analog	0.30	3
3	Bi	209	4,494,334.14	0.70	100.5	Analog	0.30	3

Quantitation Report

File Name	A0308009.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:03
Sample Name	Std-100/1000 ppb
Sample Type	CalStd
Comment	100/1000ug/L,10<20mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	96.999	ppb	1.27	532,069.67	5.274E-01	Pulse	0.30	3
B	11	6	3	982.700	ppb	1.20	4,921,128.55	4.878E+00	Analog	0.30	3
Na	23	45	2	988.954	ppb	1.61	1,156,362.74	1.193E+01	Analog	0.30	3
Mg	26	45	2	987.810	ppb	0.74	92,979.50	9.590E-01	Pulse	0.30	3
Al	27	45	2	97.914	ppb	2.89	20,038.84	2.066E-01	Pulse	0.30	3
K	39	45	2	992.375	ppb	0.34	428,112.41	4.416E+00	Pulse	0.30	3
Ca	44	45	3	999.794	ppb	0.19	1,249,385.94	4.969E-01	Analog	0.30	3
V	51	45	2	97.713	ppb	0.21	525,568.43	5.421E+00	Pulse	0.30	3
Cr	52	45	2	96.996	ppb	0.53	661,307.75	6.821E+00	Pulse	0.30	3
Mn	55	45	2	99.100	ppb	0.42	376,809.23	3.887E+00	Pulse	0.30	3
Fe	56	45	2	97.876	ppb	1.00	574,953.34	5.931E+00	Pulse	0.30	3
Co	59	45	2	99.018	ppb	0.72	1,217,854.03	1.256E+01	Analog	0.30	3
Ni	60	72	2	98.121	ppb	0.46	301,721.51	4.501E+00	Pulse	0.30	3
Cu	63	72	2	96.509	ppb	0.77	846,580.34	1.263E+01	Pulse	0.30	3
Zn	66	72	2	98.731	ppb	1.36	127,088.82	1.896E+00	Pulse	0.30	3
As	75	72	2	98.049	ppb	0.62	78,031.82	1.164E+00	Pulse	0.75	3
Se	78	72	1	99.883	ppb	2.04	36,279.22	4.320E-01	Pulse	0.30	3
Mo	95	103	2	98.015	ppb	0.51	449,483.04	2.258E-01	Pulse	0.30	3
Ag	107	103	3	100.355	ppb	0.50	3,908,611.02	8.548E-01	Analog	0.30	3
Cd	111	115	3	96.278	ppb	0.40	858,848.21	1.647E-01	Pulse	0.30	3
Sb	121	115	3	97.857	ppb	0.45	3,106,133.39	5.956E-01	Analog	0.30	3
Ba	137	159	3	99.174	ppb	0.14	1,319,924.58	1.731E-01	Analog	0.30	3
Tl	205	209	3	98.149	ppb	0.76	7,624,623.15	1.733E+00	Analog	0.30	3
Pb	208	209	3	98.426	ppb	0.42	10,329,545.14	2.347E+00	Analog	0.30	3
U	238	209	3	97.461	ppb	0.61	10,900,682.58	2.477E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,008,822.77	0.75	89.3	Analog	0.30	3
2	Sc	45	96,953.16	1.23	91.3	Pulse	0.30	3
3	Sc	45	2,514,527.36	0.29	90.4	Analog	0.30	3
1	Ge	72	83,972.46	0.63	92.7	Pulse	0.30	3
2	Ge	72	67,040.15	0.56	91.6	Pulse	0.30	3
2	Rh	103	1,990,908.27	0.90	93.7	Analog	0.30	3
3	Rh	103	4,572,429.17	0.29	92.1	Analog	0.30	3
3	In	115	5,215,168.29	0.29	94.3	Analog	0.30	3
3	Tb	159	7,625,967.46	0.47	96.9	Analog	0.30	3
3	Bi	209	4,400,965.21	0.67	98.4	Analog	0.30	3

Quantitation Report

File Name	A0308010.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:08
Sample Name	Std-200/2000 ppb
Sample Type	CalStd
Comment	200/2000ug/L, 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	202.049	ppb	0.52	1,103,620.87	1.099E+00	Analog	0.30	3
B	11	6	3	2012.549	ppb	1.22	10,020,028.90	9.976E+00	Analog	0.30	3
Na	23	45	2	2015.030	ppb	1.06	2,228,452.54	2.325E+01	Analog	0.30	3
Mg	26	45	2	2007.795	ppb	0.68	186,653.74	1.947E+00	Pulse	0.30	3
Al	27	45	2	202.457	ppb	0.61	39,749.20	4.147E-01	Pulse	0.30	3
K	39	45	2	2006.779	ppb	0.37	833,826.25	8.699E+00	Pulse	0.30	3
Ca	44	45	3	2004.462	ppb	0.55	2,484,129.15	9.939E-01	Analog	0.30	3
V	51	45	2	201.546	ppb	1.30	1,071,168.03	1.118E+01	Analog	0.30	3
Cr	52	45	2	201.930	ppb	0.03	1,360,970.05	1.420E+01	Analog	0.30	3
Mn	55	45	2	200.669	ppb	0.49	754,275.66	7.869E+00	Pulse	0.30	3
Fe	56	45	2	201.295	ppb	1.30	1,165,637.61	1.216E+01	Analog	0.30	3
Co	59	45	2	200.831	ppb	0.94	2,441,974.63	2.548E+01	Analog	0.30	3
Ni	60	72	2	201.410	ppb	1.19	603,713.83	9.237E+00	Pulse	0.30	3
Cu	63	72	2	202.270	ppb	1.02	1,714,955.19	2.624E+01	Analog	0.30	3
Zn	66	72	2	201.074	ppb	1.31	251,791.50	3.852E+00	Pulse	0.30	3
As	75	72	2	201.520	ppb	0.59	156,359.32	2.392E+00	Pulse	0.75	3
Se	78	72	1	203.973	ppb	1.58	72,013.02	8.822E-01	Pulse	0.30	3
Mo	95	103	2	201.377	ppb	0.75	909,695.88	4.638E-01	Pulse	0.30	3
Ag	107	103	3	188.371	ppb	1.10	7,242,890.81	1.603E+00	Analog	0.30	3
Cd	111	115	3	202.364	ppb	0.65	1,787,138.07	3.461E-01	Analog	0.30	3
Sb	121	115	3	201.501	ppb	0.25	6,331,776.02	1.226E+00	Analog	0.30	3
Ba	137	159	3	200.888	ppb	0.21	2,673,601.18	3.506E-01	Analog	0.30	3
Tl	205	209	3	201.337	ppb	0.64	15,586,960.88	3.554E+00	Analog	0.30	3
Pb	208	209	3	201.240	ppb	0.64	21,047,664.26	4.799E+00	Analog	0.30	3
U	238	209	3	201.724	ppb	0.20	22,486,265.03	5.127E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,004,520.14	0.82	88.9	Analog	0.30	3
2	Sc	45	95,851.40	1.23	90.3	Pulse	0.30	3
3	Sc	45	2,499,373.80	0.38	89.9	Analog	0.30	3
1	Ge	72	81,628.40	0.38	90.2	Pulse	0.30	3
2	Ge	72	65,367.91	1.64	89.3	Pulse	0.30	3
2	Rh	103	1,961,243.18	0.88	92.3	Analog	0.30	3
3	Rh	103	4,519,471.46	0.18	91.0	Analog	0.30	3
3	In	115	5,163,038.04	0.51	93.4	Analog	0.30	3
3	Tb	159	7,626,665.44	0.51	97.0	Analog	0.30	3
3	Bi	209	4,386,138.58	0.31	98.0	Analog	0.30	3

Quantitation Report

File Name	A0308011.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:14
Sample Name	ICV,ICV,1
Sample Type	6-ICV
Comment	10/100 ug/L,200mL of 2MWST- 151207I
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.067	ppb	0.65	60,538.97	5.475E-02	Pulse	0.30	3
B	11	6	3	2010.197	ppb	1.54	11,016,060.87	9.964E+00	Analog	0.30	3
Na	23	45	2	226.316	ppb	2.03	370,673.58	3.514E+00	Pulse	0.30	3
Mg	26	45	2	103.804	ppb	3.05	10,799.41	1.024E-01	Pulse	0.30	3
Al	27	45	2	198.100	ppb	1.09	42,829.72	4.060E-01	Pulse	0.30	3
K	39	45	2	92.335	ppb	2.72	64,860.66	6.149E-01	Pulse	0.30	3
Ca	44	45	3	139.915	ppb	0.30	198,747.79	7.148E-02	Pulse	0.30	3
V	51	45	2	10.068	ppb	1.76	59,419.49	5.634E-01	Pulse	0.30	3
Cr	52	45	2	10.001	ppb	1.77	74,340.05	7.049E-01	Pulse	0.30	3
Mn	55	45	2	100.924	ppb	1.08	417,499.86	3.958E+00	Pulse	0.30	3
Fe	56	45	2	101.891	ppb	1.22	651,064.54	6.173E+00	Pulse	0.30	3
Co	59	45	2	9.592	ppb	1.74	128,348.34	1.217E+00	Pulse	0.30	3
Ni	60	72	2	10.363	ppb	0.85	34,915.84	4.765E-01	Pulse	0.30	3
Cu	63	72	2	10.185	ppb	1.25	111,339.47	1.520E+00	Pulse	0.30	3
Zn	66	72	2	101.877	ppb	1.39	143,296.42	1.956E+00	Pulse	0.30	3
As	75	72	2	10.090	ppb	1.65	8,784.23	1.199E-01	Pulse	0.75	3
Se	78	72	1	10.646	ppb	1.09	4,051.79	4.604E-02	Pulse	0.30	3
Mo	95	103	2	10.992	ppb	1.08	54,739.74	2.533E-02	Pulse	0.30	3
Ag	107	103	3	10.680	ppb	1.31	469,917.44	9.296E-02	Pulse	0.30	3
Cd	111	115	3	10.149	ppb	0.99	99,708.84	1.736E-02	Pulse	0.30	3
Sb	121	115	3	10.376	ppb	0.59	362,966.00	6.320E-02	Pulse	0.30	3
Ba	137	159	3	104.252	ppb	1.19	1,525,691.00	1.819E-01	Analog	0.30	3
Tl	205	209	3	7.653	ppb	1.72	655,671.40	1.354E-01	Pulse	0.30	3
Pb	208	209	3	10.018	ppb	0.32	1,157,990.82	2.391E-01	Pulse	0.30	3
U	238	209	3	10.083	ppb	1.12	1,241,353.92	2.563E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,105,650.65	0.52	97.9	Analog	0.30	3
2	Sc	45	105,496.60	2.44	99.3	Pulse	0.30	3
3	Sc	45	2,780,611.59	0.84	100.0	Analog	0.30	3
1	Ge	72	87,997.51	0.94	97.2	Pulse	0.30	3
2	Ge	72	73,270.06	0.99	100.1	Pulse	0.30	3
2	Rh	103	2,161,188.68	1.31	101.8	Analog	0.30	3
3	Rh	103	5,055,416.42	0.94	101.8	Analog	0.30	3
3	In	115	5,743,293.48	0.73	103.8	Analog	0.30	3
3	Tb	159	8,385,850.08	0.52	106.6	Analog	0.30	3
3	Bi	209	4,843,612.22	0.19	108.3	Analog	0.30	3

Quantitation Report

File Name	A0308012.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:20
Sample Name	ICB,ICB,1
Sample Type	6-ICB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.011	ppb	13.98	84.45	7.752E-05	Pulse	0.30	3
B	11	6	3	39.607	ppb	1.85	229,316.28	2.106E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	67,842.95	6.562E-01	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	118.89	1.145E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	952.28	9.213E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	22,579.30	2.184E-01	Pulse	0.30	3
Ca	44	45	3	1.582	ppb	7.59	8,345.77	3.043E-03	Pulse	0.30	3
V	51	45	2	0.022	ppb	12.69	684.49	6.621E-03	Pulse	0.30	3
Cr	52	45	2	0.004	ppb	76.82	208.82	2.018E-03	Pulse	0.30	3
Mn	55	45	2	0.011	ppb	11.07	105.52	1.021E-03	Pulse	0.30	3
Fe	56	45	2	0.009	ppb	208.01	3,502.09	3.386E-02	Pulse	0.30	3
Co	59	45	2	0.002	ppb	54.51	34.36	3.334E-04	Pulse	0.30	3
Ni	60	72	2	0.012	ppb	144.69	134.36	1.846E-03	Pulse	0.30	3
Cu	63	72	2	0.105	ppb	38.77	16,170.39	2.226E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	332.92	4.581E-03	Pulse	0.30	3
As	75	72	2	0.018	ppb	57.86	24.45	3.373E-04	Pulse	0.75	3
Se	78	72	1	0.035	ppb	65.98	13.33	1.509E-04	Pulse	0.30	3
Mo	95	103	2	0.219	ppb	3.93	1,114.53	5.179E-04	Pulse	0.30	3
Ag	107	103	3	0.721	ppb	11.16	42,197.13	8.351E-03	Pulse	0.30	3
Cd	111	115	3	0.003	ppb	35.94	40.85	7.239E-06	Pulse	0.30	3
Sb	121	115	3	0.086	ppb	10.01	3,267.13	5.784E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	301.03	3.722E-05	Pulse	0.30	3
Tl	205	209	3	0.178	ppb	0.60	15,915.78	3.441E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.004	ppb	11.29	1,343.34	2.904E-04	Pulse	0.30	3
U	238	209	3	0.006	ppb	14.20	765.06	1.655E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,089,042.12	1.79	96.4	Analog	0.30	3
2	Sc	45	103,401.51	1.42	97.4	Pulse	0.30	3
3	Sc	45	2,742,970.93	0.29	98.6	Analog	0.30	3
1	Ge	72	88,272.45	0.60	97.5	Pulse	0.30	3
2	Ge	72	72,630.56	0.99	99.3	Pulse	0.30	3
2	Rh	103	2,151,314.01	1.06	101.3	Analog	0.30	3
3	Rh	103	5,053,156.00	0.07	101.8	Analog	0.30	3
3	In	115	5,649,857.53	0.66	102.2	Analog	0.30	3
3	Tb	159	8,089,331.96	0.14	102.8	Analog	0.30	3
3	Bi	209	4,625,565.69	0.76	103.4	Analog	0.30	3

Quantitation Report

File Name	A0308013.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:25
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.489	ppb	2.20	2,914.84	2.673E-03	Pulse	0.30	3
B	11	6	3	75.983	ppb	0.91	425,951.82	3.906E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	77,993.15	7.369E-01	Pulse	0.30	3
Mg	26	45	2	3.918	ppb	4.17	595.59	5.626E-03	Pulse	0.30	3
Al	27	45	2	35.480	ppb	2.00	8,723.64	8.239E-02	Pulse	0.30	3
K	39	45	2	0.800	ppb	279.05	24,172.60	2.284E-01	Pulse	0.30	3
Ca	44	45	3	18.508	ppb	1.93	31,309.21	1.142E-02	Pulse	0.30	3
V	51	45	2	0.930	ppb	3.28	6,027.99	5.690E-02	Pulse	0.30	3
Cr	52	45	2	0.934	ppb	4.53	7,140.58	6.740E-02	Pulse	0.30	3
Mn	55	45	2	0.535	ppb	3.64	2,282.36	2.155E-02	Pulse	0.30	3
Fe	56	45	2	10.090	ppb	1.77	67,894.30	6.413E-01	Pulse	0.30	3
Co	59	45	2	0.459	ppb	1.31	6,173.46	5.830E-02	Pulse	0.30	3
Ni	60	72	2	1.005	ppb	3.84	3,399.12	4.741E-02	Pulse	0.30	3
Cu	63	72	2	1.080	ppb	3.55	24,945.02	3.480E-01	Pulse	0.30	3
Zn	66	72	2	11.088	ppb	0.16	15,768.25	2.200E-01	Pulse	0.30	3
As	75	72	2	0.102	ppb	10.19	95.56	1.333E-03	Pulse	0.75	3
Se	78	72	1	0.533	ppb	10.56	204.45	2.307E-03	Pulse	0.30	3
Mo	95	103	2	0.563	ppb	4.08	2,833.72	1.309E-03	Pulse	0.30	3
Ag	107	103	3	0.178	ppb	4.87	18,804.09	3.738E-03	Pulse	0.30	3
Cd	111	115	3	0.475	ppb	1.44	4,640.80	8.141E-04	Pulse	0.30	3
Sb	121	115	3	0.528	ppb	1.04	18,612.76	3.265E-03	Pulse	0.30	3
Ba	137	159	3	1.055	ppb	2.07	15,490.11	1.882E-03	Pulse	0.30	3
Tl	205	209	3	0.415	ppb	1.24	35,883.19	7.624E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.964	ppb	1.36	109,109.29	2.318E-02	Pulse	0.30	3
U	238	209	3	0.456	ppb	1.43	54,615.03	1.160E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,090,495.38	0.87	96.5	Analog	0.30	3
2	Sc	45	105,899.23	2.34	99.7	Pulse	0.30	3
3	Sc	45	2,742,800.76	1.15	98.6	Analog	0.30	3
1	Ge	72	88,642.02	0.57	97.9	Pulse	0.30	3
2	Ge	72	71,685.32	1.39	98.0	Pulse	0.30	3
2	Rh	103	2,165,445.21	1.18	102.0	Analog	0.30	3
3	Rh	103	5,030,121.70	0.39	101.3	Analog	0.30	3
3	In	115	5,700,829.89	0.30	103.1	Analog	0.30	3
3	Tb	159	8,232,142.79	0.35	104.7	Analog	0.30	3
3	Bi	209	4,706,834.41	0.66	105.2	Analog	0.30	3

Quantitation Report

File Name	A0308014.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:31
Sample Name	ICSA1,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	60.67	42.23	4.010E-05	Pulse	0.30	3
B	11	6	3	12.065	ppb	1.54	78,131.11	7.426E-02	Pulse	0.30	3
Na	23	45	2	98133.036	ppb	1.58	108,947,493.93	1.084E+03	Analog	0.30	3
Mg	26	45	2	99615.290	ppb	1.40	9,705,052.43	9.653E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-8.96	-9.155E-05	Pulse	0.30	3
K	39	45	2	103421.518	ppb	1.14	43,935,426.57	4.370E+02	Analog	0.30	3
Ca	44	45	3	91455.190	ppb	0.75	126,481,725.89	4.525E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	474.47	4.729E-03	Pulse	0.30	3
Cr	52	45	2	0.161	ppb	9.72	1,309.51	1.302E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-9,859.60	-9.815E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-5,002.28	-4.979E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	55.47	125.43	1.257E-03	Pulse	0.30	3
Ni	60	72	2	0.290	ppb	12.96	970.98	1.462E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	10,622.08	1.599E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,214.57	-1.829E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	-1.55	-2.478E-05	Pulse	0.75	3
Se	78	72	1	0.022	ppb	65.70	7.78	9.605E-05	Pulse	0.30	3
Mo	95	103	2	0.089	ppb	5.14	396.69	2.191E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-19,307.23	-4.373E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-21,025.50	-4.207E-03	Pulse	0.30	3
Sb	121	115	3	0.042	ppb	5.70	1,542.36	3.086E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-79,293.05	-1.083E-02	Pulse	0.30	3
Tl	205	209	3	0.051	ppb	0.28	4,284.13	1.195E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-118,238.93	-3.298E-02	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-7,406.08	-2.066E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,052,209.27	0.54	93.1	Analog	0.30	3
2	Sc	45	100,565.26	2.98	94.7	Pulse	0.30	3
3	Sc	45	2,795,546.14	0.97	100.5	Analog	0.30	3
1	Ge	72	81,062.19	0.29	89.5	Pulse	0.30	3
2	Ge	72	66,440.14	2.51	90.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,809,989.66	1.25	85.2	Analog	0.30	3
3	Rh	103	4,415,557.26	0.44	88.9	Analog	0.30	3
3	In	115	4,997,368.63	0.21	90.4	Analog	0.30	3
3	Tb	159	7,322,243.43	0.25	93.1	Analog	0.30	3
3	Bi	209	3,585,569.18	0.23	80.1	Analog	0.30	3

Quantitation Report

File Name	A0308015.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:34
Sample Name	ICSAB1,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.778	ppb	1.19	109,792.70	1.130E-01	Pulse	0.30	3
B	11	6	3	206.994	ppb	2.96	1,009,373.18	1.039E+00	Analog	0.30	3
Na	23	45	2	99058.067	ppb	1.05	106,254,617.31	1.094E+03	Analog	0.30	3
Mg	26	45	2	100489.766	ppb	1.10	9,458,577.77	9.738E+01	Analog	0.30	3
Al	27	45	2	16.642	ppb	4.39	4,363.26	4.490E-02	Pulse	0.30	3
K	39	45	2	103746.582	ppb	0.70	42,580,075.75	4.383E+02	Analog	0.30	3
Ca	44	45	3	93736.376	ppb	0.52	129,416,441.40	4.637E+01	Analog	0.30	3
V	51	45	2	21.563	ppb	1.32	116,603.43	1.200E+00	Pulse	0.30	3
Cr	52	45	2	20.638	ppb	1.36	141,101.21	1.453E+00	Pulse	0.30	3
Mn	55	45	2	17.661	ppb	1.64	67,341.48	6.931E-01	Pulse	0.30	3
Fe	56	45	2	19.076	ppb	0.28	114,899.75	1.183E+00	Pulse	0.30	3
Co	59	45	2	20.045	ppb	1.02	247,022.54	2.543E+00	Pulse	0.30	3
Ni	60	72	2	21.546	ppb	0.73	61,098.58	9.893E-01	Pulse	0.30	3
Cu	63	72	2	19.642	ppb	0.09	169,017.20	2.737E+00	Pulse	0.30	3
Zn	66	72	2	16.819	ppb	1.58	20,355.65	3.296E-01	Pulse	0.30	3
As	75	72	2	20.865	ppb	0.92	15,303.44	2.478E-01	Pulse	0.75	3
Se	78	72	1	19.324	ppb	3.13	6,279.23	8.358E-02	Pulse	0.30	3
Mo	95	103	2	23.702	ppb	1.20	91,922.74	5.460E-02	Pulse	0.30	3
Ag	107	103	3	18.624	ppb	0.15	693,318.43	1.605E-01	Pulse	0.30	3
Cd	111	115	3	17.395	ppb	0.56	147,017.83	2.976E-02	Pulse	0.30	3
Sb	121	115	3	20.832	ppb	0.54	626,632.19	1.268E-01	Pulse	0.30	3
Ba	137	159	3	19.058	ppb	0.31	230,639.04	3.329E-02	Pulse	0.30	3
Tl	205	209	3	22.600	ppb	0.82	1,329,067.65	3.992E-01	Analog	0.30	3
Pb	208	209	3	20.750	ppb	0.20	1,648,065.90	4.950E-01	Mix	0.30	3
U	238	209	3	23.403	ppb	0.42	1,980,404.33	5.948E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	971,766.40	2.03	86.0	Analog	0.30	3
2	Sc	45	97,152.36	2.68	91.5	Pulse	0.30	3
3	Sc	45	2,790,688.88	0.13	100.3	Analog	0.30	3
1	Ge	72	75,116.15	1.80	83.0	Pulse	0.30	3
2	Ge	72	61,762.82	1.43	84.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,683,332.94	1.08	79.3	Analog	0.30	3
3	Rh	103	4,320,989.42	0.55	87.0	Analog	0.30	3
3	In	115	4,940,617.42	0.48	89.3	Analog	0.30	3
3	Tb	159	6,927,196.29	0.28	88.1	Analog	0.30	3
3	Bi	209	3,329,555.26	0.25	74.4	Analog	0.30	3

Quantitation Report

File Name	A0308016.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:42
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.481	ppb	7.30	2,960.38	2.635E-03	Pulse	0.30	3
B	11	6	3	66.406	ppb	0.24	385,685.75	3.432E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	91,546.36	8.451E-01	Pulse	0.30	3
Mg	26	45	2	5.873	ppb	13.95	815.61	7.521E-03	Pulse	0.30	3
Al	27	45	2	37.419	ppb	3.08	9,345.11	8.625E-02	Pulse	0.30	3
K	39	45	2	9.054	ppb	31.92	28,515.16	2.633E-01	Pulse	0.30	3
Ca	44	45	3	19.176	ppb	1.39	32,766.43	1.175E-02	Pulse	0.30	3
V	51	45	2	1.014	ppb	3.63	6,672.74	6.156E-02	Pulse	0.30	3
Cr	52	45	2	0.947	ppb	2.31	7,401.77	6.831E-02	Pulse	0.30	3
Mn	55	45	2	0.542	ppb	4.43	2,365.20	2.183E-02	Pulse	0.30	3
Fe	56	45	2	10.407	ppb	2.61	71,550.05	6.604E-01	Pulse	0.30	3
Co	59	45	2	0.462	ppb	2.32	6,357.95	5.869E-02	Pulse	0.30	3
Ni	60	72	2	0.999	ppb	3.20	3,420.20	4.711E-02	Pulse	0.30	3
Cu	63	72	2	1.610	ppb	4.69	30,232.26	4.163E-01	Pulse	0.30	3
Zn	66	72	2	10.957	ppb	3.77	15,789.36	2.175E-01	Pulse	0.30	3
As	75	72	2	0.122	ppb	10.92	113.78	1.566E-03	Pulse	0.75	3
Se	78	72	1	0.534	ppb	8.10	212.24	2.311E-03	Pulse	0.30	3
Mo	95	103	2	0.646	ppb	2.33	3,240.46	1.500E-03	Pulse	0.30	3
Ag	107	103	3	0.813	ppb	13.61	45,545.67	9.134E-03	Pulse	0.30	3
Cd	111	115	3	0.489	ppb	5.32	4,691.33	8.374E-04	Pulse	0.30	3
Sb	121	115	3	0.555	ppb	1.66	19,193.45	3.428E-03	Pulse	0.30	3
Ba	137	159	3	1.066	ppb	0.90	15,185.47	1.901E-03	Pulse	0.30	3
Tl	205	209	3	0.384	ppb	1.71	31,795.00	7.075E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.976	ppb	0.18	105,477.60	2.347E-02	Pulse	0.30	3
U	238	209	3	0.462	ppb	0.10	52,864.63	1.176E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,123,744.58	0.40	99.5	Analog	0.30	3
2	Sc	45	108,359.94	1.41	102.0	Pulse	0.30	3
3	Sc	45	2,789,363.78	1.93	100.3	Analog	0.30	3
1	Ge	72	91,785.00	1.80	101.4	Pulse	0.30	3
2	Ge	72	72,621.63	1.06	99.3	Pulse	0.30	3
2	Rh	103	2,159,885.61	0.17	101.7	Analog	0.30	3
3	Rh	103	4,984,477.46	0.75	100.4	Analog	0.30	3
3	In	115	5,599,929.89	1.12	101.3	Analog	0.30	3
3	Tb	159	7,990,124.67	0.39	101.6	Analog	0.30	3
3	Bi	209	4,494,146.01	0.33	100.5	Analog	0.30	3

Quantitation Report

File Name	A0308017.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:47
Sample Name	N018845-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.012	ppb	17.14	42.23	8.111E-05	Pulse	0.30	3
B	11	6	3	2086.972	ppb	3.50	5,389,764.61	1.034E+01	Analog	0.30	3
Na	23	45	2	2393568.784	ppb	0.31	2,008,065,392.30	2.641E+04	Analog	0.30	3
Mg	26	45	2	5965.563	ppb	0.30	439,694.24	5.783E+00	Pulse	0.30	3
Al	27	45	2	0.825	ppb	66.89	1,020.67	1.342E-02	Pulse	0.30	3
K	39	45	2	25435.461	ppb	0.68	8,185,076.48	1.076E+02	Analog	0.30	3
Ca	44	45	3	157691.485	ppb	0.56	167,602,116.39	7.801E+01	Analog	0.30	3
V	51	45	2	0.299	ppb	5.26	1,669.05	2.194E-02	Pulse	0.30	3
Cr	52	45	2	0.467	ppb	3.09	2,628.59	3.457E-02	Pulse	0.30	3
Mn	55	45	2	80.596	ppb	0.48	240,373.05	3.161E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-40,302.18	-5.302E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,964.81	-2.584E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,064.40	-2.191E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-35,983.06	-7.406E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-4,959.46	-1.021E-01	Pulse	0.30	3
As	75	72	2	4.899	ppb	4.04	2,830.97	5.827E-02	Pulse	0.75	3
Se	78	72	1	0.636	ppb	18.40	158.90	2.751E-03	Pulse	0.30	3
Mo	95	103	2	84.654	ppb	1.64	237,719.47	1.950E-01	Pulse	0.30	3
Ag	107	103	3	0.146	ppb	18.96	10,387.49	3.468E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-177.07	-5.006E-05	Pulse	0.30	3
Sb	121	115	3	0.140	ppb	2.74	3,189.34	9.021E-04	Pulse	0.30	3
Ba	137	159	3	44.408	ppb	0.63	398,682.01	7.753E-02	Pulse	0.30	3
Tl	205	209	3	0.042	ppb	2.70	2,423.62	1.040E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-17,568.31	-7.535E-03	Pulse	0.30	3
U	238	209	3	1.412	ppb	0.27	83,751.76	3.592E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	521,345.01	2.39	46.1	Analog	0.30	3
2	Sc	45	76,040.41	1.22	71.6	Pulse	0.30	3
3	Sc	45	2,148,417.26	0.76	77.2	Analog	0.30	3
1	Ge	72	57,810.71	1.43	63.8	Pulse	0.30	3
2	Ge	72	48,583.12	2.03	66.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,219,141.07	0.62	57.4	Analog	0.30	3
3	Rh	103	2,995,733.88	0.46	60.3	Analog	0.30	3
3	In	115	3,535,612.42	0.17	63.9	Analog	0.30	3
3	Tb	159	5,142,647.46	0.22	65.4	Analog	0.30	3
3	Bi	209	2,331,493.52	0.50	52.1	Analog	0.30	3

Quantitation Report

File Name	A0308018.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:53
Sample Name	N018845-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	1.413E-05	Pulse	0.30	3
B	11	6	3	357.204	ppb	1.22	1,682,543.81	1.783E+00	Analog	0.30	3
Na	23	45	2	467551.010	ppb	0.45	487,964,468.28	5.159E+03	Analog	0.30	3
Mg	26	45	2	1177.624	ppb	0.66	108,100.83	1.143E+00	Pulse	0.30	3
Al	27	45	2	9.372	ppb	11.89	2,878.48	3.043E-02	Pulse	0.30	3
K	39	45	2	4895.778	ppb	0.68	1,976,634.02	2.090E+01	Analog	0.30	3
Ca	44	45	3	31208.039	ppb	0.78	39,586,819.69	1.544E+01	Analog	0.30	3
V	51	45	2	0.051	ppb	27.84	775.61	8.201E-03	Pulse	0.30	3
Cr	52	45	2	0.081	ppb	13.62	702.29	7.425E-03	Pulse	0.30	3
Mn	55	45	2	16.469	ppb	0.89	61,134.07	6.464E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-6,247.21	-6.606E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-453.15	-4.791E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-165.15	-2.694E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-5,556.84	-9.058E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-206.40	-3.373E-03	Pulse	0.30	3
As	75	72	2	0.985	ppb	3.85	725.04	1.181E-02	Pulse	0.75	3
Se	78	72	1	0.118	ppb	35.87	40.00	5.102E-04	Pulse	0.30	3
Mo	95	103	2	15.448	ppb	0.76	59,649.15	3.559E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,611.92	1.915E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-28.00	-6.016E-06	Pulse	0.30	3
Sb	121	115	3	0.038	ppb	12.11	1,327.89	2.850E-04	Pulse	0.30	3
Ba	137	159	3	8.553	ppb	0.32	102,546.93	1.496E-02	Pulse	0.30	3
Tl	205	209	3	0.015	ppb	10.02	1,867.97	5.502E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,496.73	-1.030E-03	Pulse	0.30	3
U	238	209	3	0.260	ppb	1.36	22,488.80	6.625E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	943,993.26	1.11	83.6	Analog	0.30	3
2	Sc	45	94,578.71	0.33	89.1	Pulse	0.30	3
3	Sc	45	2,563,815.40	0.74	92.2	Analog	0.30	3
1	Ge	72	78,319.87	0.42	86.5	Pulse	0.30	3
2	Ge	72	61,382.69	1.94	83.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,675,927.02	0.74	78.9	Analog	0.30	3
3	Rh	103	3,975,628.76	0.60	80.1	Analog	0.30	3
3	In	115	4,660,896.65	0.49	84.3	Analog	0.30	3
3	Tb	159	6,852,845.18	0.12	87.1	Analog	0.30	3
3	Bi	209	3,394,899.08	0.38	75.9	Analog	0.30	3

Quantitation Report

File Name	A0308019.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:58
Sample Name	N018845-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.011	ppb	36.71	68.89	7.834E-05	Pulse	0.30	3
B	11	6	3	1488.043	ppb	0.94	6,497,805.45	7.380E+00	Analog	0.30	3
Na	23	45	2	655358.160	ppb	0.65	682,755,683.16	7.231E+03	Analog	0.30	3
Mg	26	45	2	12630.414	ppb	2.60	1,155,484.98	1.224E+01	Analog	0.30	3
Al	27	45	2	1.753	ppb	30.10	1,440.47	1.527E-02	Pulse	0.30	3
K	39	45	2	9950.095	ppb	1.00	3,988,410.46	4.224E+01	Analog	0.30	3
Ca	44	45	3	107160.564	ppb	0.37	137,733,974.61	5.302E+01	Analog	0.30	3
V	51	45	2	6.130	ppb	1.60	32,585.21	3.451E-01	Pulse	0.30	3
Cr	52	45	2	650.988	ppb	0.59	4,321,376.40	4.577E+01	Analog	0.30	3
Mn	55	45	2	2.222	ppb	5.40	8,275.19	8.770E-02	Pulse	0.30	3
Fe	56	45	2	13.419	ppb	2.97	79,465.87	8.418E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-292.34	-3.103E-03	Pulse	0.30	3
Ni	60	72	2	1.262	ppb	0.13	3,715.98	5.921E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-9,202.84	-1.466E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,721.29	-2.743E-02	Pulse	0.30	3
As	75	72	2	2.372	ppb	6.53	1,774.88	2.828E-02	Pulse	0.75	3
Se	78	72	1	12.367	ppb	1.79	4,070.66	5.349E-02	Pulse	0.30	3
Mo	95	103	2	92.121	ppb	0.22	348,957.91	2.122E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,360.66	1.892E-03	Pulse	0.30	3
Cd	111	115	3	0.014	ppb	78.01	115.38	2.534E-05	Pulse	0.30	3
Sb	121	115	3	0.040	ppb	12.17	1,336.78	2.942E-04	Pulse	0.30	3
Ba	137	159	3	22.009	ppb	0.34	257,189.76	3.844E-02	Pulse	0.30	3
Tl	205	209	3	0.144	ppb	1.08	9,134.28	2.832E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,455.42	-3.241E-03	Pulse	0.30	3
U	238	209	3	12.281	ppb	1.35	1,006,845.81	3.121E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	880,548.77	0.66	77.9	Analog	0.30	3
2	Sc	45	94,417.97	1.76	88.9	Pulse	0.30	3
3	Sc	45	2,598,030.66	0.66	93.4	Analog	0.30	3
1	Ge	72	76,104.10	0.31	84.1	Pulse	0.30	3
2	Ge	72	62,761.22	0.40	85.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,644,574.94	1.34	77.4	Analog	0.30	3
3	Rh	103	3,891,147.16	0.10	78.4	Analog	0.30	3
3	In	115	4,545,748.54	0.67	82.2	Analog	0.30	3
3	Tb	159	6,690,153.30	0.35	85.1	Analog	0.30	3
3	Bi	209	3,225,768.49	0.66	72.1	Analog	0.30	3

Quantitation Report

File Name	A0308020.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:04
Sample Name	N018845-003B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	37.95	27.78	2.598E-05	Pulse	0.30	3
B	11	6	3	333.254	ppb	0.93	1,778,361.55	1.664E+00	Analog	0.30	3
Na	23	45	2	134516.503	ppb	1.17	155,164,472.13	1.485E+03	Analog	0.30	3
Mg	26	45	2	2469.125	ppb	1.19	250,177.83	2.394E+00	Pulse	0.30	3
Al	27	45	2	2.406	ppb	8.54	1,731.88	1.657E-02	Pulse	0.30	3
K	39	45	2	1997.140	ppb	1.07	904,742.60	8.659E+00	Pulse	0.30	3
Ca	44	45	3	22583.288	ppb	0.38	30,994,454.82	1.117E+01	Analog	0.30	3
V	51	45	2	1.209	ppb	2.90	7,558.70	7.236E-02	Pulse	0.30	3
Cr	52	45	2	133.397	ppb	0.85	980,135.56	9.380E+00	Pulse	0.30	3
Mn	55	45	2	0.485	ppb	5.32	2,047.82	1.959E-02	Pulse	0.30	3
Fe	56	45	2	3.593	ppb	2.15	26,102.17	2.498E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-58.61	-5.646E-04	Pulse	0.30	3
Ni	60	72	2	0.248	ppb	8.24	882.30	1.270E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,459.50	4.985E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	186.06	2.678E-03	Pulse	0.30	3
As	75	72	2	0.562	ppb	13.01	472.60	6.793E-03	Pulse	0.75	3
Se	78	72	1	2.596	ppb	6.13	976.74	1.123E-02	Pulse	0.30	3
Mo	95	103	2	17.897	ppb	0.89	77,991.74	4.123E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,689.10	2.166E-03	Pulse	0.30	3
Cd	111	115	3	0.006	ppb	74.74	62.58	1.215E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	19.45	731.16	1.420E-04	Pulse	0.30	3
Ba	137	159	3	4.525	ppb	1.07	59,367.73	7.935E-03	Pulse	0.30	3
Tl	205	209	3	0.027	ppb	9.64	3,019.32	7.741E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,729.22	-4.432E-04	Pulse	0.30	3
U	238	209	3	2.331	ppb	0.62	231,236.95	5.927E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,068,770.47	0.38	94.6	Analog	0.30	3
2	Sc	45	104,500.50	2.37	98.4	Pulse	0.30	3
3	Sc	45	2,773,722.88	0.39	99.7	Analog	0.30	3
1	Ge	72	87,004.84	0.74	96.1	Pulse	0.30	3
2	Ge	72	69,406.86	2.77	94.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,891,392.05	0.96	89.1	Analog	0.30	3
3	Rh	103	4,473,481.42	0.57	90.1	Analog	0.30	3
3	In	115	5,147,904.67	0.07	93.1	Analog	0.30	3
3	Tb	159	7,481,661.69	0.67	95.1	Analog	0.30	3
3	Bi	209	3,901,447.82	0.63	87.2	Analog	0.30	3

Quantitation Report

File Name	A0308021.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:09
Sample Name	N018845-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.011	ppb	53.49	65.56	7.695E-05	Pulse	0.30	3
B	11	6	3	1494.840	ppb	1.67	6,290,413.00	7.413E+00	Analog	0.30	3
Na	23	45	2	654783.852	ppb	0.41	656,802,132.44	7.225E+03	Analog	0.30	3
Mg	26	45	2	12740.352	ppb	1.29	1,122,429.71	1.235E+01	Analog	0.30	3
Al	27	45	2	1.405	ppb	39.05	1,323.73	1.458E-02	Pulse	0.30	3
K	39	45	2	9922.791	ppb	0.75	3,829,803.97	4.213E+01	Analog	0.30	3
Ca	44	45	3	107398.883	ppb	0.23	134,511,599.11	5.313E+01	Analog	0.30	3
V	51	45	2	5.996	ppb	0.75	30,701.51	3.377E-01	Pulse	0.30	3
Cr	52	45	2	655.267	ppb	0.22	4,188,068.68	4.607E+01	Analog	0.30	3
Mn	55	45	2	2.075	ppb	1.47	7,449.72	8.195E-02	Pulse	0.30	3
Fe	56	45	2	9.940	ppb	1.36	57,465.65	6.323E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-365.00	-4.013E-03	Pulse	0.30	3
Ni	60	72	2	1.244	ppb	2.49	3,488.89	5.837E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-8,193.21	-1.371E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,510.73	-2.527E-02	Pulse	0.30	3
As	75	72	2	2.303	ppb	3.40	1,641.19	2.746E-02	Pulse	0.75	3
Se	78	72	1	11.739	ppb	0.50	3,660.56	5.077E-02	Pulse	0.30	3
Mo	95	103	2	94.149	ppb	1.03	340,190.95	2.169E-01	Pulse	0.30	3
Ag	107	103	3	0.177	ppb	4.11	13,932.32	3.730E-03	Pulse	0.30	3
Cd	111	115	3	0.011	ppb	38.97	89.77	2.059E-05	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	4.79	1,155.64	2.653E-04	Pulse	0.30	3
Ba	137	159	3	22.269	ppb	0.48	248,388.33	3.890E-02	Pulse	0.30	3
Tl	205	209	3	0.146	ppb	1.82	8,891.93	2.874E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,934.92	-3.211E-03	Pulse	0.30	3
U	238	209	3	12.357	ppb	0.12	971,700.34	3.141E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	848,761.86	2.34	75.1	Analog	0.30	3
2	Sc	45	90,901.86	1.86	85.6	Pulse	0.30	3
3	Sc	45	2,531,585.22	0.34	91.0	Analog	0.30	3
1	Ge	72	72,098.40	0.51	79.6	Pulse	0.30	3
2	Ge	72	59,787.80	1.94	81.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,568,671.61	1.32	73.9	Analog	0.30	3
3	Rh	103	3,734,807.79	0.37	75.2	Analog	0.30	3
3	In	115	4,356,337.76	0.40	78.8	Analog	0.30	3
3	Tb	159	6,386,051.36	0.60	81.2	Analog	0.30	3
3	Bi	209	3,093,849.12	0.86	69.2	Analog	0.30	3

Quantitation Report

File Name	A0308022.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:15
Sample Name	N018845-004B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	774.93	18.89	1.787E-05	Pulse	0.30	3
B	11	6	3	321.405	ppb	0.11	1,693,826.49	1.605E+00	Analog	0.30	3
Na	23	45	2	131608.457	ppb	0.68	154,000,981.04	1.453E+03	Analog	0.30	3
Mg	26	45	2	2418.533	ppb	0.84	248,581.50	2.345E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,150.86	1.086E-02	Pulse	0.30	3
K	39	45	2	1950.581	ppb	0.79	896,893.60	8.462E+00	Pulse	0.30	3
Ca	44	45	3	22161.727	ppb	0.21	30,010,281.50	1.097E+01	Analog	0.30	3
V	51	45	2	1.206	ppb	4.28	7,653.20	7.220E-02	Pulse	0.30	3
Cr	52	45	2	131.399	ppb	0.58	979,312.25	9.240E+00	Pulse	0.30	3
Mn	55	45	2	0.420	ppb	6.77	1,809.62	1.707E-02	Pulse	0.30	3
Fe	56	45	2	2.066	ppb	2.55	16,725.86	1.578E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-31.59	-2.987E-04	Pulse	0.30	3
Ni	60	72	2	0.279	ppb	9.43	1,002.87	1.411E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,932.99	5.526E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	42.11	5.789E-04	Pulse	0.30	3
As	75	72	2	0.474	ppb	6.99	408.15	5.743E-03	Pulse	0.75	3
Se	78	72	1	2.202	ppb	1.92	830.05	9.522E-03	Pulse	0.30	3
Mo	95	103	2	17.660	ppb	0.50	78,173.60	4.069E-02	Pulse	0.30	3
Ag	107	103	3	0.018	ppb	37.80	10,390.37	2.380E-03	Pulse	0.30	3
Cd	111	115	3	0.005	ppb	34.98	50.40	1.011E-05	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	13.45	566.70	1.137E-04	Pulse	0.30	3
Ba	137	159	3	4.489	ppb	0.35	56,728.56	7.873E-03	Pulse	0.30	3
Tl	205	209	3	0.024	ppb	5.00	2,671.46	7.119E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,782.12	-4.749E-04	Pulse	0.30	3
U	238	209	3	2.287	ppb	0.77	218,218.43	5.815E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,055,133.78	0.55	93.4	Analog	0.30	3
2	Sc	45	105,987.52	0.66	99.8	Pulse	0.30	3
3	Sc	45	2,736,714.37	0.46	98.4	Analog	0.30	3
1	Ge	72	87,187.93	1.39	96.3	Pulse	0.30	3
2	Ge	72	71,105.23	1.60	97.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,921,365.75	0.88	90.5	Analog	0.30	3
3	Rh	103	4,365,227.26	0.18	87.9	Analog	0.30	3
3	In	115	4,985,656.95	0.23	90.1	Analog	0.30	3
3	Tb	159	7,205,439.34	0.30	91.6	Analog	0.30	3
3	Bi	209	3,752,450.22	0.37	83.9	Analog	0.30	3

Quantitation Report

File Name	A0308023.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:20
Sample Name	N018845-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	6.67	7.491E-06	Pulse	0.30	3
B	11	6	3	904.782	ppb	0.59	4,005,957.72	4.493E+00	Analog	0.30	3
Na	23	45	2	496356.039	ppb	1.00	520,866,201.13	5.477E+03	Analog	0.30	3
Mg	26	45	2	30759.592	ppb	0.63	2,834,758.05	2.981E+01	Analog	0.30	3
Al	27	45	2	3.076	ppb	10.17	1,702.01	1.790E-02	Pulse	0.30	3
K	39	45	2	13106.279	ppb	0.67	5,285,234.71	5.557E+01	Analog	0.30	3
Ca	44	45	3	202973.241	ppb	0.35	265,822,242.71	1.004E+02	Analog	0.30	3
V	51	45	2	1.967	ppb	0.48	10,878.43	1.144E-01	Pulse	0.30	3
Cr	52	45	2	152.536	ppb	0.60	1,020,046.59	1.073E+01	Mix	0.30	3
Mn	55	45	2	8.844	ppb	0.73	33,035.06	3.474E-01	Pulse	0.30	3
Fe	56	45	2	51.815	ppb	0.65	300,079.03	3.155E+00	Pulse	0.30	3
Co	59	45	2	1.236	ppb	3.74	14,915.17	1.569E-01	Pulse	0.30	3
Ni	60	72	2	103.333	ppb	1.21	296,600.81	4.740E+00	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,493.08	3.985E-02	Pulse	0.30	3
Zn	66	72	2	0.395	ppb	52.20	969.94	1.552E-02	Pulse	0.30	3
As	75	72	2	0.539	ppb	4.32	407.95	6.519E-03	Pulse	0.75	3
Se	78	72	1	7.166	ppb	3.56	2,429.18	3.099E-02	Pulse	0.30	3
Mo	95	103	2	33.611	ppb	0.13	126,421.92	7.743E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,131.31	1.332E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-623.98	-1.378E-04	Pulse	0.30	3
Sb	121	115	3	0.071	ppb	6.31	2,186.91	4.830E-04	Pulse	0.30	3
Ba	137	159	3	44.091	ppb	0.30	511,679.48	7.697E-02	Pulse	0.30	3
Tl	205	209	3	0.517	ppb	1.50	30,286.14	9.422E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-17,195.27	-5.350E-03	Pulse	0.30	3
U	238	209	3	7.822	ppb	0.36	639,009.67	1.988E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	891,661.18	0.73	78.9	Analog	0.30	3
2	Sc	45	95,105.94	1.53	89.6	Pulse	0.30	3
3	Sc	45	2,647,236.57	0.45	95.2	Analog	0.30	3
1	Ge	72	78,387.06	0.72	86.6	Pulse	0.30	3
2	Ge	72	62,588.52	1.94	85.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,632,791.10	0.84	76.9	Analog	0.30	3
3	Rh	103	3,852,032.23	0.37	77.6	Analog	0.30	3
3	In	115	4,527,761.05	0.25	81.9	Analog	0.30	3
3	Tb	159	6,647,593.09	0.48	84.5	Analog	0.30	3
3	Bi	209	3,214,259.19	0.46	71.8	Analog	0.30	3

Quantitation Report

File Name	A0308024.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:26
Sample Name	N018845-006B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	165.24	23.34	2.153E-05	Pulse	0.30	3
B	11	6	3	204.626	ppb	1.09	1,111,286.80	1.027E+00	Analog	0.30	3
Na	23	45	2	102443.151	ppb	1.10	118,226,962.68	1.131E+03	Analog	0.30	3
Mg	26	45	2	6159.940	ppb	0.98	624,019.47	5.971E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	973.40	9.321E-03	Pulse	0.30	3
K	39	45	2	2676.644	ppb	1.14	1,204,851.00	1.153E+01	Analog	0.30	3
Ca	44	45	3	42714.066	ppb	0.38	58,441,963.57	2.113E+01	Analog	0.30	3
V	51	45	2	0.408	ppb	1.42	2,922.62	2.796E-02	Pulse	0.30	3
Cr	52	45	2	30.959	ppb	1.35	227,661.33	2.178E+00	Pulse	0.30	3
Mn	55	45	2	1.868	ppb	1.69	7,714.82	7.382E-02	Pulse	0.30	3
Fe	56	45	2	10.540	ppb	0.39	69,860.77	6.684E-01	Pulse	0.30	3
Co	59	45	2	0.251	ppb	5.43	3,333.71	3.189E-02	Pulse	0.30	3
Ni	60	72	2	22.054	ppb	1.15	70,807.30	1.013E+00	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	7,790.33	1.113E-01	Pulse	0.30	3
Zn	66	72	2	0.124	ppb	42.22	724.48	1.035E-02	Pulse	0.30	3
As	75	72	2	0.128	ppb	6.82	114.57	1.639E-03	Pulse	0.75	3
Se	78	72	1	1.590	ppb	9.29	601.15	6.877E-03	Pulse	0.30	3
Mo	95	103	2	6.440	ppb	0.98	28,031.91	1.485E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,944.77	2.037E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-21,825.85	-4.279E-03	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	3.05	781.18	1.532E-04	Pulse	0.30	3
Ba	137	159	3	7.195	ppb	1.09	92,950.25	1.260E-02	Pulse	0.30	3
Tl	205	209	3	0.096	ppb	1.30	7,667.82	1.986E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-44,731.22	-1.158E-02	Pulse	0.30	3
U	238	209	3	1.500	ppb	0.59	147,267.24	3.814E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,081,798.00	0.98	95.7	Analog	0.30	3
2	Sc	45	104,525.21	2.13	98.4	Pulse	0.30	3
3	Sc	45	2,765,475.13	1.16	99.4	Analog	0.30	3
1	Ge	72	87,469.43	1.04	96.6	Pulse	0.30	3
2	Ge	72	69,935.66	1.66	95.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,888,023.29	1.33	88.9	Analog	0.30	3
3	Rh	103	4,391,906.84	0.98	88.5	Analog	0.30	3
3	In	115	5,100,287.42	0.69	92.2	Analog	0.30	3
3	Tb	159	7,379,489.68	0.54	93.8	Analog	0.30	3
3	Bi	209	3,861,496.92	0.59	86.3	Analog	0.30	3

Quantitation Report

File Name	A0308025.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:32
Sample Name	N018845-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	47.41	27.78	5.071E-05	Pulse	0.30	3
B	11	6	3	2236.006	ppb	3.10	6,084,452.72	1.108E+01	Analog	0.30	3
Na	23	45	2	2170117.665	ppb	1.02	1,979,152,183.84	2.394E+04	Analog	0.30	3
Mg	26	45	2	20236.300	ppb	1.40	1,620,899.77	1.961E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	886.20	1.071E-02	Pulse	0.30	3
K	39	45	2	29749.394	ppb	0.79	10,404,732.55	1.259E+02	Analog	0.30	3
Ca	44	45	3	309620.443	ppb	0.53	364,909,999.01	1.532E+02	Analog	0.30	3
V	51	45	2	5.086	ppb	2.62	23,739.86	2.873E-01	Pulse	0.30	3
Cr	52	45	2	489.106	ppb	1.06	2,843,011.70	3.439E+01	Analog	0.30	3
Mn	55	45	2	28.280	ppb	0.78	91,719.97	1.110E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-138,378.56	-1.674E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,526.03	-1.847E-02	Pulse	0.30	3
Ni	60	72	2	1.200	ppb	1.57	2,799.19	5.633E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-42,611.62	-8.574E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-3,742.36	-7.529E-02	Pulse	0.30	3
As	75	72	2	2.078	ppb	3.49	1,232.10	2.479E-02	Pulse	0.75	3
Se	78	72	1	4.179	ppb	1.54	1,084.53	1.807E-02	Pulse	0.30	3
Mo	95	103	2	39.464	ppb	1.09	113,966.55	9.091E-02	Pulse	0.30	3
Ag	107	103	3	0.122	ppb	10.81	10,023.59	3.262E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,011.63	-2.785E-04	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	3.75	1,018.96	2.805E-04	Pulse	0.30	3
Ba	137	159	3	38.173	ppb	0.67	355,204.33	6.665E-02	Pulse	0.30	3
Tl	205	209	3	2.181	ppb	0.81	93,512.64	3.879E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-31,769.44	-1.318E-02	Pulse	0.30	3
U	238	209	3	4.062	ppb	0.38	248,906.13	1.033E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	549,329.12	2.60	48.6	Analog	0.30	3
2	Sc	45	82,671.43	2.71	77.8	Pulse	0.30	3
3	Sc	45	2,382,345.55	1.18	85.7	Analog	0.30	3
1	Ge	72	60,003.09	0.60	66.3	Pulse	0.30	3
2	Ge	72	49,696.48	1.50	67.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,253,635.89	1.81	59.0	Analog	0.30	3
3	Rh	103	3,073,972.49	1.45	61.9	Analog	0.30	3
3	In	115	3,633,321.10	1.60	65.7	Analog	0.30	3
3	Tb	159	5,329,715.37	1.50	67.8	Analog	0.30	3
3	Bi	209	2,410,706.21	1.86	53.9	Analog	0.30	3

Quantitation Report

File Name	A0308026.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:37
Sample Name	N018845-007B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	317.13	22.22	2.207E-05	Pulse	0.30	3
B	11	6	3	391.882	ppb	1.24	1,970,551.34	1.954E+00	Analog	0.30	3
Na	23	45	2	438557.839	ppb	0.30	514,777,787.89	4.839E+03	Analog	0.30	3
Mg	26	45	2	3999.608	ppb	0.52	412,427.80	3.877E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	585.57	5.502E-03	Pulse	0.30	3
K	39	45	2	5891.325	ppb	0.95	2,670,190.55	2.510E+01	Analog	0.30	3
Ca	44	45	3	63969.139	ppb	0.53	89,630,274.22	3.165E+01	Analog	0.30	3
V	51	45	2	0.969	ppb	4.18	6,283.69	5.905E-02	Pulse	0.30	3
Cr	52	45	2	98.726	ppb	0.35	738,530.27	6.943E+00	Pulse	0.30	3
Mn	55	45	2	5.772	ppb	0.96	24,139.08	2.269E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-32,707.67	-3.075E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-410.36	-3.856E-03	Pulse	0.30	3
Ni	60	72	2	0.286	ppb	4.90	975.96	1.444E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-7,709.53	-1.140E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-360.52	-5.333E-03	Pulse	0.30	3
As	75	72	2	0.437	ppb	9.05	359.22	5.315E-03	Pulse	0.75	3
Se	78	72	1	0.974	ppb	9.70	356.69	4.215E-03	Pulse	0.30	3
Mo	95	103	2	7.186	ppb	2.18	29,700.51	1.656E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,053.80	1.715E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-220.76	-4.591E-05	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	14.82	717.82	1.491E-04	Pulse	0.30	3
Ba	137	159	3	7.547	ppb	0.63	91,467.09	1.321E-02	Pulse	0.30	3
Tl	205	209	3	0.433	ppb	2.01	27,266.86	7.941E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,517.38	-2.189E-03	Pulse	0.30	3
U	238	209	3	0.744	ppb	0.72	64,979.77	1.892E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,008,377.36	0.32	89.3	Analog	0.30	3
2	Sc	45	106,369.73	1.40	100.2	Pulse	0.30	3
3	Sc	45	2,832,203.95	1.42	101.8	Analog	0.30	3
1	Ge	72	84,673.66	0.99	93.5	Pulse	0.30	3
2	Ge	72	67,599.09	0.26	92.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,793,237.51	0.20	84.4	Analog	0.30	3
3	Rh	103	4,113,114.73	0.97	82.9	Analog	0.30	3
3	In	115	4,810,162.75	1.00	87.0	Analog	0.30	3
3	Tb	159	6,924,309.06	0.86	88.0	Analog	0.30	3
3	Bi	209	3,434,167.59	0.90	76.8	Analog	0.30	3

Quantitation Report

File Name	A0308027.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:43
Sample Name	CCV1,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.727	ppb	0.70	126,704.91	1.018E-01	Pulse	0.30	3
B	11	6	3	208.040	ppb	1.54	1,299,112.85	1.044E+00	Analog	0.30	3
Na	23	45	2	478.097	ppb	4.50	720,243.25	6.292E+00	Pulse	0.30	3
Mg	26	45	2	198.536	ppb	1.42	22,235.70	1.942E-01	Pulse	0.30	3
Al	27	45	2	15.255	ppb	2.53	4,825.36	4.214E-02	Pulse	0.30	3
K	39	45	2	208.343	ppb	1.52	126,497.03	1.105E+00	Pulse	0.30	3
Ca	44	45	3	197.583	ppb	0.22	296,796.47	1.000E-01	Pulse	0.30	3
V	51	45	2	18.709	ppb	0.61	119,346.28	1.042E+00	Pulse	0.30	3
Cr	52	45	2	18.638	ppb	0.50	150,236.50	1.312E+00	Pulse	0.30	3
Mn	55	45	2	19.153	ppb	1.17	86,058.51	7.516E-01	Pulse	0.30	3
Fe	56	45	2	18.876	ppb	1.88	134,038.54	1.171E+00	Pulse	0.30	3
Co	59	45	2	18.708	ppb	1.27	271,737.49	2.373E+00	Pulse	0.30	3
Ni	60	72	2	19.114	ppb	2.11	67,876.12	8.778E-01	Pulse	0.30	3
Cu	63	72	2	18.115	ppb	1.48	196,428.37	2.540E+00	Pulse	0.30	3
Zn	66	72	2	18.999	ppb	1.80	28,706.64	3.712E-01	Pulse	0.30	3
As	75	72	2	18.764	ppb	1.52	17,233.18	2.228E-01	Pulse	0.75	3
Se	78	72	1	19.061	ppb	0.90	8,122.34	8.244E-02	Pulse	0.30	3
Mo	95	103	2	19.235	ppb	1.12	96,137.35	4.432E-02	Pulse	0.30	3
Ag	107	103	3	18.496	ppb	0.88	803,685.61	1.594E-01	Pulse	0.30	3
Cd	111	115	3	19.025	ppb	0.48	183,399.27	3.254E-02	Pulse	0.30	3
Sb	121	115	3	18.815	ppb	0.35	645,576.95	1.146E-01	Pulse	0.30	3
Ba	137	159	3	19.478	ppb	0.50	267,600.86	3.403E-02	Pulse	0.30	3
Tl	205	209	3	19.101	ppb	1.68	1,496,729.21	3.374E-01	Analog	0.30	3
Pb	208	209	3	19.037	ppb	0.77	2,014,619.33	4.541E-01	Analog	0.30	3
U	238	209	3	18.913	ppb	0.61	2,132,436.09	4.807E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,244,137.13	0.46	110.1	Analog	0.30	3
2	Sc	45	114,506.50	1.45	107.8	Pulse	0.30	3
3	Sc	45	2,967,775.37	0.41	106.7	Analog	0.30	3
1	Ge	72	98,521.49	0.36	108.8	Pulse	0.30	3
2	Ge	72	77,348.52	2.21	105.7	Pulse	0.30	3
2	Rh	103	2,169,330.90	0.46	102.1	Analog	0.30	3
3	Rh	103	5,043,128.95	0.67	101.6	Analog	0.30	3
3	In	115	5,635,317.08	0.47	101.9	Analog	0.30	3
3	Tb	159	7,864,392.17	0.16	100.0	Analog	0.30	3
3	Bi	209	4,436,468.40	0.83	99.2	Analog	0.30	3

Quantitation Report

File Name	A0308028.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:48
Sample Name	CCB1,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	150.02	26.67	2.132E-05	Pulse	0.30	3
B	11	6	3	14.780	ppb	0.78	109,529.08	8.769E-02	Pulse	0.30	3
Na	23	45	2	189.180	ppb	8.18	352,320.70	3.105E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	182.23	1.603E-03	Pulse	0.30	3
Al	27	45	2	0.107	ppb	347.76	1,361.27	1.199E-02	Pulse	0.30	3
K	39	45	2	8.811	ppb	53.93	29,751.78	2.622E-01	Pulse	0.30	3
Ca	44	45	3	1.675	ppb	9.78	9,142.85	3.089E-03	Pulse	0.30	3
V	51	45	2	0.024	ppb	26.86	763.38	6.727E-03	Pulse	0.30	3
Cr	52	45	2	0.061	ppb	8.09	681.90	6.008E-03	Pulse	0.30	3
Mn	55	45	2	0.002	ppb	63.98	77.56	6.834E-04	Pulse	0.30	3
Fe	56	45	2	0.029	ppb	5.20	3,981.36	3.507E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	95.25	16.30	1.443E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	77.40	9.958E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,245.90	1.449E-01	Pulse	0.30	3
Zn	66	72	2	0.027	ppb	136.83	658.77	8.487E-03	Pulse	0.30	3
As	75	72	2	0.013	ppb	23.65	21.33	2.751E-04	Pulse	0.75	3
Se	78	72	1	0.021	ppb	42.72	8.89	9.064E-05	Pulse	0.30	3
Mo	95	103	2	0.087	ppb	20.80	467.81	2.130E-04	Pulse	0.30	3
Ag	107	103	3	0.565	ppb	11.67	35,839.58	7.023E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20.80	-3.674E-06	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	4.89	1,584.59	2.801E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	271.44	3.430E-05	Pulse	0.30	3
Tl	205	209	3	0.019	ppb	8.18	2,850.39	6.351E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	654.79	1.459E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	25.25	382.68	8.526E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,248,957.64	0.92	110.5	Analog	0.30	3
2	Sc	45	113,537.39	1.62	106.9	Pulse	0.30	3
3	Sc	45	2,959,747.49	0.27	106.4	Analog	0.30	3
1	Ge	72	97,956.18	1.22	108.2	Pulse	0.30	3
2	Ge	72	77,588.60	1.01	106.0	Pulse	0.30	3
2	Rh	103	2,196,695.99	0.38	103.4	Analog	0.30	3
3	Rh	103	5,101,852.49	0.43	102.8	Analog	0.30	3
3	In	115	5,656,934.28	0.52	102.3	Analog	0.30	3
3	Tb	159	7,912,257.73	0.29	100.6	Analog	0.30	3
3	Bi	209	4,488,047.47	0.22	100.3	Analog	0.30	3

Quantitation Report

File Name	A0308029.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:54
Sample Name	N018845-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	38.10	31.11	3.011E-05	Pulse	0.30	3
B	11	6	3	901.045	ppb	0.53	4,625,821.95	4.474E+00	Analog	0.30	3
Na	23	45	2	300082.029	ppb	0.40	340,730,034.92	3.312E+03	Analog	0.30	3
Mg	26	45	2	5112.585	ppb	0.61	509,888.93	4.956E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,078.12	1.047E-02	Pulse	0.30	3
K	39	45	2	4676.818	ppb	1.07	2,055,089.13	1.997E+01	Analog	0.30	3
Ca	44	45	3	23174.040	ppb	0.72	31,712,132.86	1.147E+01	Analog	0.30	3
V	51	45	2	0.989	ppb	1.53	6,192.52	6.017E-02	Pulse	0.30	3
Cr	52	45	2	0.147	ppb	3.92	1,243.06	1.208E-02	Pulse	0.30	3
Mn	55	45	2	220.352	ppb	0.33	889,094.87	8.641E+00	Pulse	0.30	3
Fe	56	45	2	37.916	ppb	0.46	238,505.15	2.318E+00	Pulse	0.30	3
Co	59	45	2	0.025	ppb	9.30	338.41	3.288E-03	Pulse	0.30	3
Ni	60	72	2	0.319	ppb	4.75	1,104.01	1.593E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,271.28	-3.275E-02	Pulse	0.30	3
Zn	66	72	2	0.202	ppb	15.95	819.95	1.184E-02	Pulse	0.30	3
As	75	72	2	14.140	ppb	0.64	11,636.11	1.680E-01	Pulse	0.75	3
Se	78	72	1	0.101	ppb	13.54	37.78	4.389E-04	Pulse	0.30	3
Mo	95	103	2	43.751	ppb	0.77	183,134.20	1.008E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,231.24	9.988E-04	Pulse	0.30	3
Cd	111	115	3	0.022	ppb	4.90	194.58	3.950E-05	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	5.53	1,366.78	2.774E-04	Pulse	0.30	3
Ba	137	159	3	33.236	ppb	0.36	414,658.87	5.803E-02	Pulse	0.30	3
Tl	205	209	3	0.079	ppb	0.60	6,015.91	1.679E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,195.70	-8.918E-04	Pulse	0.30	3
U	238	209	3	0.534	ppb	0.60	48,755.91	1.361E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,033,901.93	0.63	91.5	Analog	0.30	3
2	Sc	45	102,891.00	1.88	96.9	Pulse	0.30	3
3	Sc	45	2,765,671.28	0.63	99.4	Analog	0.30	3
1	Ge	72	86,079.73	0.29	95.1	Pulse	0.30	3
2	Ge	72	69,283.87	2.14	94.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,817,139.66	1.96	85.6	Analog	0.30	3
3	Rh	103	4,236,190.88	0.33	85.3	Analog	0.30	3
3	In	115	4,925,967.48	0.33	89.1	Analog	0.30	3
3	Tb	159	7,145,277.19	0.33	90.8	Analog	0.30	3
3	Bi	209	3,583,570.36	0.71	80.1	Analog	0.30	3

Quantitation Report

File Name	A0308030.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:00
Sample Name	N018845-008B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	246.37	24.44	2.118E-05	Pulse	0.30	3
B	11	6	3	203.502	ppb	0.61	1,182,692.29	1.022E+00	Analog	0.30	3
Na	23	45	2	61311.339	ppb	0.64	74,859,220.55	6.774E+02	Analog	0.30	3
Mg	26	45	2	1037.918	ppb	1.65	111,331.91	1.008E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	634.49	5.748E-03	Pulse	0.30	3
K	39	45	2	919.824	ppb	1.05	454,071.59	4.109E+00	Pulse	0.30	3
Ca	44	45	3	4777.108	ppb	0.21	6,784,354.34	2.366E+00	Analog	0.30	3
V	51	45	2	0.226	ppb	11.18	1,980.20	1.793E-02	Pulse	0.30	3
Cr	52	45	2	0.055	ppb	23.72	617.26	5.595E-03	Pulse	0.30	3
Mn	55	45	2	44.518	ppb	1.07	192,958.56	1.746E+00	Pulse	0.30	3
Fe	56	45	2	7.530	ppb	0.27	53,823.02	4.871E-01	Pulse	0.30	3
Co	59	45	2	0.006	ppb	40.86	86.49	7.798E-04	Pulse	0.30	3
Ni	60	72	2	0.067	ppb	11.64	326.77	4.389E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	6,637.58	8.915E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	546.97	7.349E-03	Pulse	0.30	3
As	75	72	2	2.968	ppb	1.61	2,631.93	3.535E-02	Pulse	0.75	3
Se	78	72	1	0.016	ppb	50.13	6.67	7.021E-05	Pulse	0.30	3
Mo	95	103	2	8.351	ppb	1.05	38,678.71	1.925E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,459.89	2.033E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13,578.23	-2.560E-03	Pulse	0.30	3
Sb	121	115	3	0.008	ppb	34.36	547.81	1.033E-04	Pulse	0.30	3
Ba	137	159	3	5.625	ppb	0.21	74,469.05	9.855E-03	Pulse	0.30	3
Tl	205	209	3	0.012	ppb	5.53	2,031.34	5.050E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-26,308.52	-6.540E-03	Pulse	0.30	3
U	238	209	3	0.101	ppb	3.16	10,473.16	2.604E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,157,544.85	1.18	102.5	Analog	0.30	3
2	Sc	45	110,509.97	1.85	104.1	Pulse	0.30	3
3	Sc	45	2,867,998.53	0.45	103.1	Analog	0.30	3
1	Ge	72	95,056.39	0.63	105.0	Pulse	0.30	3
2	Ge	72	74,447.48	0.35	101.8	Pulse	0.30	3
2	Rh	103	2,009,551.13	0.36	94.6	Analog	0.30	3
3	Rh	103	4,654,317.39	0.58	93.8	Analog	0.30	3
3	In	115	5,304,635.81	0.32	95.9	Analog	0.30	3
3	Tb	159	7,556,226.28	0.36	96.1	Analog	0.30	3
3	Bi	209	4,023,061.09	0.85	89.9	Analog	0.30	3

Quantitation Report

File Name	A0308031.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:05
Sample Name	N018845-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	6.67	8.000E-06	Pulse	0.30	3
B	11	6	3	427.321	ppb	0.53	1,780,304.85	2.130E+00	Analog	0.30	3
Na	23	45	2	574240.155	ppb	0.72	587,845,471.24	6.336E+03	Analog	0.30	3
Mg	26	45	2	50903.122	ppb	0.50	4,576,332.92	4.933E+01	Analog	0.30	3
Al	27	45	2	0.640	ppb	60.83	1,210.41	1.305E-02	Pulse	0.30	3
K	39	45	2	16846.351	ppb	0.31	6,621,113.93	7.137E+01	Analog	0.30	3
Ca	44	45	3	415630.612	ppb	0.28	529,428,987.66	2.056E+02	Analog	0.30	3
V	51	45	2	6.548	ppb	0.50	34,167.15	3.683E-01	Pulse	0.30	3
Cr	52	45	2	36779.362	ppb	0.46	239,901,442.73	2.586E+03	Analog	0.30	3
Mn	55	45	2	<0.000	ppb	---	-6,563.26	-7.076E-02	Pulse	0.30	3
Fe	56	45	2	0.803	ppb	10.30	7,581.81	8.171E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,113.57	-1.200E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,534.40	-2.609E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-12,055.33	-2.050E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-4,764.50	-8.104E-02	Pulse	0.30	3
As	75	72	2	2.707	ppb	4.61	1,895.75	3.226E-02	Pulse	0.75	3
Se	78	72	1	16.417	ppb	0.33	5,128.78	7.100E-02	Pulse	0.30	3
Mo	95	103	2	58.294	ppb	1.00	204,209.69	1.343E-01	Pulse	0.30	3
Ag	107	103	3	3.447	ppb	1.10	115,201.67	3.151E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,402.59	-3.283E-04	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	2.15	1,191.21	2.788E-04	Pulse	0.30	3
Ba	137	159	3	35.289	ppb	0.34	390,073.52	6.161E-02	Pulse	0.30	3
Tl	205	209	3	0.131	ppb	0.81	7,797.90	2.596E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-30,060.83	-1.001E-02	Pulse	0.30	3
U	238	209	3	1.593	ppb	0.24	121,691.54	4.051E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	836,011.77	0.60	74.0	Analog	0.30	3
2	Sc	45	92,777.79	1.19	87.4	Pulse	0.30	3
3	Sc	45	2,574,818.89	0.19	92.6	Analog	0.30	3
1	Ge	72	72,233.27	0.65	79.8	Pulse	0.30	3
2	Ge	72	58,797.74	1.80	80.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,520,787.77	0.53	71.6	Analog	0.30	3
3	Rh	103	3,655,821.26	0.19	73.6	Analog	0.30	3
3	In	115	4,272,341.49	0.37	77.2	Analog	0.30	3
3	Tb	159	6,330,848.86	0.66	80.5	Analog	0.30	3
3	Bi	209	3,003,671.59	0.45	67.1	Analog	0.30	3

Quantitation Report

File Name	A0308032.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:11
Sample Name	N018845-005B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	14.44	1.422E-05	Pulse	0.30	3
B	11	6	3	96.211	ppb	1.29	500,249.10	4.907E-01	Pulse	0.30	3
Na	23	45	2	119211.955	ppb	1.06	131,953,401.36	1.316E+03	Analog	0.30	3
Mg	26	45	2	10863.991	ppb	0.86	1,055,576.84	1.053E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	572.54	5.708E-03	Pulse	0.30	3
K	39	45	2	3492.176	ppb	0.85	1,500,984.35	1.497E+01	Analog	0.30	3
Ca	44	45	3	88111.659	ppb	0.44	118,399,320.46	4.359E+01	Analog	0.30	3
V	51	45	2	1.282	ppb	4.21	7,657.62	7.640E-02	Pulse	0.30	3
Cr	52	45	2	7659.514	ppb	0.91	53,986,879.54	5.385E+02	Analog	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,472.20	-1.469E-02	Pulse	0.30	3
Fe	56	45	2	3.593	ppb	0.70	25,043.61	2.498E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-225.67	-2.250E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-277.90	-4.195E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	5,491.30	8.291E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-713.94	-1.079E-02	Pulse	0.30	3
As	75	72	2	0.536	ppb	1.23	429.74	6.489E-03	Pulse	0.75	3
Se	78	72	1	3.383	ppb	8.51	1,227.88	1.463E-02	Pulse	0.30	3
Mo	95	103	2	10.985	ppb	0.82	45,777.18	2.531E-02	Pulse	0.30	3
Ag	107	103	3	1.003	ppb	0.92	45,669.08	1.075E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-8,457.39	-1.714E-03	Pulse	0.30	3
Sb	121	115	3	0.013	ppb	2.79	643.37	1.305E-04	Pulse	0.30	3
Ba	137	159	3	6.627	ppb	19.58	82,915.14	1.160E-02	Pulse	0.30	3
Tl	205	209	3	0.021	ppb	7.14	2,432.52	6.585E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-21,753.41	-5.917E-03	Pulse	0.30	3
U	238	209	3	0.300	ppb	0.98	28,278.07	7.656E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,019,492.84	1.23	90.2	Analog	0.30	3
2	Sc	45	100,257.24	1.05	94.4	Pulse	0.30	3
3	Sc	45	2,716,086.38	0.07	97.7	Analog	0.30	3
1	Ge	72	83,926.58	1.33	92.7	Pulse	0.30	3
2	Ge	72	66,231.45	1.15	90.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,808,357.04	0.65	85.1	Analog	0.30	3
3	Rh	103	4,249,792.54	0.60	85.6	Analog	0.30	3
3	In	115	4,930,178.68	0.12	89.1	Analog	0.30	3
3	Tb	159	7,148,726.56	0.63	90.9	Analog	0.30	3
3	Bi	209	3,693,557.65	0.56	82.6	Analog	0.30	3

Quantitation Report

File Name	A0308033.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:16
Sample Name	N018845-005B,SAMP,500
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	6.67	5.580E-06	Pulse	0.30	3
B	11	6	3	9.539	ppb	1.68	73,388.13	6.175E-02	Pulse	0.30	3
Na	23	45	2	1348.143	ppb	1.22	1,811,416.93	1.589E+01	Analog	0.30	3
Mg	26	45	2	107.745	ppb	1.30	12,109.26	1.062E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	199.91	1.758E-03	Pulse	0.30	3
K	39	45	2	37.348	ppb	4.97	43,622.13	3.827E-01	Pulse	0.30	3
Ca	44	45	3	939.656	ppb	0.77	1,395,974.08	4.671E-01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	530.03	4.645E-03	Pulse	0.30	3
Cr	52	45	2	83.645	ppb	0.61	670,591.96	5.883E+00	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	34.85	3.050E-04	Pulse	0.30	3
Fe	56	45	2	0.061	ppb	13.97	4,214.17	3.697E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	57.74	26.03	2.271E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	64.29	8.160E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,922.54	1.896E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	268.19	3.408E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	260.38	11.96	1.525E-04	Pulse	0.75	3
Se	78	72	1	0.054	ppb	48.70	22.22	2.327E-04	Pulse	0.30	3
Mo	95	103	2	0.175	ppb	3.44	904.51	4.153E-04	Pulse	0.30	3
Ag	107	103	3	0.048	ppb	83.83	13,437.94	2.630E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-319.99	-5.605E-05	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	290.01	5.081E-05	Pulse	0.30	3
Ba	137	159	3	0.028	ppb	17.24	707.60	9.004E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	933.40	2.100E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-175.68	-3.952E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	15.26	368.45	8.289E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,188,286.30	0.95	105.2	Analog	0.30	3
2	Sc	45	114,006.14	2.20	107.4	Pulse	0.30	3
3	Sc	45	2,988,576.17	0.58	107.5	Analog	0.30	3
1	Ge	72	95,758.69	0.82	105.8	Pulse	0.30	3
2	Ge	72	78,694.07	0.95	107.6	Pulse	0.30	3
2	Rh	103	2,177,798.42	1.78	102.5	Analog	0.30	3
3	Rh	103	5,109,758.81	0.24	102.9	Analog	0.30	3
3	In	115	5,709,096.18	0.50	103.2	Analog	0.30	3
3	Tb	159	7,856,822.31	0.43	99.9	Analog	0.30	3
3	Bi	209	4,445,032.68	0.30	99.4	Analog	0.30	3

Quantitation Report

File Name	A0308034.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:22
Sample Name	RINSE,RINSE,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.55	1.316E-05	Pulse	0.30	3
B	11	6	3	6.513	ppb	1.50	55,275.96	4.678E-02	Pulse	0.30	3
Na	23	45	2	71.185	ppb	10.47	204,685.95	1.803E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	65.56	5.745E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	173.34	1.527E-03	Pulse	0.30	3
K	39	45	2	5.626	ppb	45.74	28,245.71	2.488E-01	Pulse	0.30	3
Ca	44	45	3	2.138	ppb	34.77	9,791.01	3.318E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	441.14	3.886E-03	Pulse	0.30	3
Cr	52	45	2	1.896	ppb	5.93	15,325.18	1.350E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	53.96	4.753E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,319.03	2.923E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	111.92	8.68	7.643E-05	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	72.01	9.264E-04	Pulse	0.30	3
Cu	63	72	2	0.020	ppb	257.83	16,467.33	2.116E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	240.28	3.089E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	227.20	12.44	1.603E-04	Pulse	0.75	3
Se	78	72	1	0.005	ppb	86.60	2.22	2.275E-05	Pulse	0.30	3
Mo	95	103	2	0.026	ppb	30.65	160.01	7.297E-05	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,878.54	1.727E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-11.88	-2.106E-06	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	273.35	4.856E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	74.87	9.594E-06	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	790.05	1.793E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	308.29	6.994E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	40.75	9.243E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,181,755.74	1.13	104.6	Analog	0.30	3
2	Sc	45	113,599.97	2.03	107.0	Pulse	0.30	3
3	Sc	45	2,950,507.01	0.93	106.1	Analog	0.30	3
1	Ge	72	97,414.73	0.43	107.6	Pulse	0.30	3
2	Ge	72	77,811.94	0.85	106.4	Pulse	0.30	3
2	Rh	103	2,197,972.88	1.39	103.5	Analog	0.30	3
3	Rh	103	5,140,862.01	0.20	103.6	Analog	0.30	3
3	In	115	5,629,443.94	0.43	101.8	Analog	0.30	3
3	Tb	159	7,804,741.27	0.20	99.2	Analog	0.30	3
3	Bi	209	4,405,136.39	0.59	98.5	Analog	0.30	3

Quantitation Report

File Name	A0308035.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:28
Sample Name	RINSE,RINSE,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	18.89	1.617E-05	Pulse	0.30	3
B	11	6	3	5.755	ppb	1.99	50,239.29	4.302E-02	Pulse	0.30	3
Na	23	45	2	69.447	ppb	15.91	197,482.75	1.784E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	51.11	4.607E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	135.56	1.222E-03	Pulse	0.30	3
K	39	45	2	4.512	ppb	58.47	27,031.68	2.441E-01	Pulse	0.30	3
Ca	44	45	3	7.538	ppb	159.30	17,304.32	5.989E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	448.92	4.050E-03	Pulse	0.30	3
Cr	52	45	2	1.422	ppb	9.82	11,258.51	1.017E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	38.41	3.471E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,575.32	2.326E-02	Pulse	0.30	3
Co	59	45	2	0.003	ppb	6.88	47.57	4.296E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	96.46	1.249E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	15,686.77	2.035E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	213.65	2.770E-03	Pulse	0.30	3
As	75	72	2	0.005	ppb	46.23	13.78	1.787E-04	Pulse	0.75	3
Se	78	72	1	0.005	ppb	86.61	2.22	2.282E-05	Pulse	0.30	3
Mo	95	103	2	0.019	ppb	41.57	122.23	5.669E-05	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,734.06	1.537E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13.39	-2.397E-06	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	245.57	4.395E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-9.35	-1.195E-06	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	796.72	1.795E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	322.75	7.271E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	33.20	7.478E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,167,732.51	0.17	103.4	Analog	0.30	3
2	Sc	45	110,809.84	1.94	104.3	Pulse	0.30	3
3	Sc	45	2,889,926.69	0.04	103.9	Analog	0.30	3
1	Ge	72	96,578.83	1.46	106.7	Pulse	0.30	3
2	Ge	72	77,077.31	1.33	105.3	Pulse	0.30	3
2	Rh	103	2,157,494.69	0.94	101.6	Analog	0.30	3
3	Rh	103	5,031,488.78	0.26	101.4	Analog	0.30	3
3	In	115	5,588,038.57	0.33	101.0	Analog	0.30	3
3	Tb	159	7,778,321.27	0.59	98.9	Analog	0.30	3
3	Bi	209	4,439,085.32	0.17	99.2	Analog	0.30	3

Quantitation Report

File Name	A0308036.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:46
Sample Name	N018845-009B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

dilution test

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.56	1.380E-05	Pulse	0.30	3
B	11	6	3	61.654	ppb	1.30	359,335.17	3.197E-01	Pulse	0.30	3
Na	23	45	2	54992.162	ppb	1.06	61,009,606.87	6.077E+02	Analog	0.30	3
Mg	26	45	2	1183.977	ppb	1.33	115,350.74	1.149E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	871.89	8.676E-03	Pulse	0.30	3
K	39	45	2	901.408	ppb	0.46	404,775.13	4.032E+00	Pulse	0.30	3
Ca	44	45	3	18644.428	ppb	0.61	26,591,697.66	9.226E+00	Analog	0.30	3
V	51	45	2	0.124	ppb	3.24	1,231.21	1.226E-02	Pulse	0.30	3
Cr	52	45	2	0.710	ppb	10.16	5,171.64	5.160E-02	Pulse	0.30	3
Mn	55	45	2	15.736	ppb	1.15	62,016.03	6.176E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,887.53	2.885E-02	Pulse	0.30	3
Co	59	45	2	0.007	ppb	35.85	102.27	1.012E-03	Pulse	0.30	3
Ni	60	72	2	0.058	ppb	15.55	266.30	3.997E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,061.06	1.658E-01	Pulse	0.30	3
Zn	66	72	2	2.059	ppb	2.39	3,156.17	4.733E-02	Pulse	0.30	3
As	75	72	2	0.065	ppb	9.47	59.65	8.950E-04	Pulse	0.75	3
Se	78	72	1	0.032	ppb	63.07	11.11	1.376E-04	Pulse	0.30	3
Mo	95	103	2	1.065	ppb	2.55	4,567.50	2.465E-03	Pulse	0.30	3
Ag	107	103	3	0.435	ppb	16.02	27,562.94	5.919E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-12,032.07	-2.271E-03	Pulse	0.30	3
Sb	121	115	3	0.013	ppb	26.85	707.82	1.336E-04	Pulse	0.30	3
Ba	137	159	3	5.480	ppb	0.96	72,048.25	9.602E-03	Pulse	0.30	3
Tl	205	209	3	0.102	ppb	1.18	8,278.18	2.085E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-23,862.73	-6.011E-03	Pulse	0.30	3
U	238	209	3	0.069	ppb	1.80	7,026.67	1.770E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,124,027.01	0.53	99.5	Analog	0.30	3
2	Sc	45	100,407.09	2.94	94.6	Pulse	0.30	3
3	Sc	45	2,882,361.52	0.55	103.6	Analog	0.30	3
1	Ge	72	81,130.24	1.18	89.6	Pulse	0.30	3
2	Ge	72	66,666.51	1.84	91.1	Pulse	0.30	3
2	Rh	103	1,852,266.17	2.27	87.2	Analog	0.30	3
3	Rh	103	4,656,406.32	0.51	93.8	Analog	0.30	3
3	In	115	5,298,894.12	0.29	95.8	Analog	0.30	3
3	Tb	159	7,503,894.19	0.41	95.4	Analog	0.30	3
3	Bi	209	3,969,933.17	0.93	88.7	Analog	0.30	3

Quantitation Report

File Name	A0308037.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:51
Sample Name	N018845-009B-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.091	ppb	1.08	11,084.02	1.139E-02	Pulse	0.30	3
B	11	6	3	584.464	ppb	0.38	2,829,959.18	2.907E+00	Analog	0.30	3
Na	23	45	2	252393.949	ppb	1.01	276,031,173.67	2.786E+03	Analog	0.30	3
Mg	26	45	2	5472.326	ppb	1.15	525,625.79	5.305E+00	Pulse	0.30	3
Al	27	45	2	41.517	ppb	3.97	9,352.80	9.441E-02	Pulse	0.30	3
K	39	45	2	4378.732	ppb	1.59	1,854,489.61	1.872E+01	Analog	0.30	3
Ca	44	45	3	87390.685	ppb	0.18	117,721,504.91	4.324E+01	Analog	0.30	3
V	51	45	2	2.571	ppb	1.33	14,651.47	1.479E-01	Pulse	0.30	3
Cr	52	45	2	3.161	ppb	1.94	22,193.80	2.240E-01	Pulse	0.30	3
Mn	55	45	2	93.005	ppb	0.87	361,447.99	3.648E+00	Pulse	0.30	3
Fe	56	45	2	17.207	ppb	0.66	106,038.77	1.070E+00	Pulse	0.30	3
Co	59	45	2	1.743	ppb	1.02	21,924.51	2.212E-01	Pulse	0.30	3
Ni	60	72	2	2.146	ppb	2.67	6,325.53	9.970E-02	Pulse	0.30	3
Cu	63	72	2	1.030	ppb	5.60	21,668.68	3.416E-01	Pulse	0.30	3
Zn	66	72	2	26.507	ppb	3.28	32,655.65	5.148E-01	Pulse	0.30	3
As	75	72	2	2.331	ppb	0.97	1,763.44	2.779E-02	Pulse	0.75	3
Se	78	72	1	2.105	ppb	4.94	716.71	9.104E-03	Pulse	0.30	3
Mo	95	103	2	7.320	ppb	1.38	28,668.64	1.687E-02	Pulse	0.30	3
Ag	107	103	3	1.453	ppb	4.70	59,816.34	1.457E-02	Pulse	0.30	3
Cd	111	115	3	1.834	ppb	3.74	14,920.79	3.139E-03	Pulse	0.30	3
Sb	121	115	3	2.059	ppb	0.46	59,828.74	1.258E-02	Pulse	0.30	3
Ba	137	159	3	51.608	ppb	0.21	622,380.91	9.009E-02	Pulse	0.30	3
Tl	205	209	3	1.712	ppb	0.71	105,920.38	3.051E-02	Pulse	0.30	3
Pb	208	209	3	1.973	ppb	0.24	163,996.26	4.724E-02	Pulse	0.30	3
U	238	209	3	2.745	ppb	0.10	242,245.81	6.978E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	973,390.14	0.80	86.2	Analog	0.30	3
2	Sc	45	99,095.60	1.14	93.3	Pulse	0.30	3
3	Sc	45	2,722,818.85	0.41	97.9	Analog	0.30	3
1	Ge	72	78,732.20	0.59	87.0	Pulse	0.30	3
2	Ge	72	63,460.46	2.19	86.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,699,107.39	0.63	80.0	Analog	0.30	3
3	Rh	103	4,105,222.96	0.73	82.7	Analog	0.30	3
3	In	115	4,754,348.48	0.87	86.0	Analog	0.30	3
3	Tb	159	6,908,620.73	0.49	87.8	Analog	0.30	3
3	Bi	209	3,471,704.74	0.79	77.6	Analog	0.30	3

Quantitation Report

File Name	A0308038.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:57
Sample Name	N018845-009B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.100	ppb	1.55	11,059.58	1.144E-02	Pulse	0.30	3
B	11	6	3	607.633	ppb	1.93	2,921,991.64	3.022E+00	Analog	0.30	3
Na	23	45	2	263882.263	ppb	0.83	290,648,500.11	2.912E+03	Analog	0.30	3
Mg	26	45	2	5716.479	ppb	0.38	552,979.31	5.541E+00	Pulse	0.30	3
Al	27	45	2	38.870	ppb	2.08	8,894.25	8.914E-02	Pulse	0.30	3
K	39	45	2	4615.618	ppb	0.92	1,967,650.56	1.972E+01	Analog	0.30	3
Ca	44	45	3	91339.621	ppb	0.26	124,253,319.26	4.519E+01	Analog	0.30	3
V	51	45	2	2.635	ppb	0.84	15,109.60	1.514E-01	Pulse	0.30	3
Cr	52	45	2	3.469	ppb	1.47	24,513.20	2.456E-01	Pulse	0.30	3
Mn	55	45	2	97.704	ppb	1.44	382,424.32	3.832E+00	Pulse	0.30	3
Fe	56	45	2	18.998	ppb	1.64	117,566.88	1.178E+00	Pulse	0.30	3
Co	59	45	2	1.796	ppb	1.86	22,749.51	2.280E-01	Pulse	0.30	3
Ni	60	72	2	2.244	ppb	1.68	6,678.23	1.042E-01	Pulse	0.30	3
Cu	63	72	2	0.966	ppb	7.18	21,364.01	3.334E-01	Pulse	0.30	3
Zn	66	72	2	27.132	ppb	0.55	33,767.86	5.267E-01	Pulse	0.30	3
As	75	72	2	2.293	ppb	2.85	1,751.80	2.734E-02	Pulse	0.75	3
Se	78	72	1	2.189	ppb	5.12	742.27	9.469E-03	Pulse	0.30	3
Mo	95	103	2	7.723	ppb	1.73	30,385.22	1.780E-02	Pulse	0.30	3
Ag	107	103	3	1.684	ppb	0.61	68,219.93	1.654E-02	Pulse	0.30	3
Cd	111	115	3	1.860	ppb	2.26	15,216.54	3.183E-03	Pulse	0.30	3
Sb	121	115	3	2.059	ppb	1.05	60,166.71	1.258E-02	Pulse	0.30	3
Ba	137	159	3	53.292	ppb	0.53	646,793.23	9.303E-02	Pulse	0.30	3
Tl	205	209	3	1.791	ppb	1.80	111,155.74	3.190E-02	Pulse	0.30	3
Pb	208	209	3	2.012	ppb	0.24	167,883.04	4.818E-02	Pulse	0.30	3
U	238	209	3	2.806	ppb	1.11	248,578.45	7.133E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	966,917.78	0.18	85.6	Analog	0.30	3
2	Sc	45	99,793.86	1.05	94.0	Pulse	0.30	3
3	Sc	45	2,749,677.25	1.12	98.9	Analog	0.30	3
1	Ge	72	78,417.05	1.24	86.6	Pulse	0.30	3
2	Ge	72	64,108.52	2.44	87.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,706,509.92	1.89	80.4	Analog	0.30	3
3	Rh	103	4,125,648.58	0.72	83.1	Analog	0.30	3
3	In	115	4,780,767.86	0.80	86.4	Analog	0.30	3
3	Tb	159	6,953,109.48	1.34	88.4	Analog	0.30	3
3	Bi	209	3,484,595.72	0.87	77.9	Analog	0.30	3

Quantitation Report

File Name	A0308039.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:03
Sample Name	CCV2,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.595	ppb	0.62	113,870.65	1.011E-01	Pulse	0.30	3
B	11	6	3	206.301	ppb	2.05	1,166,274.28	1.036E+00	Analog	0.30	3
Na	23	45	2	340.609	ppb	3.38	503,317.98	4.775E+00	Pulse	0.30	3
Mg	26	45	2	194.916	ppb	0.88	20,105.98	1.907E-01	Pulse	0.30	3
Al	27	45	2	16.316	ppb	5.15	4,666.62	4.425E-02	Pulse	0.30	3
K	39	45	2	203.444	ppb	3.34	114,266.69	1.084E+00	Pulse	0.30	3
Ca	44	45	3	196.454	ppb	0.12	271,247.24	9.945E-02	Pulse	0.30	3
V	51	45	2	18.718	ppb	0.76	109,929.60	1.043E+00	Pulse	0.30	3
Cr	52	45	2	18.662	ppb	0.90	138,498.58	1.314E+00	Pulse	0.30	3
Mn	55	45	2	19.043	ppb	1.67	78,775.20	7.473E-01	Pulse	0.30	3
Fe	56	45	2	18.872	ppb	0.95	123,392.89	1.170E+00	Pulse	0.30	3
Co	59	45	2	18.480	ppb	1.65	247,131.04	2.344E+00	Pulse	0.30	3
Ni	60	72	2	18.817	ppb	0.82	61,590.81	8.641E-01	Pulse	0.30	3
Cu	63	72	2	18.856	ppb	1.50	187,815.59	2.635E+00	Pulse	0.30	3
Zn	66	72	2	18.616	ppb	1.31	25,934.18	3.639E-01	Pulse	0.30	3
As	75	72	2	18.769	ppb	1.96	15,887.40	2.229E-01	Pulse	0.75	3
Se	78	72	1	19.790	ppb	3.19	7,665.44	8.559E-02	Pulse	0.30	3
Mo	95	103	2	19.520	ppb	0.63	90,383.33	4.497E-02	Pulse	0.30	3
Ag	107	103	3	18.707	ppb	0.61	749,741.97	1.612E-01	Pulse	0.30	3
Cd	111	115	3	18.815	ppb	0.63	169,307.41	3.218E-02	Pulse	0.30	3
Sb	121	115	3	18.700	ppb	0.44	598,949.68	1.139E-01	Pulse	0.30	3
Ba	137	159	3	19.484	ppb	0.28	248,276.04	3.404E-02	Pulse	0.30	3
Tl	205	209	3	19.017	ppb	1.32	1,399,510.64	3.359E-01	Analog	0.30	3
Pb	208	209	3	18.982	ppb	0.57	1,886,571.65	4.528E-01	Analog	0.30	3
U	238	209	3	18.894	ppb	0.38	2,000,767.02	4.802E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,126,075.74	0.84	99.7	Analog	0.30	3
2	Sc	45	105,426.16	1.54	99.3	Pulse	0.30	3
3	Sc	45	2,727,540.34	0.33	98.1	Analog	0.30	3
1	Ge	72	89,564.82	0.51	98.9	Pulse	0.30	3
2	Ge	72	71,274.55	1.30	97.4	Pulse	0.30	3
2	Rh	103	2,009,935.09	1.27	94.6	Analog	0.30	3
3	Rh	103	4,652,387.67	0.19	93.7	Analog	0.30	3
3	In	115	5,260,480.88	0.21	95.1	Analog	0.30	3
3	Tb	159	7,294,303.71	0.74	92.7	Analog	0.30	3
3	Bi	209	4,166,475.15	0.95	93.1	Analog	0.30	3

Quantitation Report

File Name	A0308040.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:09
Sample Name	CCB2,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	93.03	36.67	3.218E-05	Pulse	0.30	3
B	11	6	3	16.017	ppb	2.41	106,510.92	9.382E-02	Pulse	0.30	3
Na	23	45	2	114.256	ppb	14.67	238,246.29	2.278E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	131.12	1.250E-03	Pulse	0.30	3
Al	27	45	2	0.067	ppb	414.13	1,247.87	1.191E-02	Pulse	0.30	3
K	39	45	2	10.989	ppb	32.96	28,400.61	2.714E-01	Pulse	0.30	3
Ca	44	45	3	1.426	ppb	6.89	8,207.91	2.965E-03	Pulse	0.30	3
V	51	45	2	0.019	ppb	32.22	672.27	6.419E-03	Pulse	0.30	3
Cr	52	45	2	0.258	ppb	14.83	2,076.63	1.987E-02	Pulse	0.30	3
Mn	55	45	2	0.002	ppb	117.80	71.70	6.827E-04	Pulse	0.30	3
Fe	56	45	2	0.027	ppb	29.94	3,660.49	3.495E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	4.19	4.005E-05	Pulse	0.30	3
Ni	60	72	2	0.001	ppb	738.91	97.52	1.366E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,892.78	2.085E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	531.32	7.441E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	95.59	11.56	1.617E-04	Pulse	0.75	3
Se	78	72	1	0.014	ppb	35.12	5.56	6.267E-05	Pulse	0.30	3
Mo	95	103	2	0.082	ppb	7.32	411.14	2.029E-04	Pulse	0.30	3
Ag	107	103	3	0.613	ppb	16.78	35,584.60	7.435E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20.74	-3.871E-06	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	2.81	1,226.77	2.290E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	266.02	3.533E-05	Pulse	0.30	3
Tl	205	209	3	0.039	ppb	2.25	4,180.76	9.767E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	535.96	1.252E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	26.57	277.50	6.480E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,135,399.00	1.91	100.5	Analog	0.30	3
2	Sc	45	104,728.18	2.61	98.6	Pulse	0.30	3
3	Sc	45	2,767,753.81	0.50	99.5	Analog	0.30	3
1	Ge	72	88,784.22	0.59	98.1	Pulse	0.30	3
2	Ge	72	71,417.71	0.99	97.6	Pulse	0.30	3
2	Rh	103	2,025,804.14	0.56	95.4	Analog	0.30	3
3	Rh	103	4,787,892.05	0.51	96.4	Analog	0.30	3
3	In	115	5,356,829.06	0.26	96.9	Analog	0.30	3
3	Tb	159	7,527,026.97	0.53	95.7	Analog	0.30	3
3	Bi	209	4,280,865.84	1.09	95.7	Analog	0.30	3

Quantitation Report

File Name	A0308041.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:14
Sample Name	N018845-009B-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.064	ppb	2.58	10,518.11	1.124E-02	Pulse	0.30	3
B	11	6	3	598.900	ppb	1.81	2,788,052.23	2.979E+00	Analog	0.30	3
Na	23	45	2	261887.209	ppb	1.16	280,817,931.37	2.890E+03	Analog	0.30	3
Mg	26	45	2	5666.321	ppb	1.07	533,636.78	5.493E+00	Pulse	0.30	3
Al	27	45	2	38.385	ppb	1.95	8,568.23	8.817E-02	Pulse	0.30	3
K	39	45	2	4573.261	ppb	0.92	1,898,275.18	1.954E+01	Analog	0.30	3
Ca	44	45	3	90982.921	ppb	0.90	118,214,377.13	4.501E+01	Analog	0.30	3
V	51	45	2	2.643	ppb	0.05	14,755.98	1.519E-01	Pulse	0.30	3
Cr	52	45	2	3.299	ppb	1.91	22,697.93	2.336E-01	Pulse	0.30	3
Mn	55	45	2	96.762	ppb	1.12	368,714.43	3.795E+00	Pulse	0.30	3
Fe	56	45	2	18.673	ppb	0.14	112,559.64	1.158E+00	Pulse	0.30	3
Co	59	45	2	1.790	ppb	1.74	22,077.38	2.272E-01	Pulse	0.30	3
Ni	60	72	2	2.247	ppb	2.58	6,578.97	1.044E-01	Pulse	0.30	3
Cu	63	72	2	1.070	ppb	8.22	21,863.19	3.468E-01	Pulse	0.30	3
Zn	66	72	2	26.640	ppb	1.96	32,613.68	5.173E-01	Pulse	0.30	3
As	75	72	2	2.311	ppb	5.74	1,737.19	2.756E-02	Pulse	0.75	3
Se	78	72	1	2.022	ppb	14.68	672.26	8.745E-03	Pulse	0.30	3
Mo	95	103	2	7.593	ppb	1.90	29,432.26	1.750E-02	Pulse	0.30	3
Ag	107	103	3	1.505	ppb	3.23	59,855.59	1.501E-02	Pulse	0.30	3
Cd	111	115	3	1.848	ppb	0.39	14,863.51	3.162E-03	Pulse	0.30	3
Sb	121	115	3	2.060	ppb	0.69	59,167.24	1.259E-02	Pulse	0.30	3
Ba	137	159	3	52.472	ppb	0.84	629,196.50	9.160E-02	Pulse	0.30	3
Tl	205	209	3	1.743	ppb	1.23	107,685.10	3.106E-02	Pulse	0.30	3
Pb	208	209	3	1.987	ppb	0.11	164,912.94	4.757E-02	Pulse	0.30	3
U	238	209	3	2.780	ppb	0.86	245,037.33	7.068E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	936,098.42	1.13	82.9	Analog	0.30	3
2	Sc	45	97,162.32	1.45	91.5	Pulse	0.30	3
3	Sc	45	2,626,390.15	0.87	94.4	Analog	0.30	3
1	Ge	72	76,796.35	2.93	84.8	Pulse	0.30	3
2	Ge	72	63,046.54	1.17	86.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,682,126.81	1.86	79.2	Analog	0.30	3
3	Rh	103	3,987,837.92	0.43	80.3	Analog	0.30	3
3	In	115	4,700,415.41	0.84	85.0	Analog	0.30	3
3	Tb	159	6,869,611.15	0.76	87.3	Analog	0.30	3
3	Bi	209	3,466,612.24	0.54	77.5	Analog	0.30	3

Quantitation Report

File Name	A0308042.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:20
Sample Name	N018845-010B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mn only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	204.41	26.67	2.530E-05	Pulse	0.30	3
B	11	6	3	204.514	ppb	0.90	1,079,955.12	1.027E+00	Analog	0.30	3
Na	23	45	2	61719.855	ppb	1.41	68,467,925.09	6.820E+02	Analog	0.30	3
Mg	26	45	2	1044.111	ppb	1.25	101,769.04	1.014E+00	Pulse	0.30	3
Al	27	45	2	7.265	ppb	6.45	2,633.51	2.624E-02	Pulse	0.30	3
K	39	45	2	922.389	ppb	1.32	413,668.89	4.120E+00	Pulse	0.30	3
Ca	44	45	3	4804.529	ppb	0.45	6,281,490.60	2.379E+00	Analog	0.30	3
V	51	45	2	0.194	ppb	12.00	1,619.04	1.611E-02	Pulse	0.30	3
Cr	52	45	2	0.223	ppb	6.74	1,745.57	1.739E-02	Pulse	0.30	3
Mn	55	45	2	45.832	ppb	1.32	180,500.78	1.798E+00	Pulse	0.30	3
Fe	56	45	2	8.835	ppb	1.13	56,794.23	5.657E-01	Pulse	0.30	3
Co	59	45	2	0.005	ppb	77.78	69.44	6.858E-04	Pulse	0.30	3
Ni	60	72	2	0.052	ppb	12.56	250.85	3.704E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	10,715.49	1.582E-01	Pulse	0.30	3
Zn	66	72	2	0.135	ppb	82.15	716.09	1.055E-02	Pulse	0.30	3
As	75	72	2	3.016	ppb	2.74	2,432.80	3.592E-02	Pulse	0.75	3
Se	78	72	1	0.030	ppb	33.81	11.11	1.300E-04	Pulse	0.30	3
Mo	95	103	2	8.235	ppb	0.98	35,201.70	1.898E-02	Pulse	0.30	3
Ag	107	103	3	0.177	ppb	12.96	16,247.07	3.724E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-12,628.47	-2.511E-03	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	13.79	745.60	1.482E-04	Pulse	0.30	3
Ba	137	159	3	5.860	ppb	2.04	74,578.81	1.027E-02	Pulse	0.30	3
Tl	205	209	3	0.066	ppb	2.25	5,711.33	1.458E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-24,156.42	-6.165E-03	Pulse	0.30	3
U	238	209	3	0.109	ppb	0.78	10,968.04	2.799E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,051,809.88	0.48	93.1	Analog	0.30	3
2	Sc	45	100,412.61	1.78	94.6	Pulse	0.30	3
3	Sc	45	2,640,252.44	0.41	94.9	Analog	0.30	3
1	Ge	72	85,266.71	1.30	94.2	Pulse	0.30	3
2	Ge	72	67,746.15	1.73	92.6	Pulse	0.30	3
2	Rh	103	1,854,561.31	1.45	87.3	Analog	0.30	3
3	Rh	103	4,363,370.32	0.39	87.9	Analog	0.30	3
3	In	115	5,030,127.94	0.49	90.9	Analog	0.30	3
3	Tb	159	7,265,718.64	0.46	92.4	Analog	0.30	3
3	Bi	209	3,918,296.19	0.57	87.6	Analog	0.30	3

Quantitation Report

File Name	A0308043.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:25
Sample Name	N018855-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	11.11	1.308E-05	Pulse	0.30	3
B	11	6	3	381.712	ppb	0.70	1,615,462.01	1.904E+00	Analog	0.30	3
Na	23	45	2	776124.572	ppb	0.93	798,638,050.32	8.564E+03	Analog	0.30	3
Mg	26	45	2	597.279	ppb	1.75	54,140.90	5.806E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	630.19	6.756E-03	Pulse	0.30	3
K	39	45	2	6598.466	ppb	0.82	2,619,627.90	2.809E+01	Analog	0.30	3
Ca	44	45	3	18650.191	ppb	0.83	22,458,564.39	9.229E+00	Analog	0.30	3
V	51	45	2	0.575	ppb	7.89	3,476.07	3.725E-02	Pulse	0.30	3
Cr	52	45	2	3.742	ppb	2.95	24,689.23	2.648E-01	Pulse	0.30	3
Mn	55	45	2	2.950	ppb	2.73	10,838.14	1.163E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-54,113.00	-5.802E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-756.41	-8.111E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-541.05	-9.254E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-7,804.48	-1.335E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,931.40	-3.304E-02	Pulse	0.30	3
As	75	72	2	0.464	ppb	7.96	328.74	5.627E-03	Pulse	0.75	3
Se	78	72	1	0.154	ppb	34.75	47.78	6.669E-04	Pulse	0.30	3
Mo	95	103	2	37.630	ppb	1.15	132,673.09	8.668E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,841.32	2.196E-03	Pulse	0.30	3
Cd	111	115	3	0.025	ppb	20.15	185.20	4.420E-05	Pulse	0.30	3
Sb	121	115	3	0.021	ppb	4.77	750.05	1.788E-04	Pulse	0.30	3
Ba	137	159	3	6.071	ppb	1.34	64,946.03	1.063E-02	Pulse	0.30	3
Tl	205	209	3	0.114	ppb	1.38	6,850.71	2.301E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,544.38	-1.527E-03	Pulse	0.30	3
U	238	209	3	0.015	ppb	10.00	1,223.57	4.113E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	848,551.97	0.70	75.1	Analog	0.30	3
2	Sc	45	93,272.48	2.52	87.8	Pulse	0.30	3
3	Sc	45	2,433,590.75	1.12	87.5	Analog	0.30	3
1	Ge	72	71,693.58	0.38	79.2	Pulse	0.30	3
2	Ge	72	58,465.30	1.93	79.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,530,470.62	0.97	72.1	Analog	0.30	3
3	Rh	103	3,569,512.69	1.16	71.9	Analog	0.30	3
3	In	115	4,194,974.74	1.25	75.8	Analog	0.30	3
3	Tb	159	6,108,381.16	1.26	77.7	Analog	0.30	3
3	Bi	209	2,976,798.98	1.21	66.5	Analog	0.30	3

Quantitation Report

File Name	A0308044.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:31
Sample Name	N018855-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	8.689E-06	Pulse	0.30	3
B	11	6	3	367.218	ppb	1.16	1,641,139.33	1.832E+00	Analog	0.30	3
Na	23	45	2	560091.742	ppb	1.05	578,714,884.71	6.180E+03	Analog	0.30	3
Mg	26	45	2	1819.353	ppb	1.13	165,235.62	1.765E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	351.32	3.751E-03	Pulse	0.30	3
K	39	45	2	5220.629	ppb	0.55	2,085,489.64	2.227E+01	Analog	0.30	3
Ca	44	45	3	18380.873	ppb	0.99	23,190,018.54	9.095E+00	Analog	0.30	3
V	51	45	2	0.220	ppb	8.60	1,644.60	1.758E-02	Pulse	0.30	3
Cr	52	45	2	6.850	ppb	0.98	45,253.05	4.833E-01	Pulse	0.30	3
Mn	55	45	2	7.413	ppb	1.80	27,268.47	2.913E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-23,561.16	-2.517E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-445.30	-4.756E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-133.15	-2.210E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-5,426.94	-8.991E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-386.02	-6.396E-03	Pulse	0.30	3
As	75	72	2	0.389	ppb	6.91	285.73	4.739E-03	Pulse	0.75	3
Se	78	72	1	0.014	ppb	86.60	4.45	6.175E-05	Pulse	0.30	3
Mo	95	103	2	14.545	ppb	1.15	52,592.49	3.351E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,777.36	1.256E-03	Pulse	0.30	3
Cd	111	115	3	0.002	ppb	256.80	21.57	4.842E-06	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	6.07	1,171.20	2.649E-04	Pulse	0.30	3
Ba	137	159	3	3.605	ppb	1.04	40,647.64	6.330E-03	Pulse	0.30	3
Tl	205	209	3	0.063	ppb	5.36	4,421.95	1.399E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,128.79	-1.306E-03	Pulse	0.30	3
U	238	209	3	1.069	ppb	1.07	85,913.69	2.718E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	895,796.29	0.32	79.3	Analog	0.30	3
2	Sc	45	93,644.40	2.29	88.2	Pulse	0.30	3
3	Sc	45	2,549,851.79	1.34	91.7	Analog	0.30	3
1	Ge	72	71,898.64	0.38	79.4	Pulse	0.30	3
2	Ge	72	60,392.33	3.54	82.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,569,196.33	1.16	73.9	Analog	0.30	3
3	Rh	103	3,802,575.78	0.72	76.6	Analog	0.30	3
3	In	115	4,422,318.96	0.90	80.0	Analog	0.30	3
3	Tb	159	6,421,551.36	0.54	81.6	Analog	0.30	3
3	Bi	209	3,160,901.17	0.84	70.7	Analog	0.30	3

Quantitation Report

File Name	A0308045.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:37
Sample Name	N018855-003B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	8.407E-06	Pulse	0.30	3
B	11	6	3	342.059	ppb	1.07	1,580,023.88	1.708E+00	Analog	0.30	3
Na	23	45	2	473120.021	ppb	1.71	508,629,250.20	5.221E+03	Analog	0.30	3
Mg	26	45	2	1273.699	ppb	1.22	120,432.15	1.236E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	545.80	5.596E-03	Pulse	0.30	3
K	39	45	2	3766.217	ppb	1.66	1,571,418.54	1.613E+01	Analog	0.30	3
Ca	44	45	3	19909.849	ppb	0.26	25,793,738.23	9.852E+00	Analog	0.30	3
V	51	45	2	1.317	ppb	0.99	7,635.41	7.835E-02	Pulse	0.30	3
Cr	52	45	2	5.959	ppb	2.14	40,980.32	4.207E-01	Pulse	0.30	3
Mn	55	45	2	1.171	ppb	2.63	4,531.87	4.652E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,770.69	-3.056E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-481.98	-4.951E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-181.60	-2.902E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,948.41	-4.720E-02	Pulse	0.30	3
Zn	66	72	2	0.005	ppb	2409.71	504.15	8.077E-03	Pulse	0.30	3
As	75	72	2	1.218	ppb	2.73	910.79	1.458E-02	Pulse	0.75	3
Se	78	72	1	0.037	ppb	69.10	12.22	1.591E-04	Pulse	0.30	3
Mo	95	103	2	19.051	ppb	1.83	71,567.51	4.389E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,402.57	1.126E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	39.17	78.20	1.727E-05	Pulse	0.30	3
Sb	121	115	3	0.007	ppb	6.75	445.58	9.831E-05	Pulse	0.30	3
Ba	137	159	3	3.832	ppb	0.88	44,103.87	6.726E-03	Pulse	0.30	3
Tl	205	209	3	0.020	ppb	7.91	2,100.24	6.441E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,115.99	-9.557E-04	Pulse	0.30	3
U	238	209	3	0.238	ppb	1.37	19,782.85	6.067E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	925,354.13	0.83	81.9	Analog	0.30	3
2	Sc	45	97,451.90	2.61	91.8	Pulse	0.30	3
3	Sc	45	2,618,150.29	0.44	94.1	Analog	0.30	3
1	Ge	72	77,143.46	1.00	85.2	Pulse	0.30	3
2	Ge	72	62,478.78	1.22	85.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,630,698.08	1.27	76.8	Analog	0.30	3
3	Rh	103	3,911,156.78	0.41	78.8	Analog	0.30	3
3	In	115	4,532,605.91	0.43	82.0	Analog	0.30	3
3	Tb	159	6,556,962.33	0.08	83.4	Analog	0.30	3
3	Bi	209	3,260,577.69	0.38	72.9	Analog	0.30	3

Quantitation Report

File Name	A0308046.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:42
Sample Name	N018855-004B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	12.22	1.311E-05	Pulse	0.30	3
B	11	6	3	324.477	ppb	1.03	1,511,677.91	1.621E+00	Analog	0.30	3
Na	23	45	2	458442.283	ppb	0.67	483,423,846.13	5.059E+03	Analog	0.30	3
Mg	26	45	2	1248.545	ppb	0.06	115,786.76	1.212E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	369.59	3.867E-03	Pulse	0.30	3
K	39	45	2	3685.879	ppb	1.56	1,509,051.82	1.579E+01	Analog	0.30	3
Ca	44	45	3	19273.099	ppb	0.88	24,956,157.41	9.537E+00	Analog	0.30	3
V	51	45	2	1.254	ppb	2.29	7,158.49	7.490E-02	Pulse	0.30	3
Cr	52	45	2	5.845	ppb	2.52	39,425.16	4.127E-01	Pulse	0.30	3
Mn	55	45	2	1.128	ppb	1.85	4,281.39	4.481E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,509.98	-3.088E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-478.44	-5.006E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-100.18	-1.607E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-3,137.86	-5.063E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	366.36	5.922E-03	Pulse	0.30	3
As	75	72	2	1.132	ppb	2.36	841.02	1.356E-02	Pulse	0.75	3
Se	78	72	1	0.034	ppb	46.83	11.11	1.465E-04	Pulse	0.30	3
Mo	95	103	2	18.255	ppb	1.63	67,672.09	4.206E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,229.58	1.083E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	57.37	37.74	8.344E-06	Pulse	0.30	3
Sb	121	115	3	0.004	ppb	38.73	335.57	7.423E-05	Pulse	0.30	3
Ba	137	159	3	3.712	ppb	0.90	42,410.52	6.517E-03	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	4.29	1,759.07	5.431E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,121.70	-9.637E-04	Pulse	0.30	3
U	238	209	3	0.230	ppb	0.55	18,980.76	5.860E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	932,858.42	0.44	82.6	Analog	0.30	3
2	Sc	45	95,558.55	1.33	90.0	Pulse	0.30	3
3	Sc	45	2,616,871.89	0.38	94.1	Analog	0.30	3
1	Ge	72	76,032.49	1.18	84.0	Pulse	0.30	3
2	Ge	72	62,036.52	1.78	84.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,608,885.72	1.08	75.8	Analog	0.30	3
3	Rh	103	3,905,405.39	0.49	78.7	Analog	0.30	3
3	In	115	4,520,819.51	0.40	81.7	Analog	0.30	3
3	Tb	159	6,507,427.54	0.03	82.7	Analog	0.30	3
3	Bi	209	3,239,041.55	0.41	72.4	Analog	0.30	3

Quantitation Report

File Name	A0308047.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:48
Sample Name	N018396-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.56	1.489E-05	Pulse	0.30	3
B	11	6	3	40.996	ppb	1.24	226,266.70	2.175E-01	Pulse	0.30	3
Na	23	45	2	16012.048	ppb	0.63	17,450,472.93	1.777E+02	Analog	0.30	3
Mg	26	45	2	3783.815	ppb	0.39	360,291.72	3.668E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	354.10	3.603E-03	Pulse	0.30	3
K	39	45	2	1093.827	ppb	0.66	475,775.36	4.844E+00	Pulse	0.30	3
Ca	44	45	3	21988.066	ppb	0.39	28,586,530.96	1.088E+01	Analog	0.30	3
V	51	45	2	0.913	ppb	3.07	5,496.71	5.597E-02	Pulse	0.30	3
Cr	52	45	2	58.465	ppb	0.39	403,881.79	4.112E+00	Pulse	0.30	3
Mn	55	45	2	0.150	ppb	6.28	637.02	6.487E-03	Pulse	0.30	3
Fe	56	45	2	0.644	ppb	0.56	7,082.90	7.211E-02	Pulse	0.30	3
Co	59	45	2	0.013	ppb	7.90	164.98	1.679E-03	Pulse	0.30	3
Ni	60	72	2	0.527	ppb	9.19	1,753.79	2.547E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,161.52	1.620E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	373.94	5.446E-03	Pulse	0.30	3
As	75	72	2	0.187	ppb	11.58	161.15	2.341E-03	Pulse	0.75	3
Se	78	72	1	0.218	ppb	12.83	84.45	9.416E-04	Pulse	0.30	3
Mo	95	103	2	0.696	ppb	4.45	2,945.95	1.617E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,121.55	1.667E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-3,290.06	-6.726E-04	Pulse	0.30	3
Sb	121	115	3	0.009	ppb	18.72	515.59	1.054E-04	Pulse	0.30	3
Ba	137	159	3	30.186	ppb	0.38	366,343.28	5.271E-02	Pulse	0.30	3
Tl	205	209	3	0.005	ppb	18.26	1,480.14	3.881E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,051.21	-1.848E-03	Pulse	0.30	3
U	238	209	3	4.030	ppb	1.02	390,795.43	1.024E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,040,633.07	1.15	92.1	Analog	0.30	3
2	Sc	45	98,218.07	1.12	92.5	Pulse	0.30	3
3	Sc	45	2,627,480.69	0.51	94.5	Analog	0.30	3
1	Ge	72	89,695.82	0.20	99.1	Pulse	0.30	3
2	Ge	72	68,874.29	1.82	94.1	Pulse	0.30	3
2	Rh	103	1,821,643.88	0.67	85.8	Analog	0.30	3
3	Rh	103	4,272,784.59	0.01	86.1	Analog	0.30	3
3	In	115	4,891,689.32	0.40	88.4	Analog	0.30	3
3	Tb	159	6,950,126.98	0.30	88.4	Analog	0.30	3
3	Bi	209	3,814,630.47	0.42	85.3	Analog	0.30	3

Quantitation Report

File Name	A0308048.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:53
Sample Name	N018861-004B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	10.00	1.003E-05	Pulse	0.30	3
B	11	6	3	88.570	ppb	0.96	452,391.28	4.529E-01	Pulse	0.30	3
Na	23	45	2	139861.868	ppb	0.39	152,220,253.29	1.544E+03	Analog	0.30	3
Mg	26	45	2	432.469	ppb	1.30	41,491.78	4.209E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	908.17	9.209E-03	Pulse	0.30	3
K	39	45	2	1385.248	ppb	0.36	598,880.25	6.075E+00	Pulse	0.30	3
Ca	44	45	3	15094.091	ppb	0.98	19,424,587.76	7.469E+00	Analog	0.30	3
V	51	45	2	0.128	ppb	14.94	1,231.21	1.248E-02	Pulse	0.30	3
Cr	52	45	2	5.444	ppb	1.79	37,900.68	3.845E-01	Pulse	0.30	3
Mn	55	45	2	1.535	ppb	3.68	5,991.66	6.077E-02	Pulse	0.30	3
Fe	56	45	2	4.485	ppb	2.47	29,921.30	3.036E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-83.91	-8.533E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	54.00	8.209E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	8,879.98	1.351E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-208.05	-3.163E-03	Pulse	0.30	3
As	75	72	2	0.505	ppb	2.08	402.11	6.117E-03	Pulse	0.75	3
Se	78	72	1	0.070	ppb	39.65	24.44	3.045E-04	Pulse	0.30	3
Mo	95	103	2	3.206	ppb	1.16	12,843.36	7.396E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,774.08	1.406E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-32.18	-6.829E-06	Pulse	0.30	3
Sb	121	115	3	0.001	ppb	112.57	268.90	5.712E-05	Pulse	0.30	3
Ba	137	159	3	2.557	ppb	1.28	30,235.91	4.502E-03	Pulse	0.30	3
Tl	205	209	3	0.012	ppb	14.69	1,740.17	4.967E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-977.48	-2.790E-04	Pulse	0.30	3
U	238	209	3	0.027	ppb	2.83	2,498.16	7.131E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	998,855.46	0.40	88.4	Analog	0.30	3
2	Sc	45	98,587.21	1.37	92.8	Pulse	0.30	3
3	Sc	45	2,600,666.99	0.86	93.5	Analog	0.30	3
1	Ge	72	80,373.15	0.70	88.8	Pulse	0.30	3
2	Ge	72	65,738.34	0.88	89.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,736,393.95	0.70	81.8	Analog	0.30	3
3	Rh	103	4,107,958.38	0.21	82.8	Analog	0.30	3
3	In	115	4,708,272.01	0.49	85.1	Analog	0.30	3
3	Tb	159	6,716,577.82	0.38	85.4	Analog	0.30	3
3	Bi	209	3,503,356.61	0.32	78.3	Analog	0.30	3

Quantitation Report

File Name	A0308049.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:59
Sample Name	N018861-005B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo Se only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	7.506E-06	Pulse	0.30	3
B	11	6	3	50.235	ppb	0.52	272,630.43	2.632E-01	Pulse	0.30	3
Na	23	45	2	77568.179	ppb	1.09	83,975,637.64	8.568E+02	Analog	0.30	3
Mg	26	45	2	1505.821	ppb	1.12	143,191.50	1.461E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	240.19	2.450E-03	Pulse	0.30	3
K	39	45	2	676.442	ppb	0.99	302,032.46	3.082E+00	Pulse	0.30	3
Ca	44	45	3	17757.910	ppb	0.41	22,985,092.43	8.787E+00	Analog	0.30	3
V	51	45	2	0.068	ppb	10.62	893.40	9.120E-03	Pulse	0.30	3
Cr	52	45	2	2.294	ppb	6.21	15,962.89	1.630E-01	Pulse	0.30	3
Mn	55	45	2	0.723	ppb	0.71	2,836.26	2.893E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,569.57	2.624E-02	Pulse	0.30	3
Co	59	45	2	0.006	ppb	65.07	83.81	8.591E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	52.14	7.878E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	10,557.68	1.589E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	198.56	2.988E-03	Pulse	0.30	3
As	75	72	2	0.072	ppb	25.78	65.35	9.815E-04	Pulse	0.75	3
Se	78	72	1	0.213	ppb	0.91	76.67	9.207E-04	Pulse	0.30	3
Mo	95	103	2	0.987	ppb	3.29	4,058.46	2.287E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,678.93	1.350E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-15,763.49	-3.287E-03	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	28.44	396.69	8.272E-05	Pulse	0.30	3
Ba	137	159	3	1.671	ppb	1.79	20,210.43	2.956E-03	Pulse	0.30	3
Tl	205	209	3	0.008	ppb	7.62	1,591.26	4.368E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-30,716.65	-8.432E-03	Pulse	0.30	3
U	238	209	3	0.110	ppb	1.49	10,256.83	2.816E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,035,927.79	0.31	91.7	Analog	0.30	3
2	Sc	45	98,028.44	2.68	92.3	Pulse	0.30	3
3	Sc	45	2,615,756.77	0.50	94.1	Analog	0.30	3
1	Ge	72	83,277.88	0.91	92.0	Pulse	0.30	3
2	Ge	72	66,453.46	2.33	90.8	Pulse	0.30	3
2	Rh	103	1,773,970.04	1.03	83.5	Analog	0.30	3
3	Rh	103	4,205,103.96	0.60	84.7	Analog	0.30	3
3	In	115	4,795,296.69	0.14	86.7	Analog	0.30	3
3	Tb	159	6,836,366.70	0.53	86.9	Analog	0.30	3
3	Bi	209	3,642,827.03	0.59	81.4	Analog	0.30	3

Quantitation Report

File Name	A0308050.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:04
Sample Name	N018861-006B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo Se only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	8.748E-06	Pulse	0.30	3
B	11	6	3	95.834	ppb	1.16	494,476.80	4.889E-01	Pulse	0.30	3
Na	23	45	2	152417.471	ppb	1.09	162,399,219.80	1.683E+03	Analog	0.30	3
Mg	26	45	2	279.406	ppb	1.99	26,304.60	2.726E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	119.61	1.238E-03	Pulse	0.30	3
K	39	45	2	1527.444	ppb	1.18	644,275.63	6.675E+00	Pulse	0.30	3
Ca	44	45	3	15607.683	ppb	0.39	19,974,798.45	7.724E+00	Analog	0.30	3
V	51	45	2	0.066	ppb	48.18	875.62	9.046E-03	Pulse	0.30	3
Cr	52	45	2	0.110	ppb	20.29	912.84	9.481E-03	Pulse	0.30	3
Mn	55	45	2	0.773	ppb	2.51	2,979.88	3.088E-02	Pulse	0.30	3
Fe	56	45	2	8.381	ppb	0.76	51,960.50	5.383E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-161.21	-1.670E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-102.35	-1.587E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	7,382.72	1.147E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-205.12	-3.186E-03	Pulse	0.30	3
As	75	72	2	0.303	ppb	7.91	239.48	3.722E-03	Pulse	0.75	3
Se	78	72	1	0.150	ppb	39.31	52.23	6.486E-04	Pulse	0.30	3
Mo	95	103	2	2.381	ppb	2.62	9,464.27	5.496E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,131.59	1.252E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-48.51	-1.029E-05	Pulse	0.30	3
Sb	121	115	3	0.001	ppb	130.19	291.12	6.180E-05	Pulse	0.30	3
Ba	137	159	3	1.843	ppb	0.79	22,048.22	3.256E-03	Pulse	0.30	3
Tl	205	209	3	0.002	ppb	27.02	1,136.76	3.211E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,546.76	-4.369E-04	Pulse	0.30	3
U	238	209	3	0.005	ppb	8.98	536.78	1.515E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,011,454.94	0.61	89.5	Analog	0.30	3
2	Sc	45	96,534.03	2.41	90.9	Pulse	0.30	3
3	Sc	45	2,586,307.76	1.23	93.0	Analog	0.30	3
1	Ge	72	80,196.85	1.57	88.6	Pulse	0.30	3
2	Ge	72	64,352.77	1.31	88.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,722,104.75	0.86	81.1	Analog	0.30	3
3	Rh	103	4,097,922.09	0.64	82.5	Analog	0.30	3
3	In	115	4,713,228.78	0.71	85.2	Analog	0.30	3
3	Tb	159	6,771,469.97	0.53	86.1	Analog	0.30	3
3	Bi	209	3,540,394.32	0.96	79.1	Analog	0.30	3

Quantitation Report

File Name	A0308051.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:10
Sample Name	CCV3,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.729	ppb	1.32	110,441.68	1.019E-01	Pulse	0.30	3
B	11	6	3	196.681	ppb	2.16	1,071,208.01	9.880E-01	Analog	0.30	3
Na	23	45	2	327.643	ppb	4.97	469,907.46	4.632E+00	Pulse	0.30	3
Mg	26	45	2	197.275	ppb	2.87	19,579.75	1.930E-01	Pulse	0.30	3
Al	27	45	2	16.148	ppb	11.28	4,453.26	4.392E-02	Pulse	0.30	3
K	39	45	2	205.401	ppb	1.51	110,852.56	1.092E+00	Pulse	0.30	3
Ca	44	45	3	196.730	ppb	1.01	263,649.96	9.958E-02	Pulse	0.30	3
V	51	45	2	18.541	ppb	0.38	104,838.49	1.033E+00	Pulse	0.30	3
Cr	52	45	2	18.659	ppb	0.37	133,308.12	1.314E+00	Pulse	0.30	3
Mn	55	45	2	19.129	ppb	0.57	76,184.30	7.507E-01	Pulse	0.30	3
Fe	56	45	2	19.011	ppb	0.86	119,630.49	1.179E+00	Pulse	0.30	3
Co	59	45	2	18.570	ppb	0.37	239,104.18	2.356E+00	Pulse	0.30	3
Ni	60	72	2	18.999	ppb	1.21	59,751.92	8.725E-01	Pulse	0.30	3
Cu	63	72	2	18.626	ppb	1.04	178,463.91	2.606E+00	Pulse	0.30	3
Zn	66	72	2	18.884	ppb	1.11	25,277.64	3.690E-01	Pulse	0.30	3
As	75	72	2	18.941	ppb	1.15	15,407.35	2.249E-01	Pulse	0.75	3
Se	78	72	1	18.200	ppb	0.62	6,805.02	7.872E-02	Pulse	0.30	3
Mo	95	103	2	19.306	ppb	0.54	86,482.25	4.448E-02	Pulse	0.30	3
Ag	107	103	3	18.384	ppb	1.07	726,124.48	1.584E-01	Pulse	0.30	3
Cd	111	115	3	18.958	ppb	0.47	166,707.17	3.243E-02	Pulse	0.30	3
Sb	121	115	3	18.793	ppb	0.68	588,222.31	1.144E-01	Pulse	0.30	3
Ba	137	159	3	19.415	ppb	0.93	246,226.83	3.392E-02	Pulse	0.30	3
Tl	205	209	3	19.091	ppb	0.60	1,388,013.24	3.372E-01	Analog	0.30	3
Pb	208	209	3	19.109	ppb	0.52	1,876,220.88	4.558E-01	Analog	0.30	3
U	238	209	3	18.843	ppb	0.89	1,971,279.88	4.789E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,084,432.12	1.48	96.0	Analog	0.30	3
2	Sc	45	101,489.81	1.89	95.6	Pulse	0.30	3
3	Sc	45	2,647,576.89	0.54	95.2	Analog	0.30	3
1	Ge	72	86,449.58	0.32	95.5	Pulse	0.30	3
2	Ge	72	68,493.01	1.91	93.6	Pulse	0.30	3
2	Rh	103	1,944,448.15	1.87	91.6	Analog	0.30	3
3	Rh	103	4,583,936.60	0.25	92.3	Analog	0.30	3
3	In	115	5,140,725.75	0.76	92.9	Analog	0.30	3
3	Tb	159	7,260,162.32	1.08	92.3	Analog	0.30	3
3	Bi	209	4,115,991.88	0.70	92.0	Analog	0.30	3

Quantitation Report

File Name	A0308052.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:15
Sample Name	CCB3,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	16.67	1.529E-05	Pulse	0.30	3
B	11	6	3	9.324	ppb	3.33	66,263.25	6.069E-02	Pulse	0.30	3
Na	23	45	2	92.662	ppb	9.60	206,860.17	2.040E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	138.90	1.370E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,138.96	1.123E-02	Pulse	0.30	3
K	39	45	2	13.706	ppb	7.94	28,689.88	2.829E-01	Pulse	0.30	3
Ca	44	45	3	0.931	ppb	10.21	7,283.00	2.721E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	523.37	5.160E-03	Pulse	0.30	3
Cr	52	45	2	0.115	ppb	6.98	997.64	9.839E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	58.22	5.746E-04	Pulse	0.30	3
Fe	56	45	2	0.065	ppb	48.16	3,774.27	3.722E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	57.73	15.28	1.509E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	84.15	1.215E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,926.88	1.859E-01	Pulse	0.30	3
Zn	66	72	2	0.001	ppb	3883.47	555.53	7.993E-03	Pulse	0.30	3
As	75	72	2	0.012	ppb	25.41	18.22	2.617E-04	Pulse	0.75	3
Se	78	72	1	0.009	ppb	100.38	3.33	3.857E-05	Pulse	0.30	3
Mo	95	103	2	0.080	ppb	6.01	394.47	1.974E-04	Pulse	0.30	3
Ag	107	103	3	0.538	ppb	16.14	31,754.17	6.795E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-8.59	-1.645E-06	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	7.92	1,382.34	2.640E-04	Pulse	0.30	3
Ba	137	159	3	0.002	ppb	399.57	320.02	4.373E-05	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	8.45	2,216.92	5.328E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	482.46	1.160E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	22.04	305.31	7.340E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,092,136.34	1.63	96.7	Analog	0.30	3
2	Sc	45	101,413.78	0.60	95.5	Pulse	0.30	3
3	Sc	45	2,676,624.16	0.18	96.2	Analog	0.30	3
1	Ge	72	86,727.37	0.60	95.8	Pulse	0.30	3
2	Ge	72	69,526.83	1.69	95.0	Pulse	0.30	3
2	Rh	103	1,998,227.16	0.53	94.1	Analog	0.30	3
3	Rh	103	4,673,211.74	0.31	94.1	Analog	0.30	3
3	In	115	5,236,272.16	0.28	94.7	Analog	0.30	3
3	Tb	159	7,320,120.59	0.26	93.1	Analog	0.30	3
3	Bi	209	4,161,743.41	0.56	93.0	Analog	0.30	3

Quantitation Report

File Name	A0308053.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:21
Sample Name	N018861-007B,SAMP,125
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

dilution test for Mo

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	7.465E-06	Pulse	0.30	3
B	11	6	3	23.313	ppb	0.70	135,422.95	1.299E-01	Pulse	0.30	3
Na	23	45	2	27827.363	ppb	0.58	30,186,428.16	3.080E+02	Analog	0.30	3
Mg	26	45	2	27.161	ppb	2.90	2,758.12	2.815E-02	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	123.07	1.255E-03	Pulse	0.30	3
K	39	45	2	277.972	ppb	0.42	137,095.90	1.399E+00	Pulse	0.30	3
Ca	44	45	3	2322.804	ppb	1.10	2,966,176.69	1.151E+00	Analog	0.30	3
V	51	45	2	0.009	ppb	205.06	576.70	5.878E-03	Pulse	0.30	3
Cr	52	45	2	0.172	ppb	19.57	1,352.03	1.382E-02	Pulse	0.30	3
Mn	55	45	2	0.206	ppb	7.34	847.79	8.653E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	533.92	5.458E-03	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-20.40	-2.086E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	33.86	5.089E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,077.26	1.808E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	177.33	2.658E-03	Pulse	0.30	3
As	75	72	2	0.138	ppb	17.28	117.77	1.760E-03	Pulse	0.75	3
Se	78	72	1	0.012	ppb	114.43	4.44	5.237E-05	Pulse	0.30	3
Mo	95	103	2	0.607	ppb	6.99	2,628.11	1.411E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,946.81	2.048E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-5,593.07	-1.129E-03	Pulse	0.30	3
Sb	121	115	3	0.008	ppb	23.63	506.69	1.023E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-2,194.70	-3.137E-04	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	15.69	1,716.84	4.437E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,622.01	-2.744E-03	Pulse	0.30	3
U	238	209	3	0.001	ppb	53.23	184.94	4.783E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,042,322.94	0.77	92.3	Analog	0.30	3
2	Sc	45	98,003.79	1.29	92.3	Pulse	0.30	3
3	Sc	45	2,576,356.09	1.06	92.6	Analog	0.30	3
1	Ge	72	84,330.60	0.88	93.1	Pulse	0.30	3
2	Ge	72	66,816.05	1.36	91.3	Pulse	0.30	3
2	Rh	103	1,862,943.79	0.29	87.7	Analog	0.30	3
3	Rh	103	4,369,109.13	0.07	88.0	Analog	0.30	3
3	In	115	4,952,160.93	0.45	89.5	Analog	0.30	3
3	Tb	159	6,995,212.12	0.47	88.9	Analog	0.30	3
3	Bi	209	3,870,345.74	0.62	86.5	Analog	0.30	3

Quantitation Report

File Name	A0308054.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:26
Sample Name	N018861-007B-PS,PS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.413	ppb	5.05	2,180.23	2.262E-03	Pulse	0.30	3
B	11	6	3	164.516	ppb	0.73	798,945.10	8.288E-01	Pulse	0.30	3
Na	23	45	2	132604.020	ppb	1.30	137,762,864.62	1.464E+03	Analog	0.30	3
Mg	26	45	2	137.327	ppb	0.86	12,695.27	1.349E-01	Pulse	0.30	3
Al	27	45	2	3.600	ppb	7.05	1,782.24	1.894E-02	Pulse	0.30	3
K	39	45	2	1295.274	ppb	1.15	535,898.10	5.695E+00	Pulse	0.30	3
Ca	44	45	3	11081.385	ppb	0.50	13,751,659.24	5.484E+00	Analog	0.30	3
V	51	45	2	0.525	ppb	11.32	3,242.68	3.447E-02	Pulse	0.30	3
Cr	52	45	2	0.715	ppb	9.49	4,891.54	5.201E-02	Pulse	0.30	3
Mn	55	45	2	4.952	ppb	2.36	18,323.43	1.948E-01	Pulse	0.30	3
Fe	56	45	2	2.091	ppb	4.54	14,986.47	1.593E-01	Pulse	0.30	3
Co	59	45	2	0.377	ppb	3.53	4,507.16	4.787E-02	Pulse	0.30	3
Ni	60	72	2	0.365	ppb	5.24	1,149.92	1.804E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,171.18	1.909E-01	Pulse	0.30	3
Zn	66	72	2	3.285	ppb	3.34	4,511.19	7.077E-02	Pulse	0.30	3
As	75	72	2	1.065	ppb	5.20	813.77	1.277E-02	Pulse	0.75	3
Se	78	72	1	0.430	ppb	13.25	143.34	1.861E-03	Pulse	0.30	3
Mo	95	103	2	3.540	ppb	2.96	13,995.46	8.166E-03	Pulse	0.30	3
Ag	107	103	3	0.446	ppb	6.33	24,348.77	6.011E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13,678.83	-2.923E-03	Pulse	0.30	3
Sb	121	115	3	0.433	ppb	1.16	12,597.68	2.689E-03	Pulse	0.30	3
Ba	137	159	3	4.229	ppb	33.20	50,367.21	7.419E-03	Pulse	0.30	3
Tl	205	209	3	0.354	ppb	3.22	23,343.46	6.547E-03	Pulse	0.30	3
Pb	208	209	3	0.018	ppb	1818.32	2,277.98	6.267E-04	Pulse	0.30	3
U	238	209	3	0.453	ppb	1.31	41,167.39	1.155E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	963,989.17	0.60	85.3	Analog	0.30	3
2	Sc	45	94,114.85	2.03	88.6	Pulse	0.30	3
3	Sc	45	2,507,479.35	0.40	90.2	Analog	0.30	3
1	Ge	72	77,284.17	3.94	85.4	Pulse	0.30	3
2	Ge	72	63,742.80	0.15	87.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,714,053.65	1.08	80.7	Analog	0.30	3
3	Rh	103	4,050,459.11	0.06	81.6	Analog	0.30	3
3	In	115	4,684,436.47	0.50	84.7	Analog	0.30	3
3	Tb	159	6,784,022.19	0.52	86.2	Analog	0.30	3
3	Bi	209	3,565,362.35	0.47	79.7	Analog	0.30	3

Quantitation Report

File Name	A0308055.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:32
Sample Name	N018861-007B-MS,MS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.418	ppb	5.75	2,234.69	2.291E-03	Pulse	0.30	3
B	11	6	3	164.005	ppb	1.57	805,998.62	8.263E-01	Pulse	0.30	3
Na	23	45	2	133489.279	ppb	0.77	139,458,556.81	1.474E+03	Analog	0.30	3
Mg	26	45	2	141.887	ppb	2.92	13,182.32	1.393E-01	Pulse	0.30	3
Al	27	45	2	4.207	ppb	7.40	1,907.76	2.015E-02	Pulse	0.30	3
K	39	45	2	1305.486	ppb	0.51	543,004.05	5.738E+00	Pulse	0.30	3
Ca	44	45	3	11129.633	ppb	0.48	13,942,547.99	5.508E+00	Analog	0.30	3
V	51	45	2	0.535	ppb	2.72	3,314.92	3.504E-02	Pulse	0.30	3
Cr	52	45	2	0.746	ppb	2.64	5,127.66	5.419E-02	Pulse	0.30	3
Mn	55	45	2	4.931	ppb	0.90	18,354.23	1.939E-01	Pulse	0.30	3
Fe	56	45	2	2.133	ppb	0.83	15,313.28	1.618E-01	Pulse	0.30	3
Co	59	45	2	0.370	ppb	2.61	4,446.34	4.698E-02	Pulse	0.30	3
Ni	60	72	2	0.359	ppb	11.98	1,141.31	1.777E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,678.04	1.976E-01	Pulse	0.30	3
Zn	66	72	2	3.267	ppb	4.26	4,518.60	7.043E-02	Pulse	0.30	3
As	75	72	2	1.054	ppb	1.70	810.66	1.264E-02	Pulse	0.75	3
Se	78	72	1	0.346	ppb	9.79	117.78	1.495E-03	Pulse	0.30	3
Mo	95	103	2	3.552	ppb	1.44	14,159.00	8.194E-03	Pulse	0.30	3
Ag	107	103	3	0.614	ppb	1.48	30,312.95	7.437E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-5,357.74	-1.137E-03	Pulse	0.30	3
Sb	121	115	3	0.431	ppb	2.25	12,609.94	2.673E-03	Pulse	0.30	3
Ba	137	159	3	5.080	ppb	27.62	60,691.28	8.905E-03	Pulse	0.30	3
Tl	205	209	3	0.352	ppb	0.82	23,383.57	6.511E-03	Pulse	0.30	3
Pb	208	209	3	0.212	ppb	154.18	18,901.61	5.239E-03	Pulse	0.30	3
U	238	209	3	0.454	ppb	0.67	41,549.67	1.157E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	975,556.05	1.05	86.3	Analog	0.30	3
2	Sc	45	94,635.70	1.68	89.1	Pulse	0.30	3
3	Sc	45	2,531,274.27	0.47	91.0	Analog	0.30	3
1	Ge	72	78,753.00	1.01	87.0	Pulse	0.30	3
2	Ge	72	64,139.63	1.57	87.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,727,986.33	0.81	81.4	Analog	0.30	3
3	Rh	103	4,075,842.65	0.39	82.1	Analog	0.30	3
3	In	115	4,717,248.52	0.22	85.3	Analog	0.30	3
3	Tb	159	6,812,789.41	0.45	86.6	Analog	0.30	3
3	Bi	209	3,591,155.47	0.47	80.3	Analog	0.30	3

Quantitation Report

File Name	A0308056.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:37
Sample Name	N018861-007B-MSD,MSD,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.429	ppb	6.59	2,244.70	2.352E-03	Pulse	0.30	3
B	11	6	3	166.379	ppb	0.62	800,003.16	8.380E-01	Pulse	0.30	3
Na	23	45	2	132746.575	ppb	0.35	139,489,632.37	1.466E+03	Analog	0.30	3
Mg	26	45	2	136.930	ppb	1.35	12,801.93	1.345E-01	Pulse	0.30	3
Al	27	45	2	3.837	ppb	19.06	1,847.80	1.941E-02	Pulse	0.30	3
K	39	45	2	1310.744	ppb	0.31	548,260.68	5.760E+00	Pulse	0.30	3
Ca	44	45	3	11139.896	ppb	0.32	13,803,438.82	5.513E+00	Analog	0.30	3
V	51	45	2	0.531	ppb	5.00	3,314.91	3.482E-02	Pulse	0.30	3
Cr	52	45	2	0.718	ppb	4.96	4,964.28	5.218E-02	Pulse	0.30	3
Mn	55	45	2	4.925	ppb	0.88	18,438.72	1.937E-01	Pulse	0.30	3
Fe	56	45	2	2.105	ppb	6.79	15,240.42	1.602E-01	Pulse	0.30	3
Co	59	45	2	0.356	ppb	1.38	4,299.35	4.517E-02	Pulse	0.30	3
Ni	60	72	2	0.346	ppb	5.33	1,101.03	1.719E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,159.20	2.055E-01	Pulse	0.30	3
Zn	66	72	2	3.210	ppb	3.26	4,438.26	6.935E-02	Pulse	0.30	3
As	75	72	2	1.068	ppb	8.04	818.66	1.280E-02	Pulse	0.75	3
Se	78	72	1	0.348	ppb	4.05	120.01	1.507E-03	Pulse	0.30	3
Mo	95	103	2	3.501	ppb	1.77	14,166.77	8.076E-03	Pulse	0.30	3
Ag	107	103	3	0.650	ppb	0.78	31,541.49	7.743E-03	Pulse	0.30	3
Cd	111	115	3	0.390	ppb	3.18	3,153.10	6.692E-04	Pulse	0.30	3
Sb	121	115	3	0.428	ppb	1.76	12,524.32	2.658E-03	Pulse	0.30	3
Ba	137	159	3	5.872	ppb	0.63	69,943.65	1.029E-02	Pulse	0.30	3
Tl	205	209	3	0.354	ppb	0.50	23,464.80	6.545E-03	Pulse	0.30	3
Pb	208	209	3	0.404	ppb	2.27	35,231.12	9.829E-03	Pulse	0.30	3
U	238	209	3	0.452	ppb	0.98	41,286.28	1.152E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	954,627.04	0.41	84.5	Analog	0.30	3
2	Sc	45	95,179.82	1.20	89.6	Pulse	0.30	3
3	Sc	45	2,503,680.76	0.22	90.0	Analog	0.30	3
1	Ge	72	79,609.66	0.78	87.9	Pulse	0.30	3
2	Ge	72	64,011.43	2.56	87.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,754,014.73	1.05	82.6	Analog	0.30	3
3	Rh	103	4,073,437.37	0.07	82.1	Analog	0.30	3
3	In	115	4,712,240.55	0.42	85.2	Analog	0.30	3
3	Tb	159	6,799,707.12	0.59	86.4	Analog	0.30	3
3	Bi	209	3,585,016.96	0.98	80.1	Analog	0.30	3

Quantitation Report

File Name	A0308057.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:43
Sample Name	CCV4,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.756	ppb	1.91	105,890.44	1.020E-01	Pulse	0.30	3
B	11	6	3	192.859	ppb	0.61	1,006,105.00	9.691E-01	Analog	0.30	3
Na	23	45	2	279.728	ppb	3.28	408,166.33	4.104E+00	Pulse	0.30	3
Mg	26	45	2	192.479	ppb	1.98	18,737.70	1.883E-01	Pulse	0.30	3
Al	27	45	2	15.526	ppb	5.61	4,245.51	4.268E-02	Pulse	0.30	3
K	39	45	2	201.941	ppb	0.98	107,211.19	1.078E+00	Pulse	0.30	3
Ca	44	45	3	195.840	ppb	1.05	255,714.12	9.914E-02	Pulse	0.30	3
V	51	45	2	18.706	ppb	1.27	103,666.49	1.042E+00	Pulse	0.30	3
Cr	52	45	2	18.741	ppb	0.58	131,249.18	1.319E+00	Pulse	0.30	3
Mn	55	45	2	19.298	ppb	0.61	75,333.27	7.573E-01	Pulse	0.30	3
Fe	56	45	2	19.159	ppb	0.87	118,149.70	1.188E+00	Pulse	0.30	3
Co	59	45	2	18.646	ppb	0.39	235,319.37	2.366E+00	Pulse	0.30	3
Ni	60	72	2	18.977	ppb	1.57	59,479.16	8.715E-01	Pulse	0.30	3
Cu	63	72	2	18.577	ppb	0.71	177,444.71	2.599E+00	Pulse	0.30	3
Zn	66	72	2	18.984	ppb	2.22	25,315.86	3.709E-01	Pulse	0.30	3
As	75	72	2	19.210	ppb	0.75	15,573.76	2.281E-01	Pulse	0.75	3
Se	78	72	1	18.799	ppb	1.17	6,935.12	8.131E-02	Pulse	0.30	3
Mo	95	103	2	19.089	ppb	0.86	85,639.16	4.398E-02	Pulse	0.30	3
Ag	107	103	3	18.454	ppb	0.51	725,322.89	1.590E-01	Pulse	0.30	3
Cd	111	115	3	19.014	ppb	0.26	167,020.92	3.253E-02	Pulse	0.30	3
Sb	121	115	3	18.897	ppb	0.96	590,809.41	1.151E-01	Pulse	0.30	3
Ba	137	159	3	19.603	ppb	0.54	246,303.69	3.424E-02	Pulse	0.30	3
Tl	205	209	3	18.903	ppb	0.32	1,382,336.68	3.339E-01	Analog	0.30	3
Pb	208	209	3	18.952	ppb	0.39	1,871,632.20	4.521E-01	Analog	0.30	3
U	238	209	3	18.740	ppb	0.26	1,971,770.48	4.763E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,038,222.51	0.96	91.9	Analog	0.30	3
2	Sc	45	99,475.98	0.82	93.7	Pulse	0.30	3
3	Sc	45	2,579,262.86	0.25	92.7	Analog	0.30	3
1	Ge	72	85,295.29	0.49	94.2	Pulse	0.30	3
2	Ge	72	68,261.66	1.77	93.3	Pulse	0.30	3
2	Rh	103	1,947,126.26	1.43	91.7	Analog	0.30	3
3	Rh	103	4,561,791.18	0.65	91.9	Analog	0.30	3
3	In	115	5,135,113.27	0.49	92.8	Analog	0.30	3
3	Tb	159	7,192,413.85	0.46	91.4	Analog	0.30	3
3	Bi	209	4,139,863.06	0.33	92.5	Analog	0.30	3

Quantitation Report

File Name	A0308058.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:48
Sample Name	CCB4,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	420.78	18.89	1.829E-05	Pulse	0.30	3
B	11	6	3	6.762	ppb	3.14	49,543.44	4.801E-02	Pulse	0.30	3
Na	23	45	2	57.410	ppb	15.16	164,584.63	1.651E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	106.67	1.070E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,170.08	1.172E-02	Pulse	0.30	3
K	39	45	2	10.592	ppb	18.64	26,901.34	2.698E-01	Pulse	0.30	3
Ca	44	45	3	0.627	ppb	21.99	6,658.27	2.570E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	476.70	4.775E-03	Pulse	0.30	3
Cr	52	45	2	0.087	ppb	13.26	778.77	7.813E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	288.97	61.48	6.169E-04	Pulse	0.30	3
Fe	56	45	2	0.025	ppb	24.82	3,473.91	3.483E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	75.26	15.38	1.545E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	89.82	1.303E-03	Pulse	0.30	3
Cu	63	72	2	0.010	ppb	164.08	14,516.38	2.104E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	539.33	7.815E-03	Pulse	0.30	3
As	75	72	2	0.007	ppb	102.65	13.78	1.995E-04	Pulse	0.75	3
Se	78	72	1	0.009	ppb	100.13	3.33	3.923E-05	Pulse	0.30	3
Mo	95	103	2	0.079	ppb	5.57	384.46	1.946E-04	Pulse	0.30	3
Ag	107	103	3	0.554	ppb	17.46	32,128.18	6.929E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-3.79	-7.397E-07	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	9.09	1,198.98	2.322E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	293.80	4.041E-05	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	10.87	2,246.92	5.456E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	534.02	1.296E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	29.10	274.45	6.667E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,032,051.97	0.56	91.3	Analog	0.30	3
2	Sc	45	99,751.76	1.58	93.9	Pulse	0.30	3
3	Sc	45	2,590,687.27	1.05	93.2	Analog	0.30	3
1	Ge	72	84,744.97	0.54	93.6	Pulse	0.30	3
2	Ge	72	68,994.71	0.97	94.3	Pulse	0.30	3
2	Rh	103	1,975,849.37	0.43	93.0	Analog	0.30	3
3	Rh	103	4,636,786.01	0.43	93.4	Analog	0.30	3
3	In	115	5,164,013.45	0.78	93.4	Analog	0.30	3
3	Tb	159	7,270,892.88	0.40	92.4	Analog	0.30	3
3	Bi	209	4,118,973.44	0.64	92.1	Analog	0.30	3

Quantitation Report

File Name	A0308059.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:54
Sample Name	LLCCV1,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.457	ppb	5.20	2,585.87	2.502E-03	Pulse	0.30	3
B	11	6	3	58.583	ppb	1.90	314,560.23	3.045E-01	Pulse	0.30	3
Na	23	45	2	49.688	ppb	15.81	157,907.98	1.566E+00	Pulse	0.30	3
Mg	26	45	2	6.406	ppb	68.62	812.06	8.037E-03	Pulse	0.30	3
Al	27	45	2	36.853	ppb	0.80	8,589.13	8.512E-02	Pulse	0.30	3
K	39	45	2	9.506	ppb	23.34	26,747.70	2.652E-01	Pulse	0.30	3
Ca	44	45	3	18.754	ppb	2.40	30,204.95	1.154E-02	Pulse	0.30	3
V	51	45	2	0.936	ppb	3.13	5,775.69	5.724E-02	Pulse	0.30	3
Cr	52	45	2	1.054	ppb	3.56	7,648.55	7.579E-02	Pulse	0.30	3
Mn	55	45	2	0.527	ppb	5.66	2,142.09	2.123E-02	Pulse	0.30	3
Fe	56	45	2	10.410	ppb	2.83	66,659.76	6.606E-01	Pulse	0.30	3
Co	59	45	2	0.455	ppb	2.09	5,835.47	5.784E-02	Pulse	0.30	3
Ni	60	72	2	0.979	ppb	5.75	3,132.31	4.621E-02	Pulse	0.30	3
Cu	63	72	2	1.166	ppb	3.20	24,336.41	3.591E-01	Pulse	0.30	3
Zn	66	72	2	10.780	ppb	2.16	14,506.87	2.141E-01	Pulse	0.30	3
As	75	72	2	0.106	ppb	7.08	93.33	1.377E-03	Pulse	0.75	3
Se	78	72	1	0.493	ppb	0.48	181.12	2.130E-03	Pulse	0.30	3
Mo	95	103	2	0.517	ppb	2.49	2,404.77	1.205E-03	Pulse	0.30	3
Ag	107	103	3	0.059	ppb	16.61	12,642.02	2.728E-03	Pulse	0.30	3
Cd	111	115	3	0.464	ppb	6.70	4,201.96	7.962E-04	Pulse	0.30	3
Sb	121	115	3	0.500	ppb	1.09	16,355.72	3.099E-03	Pulse	0.30	3
Ba	137	159	3	1.056	ppb	2.40	14,075.71	1.884E-03	Pulse	0.30	3
Tl	205	209	3	0.341	ppb	1.34	26,781.48	6.316E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.960	ppb	0.80	97,842.17	2.307E-02	Pulse	0.30	3
U	238	209	3	0.456	ppb	0.47	49,299.00	1.163E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,033,182.56	1.06	91.4	Analog	0.30	3
2	Sc	45	100,900.85	1.38	95.0	Pulse	0.30	3
3	Sc	45	2,617,916.87	0.37	94.1	Analog	0.30	3
1	Ge	72	85,012.93	0.70	93.9	Pulse	0.30	3
2	Ge	72	67,758.90	1.15	92.6	Pulse	0.30	3
2	Rh	103	1,996,379.31	1.20	94.0	Analog	0.30	3
3	Rh	103	4,633,589.55	0.30	93.3	Analog	0.30	3
3	In	115	5,278,308.04	0.40	95.4	Analog	0.30	3
3	Tb	159	7,472,138.78	0.28	95.0	Analog	0.30	3
3	Bi	209	4,240,212.47	0.25	94.8	Analog	0.30	3

Quantitation Report

File Name	A0308060.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:59
Sample Name	ICSA2,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	195.81	20.00	2.020E-05	Pulse	0.30	3
B	11	6	3	1.977	ppb	5.81	24,104.18	2.433E-02	Pulse	0.30	3
Na	23	45	2	97053.645	ppb	1.80	105,008,125.10	1.072E+03	Analog	0.30	3
Mg	26	45	2	98833.234	ppb	1.67	9,383,367.98	9.577E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-98.00	-1.010E-03	Pulse	0.30	3
K	39	45	2	105149.801	ppb	0.92	43,534,979.63	4.443E+02	Analog	0.30	3
Ca	44	45	3	91675.602	ppb	0.18	124,838,053.69	4.536E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	372.24	3.805E-03	Pulse	0.30	3
Cr	52	45	2	0.259	ppb	4.17	1,950.46	1.990E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-9,278.13	-9.465E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,925.83	-4.008E-02	Pulse	0.30	3
Co	59	45	2	0.006	ppb	21.11	77.76	7.964E-04	Pulse	0.30	3
Ni	60	72	2	0.306	ppb	6.96	992.89	1.533E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,362.25	1.755E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,250.72	-1.933E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	-9.03	-1.404E-04	Pulse	0.75	3
Se	78	72	1	0.023	ppb	88.32	7.78	9.981E-05	Pulse	0.30	3
Mo	95	103	2	0.047	ppb	11.22	210.01	1.219E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-21,881.64	-5.183E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20,424.38	-4.240E-03	Pulse	0.30	3
Sb	121	115	3	0.017	ppb	6.08	753.38	1.564E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-77,856.52	-1.132E-02	Pulse	0.30	3
Tl	205	209	3	0.016	ppb	9.92	1,961.32	5.815E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-116,943.87	-3.467E-02	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-7,563.43	-2.242E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	990,949.82	0.87	87.7	Analog	0.30	3
2	Sc	45	98,014.41	3.51	92.3	Pulse	0.30	3
3	Sc	45	2,752,456.52	0.97	99.0	Analog	0.30	3
1	Ge	72	77,384.68	2.85	85.5	Pulse	0.30	3
2	Ge	72	64,707.40	1.73	88.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,721,848.61	1.98	81.1	Analog	0.30	3
3	Rh	103	4,221,997.37	0.72	85.0	Analog	0.30	3
3	In	115	4,816,932.15	0.20	87.1	Analog	0.30	3
3	Tb	159	6,877,793.65	1.08	87.4	Analog	0.30	3
3	Bi	209	3,373,251.68	0.54	75.4	Analog	0.30	3

Quantitation Report

File Name	A0308061.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 17:04
Sample Name	ICSAB2,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.753	ppb	0.65	110,160.98	1.129E-01	Pulse	0.30	3
B	11	6	3	206.503	ppb	2.79	1,011,748.35	1.037E+00	Analog	0.30	3
Na	23	45	2	99271.218	ppb	0.48	105,775,436.20	1.096E+03	Analog	0.30	3
Mg	26	45	2	100927.001	ppb	0.99	9,436,013.96	9.780E+01	Analog	0.30	3
Al	27	45	2	16.506	ppb	8.79	4,302.15	4.463E-02	Pulse	0.30	3
K	39	45	2	104515.673	ppb	1.52	42,607,999.64	4.416E+02	Analog	0.30	3
Ca	44	45	3	93150.524	ppb	0.74	128,790,359.19	4.608E+01	Analog	0.30	3
V	51	45	2	21.762	ppb	1.68	116,876.52	1.211E+00	Pulse	0.30	3
Cr	52	45	2	20.953	ppb	1.02	142,290.93	1.475E+00	Pulse	0.30	3
Mn	55	45	2	17.858	ppb	0.71	67,624.03	7.009E-01	Pulse	0.30	3
Fe	56	45	2	19.404	ppb	2.28	116,011.68	1.202E+00	Pulse	0.30	3
Co	59	45	2	20.100	ppb	1.01	246,020.85	2.550E+00	Pulse	0.30	3
Ni	60	72	2	21.123	ppb	1.21	60,337.36	9.699E-01	Pulse	0.30	3
Cu	63	72	2	19.404	ppb	1.28	168,350.70	2.706E+00	Pulse	0.30	3
Zn	66	72	2	16.717	ppb	3.03	20,384.49	3.276E-01	Pulse	0.30	3
As	75	72	2	20.856	ppb	0.40	15,408.49	2.477E-01	Pulse	0.75	3
Se	78	72	1	19.634	ppb	2.42	6,285.92	8.492E-02	Pulse	0.30	3
Mo	95	103	2	23.732	ppb	1.53	91,784.08	5.467E-02	Pulse	0.30	3
Ag	107	103	3	18.689	ppb	0.56	686,810.69	1.610E-01	Pulse	0.30	3
Cd	111	115	3	17.407	ppb	0.54	144,829.88	2.978E-02	Pulse	0.30	3
Sb	121	115	3	20.962	ppb	0.54	620,766.79	1.276E-01	Pulse	0.30	3
Ba	137	159	3	18.962	ppb	0.50	228,178.05	3.313E-02	Pulse	0.30	3
Tl	205	209	3	22.579	ppb	0.99	1,319,143.78	3.988E-01	Analog	0.30	3
Pb	208	209	3	20.746	ppb	0.73	1,636,957.23	4.949E-01	Mix	0.30	3
U	238	209	3	23.281	ppb	1.01	1,957,218.25	5.917E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	976,066.51	0.33	86.4	Analog	0.30	3
2	Sc	45	96,492.20	2.29	90.9	Pulse	0.30	3
3	Sc	45	2,794,748.29	0.76	100.5	Analog	0.30	3
1	Ge	72	74,009.89	2.45	81.7	Pulse	0.30	3
2	Ge	72	62,212.35	1.51	85.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,678,560.69	1.72	79.0	Analog	0.30	3
3	Rh	103	4,265,903.55	0.32	85.9	Analog	0.30	3
3	In	115	4,864,103.36	0.56	87.9	Analog	0.30	3
3	Tb	159	6,888,023.30	0.55	87.6	Analog	0.30	3
3	Bi	209	3,307,873.49	0.59	73.9	Analog	0.30	3

Quantitation Report

File Name	A0308062.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 18:45
Sample Name	MB-56504,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	309.21	22.22	2.150E-05	Pulse	0.30	3
B	11	6	3	8.823	ppb	1.59	60,058.48	5.821E-02	Pulse	0.30	3
Na	23	45	2	48.805	ppb	21.61	149,314.53	1.556E+00	Pulse	0.30	3
Mg	26	45	2	1.413	ppb	29.44	307.80	3.199E-03	Pulse	0.30	3
Al	27	45	2	2.241	ppb	33.81	1,557.90	1.624E-02	Pulse	0.30	3
K	39	45	2	18.604	ppb	12.68	29,149.53	3.036E-01	Pulse	0.30	3
Ca	44	45	3	1.813	ppb	5.29	8,461.35	3.157E-03	Pulse	0.30	3
V	51	45	2	0.013	ppb	169.35	585.59	6.084E-03	Pulse	0.30	3
Cr	52	45	2	0.132	ppb	34.78	1,053.27	1.097E-02	Pulse	0.30	3
Mn	55	45	2	0.002	ppb	339.01	64.23	6.725E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,987.70	3.113E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	23.16	22.06	2.296E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	60.92	9.260E-04	Pulse	0.30	3
Cu	63	72	2	0.215	ppb	54.30	15,585.47	2.367E-01	Pulse	0.30	3
Zn	66	72	2	0.230	ppb	35.85	814.92	1.236E-02	Pulse	0.30	3
As	75	72	2	0.007	ppb	45.93	13.78	2.091E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	0.00	0.000E+00	Pulse	0.30	3
Mo	95	103	2	0.031	ppb	8.11	164.45	8.441E-05	Pulse	0.30	3
Ag	107	103	3	0.622	ppb	15.88	35,701.05	7.508E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	6.72	1.271E-06	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	26.19	611.15	1.157E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	132.11	1.815E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,115.64	2.718E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	704.86	1.717E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	90.51	112.57	2.743E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,031,745.31	0.81	91.3	Analog	0.30	3
2	Sc	45	96,055.92	2.04	90.5	Pulse	0.30	3
3	Sc	45	2,680,358.67	0.36	96.4	Analog	0.30	3
1	Ge	72	80,074.82	4.76	88.4	Pulse	0.30	3
2	Ge	72	65,826.63	1.49	90.0	Pulse	0.30	3
2	Rh	103	1,947,488.93	0.90	91.7	Analog	0.30	3
3	Rh	103	4,753,837.67	0.52	95.8	Analog	0.30	3
3	In	115	5,281,315.11	0.15	95.5	Analog	0.30	3
3	Tb	159	7,280,099.40	0.21	92.6	Analog	0.30	3
3	Bi	209	4,104,195.43	0.49	91.7	Analog	0.30	3

Quantitation Report

File Name	A0308063.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 18:51
Sample Name	LCS-56504,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.125	ppb	1.32	56,875.09	5.507E-02	Pulse	0.30	3
B	11	6	3	1966.147	ppb	2.47	10,064,175.65	9.746E+00	Analog	0.30	3
Na	23	45	2	261.238	ppb	2.65	402,926.37	3.900E+00	Pulse	0.30	3
Mg	26	45	2	99.662	ppb	0.61	10,169.02	9.840E-02	Pulse	0.30	3
Al	27	45	2	198.933	ppb	1.29	42,127.82	4.077E-01	Pulse	0.30	3
K	39	45	2	101.990	ppb	2.03	67,754.94	6.557E-01	Pulse	0.30	3
Ca	44	45	3	142.358	ppb	1.28	199,516.15	7.269E-02	Pulse	0.30	3
V	51	45	2	10.010	ppb	0.22	57,892.86	5.602E-01	Pulse	0.30	3
Cr	52	45	2	9.940	ppb	1.79	72,388.21	7.006E-01	Pulse	0.30	3
Mn	55	45	2	99.349	ppb	0.35	402,654.15	3.896E+00	Pulse	0.30	3
Fe	56	45	2	100.415	ppb	1.16	628,633.51	6.084E+00	Pulse	0.30	3
Co	59	45	2	9.594	ppb	0.19	125,795.06	1.217E+00	Pulse	0.30	3
Ni	60	72	2	10.183	ppb	1.97	33,315.99	4.682E-01	Pulse	0.30	3
Cu	63	72	2	10.425	ppb	1.60	110,327.46	1.550E+00	Pulse	0.30	3
Zn	66	72	2	99.934	ppb	1.59	136,517.42	1.919E+00	Pulse	0.30	3
As	75	72	2	10.013	ppb	3.05	8,468.06	1.190E-01	Pulse	0.75	3
Se	78	72	1	10.263	ppb	2.44	4,000.69	4.439E-02	Pulse	0.30	3
Mo	95	103	2	10.252	ppb	2.41	48,387.04	2.362E-02	Pulse	0.30	3
Ag	107	103	3	9.712	ppb	0.95	412,111.89	8.473E-02	Pulse	0.30	3
Cd	111	115	3	10.091	ppb	0.12	95,113.21	1.726E-02	Pulse	0.30	3
Sb	121	115	3	10.048	ppb	0.28	337,230.29	6.120E-02	Pulse	0.30	3
Ba	137	159	3	107.987	ppb	0.69	1,468,092.44	1.885E-01	Analog	0.30	3
Tl	205	209	3	7.477	ppb	0.92	587,458.01	1.323E-01	Pulse	0.30	3
Pb	208	209	3	10.057	ppb	0.63	1,066,069.52	2.400E-01	Pulse	0.30	3
U	238	209	3	9.930	ppb	0.87	1,121,082.29	2.524E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,032,842.40	1.26	91.4	Analog	0.30	3
2	Sc	45	103,344.50	1.70	97.3	Pulse	0.30	3
3	Sc	45	2,745,055.79	0.70	98.7	Analog	0.30	3
1	Ge	72	90,132.32	0.50	99.5	Pulse	0.30	3
2	Ge	72	71,167.60	2.05	97.3	Pulse	0.30	3
2	Rh	103	2,048,066.60	0.37	96.4	Analog	0.30	3
3	Rh	103	4,863,646.00	0.24	98.0	Analog	0.30	3
3	In	115	5,509,967.56	0.31	99.6	Analog	0.30	3
3	Tb	159	7,789,861.83	0.47	99.0	Analog	0.30	3
3	Bi	209	4,441,850.35	0.63	99.3	Analog	0.30	3

Quantitation Report

File Name	A0308064.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:02
Sample Name	N018898-003A,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	53.14	21.11	2.538E-05	Pulse	0.30	3
B	11	6	3	159.784	ppb	0.14	669,760.45	8.054E-01	Pulse	0.30	3
Na	23	45	2	47387.391	ppb	0.97	48,265,948.73	5.238E+02	Analog	0.30	3
Mg	26	45	2	16857.427	ppb	0.88	1,505,334.39	1.634E+01	Analog	0.30	3
Al	27	45	2	11.975	ppb	6.92	3,282.58	3.561E-02	Pulse	0.30	3
K	39	45	2	1580.741	ppb	0.69	635,811.96	6.900E+00	Pulse	0.30	3
Ca	44	45	3	37552.675	ppb	0.39	43,506,147.68	1.858E+01	Analog	0.30	3
V	51	45	2	1.323	ppb	4.38	7,251.88	7.872E-02	Pulse	0.30	3
Cr	52	45	2	0.255	ppb	7.10	1,807.16	1.962E-02	Pulse	0.30	3
Mn	55	45	2	2.138	ppb	4.50	7,777.20	8.442E-02	Pulse	0.30	3
Fe	56	45	2	46.147	ppb	1.84	259,248.27	2.814E+00	Pulse	0.30	3
Co	59	45	2	0.031	ppb	12.07	364.80	3.963E-03	Pulse	0.30	3
Ni	60	72	2	0.258	ppb	10.71	837.34	1.314E-02	Pulse	0.30	3
Cu	63	72	2	157.596	ppb	0.24	1,305,768.82	2.049E+01	Analog	0.30	3
Zn	66	72	2	3.489	ppb	3.62	4,759.19	7.468E-02	Pulse	0.30	3
As	75	72	2	0.618	ppb	3.95	475.06	7.454E-03	Pulse	0.75	3
Se	78	72	1	0.668	ppb	8.56	245.57	2.890E-03	Pulse	0.30	3
Mo	95	103	2	3.376	ppb	3.49	13,696.33	7.788E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	2,075.43	5.303E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-8,576.21	-1.851E-03	Pulse	0.30	3
Sb	121	115	3	0.052	ppb	7.17	1,712.39	3.695E-04	Pulse	0.30	3
Ba	137	159	3	19.688	ppb	0.66	237,016.05	3.439E-02	Pulse	0.30	3
Tl	205	209	3	0.100	ppb	3.93	7,485.52	2.059E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,661.02	-2.932E-03	Pulse	0.30	3
U	238	209	3	3.790	ppb	0.56	350,403.63	9.635E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	831,601.78	0.21	73.6	Pulse	0.30	3
2	Sc	45	92,147.61	1.24	86.8	Pulse	0.30	3
3	Sc	45	2,341,580.36	0.46	84.2	Analog	0.30	3
1	Ge	72	84,989.38	0.40	93.9	Pulse	0.30	3
2	Ge	72	63,732.63	0.10	87.1	Pulse	0.30	3
2	Rh	103	1,758,873.03	0.85	82.8	Analog	0.30	3
3	Rh	103	3,914,818.14	0.69	78.9	Analog	0.30	3
3	In	115	4,633,684.90	0.11	83.8	Analog	0.30	3
3	Tb	159	6,891,503.72	0.39	87.6	Analog	0.30	3
3	Bi	209	3,636,725.40	0.89	81.3	Analog	0.30	3

Quantitation Report

File Name	A0308065.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:08
Sample Name	N018910-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	228.92	15.56	1.940E-05	Pulse	0.30	3
B	11	6	3	244.514	ppb	0.43	979,874.98	1.225E+00	Analog	0.30	3
Na	23	45	2	76950.549	ppb	0.35	73,003,627.25	8.500E+02	Analog	0.30	3
Mg	26	45	2	34515.128	ppb	0.48	2,872,604.26	3.345E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	735.80	8.563E-03	Pulse	0.30	3
K	39	45	2	8907.468	ppb	0.68	3,250,070.33	3.784E+01	Analog	0.30	3
Ca	44	45	3	37432.268	ppb	0.37	42,664,046.59	1.852E+01	Analog	0.30	3
V	51	45	2	1.057	ppb	1.79	5,493.35	6.397E-02	Pulse	0.30	3
Cr	52	45	2	0.014	ppb	87.44	231.21	2.694E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-4,492.04	-5.233E-02	Pulse	0.30	3
Fe	56	45	2	10.055	ppb	1.26	54,900.50	6.392E-01	Pulse	0.30	3
Co	59	45	2	0.018	ppb	12.43	203.17	2.368E-03	Pulse	0.30	3
Ni	60	72	2	0.080	ppb	20.54	293.47	5.002E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,174.84	5.420E-02	Pulse	0.30	3
Zn	66	72	2	0.599	ppb	7.42	1,137.91	1.942E-02	Pulse	0.30	3
As	75	72	2	6.080	ppb	4.35	4,239.11	7.229E-02	Pulse	0.75	3
Se	78	72	1	0.393	ppb	6.68	126.67	1.699E-03	Pulse	0.30	3
Mo	95	103	2	5.831	ppb	1.47	21,804.42	1.344E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-781.27	-2.073E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13,424.30	-2.999E-03	Pulse	0.30	3
Sb	121	115	3	0.367	ppb	2.72	10,240.39	2.288E-03	Pulse	0.30	3
Ba	137	159	3	44.577	ppb	0.67	521,946.71	7.782E-02	Pulse	0.30	3
Tl	205	209	3	0.264	ppb	2.61	17,245.02	4.951E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-29,732.33	-8.536E-03	Pulse	0.30	3
U	238	209	3	6.794	ppb	0.48	601,499.67	1.727E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	800,078.73	1.24	70.8	Analog	0.30	3
2	Sc	45	85,887.90	1.40	80.9	Pulse	0.30	3
3	Sc	45	2,303,627.08	0.18	82.8	Analog	0.30	3
1	Ge	72	74,538.99	0.28	82.3	Pulse	0.30	3
2	Ge	72	58,624.74	1.88	80.1	Pulse	0.30	3
2	Rh	103	1,621,994.97	0.97	76.4	Analog	0.30	3
3	Rh	103	3,768,730.71	0.32	75.9	Analog	0.30	3
3	In	115	4,476,345.40	0.23	80.9	Analog	0.30	3
3	Tb	159	6,707,034.55	0.21	85.3	Analog	0.30	3
3	Bi	209	3,483,316.17	0.56	77.9	Analog	0.30	3

Quantitation Report

File Name	A0308066.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:13
Sample Name	N018910-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	85.04	20.00	2.523E-05	Pulse	0.30	3
B	11	6	3	134.914	ppb	0.47	540,925.72	6.823E-01	Pulse	0.30	3
Na	23	45	2	679218.194	ppb	0.94	629,157,839.51	7.495E+03	Analog	0.30	3
Mg	26	45	2	131.262	ppb	7.51	10,819.58	1.290E-01	Pulse	0.30	3
Al	27	45	2	56.362	ppb	8.88	10,396.20	1.240E-01	Pulse	0.30	3
K	39	45	2	25043.497	ppb	0.87	8,896,961.95	1.060E+02	Analog	0.30	3
Ca	44	45	3	37360.332	ppb	1.61	46,761,308.75	1.848E+01	Analog	0.30	3
V	51	45	2	18.707	ppb	1.92	87,472.65	1.042E+00	Pulse	0.30	3
Cr	52	45	2	22.266	ppb	2.17	131,538.39	1.567E+00	Pulse	0.30	3
Mn	55	45	2	1.527	ppb	1.98	5,078.60	6.047E-02	Pulse	0.30	3
Fe	56	45	2	1424.554	ppb	0.95	7,208,399.43	8.587E+01	Analog	0.30	3
Co	59	45	2	66.615	ppb	1.79	709,347.94	8.451E+00	Pulse	0.30	3
Ni	60	72	2	28.281	ppb	0.69	69,849.73	1.298E+00	Pulse	0.30	3
Cu	63	72	2	104.598	ppb	1.00	735,429.20	1.367E+01	Pulse	0.30	3
Zn	66	72	2	37.959	ppb	1.80	39,476.32	7.337E-01	Pulse	0.30	3
As	75	72	2	720.190	ppb	0.79	459,974.83	8.549E+00	Pulse	0.75	3
Se	78	72	1	2.370	ppb	10.57	728.94	1.025E-02	Pulse	0.30	3
Mo	95	103	2	319.519	ppb	0.43	1,082,960.13	7.359E-01	Analog	0.30	3
Ag	107	103	3	1.789	ppb	5.62	62,703.31	1.742E-02	Pulse	0.30	3
Cd	111	115	3	0.831	ppb	4.54	6,078.87	1.423E-03	Pulse	0.30	3
Sb	121	115	3	27.340	ppb	11.74	710,026.03	1.664E-01	Analog	0.30	3
Ba	137	159	3	15.652	ppb	0.77	171,278.05	2.735E-02	Pulse	0.30	3
Tl	205	209	3	1.360	ppb	0.63	73,009.54	2.429E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-15,209.49	-5.060E-03	Pulse	0.30	3
U	238	209	3	0.011	ppb	9.29	929.52	3.094E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	792,785.18	0.74	70.2	Pulse	0.30	3
2	Sc	45	83,961.14	2.61	79.1	Pulse	0.30	3
3	Sc	45	2,529,856.82	0.53	91.0	Analog	0.30	3
1	Ge	72	71,386.51	7.00	78.8	Pulse	0.30	3
2	Ge	72	53,811.60	1.99	73.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,471,542.74	1.48	69.3	Analog	0.30	3
3	Rh	103	3,599,516.44	0.95	72.5	Analog	0.30	3
3	In	115	4,269,427.71	1.04	77.2	Analog	0.30	3
3	Tb	159	6,262,349.00	1.13	79.6	Analog	0.30	3
3	Bi	209	3,005,820.06	1.13	67.2	Analog	0.30	3

Quantitation Report

File Name	A0308067.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:19
Sample Name	N018910-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	4.39	20.00	2.553E-05	Pulse	0.30	3
B	11	6	3	129.929	ppb	0.55	515,325.92	6.576E-01	Pulse	0.30	3
Na	23	45	2	274583.245	ppb	17.48	446,115.84	3.030E+03	Pulse	0.30	3
Mg	26	45	2	2402.991	ppb	28.27	340.02	2.330E+00	Pulse	0.30	3
Al	27	45	2	171.142	ppb	24.08	53.30	3.524E-01	Pulse	0.30	3
K	39	45	2	46605.799	ppb	16.69	29,030.47	1.970E+02	Pulse	0.30	3
Ca	44	45	3	43963.423	ppb	2.42	51,185,195.90	2.175E+01	Analog	0.30	3
V	51	45	2	2.978	ppb	34.54	25.56	1.704E-01	Pulse	0.30	3
Cr	52	45	2	37.531	ppb	13.01	390.66	2.640E+00	Pulse	0.30	3
Mn	55	45	2	16.670	ppb	17.58	96.40	6.543E-01	Pulse	0.30	3
Fe	56	45	2	870.450	ppb	16.61	7,738.98	5.248E+01	Pulse	0.30	3
Co	59	45	2	231.286	ppb	15.92	4,336.93	2.934E+01	Pulse	0.30	3
Ni	60	72	2	93.768	ppb	13.50	121.72	4.301E+00	Pulse	0.30	3
Cu	63	72	2	994.956	ppb	35.65	3,315.33	1.282E+02	Pulse	0.30	3
Zn	66	72	2	156.310	ppb	12.37	81.70	2.997E+00	Pulse	0.30	3
As	75	72	2	261.393	ppb	30.66	81.78	3.103E+00	Pulse	0.75	3
Se	78	72	1	11.864	ppb	173.21	2.22	5.131E-02	Pulse	0.30	3
Mo	95	103	2	896.222	ppb	6.88	6,918.40	2.064E+00	Pulse	0.30	3
Ag	107	103	3	1.313	ppb	2.11	47,018.26	1.338E-02	Pulse	0.30	3
Cd	111	115	3	1.030	ppb	2.84	7,260.89	1.763E-03	Pulse	0.30	3
Sb	121	115	3	19.662	ppb	25.83	492,951.23	1.197E-01	Analog	0.30	3
Ba	137	159	3	22.629	ppb	0.98	240,833.12	3.952E-02	Pulse	0.30	3
Tl	205	209	3	1.140	ppb	0.54	55,853.38	2.042E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,844.69	-4.697E-03	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-149.27	-5.462E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	783,619.68	1.51	69.4	Pulse	0.30	3
2	Sc	45	150.01	16.02	0.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	2,354,175.43	2.89	84.6	Analog	0.30	3
1	Ge	72	31.11	34.44	0.0	Pulse	0.30	3
2	Ge	72	27.78	30.20	0.0	Pulse	0.30	3
2	Rh	103	3,359.36	5.08	0.2	Pulse	0.30	3
3	Rh	103	3,513,060.26	1.10	70.8	Analog	0.30	3
3	In	115	4,116,870.20	1.14	74.4	Analog	0.30	3
3	Tb	159	6,093,402.82	1.32	77.5	Analog	0.30	3
3	Bi	209	2,735,116.69	2.79	61.1	Analog	0.30	3

Quantitation Report

File Name	A0308068.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:24
Sample Name	N018918-001C,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	64.35	22.22	3.372E-05	Pulse	0.30	3
B	11	6	3	890.382	ppb	2.18	2,920,479.71	4.421E+00	Analog	0.30	3
Na	23	45	2	1309000.372	ppb	0.93	1,154,079,413.91	1.444E+04	Analog	0.30	3
Mg	26	45	2	32683.370	ppb	0.69	2,530,912.20	3.167E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	785.44	9.834E-03	Pulse	0.30	3
K	39	45	2	14555.436	ppb	1.09	4,929,363.75	6.169E+01	Analog	0.30	3
Ca	44	45	3	162235.660	ppb	0.82	176,038,155.16	8.026E+01	Analog	0.30	3
V	51	45	2	7.976	ppb	1.74	35,747.23	4.474E-01	Pulse	0.30	3
Cr	52	45	2	625.227	ppb	1.60	3,512,290.06	4.396E+01	Analog	0.30	3
Mn	55	45	2	16.497	ppb	1.20	51,734.09	6.475E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-68,879.82	-8.620E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-424.33	-5.320E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,307.55	-2.595E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-22,746.57	-4.517E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,227.47	-2.437E-02	Pulse	0.30	3
As	75	72	2	2.851	ppb	3.13	1,710.75	3.396E-02	Pulse	0.75	3
Se	78	72	1	3.884	ppb	6.29	1,113.42	1.680E-02	Pulse	0.30	3
Mo	95	103	2	20.968	ppb	0.45	62,907.34	4.831E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,564.64	1.445E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-417.14	-1.107E-04	Pulse	0.30	3
Sb	121	115	3	0.031	ppb	6.93	920.06	2.442E-04	Pulse	0.30	3
Ba	137	159	3	28.717	ppb	0.51	278,496.96	5.015E-02	Pulse	0.30	3
Tl	205	209	3	0.133	ppb	3.68	5,449.00	2.638E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-14,024.87	-6.790E-03	Pulse	0.30	3
U	238	209	3	5.336	ppb	3.38	280,172.06	1.356E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	660,636.24	1.17	58.5	Analog	0.30	3
2	Sc	45	79,907.07	1.29	75.2	Pulse	0.30	3
3	Sc	45	2,193,357.22	0.62	78.9	Analog	0.30	3
1	Ge	72	66,291.81	0.18	73.2	Pulse	0.30	3
2	Ge	72	50,358.69	1.46	68.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,302,222.46	1.33	61.3	Analog	0.30	3
3	Rh	103	3,159,721.24	0.45	63.7	Analog	0.30	3
3	In	115	3,767,256.59	0.36	68.1	Analog	0.30	3
3	Tb	159	5,553,495.34	0.72	70.6	Analog	0.30	3
3	Bi	209	2,067,426.17	4.17	46.2	Analog	0.30	3

Quantitation Report

File Name	A0308069.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:30
Sample Name	N018918-002E,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	1.178E-05	Pulse	0.30	3
B	11	6	3	922.857	ppb	2.84	3,470,657.02	4.582E+00	Analog	0.30	3
Na	23	45	2	1045333.087	ppb	1.51	1,000,203,265.09	1.153E+04	Analog	0.30	3
Mg	26	45	2	30572.821	ppb	1.97	2,568,994.77	2.963E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	399.39	4.592E-03	Pulse	0.30	3
K	39	45	2	13835.956	ppb	0.84	5,087,300.38	5.865E+01	Analog	0.30	3
Ca	44	45	3	55326.891	ppb	0.30	67,645,544.55	2.737E+01	Analog	0.30	3
V	51	45	2	0.112	ppb	18.46	1,005.63	1.158E-02	Pulse	0.30	3
Cr	52	45	2	0.455	ppb	1.21	2,923.19	3.369E-02	Pulse	0.30	3
Mn	55	45	2	3.721	ppb	1.85	12,704.16	1.465E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-20,497.92	-2.364E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-114.76	-1.341E-03	Pulse	0.30	3
Ni	60	72	2	1.314	ppb	0.64	3,476.31	6.158E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,617.27	-3.298E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,129.42	-3.774E-02	Pulse	0.30	3
As	75	72	2	0.106	ppb	31.74	78.07	1.383E-03	Pulse	0.75	3
Se	78	72	1	3.736	ppb	2.54	1,115.64	1.616E-02	Pulse	0.30	3
Mo	95	103	2	20.143	ppb	1.12	66,849.57	4.641E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	1,554.91	4.288E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-70.91	-1.662E-05	Pulse	0.30	3
Sb	121	115	3	0.034	ppb	3.99	1,100.09	2.584E-04	Pulse	0.30	3
Ba	137	159	3	18.315	ppb	0.21	195,923.05	3.200E-02	Pulse	0.30	3
Tl	205	209	3	0.090	ppb	2.10	4,898.79	1.876E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,487.72	-4.017E-03	Pulse	0.30	3
U	238	209	3	3.573	ppb	1.38	237,135.42	9.082E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	757,599.85	1.42	67.1	Analog	0.30	3
2	Sc	45	86,748.91	3.42	81.7	Pulse	0.30	3
3	Sc	45	2,471,224.83	0.60	88.9	Analog	0.30	3
1	Ge	72	69,042.03	1.25	76.3	Pulse	0.30	3
2	Ge	72	56,447.03	2.44	77.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,440,758.02	2.41	67.8	Analog	0.30	3
3	Rh	103	3,624,870.99	0.67	73.0	Analog	0.30	3
3	In	115	4,257,428.47	0.77	77.0	Analog	0.30	3
3	Tb	159	6,123,100.95	0.85	77.8	Analog	0.30	3
3	Bi	209	2,611,673.85	2.91	58.4	Analog	0.30	3

Quantitation Report

File Name	A0308070.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:35
Sample Name	N018918-003C,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	11.11	-1.324E-04	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	5,549,126.39	-6.114E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.666E-04	Error	0.30	3
Mg	26	45	2	208523.438	ppb	0.85	12,131,021.07	2.021E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-675.39	-1.125E-02	Pulse	0.30	3
K	39	45	2	99346.602	ppb	1.17	25,199,448.52	4.198E+02	Analog	0.30	3
Ca	44	45	3	311565.994	ppb	0.85	251,837,760.69	1.541E+02	Analog	0.30	3
V	51	45	2	1.762	ppb	2.58	6,185.85	1.031E-01	Pulse	0.30	3
Cr	52	45	2	2.508	ppb	0.36	10,691.42	1.781E-01	Pulse	0.30	3
Mn	55	45	2	5.898	ppb	3.06	13,921.00	2.319E-01	Pulse	0.30	3
Fe	56	45	2	28.560	ppb	2.42	105,303.41	1.754E+00	Pulse	0.30	3
Co	59	45	2	0.599	ppb	5.84	4,569.95	7.612E-02	Pulse	0.30	3
Ni	60	72	2	15.277	ppb	0.42	22,442.49	7.019E-01	Pulse	0.30	3
Cu	63	72	2	0.974	ppb	6.98	10,690.66	3.344E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,908.35	-5.970E-02	Pulse	0.30	3
As	75	72	2	0.538	ppb	11.71	208.06	6.503E-03	Pulse	0.75	3
Se	78	72	1	25.136	ppb	3.62	4,271.85	1.087E-01	Pulse	0.30	3
Mo	95	103	2	166.391	ppb	3.66	286,082.57	3.832E-01	Pulse	0.30	3
Ag	107	103	3	1.946	ppb	6.91	35,212.76	1.876E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-292.66	-1.328E-04	Pulse	0.30	3
Sb	121	115	3	0.187	ppb	2.81	2,626.99	1.189E-03	Pulse	0.30	3
Ba	137	159	3	129.661	ppb	0.74	717,126.71	2.263E-01	Pulse	0.30	3
Tl	205	209	3	0.263	ppb	1.47	6,207.11	4.926E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-54,453.12	-4.322E-02	Pulse	0.30	3
U	238	209	3	27.140	ppb	0.14	869,002.56	6.898E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-91,882.11	-14.40	-8.1	Analog	0.30	3
2	Sc	45	60,039.89	1.30	56.5	Pulse	0.30	3
3	Sc	45	1,634,020.78	2.73	58.8	Analog	0.30	3
1	Ge	72	39,304.74	1.20	43.4	Pulse	0.30	3
2	Ge	72	31,976.50	0.88	43.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	747,098.77	3.44	35.2	Pulse	0.30	3
3	Rh	103	1,876,523.49	1.72	37.8	Analog	0.30	3
3	In	115	2,209,828.82	2.14	40.0	Analog	0.30	3
3	Tb	159	3,169,454.50	1.99	40.3	Analog	0.30	3
3	Bi	209	1,259,827.41	1.45	28.2	Analog	0.30	3

Quantitation Report

File Name	A0308071.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:41
Sample Name	N018918-003C,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	5.56	8.196E-06	Pulse	0.30	3
B	11	6	3	752.936	ppb	2.43	2,570,181.15	3.741E+00	Analog	0.30	3
Na	23	45	2	1825160.682	ppb	0.22	1,828,383,012.75	2.014E+04	Analog	0.30	3
Mg	26	45	2	47969.899	ppb	0.21	4,220,331.39	4.649E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	261.36	2.871E-03	Pulse	0.30	3
K	39	45	2	21420.895	ppb	0.57	8,234,025.85	9.068E+01	Analog	0.30	3
Ca	44	45	3	67300.384	ppb	1.97	90,175,781.99	3.330E+01	Analog	0.30	3
V	51	45	2	0.411	ppb	2.69	2,554.75	2.814E-02	Pulse	0.30	3
Cr	52	45	2	0.313	ppb	9.96	2,155.84	2.376E-02	Pulse	0.30	3
Mn	55	45	2	3.418	ppb	1.71	12,224.15	1.346E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-119,621.00	-1.317E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-600.17	-6.625E-03	Pulse	0.30	3
Ni	60	72	2	2.753	ppb	3.80	6,868.62	1.276E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-35,959.95	-6.675E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,391.48	-1.001E-01	Pulse	0.30	3
As	75	72	2	0.156	ppb	17.06	106.46	1.971E-03	Pulse	0.75	3
Se	78	72	1	5.744	ppb	3.78	1,615.71	2.484E-02	Pulse	0.30	3
Mo	95	103	2	33.530	ppb	1.61	106,648.29	7.724E-02	Pulse	0.30	3
Ag	107	103	3	0.073	ppb	28.51	9,976.20	2.842E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-47.07	-1.150E-05	Pulse	0.30	3
Sb	121	115	3	0.050	ppb	12.82	1,454.58	3.550E-04	Pulse	0.30	3
Ba	137	159	3	28.968	ppb	0.11	294,425.73	5.059E-02	Pulse	0.30	3
Tl	205	209	3	0.065	ppb	6.47	3,815.09	1.448E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-19,104.07	-7.251E-03	Pulse	0.30	3
U	238	209	3	5.598	ppb	0.40	374,887.53	1.423E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	687,205.49	2.20	60.8	Analog	0.30	3
2	Sc	45	90,792.00	2.44	85.5	Pulse	0.30	3
3	Sc	45	2,709,016.77	2.09	97.4	Analog	0.30	3
1	Ge	72	65,033.32	1.42	71.8	Pulse	0.30	3
2	Ge	72	53,870.79	2.74	73.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,380,468.71	1.85	65.0	Analog	0.30	3
3	Rh	103	3,510,379.56	0.27	70.7	Analog	0.30	3
3	In	115	4,095,709.37	0.46	74.1	Analog	0.30	3
3	Tb	159	5,820,356.93	0.57	74.0	Analog	0.30	3
3	Bi	209	2,634,591.63	0.70	58.9	Analog	0.30	3

Quantitation Report

File Name	A0308072.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:47
Sample Name	CCV5,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.881	ppb	0.70	115,504.15	1.027E-01	Pulse	0.30	3
B	11	6	3	209.008	ppb	0.95	1,180,027.01	1.049E+00	Analog	0.30	3
Na	23	45	2	1208.538	ppb	2.77	1,628,414.97	1.435E+01	Analog	0.30	3
Mg	26	45	2	193.058	ppb	1.45	21,436.50	1.889E-01	Pulse	0.30	3
Al	27	45	2	15.473	ppb	4.72	4,830.97	4.257E-02	Pulse	0.30	3
K	39	45	2	235.109	ppb	0.92	138,207.53	1.218E+00	Pulse	0.30	3
Ca	44	45	3	199.528	ppb	0.94	300,042.46	1.010E-01	Pulse	0.30	3
V	51	45	2	18.718	ppb	1.50	118,333.32	1.043E+00	Pulse	0.30	3
Cr	52	45	2	18.549	ppb	1.29	148,179.62	1.306E+00	Pulse	0.30	3
Mn	55	45	2	18.984	ppb	2.13	84,535.11	7.450E-01	Pulse	0.30	3
Fe	56	45	2	19.031	ppb	1.09	133,910.23	1.180E+00	Pulse	0.30	3
Co	59	45	2	18.485	ppb	1.57	266,115.91	2.345E+00	Pulse	0.30	3
Ni	60	72	2	18.896	ppb	1.04	66,952.37	8.678E-01	Pulse	0.30	3
Cu	63	72	2	17.524	ppb	1.33	190,106.62	2.464E+00	Pulse	0.30	3
Zn	66	72	2	18.382	ppb	1.68	27,731.28	3.594E-01	Pulse	0.30	3
As	75	72	2	18.789	ppb	0.68	17,217.63	2.231E-01	Pulse	0.75	3
Se	78	72	1	18.809	ppb	3.47	7,962.24	8.135E-02	Pulse	0.30	3
Mo	95	103	2	19.662	ppb	1.52	97,499.82	4.530E-02	Pulse	0.30	3
Ag	107	103	3	18.293	ppb	0.39	803,117.25	1.576E-01	Pulse	0.30	3
Cd	111	115	3	18.701	ppb	0.74	181,621.69	3.199E-02	Pulse	0.30	3
Sb	121	115	3	18.634	ppb	0.46	644,137.45	1.135E-01	Pulse	0.30	3
Ba	137	159	3	19.736	ppb	0.65	267,556.25	3.448E-02	Pulse	0.30	3
Tl	205	209	3	18.949	ppb	0.89	1,465,506.24	3.347E-01	Analog	0.30	3
Pb	208	209	3	18.878	ppb	0.98	1,971,662.06	4.503E-01	Analog	0.30	3
U	238	209	3	18.764	ppb	0.52	2,088,138.95	4.769E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,124,897.44	0.24	99.6	Analog	0.30	3
2	Sc	45	113,489.40	1.19	106.9	Pulse	0.30	3
3	Sc	45	2,971,828.25	1.17	106.9	Analog	0.30	3
1	Ge	72	97,876.36	1.32	108.1	Pulse	0.30	3
2	Ge	72	77,161.11	1.11	105.5	Pulse	0.30	3
2	Rh	103	2,152,401.72	0.39	101.3	Analog	0.30	3
3	Rh	103	5,094,769.51	0.84	102.6	Analog	0.30	3
3	In	115	5,677,363.77	0.24	102.7	Analog	0.30	3
3	Tb	159	7,760,574.47	0.49	98.7	Analog	0.30	3
3	Bi	209	4,378,449.38	0.82	97.9	Analog	0.30	3

Quantitation Report

File Name	A0308073.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:52
Sample Name	CCB5,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	1082.09	20.00	1.782E-05	Pulse	0.30	3
B	11	6	3	16.713	ppb	2.55	109,780.48	9.726E-02	Pulse	0.30	3
Na	23	45	2	658.557	ppb	6.22	913,400.89	8.283E+00	Pulse	0.30	3
Mg	26	45	2	0.197	ppb	168.48	223.34	2.021E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,265.64	1.146E-02	Pulse	0.30	3
K	39	45	2	26.890	ppb	13.98	37,340.21	3.386E-01	Pulse	0.30	3
Ca	44	45	3	0.883	ppb	10.24	7,953.33	2.697E-03	Pulse	0.30	3
V	51	45	2	0.059	ppb	5.64	952.30	8.627E-03	Pulse	0.30	3
Cr	52	45	2	0.057	ppb	35.75	630.23	5.730E-03	Pulse	0.30	3
Mn	55	45	2	0.005	ppb	39.30	86.27	7.817E-04	Pulse	0.30	3
Fe	56	45	2	0.114	ppb	34.72	4,428.62	4.016E-02	Pulse	0.30	3
Co	59	45	2	0.015	ppb	15.16	212.42	1.929E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	61.30	8.135E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	8,734.29	1.159E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	543.84	7.223E-03	Pulse	0.30	3
As	75	72	2	0.029	ppb	30.11	35.56	4.719E-04	Pulse	0.75	3
Se	78	72	1	0.003	ppb	173.21	1.11	1.153E-05	Pulse	0.30	3
Mo	95	103	2	0.192	ppb	2.34	967.85	4.561E-04	Pulse	0.30	3
Ag	107	103	3	0.664	ppb	15.40	39,614.99	7.862E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-105.88	-1.876E-05	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	11.22	1,577.92	2.796E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	176.26	2.281E-05	Pulse	0.30	3
Tl	205	209	3	0.013	ppb	9.08	2,271.38	5.252E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	278.09	6.430E-05	Pulse	0.30	3
U	238	209	3	0.003	ppb	20.42	449.30	1.039E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,128,910.33	1.34	99.9	Analog	0.30	3
2	Sc	45	110,358.43	2.19	103.9	Pulse	0.30	3
3	Sc	45	2,949,368.08	0.40	106.0	Analog	0.30	3
1	Ge	72	96,681.94	1.10	106.8	Pulse	0.30	3
2	Ge	72	75,341.55	1.66	103.0	Pulse	0.30	3
2	Rh	103	2,121,941.93	1.31	99.9	Analog	0.30	3
3	Rh	103	5,040,187.74	0.87	101.5	Analog	0.30	3
3	In	115	5,644,968.22	0.26	102.1	Analog	0.30	3
3	Tb	159	7,730,206.83	0.31	98.3	Analog	0.30	3
3	Bi	209	4,324,409.55	0.21	96.7	Analog	0.30	3

Quantitation Report

File Name	A0308074.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:58
Sample Name	N018919-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	6.68	37.78	4.465E-05	Pulse	0.30	3
B	11	6	3	761.202	ppb	1.80	3,198,672.19	3.782E+00	Analog	0.30	3
Na	23	45	2	1181964.367	ppb	0.26	1,311,747,696.01	1.304E+04	Analog	0.30	3
Mg	26	45	2	32556.768	ppb	0.97	3,173,121.27	3.155E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	154.67	1.540E-03	Pulse	0.30	3
K	39	45	2	11943.468	ppb	0.76	5,095,862.74	5.066E+01	Analog	0.30	3
Ca	44	45	3	161867.812	ppb	0.30	233,039,589.86	8.008E+01	Analog	0.30	3
V	51	45	2	6.242	ppb	0.74	35,331.80	3.513E-01	Pulse	0.30	3
Cr	52	45	2	70.228	ppb	0.57	496,776.23	4.939E+00	Pulse	0.30	3
Mn	55	45	2	49.689	ppb	0.44	196,046.84	1.949E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-103,223.70	-1.026E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-668.99	-6.656E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,499.24	-2.462E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,277.61	-3.001E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-3,000.38	-4.927E-02	Pulse	0.30	3
As	75	72	2	2.077	ppb	3.65	1,508.36	2.478E-02	Pulse	0.75	3
Se	78	72	1	0.529	ppb	23.26	170.01	2.288E-03	Pulse	0.30	3
Mo	95	103	2	15.126	ppb	1.16	54,220.10	3.485E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,747.77	1.227E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-631.54	-1.380E-04	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	7.51	1,226.77	2.682E-04	Pulse	0.30	3
Ba	137	159	3	27.850	ppb	0.34	320,699.34	4.864E-02	Pulse	0.30	3
Tl	205	209	3	0.064	ppb	4.46	4,295.23	1.428E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,737.81	-1.242E-03	Pulse	0.30	3
U	238	209	3	5.320	ppb	0.68	406,787.90	1.352E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	845,833.35	0.90	74.9	Analog	0.30	3
2	Sc	45	100,583.42	2.02	94.7	Pulse	0.30	3
3	Sc	45	2,910,093.19	0.13	104.6	Analog	0.30	3
1	Ge	72	74,360.68	4.44	82.1	Pulse	0.30	3
2	Ge	72	60,896.33	1.33	83.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,555,650.55	1.47	73.2	Analog	0.30	3
3	Rh	103	3,870,648.66	0.37	78.0	Analog	0.30	3
3	In	115	4,575,720.08	0.60	82.7	Analog	0.30	3
3	Tb	159	6,593,906.50	0.60	83.8	Analog	0.30	3
3	Bi	209	3,008,202.39	0.90	67.2	Analog	0.30	3

Quantitation Report

File Name	A0308075.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:03
Sample Name	N018919-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	38.68	34.45	4.267E-05	Pulse	0.30	3
B	11	6	3	930.072	ppb	2.07	3,723,808.74	4.618E+00	Analog	0.30	3
Na	23	45	2	1338094.511	ppb	1.17	1,457,740,227.17	1.476E+04	Analog	0.30	3
Mg	26	45	2	32322.071	ppb	1.45	3,092,483.53	3.132E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	813.89	8.238E-03	Pulse	0.30	3
K	39	45	2	15001.199	ppb	1.06	6,277,440.88	6.357E+01	Analog	0.30	3
Ca	44	45	3	183157.686	ppb	0.12	254,227,016.21	9.061E+01	Analog	0.30	3
V	51	45	2	8.117	ppb	0.97	44,964.35	4.553E-01	Pulse	0.30	3
Cr	52	45	2	718.808	ppb	1.08	4,990,053.76	5.054E+01	Analog	0.30	3
Mn	55	45	2	8.314	ppb	1.87	32,255.81	3.266E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-108,949.67	-1.103E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,220.12	-1.236E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,720.37	-2.831E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-31,856.11	-5.242E-01	Pulse	0.30	3
Zn	66	72	2	4.091	ppb	4.78	5,236.36	8.620E-02	Pulse	0.30	3
As	75	72	2	2.827	ppb	2.51	2,046.88	3.368E-02	Pulse	0.75	3
Se	78	72	1	4.527	ppb	6.90	1,467.90	1.958E-02	Pulse	0.30	3
Mo	95	103	2	21.375	ppb	3.01	74,650.22	4.924E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-4,586.60	-1.226E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-676.43	-1.535E-04	Pulse	0.30	3
Sb	121	115	3	0.014	ppb	9.79	605.59	1.375E-04	Pulse	0.30	3
Ba	137	159	3	28.568	ppb	0.33	317,810.43	4.989E-02	Pulse	0.30	3
Tl	205	209	3	0.099	ppb	2.91	4,947.67	2.041E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-20,270.87	-8.363E-03	Pulse	0.30	3
U	238	209	3	4.915	ppb	2.37	302,838.65	1.249E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	806,508.66	1.11	71.4	Analog	0.30	3
2	Sc	45	98,756.03	2.65	93.0	Pulse	0.30	3
3	Sc	45	2,805,648.95	0.65	100.9	Analog	0.30	3
1	Ge	72	74,936.49	0.89	82.8	Pulse	0.30	3
2	Ge	72	60,774.94	2.70	83.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,515,870.76	1.22	71.4	Analog	0.30	3
3	Rh	103	3,739,273.56	1.10	75.3	Analog	0.30	3
3	In	115	4,405,273.30	0.74	79.7	Analog	0.30	3
3	Tb	159	6,370,514.98	0.70	81.0	Analog	0.30	3
3	Bi	209	2,425,236.96	3.23	54.2	Analog	0.30	3

Quantitation Report

File Name	A0308076.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:09
Sample Name	N018935-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	32.24	55.56	4.766E-05	Pulse	0.30	3
B	11	6	3	881.798	ppb	0.37	5,103,637.88	4.379E+00	Analog	0.30	3
Na	23	45	2	311055.652	ppb	2.55	317,751,064.15	3.433E+03	Analog	0.30	3
Mg	26	45	2	64004.449	ppb	2.73	5,741,254.39	6.202E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	255.29	2.747E-03	Pulse	0.30	3
K	39	45	2	7507.642	ppb	3.27	2,956,663.81	3.193E+01	Analog	0.30	3
Ca	44	45	3	145004.294	ppb	3.56	223,088,723.34	7.174E+01	Analog	0.30	3
V	51	45	2	3.522	ppb	4.03	18,573.29	2.006E-01	Pulse	0.30	3
Cr	52	45	2	5.676	ppb	2.47	37,094.98	4.008E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-11,753.95	-1.270E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	1,604.15	1.801E-02	Pulse	0.30	3
Co	59	45	2	0.038	ppb	34.14	464.26	4.937E-03	Pulse	0.30	3
Ni	60	72	2	0.304	ppb	18.81	1,029.49	1.526E-02	Pulse	0.30	3
Cu	63	72	2	5.181	ppb	2.96	58,782.02	8.758E-01	Pulse	0.30	3
Zn	66	72	2	36.339	ppb	3.93	47,199.29	7.028E-01	Pulse	0.30	3
As	75	72	2	0.514	ppb	7.06	417.46	6.226E-03	Pulse	0.75	3
Se	78	72	1	1.265	ppb	5.41	361.13	5.470E-03	Pulse	0.30	3
Mo	95	103	2	0.506	ppb	6.18	2,019.09	1.178E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,205.92	-4.546E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-709.64	-1.324E-04	Pulse	0.30	3
Sb	121	115	3	0.002	ppb	42.37	341.13	6.366E-05	Pulse	0.30	3
Ba	137	159	3	33.269	ppb	0.21	454,731.64	5.809E-02	Pulse	0.30	3
Tl	205	209	3	0.033	ppb	2.81	1,294.56	8.707E-04	Pulse	0.30	3
Pb	208	209	3	1.113	ppb	3.23	39,745.01	2.674E-02	Pulse	0.30	3
U	238	209	3	148.293	ppb	2.16	5,602,197.15	3.769E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,165,490.96	0.28	103.2	Analog	0.30	3
2	Sc	45	92,447.75	7.72	87.1	Pulse	0.30	3
3	Sc	45	3,111,390.34	2.16	111.9	Analog	0.30	3
1	Ge	72	66,035.17	3.46	72.9	Pulse	0.30	3
2	Ge	72	67,057.39	6.09	91.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,718,201.80	6.97	80.9	Analog	0.30	3
3	Rh	103	4,852,389.62	0.30	97.7	Analog	0.30	3
3	In	115	5,361,746.43	1.44	96.9	Analog	0.30	3
3	Tb	159	7,828,046.20	0.82	99.5	Analog	0.30	3
3	Bi	209	1,487,012.84	2.64	33.2	Analog	0.30	3

Quantitation Report

File Name	A0308077.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:14
Sample Name	N018936-001A,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	191.87	27.78	2.888E-05	Pulse	0.30	3
B	11	6	3	493.478	ppb	2.19	2,374,295.37	2.457E+00	Analog	0.30	3
Na	23	45	2	690092.333	ppb	0.86	701,003,731.78	7.615E+03	Analog	0.30	3
Mg	26	45	2	25795.207	ppb	0.85	2,301,346.51	2.500E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	449.41	4.876E-03	Pulse	0.30	3
K	39	45	2	9681.849	ppb	0.95	3,784,086.27	4.111E+01	Analog	0.30	3
Ca	44	45	3	80892.265	ppb	0.55	122,200,880.40	4.002E+01	Analog	0.30	3
V	51	45	2	5.634	ppb	0.68	29,237.80	3.176E-01	Pulse	0.30	3
Cr	52	45	2	0.703	ppb	5.81	4,724.51	5.115E-02	Pulse	0.30	3
Mn	55	45	2	101.321	ppb	0.20	365,906.62	3.974E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-43,431.17	-4.715E-01	Pulse	0.30	3
Co	59	45	2	0.071	ppb	8.89	836.07	9.052E-03	Pulse	0.30	3
Ni	60	72	2	0.973	ppb	7.49	2,704.93	4.594E-02	Pulse	0.30	3
Cu	63	72	2	13.611	ppb	0.86	115,034.67	1.960E+00	Pulse	0.30	3
Zn	66	72	2	0.668	ppb	16.65	1,219.14	2.075E-02	Pulse	0.30	3
As	75	72	2	3.133	ppb	3.73	2,188.84	3.731E-02	Pulse	0.75	3
Se	78	72	1	0.049	ppb	66.64	12.22	2.099E-04	Pulse	0.30	3
Mo	95	103	2	18.171	ppb	0.59	61,194.66	4.186E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,307.83	-5.337E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-168.03	-3.367E-05	Pulse	0.30	3
Sb	121	115	3	0.062	ppb	3.63	2,139.12	4.296E-04	Pulse	0.30	3
Ba	137	159	3	18.574	ppb	0.50	227,764.75	3.245E-02	Pulse	0.30	3
Tl	205	209	3	0.256	ppb	3.90	14,846.85	4.815E-03	Pulse	0.30	3
Pb	208	209	3	0.025	ppb	22.63	2,437.44	7.922E-04	Pulse	0.30	3
U	238	209	3	3.455	ppb	1.55	270,871.13	8.782E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	966,475.78	1.00	85.5	Analog	0.30	3
2	Sc	45	92,077.15	8.60	86.7	Pulse	0.30	3
3	Sc	45	3,053,587.84	1.34	109.8	Analog	0.30	3
1	Ge	72	57,857.69	3.83	63.9	Pulse	0.30	3
2	Ge	72	58,659.82	8.01	80.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,461,305.99	8.24	68.8	Analog	0.30	3
3	Rh	103	4,325,800.14	1.16	87.1	Analog	0.30	3
3	In	115	4,980,877.14	1.46	90.1	Analog	0.30	3
3	Tb	159	7,019,090.80	0.88	89.2	Analog	0.30	3
3	Bi	209	3,085,366.07	3.08	69.0	Analog	0.30	3

Quantitation Report

File Name	A0308078.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:20
Sample Name	N018936-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	83.26	30.00	3.577E-05	Pulse	0.30	3
B	11	6	3	1049.861	ppb	0.95	4,371,776.71	5.211E+00	Analog	0.30	3
Na	23	45	2	976182.553	ppb	0.25	951,381,612.49	1.077E+04	Analog	0.30	3
Mg	26	45	2	34763.322	ppb	0.75	2,974,458.88	3.369E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	554.52	6.282E-03	Pulse	0.30	3
K	39	45	2	17147.125	ppb	0.63	6,414,957.34	7.264E+01	Analog	0.30	3
Ca	44	45	3	80424.305	ppb	0.31	115,351,674.95	3.979E+01	Analog	0.30	3
V	51	45	2	8.742	ppb	0.62	43,271.83	4.899E-01	Pulse	0.30	3
Cr	52	45	2	759.012	ppb	0.21	4,712,824.10	5.337E+01	Analog	0.30	3
Mn	55	45	2	8.972	ppb	1.70	31,120.06	3.524E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-30,410.08	-3.439E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-568.25	-6.449E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,004.32	-1.755E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-13,326.45	-2.330E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-761.21	-1.330E-02	Pulse	0.30	3
As	75	72	2	2.941	ppb	8.01	1,996.57	3.503E-02	Pulse	0.75	3
Se	78	72	1	4.751	ppb	5.64	1,167.87	2.055E-02	Pulse	0.30	3
Mo	95	103	2	22.248	ppb	1.27	73,084.55	5.126E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-4,225.14	-1.043E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-162.31	-3.450E-05	Pulse	0.30	3
Sb	121	115	3	0.021	ppb	5.67	852.28	1.809E-04	Pulse	0.30	3
Ba	137	159	3	30.826	ppb	0.54	360,033.38	5.383E-02	Pulse	0.30	3
Tl	205	209	3	0.101	ppb	7.24	5,527.92	2.072E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-15,388.16	-5.762E-03	Pulse	0.30	3
U	238	209	3	4.885	ppb	2.75	331,645.26	1.242E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	839,022.04	0.73	74.3	Analog	0.30	3
2	Sc	45	88,320.89	6.76	83.2	Pulse	0.30	3
3	Sc	45	2,899,140.37	0.95	104.2	Analog	0.30	3
1	Ge	72	56,808.74	3.72	62.7	Pulse	0.30	3
2	Ge	72	57,194.51	6.66	78.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,425,959.37	5.75	67.1	Analog	0.30	3
3	Rh	103	4,049,790.46	1.16	81.6	Analog	0.30	3
3	In	115	4,710,113.93	0.84	85.2	Analog	0.30	3
3	Tb	159	6,688,848.86	1.12	85.0	Analog	0.30	3
3	Bi	209	2,672,865.81	4.18	59.7	Analog	0.30	3

Quantitation Report

File Name	A0308079.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:26
Sample Name	N018910-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	163.87	26.67	2.700E-05	Pulse	0.30	3
B	11	6	3	141.904	ppb	0.30	707,422.52	7.169E-01	Pulse	0.30	3
Na	23	45	2	730985.509	ppb	0.73	709,753,958.31	8.066E+03	Analog	0.30	3
Mg	26	45	2	289.539	ppb	0.87	24,849.13	2.824E-01	Pulse	0.30	3
Al	27	45	2	107.263	ppb	3.63	19,826.84	2.253E-01	Pulse	0.30	3
K	39	45	2	29559.685	ppb	0.41	11,006,586.43	1.251E+02	Analog	0.30	3
Ca	44	45	3	46026.425	ppb	0.38	65,176,592.36	2.277E+01	Analog	0.30	3
V	51	45	2	18.173	ppb	1.30	89,086.22	1.013E+00	Pulse	0.30	3
Cr	52	45	2	22.785	ppb	0.51	141,113.38	1.604E+00	Pulse	0.30	3
Mn	55	45	2	2.863	ppb	1.39	9,924.84	1.128E-01	Pulse	0.30	3
Fe	56	45	2	1331.363	ppb	0.25	7,063,376.04	8.025E+01	Analog	0.30	3
Co	59	45	2	56.628	ppb	1.27	631,885.81	7.184E+00	Pulse	0.30	3
Ni	60	72	2	20.097	ppb	0.92	51,756.60	9.229E-01	Pulse	0.30	3
Cu	63	72	2	15.548	ppb	0.92	123,946.04	2.210E+00	Pulse	0.30	3
Zn	66	72	2	40.798	ppb	1.67	44,206.12	7.880E-01	Pulse	0.30	3
As	75	72	2	580.670	ppb	0.36	386,673.45	6.893E+00	Pulse	0.75	3
Se	78	72	1	2.459	ppb	8.81	568.92	1.064E-02	Pulse	0.30	3
Mo	95	103	2	331.640	ppb	1.93	1,088,482.52	7.638E-01	Analog	0.30	3
Ag	107	103	3	0.289	ppb	8.77	19,128.10	4.684E-03	Pulse	0.30	3
Cd	111	115	3	1.041	ppb	0.46	8,479.17	1.783E-03	Pulse	0.30	3
Sb	121	115	3	13.888	ppb	5.91	401,979.14	8.457E-02	Pulse	0.30	3
Ba	137	159	3	23.270	ppb	0.28	275,499.44	4.064E-02	Pulse	0.30	3
Tl	205	209	3	1.089	ppb	1.24	61,182.07	1.950E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-17,973.01	-5.731E-03	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-180.03	-5.743E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	986,791.59	0.46	87.3	Analog	0.30	3
2	Sc	45	88,017.17	8.11	82.9	Pulse	0.30	3
3	Sc	45	2,862,169.30	0.95	102.9	Analog	0.30	3
1	Ge	72	53,444.88	1.99	59.0	Pulse	0.30	3
2	Ge	72	56,102.21	7.79	76.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,423,746.45	7.11	67.0	Analog	0.30	3
3	Rh	103	4,083,688.06	0.67	82.3	Analog	0.30	3
3	In	115	4,754,834.76	0.96	86.0	Analog	0.30	3
3	Tb	159	6,778,584.83	0.73	86.2	Analog	0.30	3
3	Bi	209	3,137,108.29	1.86	70.1	Analog	0.30	3

Quantitation Report

File Name	A0308080.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:39
Sample Name	N018910-002B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	5.55	5.330E-06	Pulse	0.30	3
B	11	6	3	18.665	ppb	3.14	111,707.15	1.069E-01	Pulse	0.30	3
Na	23	45	2	33348.605	ppb	1.08	35,969,811.41	3.689E+02	Analog	0.30	3
Mg	26	45	2	6.228	ppb	3.63	766.72	7.865E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	851.09	8.732E-03	Pulse	0.30	3
K	39	45	2	1161.982	ppb	0.37	500,401.30	5.132E+00	Pulse	0.30	3
Ca	44	45	3	1891.464	ppb	0.49	2,640,867.18	9.380E-01	Analog	0.30	3
V	51	45	2	0.877	ppb	3.62	5,262.16	5.398E-02	Pulse	0.30	3
Cr	52	45	2	1.312	ppb	10.99	9,150.31	9.396E-02	Pulse	0.30	3
Mn	55	45	2	0.078	ppb	4.85	356.17	3.651E-03	Pulse	0.30	3
Fe	56	45	2	70.918	ppb	1.89	419,801.97	4.306E+00	Pulse	0.30	3
Co	59	45	2	3.804	ppb	2.45	47,046.21	4.826E-01	Pulse	0.30	3
Ni	60	72	2	1.345	ppb	1.81	4,179.32	6.299E-02	Pulse	0.30	3
Cu	63	72	2	4.608	ppb	1.98	53,229.45	8.021E-01	Pulse	0.30	3
Zn	66	72	2	1.843	ppb	11.02	2,866.12	4.320E-02	Pulse	0.30	3
As	75	72	2	33.468	ppb	0.85	26,372.53	3.974E-01	Pulse	0.75	3
Se	78	72	1	0.127	ppb	27.14	45.56	5.504E-04	Pulse	0.30	3
Mo	95	103	2	13.039	ppb	0.79	55,980.73	3.005E-02	Pulse	0.30	3
Ag	107	103	3	0.491	ppb	8.69	29,662.80	6.394E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-6,619.92	-1.255E-03	Pulse	0.30	3
Sb	121	115	3	0.749	ppb	0.29	24,331.82	4.614E-03	Pulse	0.30	3
Ba	137	159	3	0.101	ppb	21.34	1,578.82	2.174E-04	Pulse	0.30	3
Tl	205	209	3	0.045	ppb	6.29	4,244.12	1.088E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,597.76	-3.486E-03	Pulse	0.30	3
U	238	209	3	0.002	ppb	33.98	314.98	8.081E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,044,944.91	1.03	92.5	Analog	0.30	3
2	Sc	45	97,508.61	2.07	91.8	Pulse	0.30	3
3	Sc	45	2,815,541.31	0.84	101.2	Analog	0.30	3
1	Ge	72	82,709.35	1.63	91.3	Pulse	0.30	3
2	Ge	72	66,361.91	1.33	90.7	Pulse	0.30	3
2	Rh	103	1,863,134.21	1.20	87.7	Analog	0.30	3
3	Rh	103	4,638,603.30	0.50	93.4	Analog	0.30	3
3	In	115	5,273,876.64	0.83	95.4	Analog	0.30	3
3	Tb	159	7,266,110.65	0.55	92.4	Analog	0.30	3
3	Bi	209	3,901,393.76	0.97	87.2	Analog	0.30	3

Quantitation Report

File Name	A0308081.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:45
Sample Name	N018910-003B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	10.00	9.554E-06	Pulse	0.30	3
B	11	6	3	15.862	ppb	0.97	97,708.82	9.305E-02	Pulse	0.30	3
Na	23	45	2	32909.411	ppb	1.22	32,900,800.90	3.641E+02	Analog	0.30	3
Mg	26	45	2	11.979	ppb	2.98	1,213.43	1.344E-02	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	982.17	1.084E-02	Pulse	0.30	3
K	39	45	2	1295.135	ppb	2.40	514,220.59	5.694E+00	Pulse	0.30	3
Ca	44	45	3	2066.938	ppb	0.56	2,848,562.42	1.025E+00	Analog	0.30	3
V	51	45	2	0.826	ppb	1.17	4,625.29	5.118E-02	Pulse	0.30	3
Cr	52	45	2	1.105	ppb	3.93	7,168.96	7.943E-02	Pulse	0.30	3
Mn	55	45	2	0.124	ppb	1.53	491.03	5.431E-03	Pulse	0.30	3
Fe	56	45	2	62.210	ppb	2.21	341,566.96	3.782E+00	Pulse	0.30	3
Co	59	45	2	2.703	ppb	2.04	30,982.51	3.430E-01	Pulse	0.30	3
Ni	60	72	2	0.917	ppb	3.92	2,734.14	4.339E-02	Pulse	0.30	3
Cu	63	72	2	0.452	ppb	10.97	16,826.17	2.672E-01	Pulse	0.30	3
Zn	66	72	2	1.776	ppb	4.40	2,644.52	4.193E-02	Pulse	0.30	3
As	75	72	2	25.741	ppb	1.05	19,272.51	3.057E-01	Pulse	0.75	3
Se	78	72	1	0.100	ppb	32.18	24.44	4.317E-04	Pulse	0.30	3
Mo	95	103	2	12.858	ppb	1.08	49,478.70	2.963E-02	Pulse	0.30	3
Ag	107	103	3	0.163	ppb	0.50	16,693.36	3.612E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-6,393.26	-1.218E-03	Pulse	0.30	3
Sb	121	115	3	0.660	ppb	0.39	21,355.37	4.069E-03	Pulse	0.30	3
Ba	137	159	3	0.401	ppb	2.05	5,383.71	7.401E-04	Pulse	0.30	3
Tl	205	209	3	0.033	ppb	3.79	3,410.54	8.702E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,526.49	-3.452E-03	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	39.00	9.973E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,050,178.27	1.52	93.0	Analog	0.30	3
2	Sc	45	90,426.52	8.71	85.2	Pulse	0.30	3
3	Sc	45	2,779,755.34	1.13	99.9	Analog	0.30	3
1	Ge	72	56,375.90	2.15	62.3	Pulse	0.30	3
2	Ge	72	63,043.74	7.09	86.2	Pulse	0.30	3
2	Rh	103	1,669,382.14	6.66	78.6	Analog	0.30	3
3	Rh	103	4,621,197.64	1.10	93.1	Analog	0.30	3
3	In	115	5,247,869.40	1.14	94.9	Analog	0.30	3
3	Tb	159	7,274,748.36	0.86	92.5	Analog	0.30	3
3	Bi	209	3,918,805.98	0.94	87.6	Analog	0.30	3

Quantitation Report

File Name	A0308082.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:53
Sample Name	N018918-001C,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	2975.69	15.56	1.711E-05	Pulse	0.30	3
B	11	6	3	199.039	ppb	1.44	922,092.94	9.997E-01	Mix	0.30	3
Na	23	45	2	221632.059	ppb	21.30	86,380,161.77	2.446E+03	Analog	0.30	3
Mg	26	45	2	6553.248	ppb	6.45	215,071.62	6.352E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	130.78	4.223E-03	Pulse	0.30	3
K	39	45	2	2271.438	ppb	23.88	348,938.49	9.817E+00	Pulse	0.30	3
Ca	44	45	3	36252.344	ppb	0.91	45,738,108.76	1.794E+01	Analog	0.30	3
V	51	45	2	1.710	ppb	4.32	3,307.17	1.002E-01	Pulse	0.30	3
Cr	52	45	2	138.065	ppb	1.35	323,481.02	9.709E+00	Pulse	0.30	3
Mn	55	45	2	3.462	ppb	7.59	4,628.81	1.364E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-1,065.99	-8.607E-04	Pulse	0.30	3
Co	59	45	2	0.211	ppb	69.82	710.84	2.685E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-74.38	-3.378E-03	Pulse	0.30	3
Cu	63	72	2	0.752	ppb	236.74	4,848.06	3.058E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	30.14	2.709E-03	Pulse	0.30	3
As	75	72	2	0.774	ppb	16.30	185.58	9.304E-03	Pulse	0.75	3
Se	78	72	1	3.966	ppb	154.00	2.22	1.715E-02	Pulse	0.30	3
Mo	95	103	2	4.349	ppb	3.45	5,917.01	1.003E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,109.65	1.294E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-83.55	-1.814E-05	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	9.46	390.02	8.513E-05	Pulse	0.30	3
Ba	137	159	3	6.338	ppb	0.80	72,487.03	1.110E-02	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	37.98	1,439.02	4.591E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,626.55	-1.151E-03	Pulse	0.30	3
U	238	209	3	0.865	ppb	2.59	69,315.22	2.201E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	922,122.51	3.85	81.6	Analog	0.30	3
2	Sc	45	33,245.48	45.05	31.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	2,550,811.89	5.52	91.7	Analog	0.30	3
1	Ge	72	315.57	148.72	0.3	Pulse	0.30	3
2	Ge	72	21,131.43	52.34	28.9	Pulse	0.30	3
2	Rh	103	595,782.98	45.60	28.1	Pulse	0.30	3
3	Rh	103	3,954,014.49	4.00	79.7	Analog	0.30	3
3	In	115	4,584,717.67	4.56	82.9	Analog	0.30	3
3	Tb	159	6,532,117.54	4.58	83.0	Analog	0.30	3
3	Bi	209	3,151,911.52	6.13	70.5	Analog	0.30	3

Quantitation Report

File Name	A0308083.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:59
Sample Name	N018918-002E,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	326.82	18.89	2.250E-05	Pulse	0.30	3
B	11	6	3	941.821	ppb	1.46	3,944,664.34	4.676E+00	Analog	0.30	3
Na	23	45	2	483338.509	ppb	99.87	350,038,054.77	5.334E+03	Mix	0.30	3
Mg	26	45	2	10964.396	ppb	158.25	914,981.28	1.063E+01	Mix	0.30	3
Al	27	45	2	78.553	ppb	92.56	175.43	1.681E-01	Pulse	0.30	3
K	39	45	2	28071.838	ppb	44.94	1,768,259.58	1.188E+02	Mix	0.30	3
Ca	44	45	3	56890.384	ppb	0.08	80,890,349.90	2.815E+01	Analog	0.30	3
V	51	45	2	2.802	ppb	87.92	384.47	1.607E-01	Pulse	0.30	3
Cr	52	45	2	16.718	ppb	86.15	1,359.88	1.177E+00	Pulse	0.30	3
Mn	55	45	2	6.545	ppb	39.09	4,353.46	2.572E-01	Pulse	0.30	3
Fe	56	45	2	198.244	ppb	88.70	-3,783.02	1.198E+01	Pulse	0.30	3
Co	59	45	2	24.012	ppb	86.77	584.50	3.046E+00	Pulse	0.30	3
Ni	60	72	2	21.565	ppb	83.48	1,292.22	9.902E-01	Pulse	0.30	3
Cu	63	72	2	1082.584	ppb	88.54	-725.17	1.395E+02	Pulse	0.30	3
Zn	66	72	2	62.853	ppb	90.74	-790.08	1.210E+00	Pulse	0.30	3
As	75	72	2	41.549	ppb	94.95	38.59	4.933E-01	Pulse	0.75	3
Se	78	72	1	19.248	ppb	100.00	2.22	8.325E-02	Pulse	0.30	3
Mo	95	103	2	49.219	ppb	53.53	22,147.45	1.134E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-3,461.55	-8.463E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-110.78	-2.331E-05	Pulse	0.30	3
Sb	121	115	3	0.024	ppb	12.28	937.85	1.969E-04	Pulse	0.30	3
Ba	137	159	3	18.508	ppb	0.59	218,151.97	3.233E-02	Pulse	0.30	3
Tl	205	209	3	0.078	ppb	4.81	4,145.19	1.667E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,897.35	-5.193E-03	Pulse	0.30	3
U	238	209	3	4.065	ppb	3.93	256,700.11	1.033E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	843,581.02	0.89	74.7	Analog	0.30	3
2	Sc	45	30,604.20	171.92	28.8	Pulse	0.30	3
3	Sc	45	2,873,916.66	1.57	103.3	Analog	0.30	3
1	Ge	72	28.89	35.25	0.0	Pulse	0.30	3
2	Ge	72	19,686.10	172.91	26.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	498,948.46	172.18	23.5	Mix	0.30	3
3	Rh	103	4,090,316.43	1.43	82.4	Analog	0.30	3
3	In	115	4,763,257.68	1.19	86.1	Analog	0.30	3
3	Tb	159	6,746,951.85	1.20	85.8	Analog	0.30	3
3	Bi	209	2,487,906.23	5.55	55.6	Analog	0.30	3

Quantitation Report

File Name	A0308084.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:05
Sample Name	CCV6,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.933	ppb	1.69	111,535.21	1.030E-01	Pulse	0.30	3
B	11	6	3	203.550	ppb	0.75	1,107,220.38	1.022E+00	Analog	0.30	3
Na	23	45	2	473.207	ppb	5.16	717,554.66	6.238E+00	Pulse	0.30	3
Mg	26	45	2	190.200	ppb	1.12	21,414.31	1.861E-01	Pulse	0.30	3
Al	27	45	2	16.318	ppb	3.21	5,091.05	4.425E-02	Pulse	0.30	3
K	39	45	2	211.850	ppb	1.97	128,804.32	1.120E+00	Pulse	0.30	3
Ca	44	45	3	199.026	ppb	0.33	295,626.76	1.007E-01	Pulse	0.30	3
V	51	45	2	18.606	ppb	0.53	119,254.26	1.037E+00	Pulse	0.30	3
Cr	52	45	2	18.303	ppb	0.49	148,239.25	1.289E+00	Pulse	0.30	3
Mn	55	45	2	19.060	ppb	0.21	86,058.14	7.480E-01	Pulse	0.30	3
Fe	56	45	2	18.973	ppb	0.77	135,354.97	1.177E+00	Pulse	0.30	3
Co	59	45	2	18.510	ppb	0.16	270,176.58	2.348E+00	Pulse	0.30	3
Ni	60	72	2	18.580	ppb	1.57	67,001.52	8.533E-01	Pulse	0.30	3
Cu	63	72	2	17.805	ppb	0.79	196,333.28	2.500E+00	Pulse	0.30	3
Zn	66	72	2	18.464	ppb	2.24	28,345.91	3.610E-01	Pulse	0.30	3
As	75	72	2	18.720	ppb	1.81	17,459.20	2.223E-01	Pulse	0.75	3
Se	78	72	1	18.670	ppb	0.97	8,224.63	8.075E-02	Pulse	0.30	3
Mo	95	103	2	19.497	ppb	1.31	96,156.19	4.492E-02	Pulse	0.30	3
Ag	107	103	3	18.340	ppb	0.67	795,910.01	1.580E-01	Pulse	0.30	3
Cd	111	115	3	18.825	ppb	0.76	181,818.06	3.220E-02	Pulse	0.30	3
Sb	121	115	3	18.559	ppb	0.28	638,044.51	1.130E-01	Pulse	0.30	3
Ba	137	159	3	19.934	ppb	0.67	267,150.88	3.482E-02	Pulse	0.30	3
Tl	205	209	3	19.123	ppb	1.05	1,448,597.81	3.378E-01	Analog	0.30	3
Pb	208	209	3	18.924	ppb	0.55	1,935,988.74	4.514E-01	Analog	0.30	3
U	238	209	3	18.776	ppb	1.06	2,046,424.37	4.772E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,083,367.98	0.98	95.9	Analog	0.30	3
2	Sc	45	115,049.72	0.78	108.3	Pulse	0.30	3
3	Sc	45	2,935,115.93	0.55	105.5	Analog	0.30	3
1	Ge	72	101,857.22	0.16	112.5	Pulse	0.30	3
2	Ge	72	78,527.62	1.22	107.3	Pulse	0.30	3
2	Rh	103	2,140,680.49	0.48	100.8	Analog	0.30	3
3	Rh	103	5,036,412.57	0.59	101.5	Analog	0.30	3
3	In	115	5,646,208.89	0.16	102.1	Analog	0.30	3
3	Tb	159	7,671,778.36	0.33	97.5	Analog	0.30	3
3	Bi	209	4,288,697.75	1.04	95.9	Analog	0.30	3

Quantitation Report

File Name	A0308085.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:10
Sample Name	CCB6,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.56	1.446E-05	Pulse	0.30	3
B	11	6	3	12.371	ppb	0.22	81,554.48	7.577E-02	Pulse	0.30	3
Na	23	45	2	161.177	ppb	10.08	307,597.31	2.796E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	193.34	1.757E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,241.18	1.128E-02	Pulse	0.30	3
K	39	45	2	12.568	ppb	21.15	30,602.12	2.781E-01	Pulse	0.30	3
Ca	44	45	3	0.863	ppb	22.98	7,713.20	2.687E-03	Pulse	0.30	3
V	51	45	2	0.061	ppb	14.06	962.29	8.740E-03	Pulse	0.30	3
Cr	52	45	2	0.058	ppb	22.85	638.62	5.796E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	62.91	5.718E-04	Pulse	0.30	3
Fe	56	45	2	0.084	ppb	15.00	4,225.17	3.839E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	18.27	129.69	1.178E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	40.78	5.367E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,068.28	1.725E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	558.88	7.378E-03	Pulse	0.30	3
As	75	72	2	0.023	ppb	73.44	30.22	3.977E-04	Pulse	0.75	3
Se	78	72	1	0.008	ppb	100.39	3.33	3.464E-05	Pulse	0.30	3
Mo	95	103	2	0.122	ppb	9.28	617.82	2.944E-04	Pulse	0.30	3
Ag	107	103	3	0.609	ppb	18.95	36,796.91	7.400E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-16.07	-2.891E-06	Pulse	0.30	3
Sb	121	115	3	0.036	ppb	7.84	1,524.58	2.741E-04	Pulse	0.30	3
Ba	137	159	3	0.001	ppb	359.96	322.32	4.223E-05	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	11.45	1,952.43	4.565E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	514.81	1.204E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	3.44	377.04	8.815E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,076,344.29	0.77	95.3	Analog	0.30	3
2	Sc	45	110,068.15	1.06	103.6	Pulse	0.30	3
3	Sc	45	2,870,859.19	0.13	103.2	Analog	0.30	3
1	Ge	72	96,761.97	0.85	106.9	Pulse	0.30	3
2	Ge	72	75,776.00	1.46	103.6	Pulse	0.30	3
2	Rh	103	2,097,932.47	0.46	98.8	Analog	0.30	3
3	Rh	103	4,971,476.18	0.27	100.1	Analog	0.30	3
3	In	115	5,561,542.15	0.31	100.6	Analog	0.30	3
3	Tb	159	7,633,056.48	0.52	97.0	Analog	0.30	3
3	Bi	209	4,277,145.04	0.25	95.6	Analog	0.30	3

Quantitation Report

File Name	A0308086.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:16
Sample Name	N018918-002E,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	8.933E-06	Pulse	0.30	3
B	11	6	3	216.992	ppb	1.41	1,081,850.24	1.089E+00	Analog	0.30	3
Na	23	45	2	229795.876	ppb	0.09	268,096,849.34	2.536E+03	Analog	0.30	3
Mg	26	45	2	6588.648	ppb	0.40	675,094.90	6.386E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	126.01	1.195E-03	Pulse	0.30	3
K	39	45	2	3055.683	ppb	0.85	1,387,888.26	1.313E+01	Analog	0.30	3
Ca	44	45	3	12345.860	ppb	1.03	17,751,836.82	6.110E+00	Analog	0.30	3
V	51	45	2	0.044	ppb	6.46	824.50	7.799E-03	Pulse	0.30	3
Cr	52	45	2	0.117	ppb	4.74	1,051.18	9.945E-03	Pulse	0.30	3
Mn	55	45	2	0.817	ppb	2.83	3,448.59	3.262E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,107.84	-2.938E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-32.87	-3.145E-04	Pulse	0.30	3
Ni	60	72	2	0.313	ppb	0.92	1,087.75	1.566E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,933.76	5.663E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-435.43	-6.268E-03	Pulse	0.30	3
As	75	72	2	0.024	ppb	25.98	28.64	4.117E-04	Pulse	0.75	3
Se	78	72	1	0.918	ppb	4.62	333.35	3.971E-03	Pulse	0.30	3
Mo	95	103	2	4.190	ppb	0.86	17,537.99	9.664E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,685.83	1.271E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	6.89	1.336E-06	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	5.18	783.38	1.518E-04	Pulse	0.30	3
Ba	137	159	3	4.032	ppb	1.32	51,286.06	7.076E-03	Pulse	0.30	3
Tl	205	209	3	0.008	ppb	13.80	1,547.92	4.304E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,591.70	-7.207E-04	Pulse	0.30	3
U	238	209	3	0.677	ppb	0.88	61,938.53	1.722E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	993,846.65	0.46	88.0	Analog	0.30	3
2	Sc	45	105,705.69	1.77	99.5	Pulse	0.30	3
3	Sc	45	2,905,662.91	1.28	104.5	Analog	0.30	3
1	Ge	72	83,939.60	2.03	92.7	Pulse	0.30	3
2	Ge	72	69,437.90	2.64	94.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,814,749.83	1.81	85.4	Analog	0.30	3
3	Rh	103	4,475,642.43	0.68	90.2	Analog	0.30	3
3	In	115	5,161,574.36	0.42	93.3	Analog	0.30	3
3	Tb	159	7,247,450.38	0.42	92.1	Analog	0.30	3
3	Bi	209	3,596,819.18	0.93	80.4	Analog	0.30	3

Quantitation Report

File Name	A0308087.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:21
Sample Name	N018918-002E,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	8.464E-06	Pulse	0.30	3
B	11	6	3	51.154	ppb	1.42	281,303.15	2.677E-01	Pulse	0.30	3
Na	23	45	2	48148.277	ppb	0.41	58,161,215.25	5.322E+02	Analog	0.30	3
Mg	26	45	2	1383.956	ppb	0.52	146,748.80	1.343E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	115.37	1.055E-03	Pulse	0.30	3
K	39	45	2	632.097	ppb	0.61	316,292.72	2.894E+00	Pulse	0.30	3
Ca	44	45	3	2566.582	ppb	0.32	3,729,311.26	1.272E+00	Analog	0.30	3
V	51	45	2	0.081	ppb	0.91	1,075.64	9.843E-03	Pulse	0.30	3
Cr	52	45	2	0.065	ppb	10.32	683.54	6.257E-03	Pulse	0.30	3
Mn	55	45	2	0.162	ppb	7.43	759.95	6.955E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,400.35	2.194E-02	Pulse	0.30	3
Co	59	45	2	0.004	ppb	25.11	66.66	6.091E-04	Pulse	0.30	3
Ni	60	72	2	0.048	ppb	3.23	267.15	3.538E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,503.73	1.524E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	48.66	6.460E-04	Pulse	0.30	3
As	75	72	2	0.021	ppb	24.10	28.00	3.711E-04	Pulse	0.75	3
Se	78	72	1	0.207	ppb	27.12	85.56	8.939E-04	Pulse	0.30	3
Mo	95	103	2	0.847	ppb	4.43	3,938.42	1.965E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,568.74	1.158E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-10,820.58	-2.001E-03	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	27.73	460.03	8.506E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-1,146.50	-1.538E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	891.18	2.260E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-20,945.26	-5.311E-03	Pulse	0.30	3
U	238	209	3	0.129	ppb	1.76	13,024.18	3.302E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,050,802.50	0.93	93.0	Analog	0.30	3
2	Sc	45	109,277.26	1.04	102.9	Pulse	0.30	3
3	Sc	45	2,931,928.22	0.46	105.4	Analog	0.30	3
1	Ge	72	95,696.38	0.80	105.7	Pulse	0.30	3
2	Ge	72	75,518.05	0.95	103.2	Pulse	0.30	3
2	Rh	103	2,003,976.92	1.06	94.4	Analog	0.30	3
3	Rh	103	4,808,900.24	0.15	96.9	Analog	0.30	3
3	In	115	5,407,867.65	0.09	97.8	Analog	0.30	3
3	Tb	159	7,454,702.81	0.21	94.8	Analog	0.30	3
3	Bi	209	3,944,195.81	0.66	88.2	Analog	0.30	3

Quantitation Report

File Name	A0308088.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:41
Sample Name	N018918-003C,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	11.11	1.230E-05	Pulse	0.30	3
B	11	6	3	149.153	ppb	0.30	681,335.44	7.528E-01	Pulse	0.30	3
Na	23	45	2	393755.309	ppb	0.84	404,019,309.53	4.345E+03	Analog	0.30	3
Mg	26	45	2	10206.591	ppb	1.14	919,728.47	9.892E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	147.17	1.581E-03	Pulse	0.30	3
K	39	45	2	4395.029	ppb	0.43	1,746,815.04	1.878E+01	Analog	0.30	3
Ca	44	45	3	14836.801	ppb	0.21	20,043,186.65	7.342E+00	Analog	0.30	3
V	51	45	2	0.104	ppb	10.84	1,034.52	1.112E-02	Pulse	0.30	3
Cr	52	45	2	0.185	ppb	29.09	1,362.33	1.471E-02	Pulse	0.30	3
Mn	55	45	2	0.778	ppb	2.61	2,894.15	3.111E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-21,908.59	-2.355E-01	Pulse	0.30	3
Co	59	45	2	0.141	ppb	17.85	1,662.70	1.794E-02	Pulse	0.30	3
Ni	60	72	2	0.608	ppb	4.50	1,763.65	2.918E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	5,127.75	8.474E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,009.49	-1.670E-02	Pulse	0.30	3
As	75	72	2	0.039	ppb	9.85	35.46	5.864E-04	Pulse	0.75	3
Se	78	72	1	1.220	ppb	15.78	366.69	5.276E-03	Pulse	0.30	3
Mo	95	103	2	6.457	ppb	1.68	24,111.14	1.489E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,519.18	1.089E-03	Pulse	0.30	3
Cd	111	115	3	0.001	ppb	428.97	16.81	3.521E-06	Pulse	0.30	3
Sb	121	115	3	0.014	ppb	11.35	655.60	1.360E-04	Pulse	0.30	3
Ba	137	159	3	6.121	ppb	0.51	73,173.13	1.072E-02	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	14.94	1,516.80	4.540E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,800.49	-1.137E-03	Pulse	0.30	3
U	238	209	3	1.074	ppb	0.81	91,265.81	2.732E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	905,102.12	0.77	80.1	Analog	0.30	3
2	Sc	45	92,994.58	2.68	87.6	Pulse	0.30	3
3	Sc	45	2,729,842.39	0.84	98.2	Analog	0.30	3
1	Ge	72	69,618.67	2.09	76.9	Pulse	0.30	3
2	Ge	72	60,472.34	1.48	82.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,619,671.54	0.97	76.3	Analog	0.30	3
3	Rh	103	4,152,069.70	0.95	83.6	Analog	0.30	3
3	In	115	4,818,110.90	0.72	87.1	Analog	0.30	3
3	Tb	159	6,824,907.40	0.89	86.8	Analog	0.30	3
3	Bi	209	3,340,876.72	1.02	74.7	Analog	0.30	3

Quantitation Report

File Name	A0308089.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:47
Sample Name	N018918-003C,SAMP,125
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	1.280E-05	Pulse	0.30	3
B	11	6	3	35.663	ppb	0.29	198,985.69	1.911E-01	Pulse	0.30	3
Na	23	45	2	79020.161	ppb	1.14	94,067,856.38	8.728E+02	Analog	0.30	3
Mg	26	45	2	2053.407	ppb	1.34	214,639.20	1.992E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	88.60	8.209E-04	Pulse	0.30	3
K	39	45	2	911.665	ppb	1.35	439,160.24	4.075E+00	Pulse	0.30	3
Ca	44	45	3	3060.807	ppb	0.48	4,372,728.34	1.516E+00	Analog	0.30	3
V	51	45	2	0.092	ppb	5.31	1,125.64	1.045E-02	Pulse	0.30	3
Cr	52	45	2	0.057	ppb	8.78	613.89	5.700E-03	Pulse	0.30	3
Mn	55	45	2	0.146	ppb	12.17	681.80	6.318E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,259.66	-3.023E-02	Pulse	0.30	3
Co	59	45	2	0.007	ppb	29.47	99.26	9.173E-04	Pulse	0.30	3
Ni	60	72	2	0.133	ppb	15.55	540.12	7.413E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,470.73	1.986E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-130.50	-1.791E-03	Pulse	0.30	3
As	75	72	2	0.016	ppb	29.60	22.47	3.082E-04	Pulse	0.75	3
Se	78	72	1	0.285	ppb	26.25	114.45	1.234E-03	Pulse	0.30	3
Mo	95	103	2	1.251	ppb	3.33	5,582.31	2.894E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	3,612.89	7.743E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-17,526.99	-3.276E-03	Pulse	0.30	3
Sb	121	115	3	0.002	ppb	72.40	354.46	6.629E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-3,435.03	-4.627E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	726.71	1.877E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-34,089.42	-8.806E-03	Pulse	0.30	3
U	238	209	3	0.207	ppb	1.64	20,474.78	5.289E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,041,520.19	0.04	92.2	Analog	0.30	3
2	Sc	45	107,792.12	2.15	101.5	Pulse	0.30	3
3	Sc	45	2,883,537.21	0.63	103.7	Analog	0.30	3
1	Ge	72	92,745.86	0.42	102.4	Pulse	0.30	3
2	Ge	72	72,870.57	0.27	99.6	Pulse	0.30	3
2	Rh	103	1,928,963.30	0.98	90.8	Analog	0.30	3
3	Rh	103	4,665,932.33	0.66	94.0	Analog	0.30	3
3	In	115	5,350,344.64	0.74	96.7	Analog	0.30	3
3	Tb	159	7,425,911.90	0.66	94.4	Analog	0.30	3
3	Bi	209	3,871,176.78	0.34	86.5	Analog	0.30	3

Quantitation Report

File Name	A0308090.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:53
Sample Name	N018918-003C-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	24,528.31	-3.397E-01	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	8,171,291.98	-1.132E+02	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.684E-04	Error	0.30	3
Mg	26	45	2	206055.335	ppb	0.85	11,857,614.55	1.997E+02	Analog	0.30	3
Al	27	45	2	181.895	ppb	2.75	22,198.76	3.738E-01	Pulse	0.30	3
K	39	45	2	101836.036	ppb	1.45	25,552,168.51	4.303E+02	Analog	0.30	3
Ca	44	45	3	316540.513	ppb	4.29	283,459,073.55	1.566E+02	Analog	0.30	3
V	51	45	2	12.043	ppb	2.52	39,959.07	6.728E-01	Pulse	0.30	3
Cr	52	45	2	11.216	ppb	1.60	46,930.89	7.903E-01	Pulse	0.30	3
Mn	55	45	2	94.203	ppb	1.23	219,408.43	3.695E+00	Pulse	0.30	3
Fe	56	45	2	108.356	ppb	1.00	389,700.66	6.562E+00	Pulse	0.30	3
Co	59	45	2	7.521	ppb	1.78	56,664.40	9.541E-01	Pulse	0.30	3
Ni	60	72	2	23.834	ppb	0.99	35,125.71	1.094E+00	Pulse	0.30	3
Cu	63	72	2	9.878	ppb	3.22	47,497.41	1.480E+00	Pulse	0.30	3
Zn	66	72	2	66.287	ppb	3.24	40,921.05	1.275E+00	Pulse	0.30	3
As	75	72	2	9.495	ppb	1.74	3,621.35	1.128E-01	Pulse	0.75	3
Se	78	72	1	33.430	ppb	2.26	5,641.22	1.446E-01	Pulse	0.30	3
Mo	95	103	2	177.205	ppb	0.83	303,500.65	4.082E-01	Pulse	0.30	3
Ag	107	103	3	8.112	ppb	0.69	143,847.97	7.115E-02	Pulse	0.30	3
Cd	111	115	3	7.093	ppb	0.11	28,997.81	1.214E-02	Pulse	0.30	3
Sb	121	115	3	8.753	ppb	0.25	127,414.21	5.332E-02	Pulse	0.30	3
Ba	137	159	3	241.335	ppb	1.81	1,385,504.46	4.211E-01	Analog	0.30	3
Tl	205	209	3	7.850	ppb	4.47	180,065.48	1.388E-01	Pulse	0.30	3
Pb	208	209	3	9.042	ppb	1.04	279,910.46	2.158E-01	Pulse	0.30	3
U	238	209	3	39.948	ppb	1.56	1,316,866.21	1.015E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-73,297.31	-16.11	-6.5	Analog	0.30	3
2	Sc	45	59,384.12	0.50	55.9	Pulse	0.30	3
3	Sc	45	1,812,157.04	4.11	65.2	Analog	0.30	3
1	Ge	72	39,016.34	0.97	43.1	Pulse	0.30	3
2	Ge	72	32,104.76	3.06	43.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	743,539.92	1.64	35.0	Pulse	0.30	3
3	Rh	103	2,021,910.11	1.10	40.7	Analog	0.30	3
3	In	115	2,389,599.15	0.70	43.2	Analog	0.30	3
3	Tb	159	3,290,041.20	0.36	41.8	Analog	0.30	3
3	Bi	209	1,297,078.58	0.40	29.0	Analog	0.30	3

Quantitation Report

File Name	A0308091.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:59
Sample Name	N018918-003C-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.644	ppb	2.51	9,187.29	1.440E-02	Pulse	0.30	3
B	11	6	3	1169.535	ppb	0.66	3,704,067.65	5.803E+00	Analog	0.30	3
Na	23	45	2	1976987.267	ppb	1.39	1,935,630,335.60	2.181E+04	Analog	0.30	3
Mg	26	45	2	46046.244	ppb	1.05	3,959,709.76	4.462E+01	Analog	0.30	3
Al	27	45	2	35.005	ppb	3.29	7,230.44	8.145E-02	Pulse	0.30	3
K	39	45	2	21073.533	ppb	1.34	7,917,692.52	8.922E+01	Analog	0.30	3
Ca	44	45	3	77970.111	ppb	0.77	101,707,527.37	3.857E+01	Analog	0.30	3
V	51	45	2	2.641	ppb	0.78	13,463.74	1.517E-01	Pulse	0.30	3
Cr	52	45	2	2.262	ppb	4.16	14,264.96	1.607E-01	Pulse	0.30	3
Mn	55	45	2	24.048	ppb	2.21	83,747.11	9.436E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,051.85	-3.272E-01	Pulse	0.30	3
Co	59	45	2	1.677	ppb	1.84	18,888.58	2.128E-01	Pulse	0.30	3
Ni	60	72	2	4.658	ppb	2.89	11,478.77	2.149E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-24,320.19	-4.552E-01	Pulse	0.30	3
Zn	66	72	2	11.163	ppb	1.94	11,832.61	2.214E-01	Pulse	0.30	3
As	75	72	2	2.255	ppb	2.76	1,436.21	2.689E-02	Pulse	0.75	3
Se	78	72	1	7.659	ppb	2.04	2,190.24	3.313E-02	Pulse	0.30	3
Mo	95	103	2	35.775	ppb	0.79	111,517.44	8.241E-02	Pulse	0.30	3
Ag	107	103	3	1.689	ppb	1.38	58,207.49	1.657E-02	Pulse	0.30	3
Cd	111	115	3	1.782	ppb	3.36	12,497.92	3.051E-03	Pulse	0.30	3
Sb	121	115	3	2.121	ppb	0.14	53,118.06	1.296E-02	Pulse	0.30	3
Ba	137	159	3	50.900	ppb	0.64	513,712.87	8.885E-02	Pulse	0.30	3
Tl	205	209	3	1.820	ppb	1.82	83,593.82	3.241E-02	Pulse	0.30	3
Pb	208	209	3	2.019	ppb	0.62	124,660.99	4.833E-02	Pulse	0.30	3
U	238	209	3	8.054	ppb	0.13	527,995.33	2.047E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	638,252.85	1.31	56.5	Analog	0.30	3
2	Sc	45	88,750.38	2.66	83.6	Pulse	0.30	3
3	Sc	45	2,636,847.32	2.39	94.8	Analog	0.30	3
1	Ge	72	66,122.08	1.41	73.0	Pulse	0.30	3
2	Ge	72	53,430.52	2.38	73.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,353,065.50	2.08	63.7	Analog	0.30	3
3	Rh	103	3,511,726.89	1.82	70.7	Analog	0.30	3
3	In	115	4,097,946.86	2.19	74.1	Analog	0.30	3
3	Tb	159	5,782,067.76	2.14	73.5	Analog	0.30	3
3	Bi	209	2,579,338.41	1.87	57.7	Analog	0.30	3

Quantitation Report

File Name	A0308092.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:04
Sample Name	N018918-003C-PS,PS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.459	ppb	4.02	2,391.38	2.511E-03	Pulse	0.30	3
B	11	6	3	249.733	ppb	0.31	1,190,975.82	1.251E+00	Analog	0.30	3
Na	23	45	2	409301.614	ppb	2.09	479,651,108.41	4.517E+03	Analog	0.30	3
Mg	26	45	2	9766.220	ppb	1.10	1,005,701.80	9.465E+00	Mix	0.30	3
Al	27	45	2	2.886	ppb	3.77	1,861.01	1.752E-02	Pulse	0.30	3
K	39	45	2	4360.901	ppb	1.48	1,979,769.29	1.864E+01	Analog	0.30	3
Ca	44	45	3	16604.929	ppb	0.48	24,674,646.58	8.217E+00	Analog	0.30	3
V	51	45	2	0.573	ppb	7.77	3,942.85	3.716E-02	Pulse	0.30	3
Cr	52	45	2	0.522	ppb	3.32	4,084.60	3.844E-02	Pulse	0.30	3
Mn	55	45	2	5.046	ppb	3.63	21,065.70	1.984E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,102.01	-2.929E-02	Pulse	0.30	3
Co	59	45	2	0.378	ppb	0.65	5,107.35	4.807E-02	Pulse	0.30	3
Ni	60	72	2	0.921	ppb	4.48	3,004.73	4.354E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,258.84	-1.829E-02	Pulse	0.30	3
Zn	66	72	2	2.426	ppb	3.25	3,750.82	5.436E-02	Pulse	0.30	3
As	75	72	2	0.460	ppb	8.64	385.00	5.587E-03	Pulse	0.75	3
Se	78	72	1	1.618	ppb	8.85	577.81	6.999E-03	Pulse	0.30	3
Mo	95	103	2	7.136	ppb	3.01	29,649.36	1.645E-02	Pulse	0.30	3
Ag	107	103	3	0.312	ppb	1.68	21,860.23	4.879E-03	Pulse	0.30	3
Cd	111	115	3	0.392	ppb	3.87	3,472.58	6.718E-04	Pulse	0.30	3
Sb	121	115	3	0.452	ppb	1.37	14,480.47	2.801E-03	Pulse	0.30	3
Ba	137	159	3	10.593	ppb	0.81	133,549.66	1.852E-02	Pulse	0.30	3
Tl	205	209	3	0.471	ppb	1.01	30,373.01	8.603E-03	Pulse	0.30	3
Pb	208	209	3	0.400	ppb	1.07	34,322.94	9.724E-03	Pulse	0.30	3
U	238	209	3	1.512	ppb	0.32	135,711.38	3.844E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	952,327.55	0.44	84.3	Analog	0.30	3
2	Sc	45	106,236.88	3.16	100.0	Pulse	0.30	3
3	Sc	45	3,003,002.18	1.14	108.0	Analog	0.30	3
1	Ge	72	82,639.93	2.18	91.3	Pulse	0.30	3
2	Ge	72	68,963.43	2.63	94.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,802,404.00	1.37	84.9	Analog	0.30	3
3	Rh	103	4,480,579.31	0.82	90.3	Analog	0.30	3
3	In	115	5,169,095.11	0.45	93.5	Analog	0.30	3
3	Tb	159	7,209,286.84	0.53	91.7	Analog	0.30	3
3	Bi	209	3,530,143.63	1.05	78.9	Analog	0.30	3

Quantitation Report

File Name	A0308093.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:10
Sample Name	N018918-003C-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	24,340.29	-2.649E-01	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	7,663,242.12	-8.330E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.780E-04	Error	0.30	3
Mg	26	45	2	229807.550	ppb	0.55	12,510,034.54	2.227E+02	Analog	0.30	3
Al	27	45	2	204.115	ppb	0.62	23,484.52	4.180E-01	Pulse	0.30	3
K	39	45	2	114251.001	ppb	0.51	27,117,189.04	4.827E+02	Analog	0.30	3
Ca	44	45	3	440135.193	ppb	1.03	340,619,823.81	2.177E+02	Analog	0.30	3
V	51	45	2	12.916	ppb	0.58	40,515.85	7.212E-01	Pulse	0.30	3
Cr	52	45	2	12.267	ppb	1.24	48,552.18	8.642E-01	Pulse	0.30	3
Mn	55	45	2	104.412	ppb	0.49	230,043.95	4.095E+00	Pulse	0.30	3
Fe	56	45	2	134.424	ppb	0.46	456,884.21	8.133E+00	Pulse	0.30	3
Co	59	45	2	8.336	ppb	0.96	59,411.14	1.058E+00	Pulse	0.30	3
Ni	60	72	2	23.967	ppb	2.23	37,036.69	1.100E+00	Pulse	0.30	3
Cu	63	72	2	9.432	ppb	1.29	47,889.76	1.423E+00	Pulse	0.30	3
Zn	66	72	2	64.484	ppb	0.90	41,766.24	1.241E+00	Pulse	0.30	3
As	75	72	2	9.385	ppb	1.63	3,754.08	1.115E-01	Pulse	0.75	3
Se	78	72	1	35.260	ppb	1.11	6,144.72	1.525E-01	Pulse	0.30	3
Mo	95	103	2	167.092	ppb	1.20	291,429.29	3.849E-01	Pulse	0.30	3
Ag	107	103	3	6.450	ppb	1.00	113,757.04	5.702E-02	Pulse	0.30	3
Cd	111	115	3	6.947	ppb	0.89	28,295.43	1.188E-02	Pulse	0.30	3
Sb	121	115	3	8.777	ppb	1.31	127,288.83	5.347E-02	Pulse	0.30	3
Ba	137	159	3	242.453	ppb	0.48	1,378,195.45	4.231E-01	Analog	0.30	3
Tl	205	209	3	8.328	ppb	0.99	187,108.75	1.473E-01	Pulse	0.30	3
Pb	208	209	3	9.157	ppb	0.40	277,636.34	2.185E-01	Pulse	0.30	3
U	238	209	3	39.962	ppb	0.44	1,290,308.00	1.016E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-92,905.36	-12.55	-8.2	Analog	0.30	3
2	Sc	45	56,179.52	1.13	52.9	Pulse	0.30	3
3	Sc	45	1,564,302.39	0.60	56.2	Analog	0.30	3
1	Ge	72	40,292.86	0.83	44.5	Pulse	0.30	3
2	Ge	72	33,658.90	0.76	46.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	757,274.65	1.19	35.7	Pulse	0.30	3
3	Rh	103	1,995,215.16	1.01	40.2	Analog	0.30	3
3	In	115	2,380,915.78	0.91	43.0	Analog	0.30	3
3	Tb	159	3,257,453.74	0.68	41.4	Analog	0.30	3
3	Bi	209	1,270,456.15	0.24	28.4	Analog	0.30	3

Quantitation Report

File Name	A0308094.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:15
Sample Name	N018918-003C-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.463	ppb	3.47	8,084.44	1.341E-02	Pulse	0.30	3
B	11	6	3	1102.770	ppb	1.18	3,299,523.22	5.473E+00	Analog	0.30	3
Na	23	45	2	1966579.236	ppb	0.71	1,810,170,177.47	2.170E+04	Analog	0.30	3
Mg	26	45	2	46412.600	ppb	0.97	3,752,060.40	4.498E+01	Analog	0.30	3
Al	27	45	2	35.071	ppb	2.93	6,805.40	8.158E-02	Pulse	0.30	3
K	39	45	2	20919.433	ppb	0.27	7,389,438.43	8.857E+01	Analog	0.30	3
Ca	44	45	3	100695.966	ppb	0.86	119,931,491.54	4.982E+01	Analog	0.30	3
V	51	45	2	2.513	ppb	3.45	12,064.85	1.447E-01	Pulse	0.30	3
Cr	52	45	2	2.226	ppb	4.46	13,193.85	1.582E-01	Pulse	0.30	3
Mn	55	45	2	23.887	ppb	0.58	78,194.00	9.373E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-4,965.17	-5.950E-02	Pulse	0.30	3
Co	59	45	2	1.642	ppb	1.84	17,376.22	2.083E-01	Pulse	0.30	3
Ni	60	72	2	4.570	ppb	3.58	10,946.74	2.109E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-22,535.71	-4.342E-01	Pulse	0.30	3
Zn	66	72	2	10.468	ppb	1.90	10,801.43	2.081E-01	Pulse	0.30	3
As	75	72	2	2.077	ppb	4.77	1,286.16	2.478E-02	Pulse	0.75	3
Se	78	72	1	7.334	ppb	2.44	1,992.42	3.172E-02	Pulse	0.30	3
Mo	95	103	2	34.662	ppb	1.74	105,372.60	7.985E-02	Pulse	0.30	3
Ag	107	103	3	1.392	ppb	1.45	46,906.14	1.405E-02	Pulse	0.30	3
Cd	111	115	3	1.688	ppb	0.83	11,348.94	2.890E-03	Pulse	0.30	3
Sb	121	115	3	2.056	ppb	0.67	49,342.60	1.256E-02	Pulse	0.30	3
Ba	137	159	3	49.298	ppb	0.40	481,041.14	8.606E-02	Pulse	0.30	3
Tl	205	209	3	1.989	ppb	0.69	89,676.60	3.540E-02	Pulse	0.30	3
Pb	208	209	3	1.957	ppb	0.66	118,733.12	4.687E-02	Pulse	0.30	3
U	238	209	3	7.774	ppb	0.46	500,615.10	1.976E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	602,963.63	1.14	53.4	Analog	0.30	3
2	Sc	45	83,433.33	1.81	78.6	Pulse	0.30	3
3	Sc	45	2,407,450.54	0.35	86.6	Analog	0.30	3
1	Ge	72	62,785.90	2.83	69.3	Pulse	0.30	3
2	Ge	72	51,899.74	0.59	70.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,319,698.04	0.67	62.1	Analog	0.30	3
3	Rh	103	3,338,608.22	1.16	67.3	Analog	0.30	3
3	In	115	3,927,256.67	0.61	71.0	Analog	0.30	3
3	Tb	159	5,589,840.12	0.39	71.1	Analog	0.30	3
3	Bi	209	2,533,438.52	0.22	56.6	Analog	0.30	3

Quantitation Report

File Name	A0308095.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:21
Sample Name	N018918-003C-MS,MS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.442	ppb	3.73	2,130.22	2.422E-03	Pulse	0.30	3
B	11	6	3	241.610	ppb	0.81	1,064,347.71	1.210E+00	Analog	0.30	3
Na	23	45	2	400674.553	ppb	0.15	438,610,149.02	4.422E+03	Analog	0.30	3
Mg	26	45	2	9355.794	ppb	0.46	899,477.29	9.068E+00	Pulse	0.30	3
Al	27	45	2	2.680	ppb	14.68	1,697.13	1.711E-02	Pulse	0.30	3
K	39	45	2	4259.472	ppb	1.57	1,806,705.91	1.821E+01	Analog	0.30	3
Ca	44	45	3	20451.889	ppb	0.10	28,103,232.36	1.012E+01	Analog	0.30	3
V	51	45	2	0.527	ppb	4.83	3,431.61	3.461E-02	Pulse	0.30	3
Cr	52	45	2	0.470	ppb	4.64	3,448.63	3.476E-02	Pulse	0.30	3
Mn	55	45	2	5.018	ppb	1.38	19,576.89	1.974E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,606.10	2.624E-02	Pulse	0.30	3
Co	59	45	2	0.353	ppb	6.31	4,448.04	4.482E-02	Pulse	0.30	3
Ni	60	72	2	0.988	ppb	7.78	3,029.20	4.663E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,491.12	-2.298E-02	Pulse	0.30	3
Zn	66	72	2	2.332	ppb	6.34	3,414.13	5.255E-02	Pulse	0.30	3
As	75	72	2	0.498	ppb	0.70	391.53	6.030E-03	Pulse	0.75	3
Se	78	72	1	1.526	ppb	9.43	531.14	6.599E-03	Pulse	0.30	3
Mo	95	103	2	6.945	ppb	0.58	27,235.02	1.601E-02	Pulse	0.30	3
Ag	107	103	3	0.283	ppb	7.48	19,480.58	4.625E-03	Pulse	0.30	3
Cd	111	115	3	0.401	ppb	3.89	3,351.90	6.884E-04	Pulse	0.30	3
Sb	121	115	3	0.440	ppb	2.01	13,283.81	2.729E-03	Pulse	0.30	3
Ba	137	159	3	10.014	ppb	0.69	120,502.11	1.751E-02	Pulse	0.30	3
Tl	205	209	3	0.480	ppb	0.81	29,732.83	8.772E-03	Pulse	0.30	3
Pb	208	209	3	0.386	ppb	1.07	31,859.82	9.400E-03	Pulse	0.30	3
U	238	209	3	1.467	ppb	0.80	126,438.57	3.731E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	879,404.04	1.23	77.8	Analog	0.30	3
2	Sc	45	99,200.32	1.71	93.4	Pulse	0.30	3
3	Sc	45	2,777,006.98	0.48	99.8	Analog	0.30	3
1	Ge	72	80,486.03	3.52	88.9	Pulse	0.30	3
2	Ge	72	64,933.89	1.51	88.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,701,171.55	1.70	80.1	Analog	0.30	3
3	Rh	103	4,212,715.81	0.52	84.9	Analog	0.30	3
3	In	115	4,868,059.01	0.71	88.0	Analog	0.30	3
3	Tb	159	6,880,863.16	0.62	87.5	Analog	0.30	3
3	Bi	209	3,389,384.53	0.88	75.8	Analog	0.30	3

Quantitation Report

File Name	A0308096.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:27
Sample Name	CCV7,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	19.114	ppb	0.40	102,207.79	1.039E-01	Pulse	0.30	3
B	11	6	3	215.217	ppb	0.87	1,061,632.63	1.080E+00	Analog	0.30	3
Na	23	45	2	1371.628	ppb	1.21	1,710,869.18	1.615E+01	Analog	0.30	3
Mg	26	45	2	190.545	ppb	2.10	19,755.44	1.865E-01	Pulse	0.30	3
Al	27	45	2	15.783	ppb	5.37	4,576.62	4.319E-02	Pulse	0.30	3
K	39	45	2	223.210	ppb	1.55	123,689.50	1.168E+00	Pulse	0.30	3
Ca	44	45	3	201.030	ppb	0.22	284,463.15	1.017E-01	Pulse	0.30	3
V	51	45	2	18.960	ppb	0.54	111,891.44	1.056E+00	Pulse	0.30	3
Cr	52	45	2	18.548	ppb	0.86	138,328.17	1.306E+00	Pulse	0.30	3
Mn	55	45	2	19.265	ppb	0.49	80,094.54	7.560E-01	Pulse	0.30	3
Fe	56	45	2	19.248	ppb	1.18	126,394.15	1.193E+00	Pulse	0.30	3
Co	59	45	2	18.657	ppb	0.61	250,745.48	2.367E+00	Pulse	0.30	3
Ni	60	72	2	18.558	ppb	0.16	62,591.14	8.523E-01	Pulse	0.30	3
Cu	63	72	2	17.530	ppb	0.80	181,006.14	2.465E+00	Pulse	0.30	3
Zn	66	72	2	18.635	ppb	1.40	26,750.85	3.643E-01	Pulse	0.30	3
As	75	72	2	18.911	ppb	0.99	16,494.66	2.246E-01	Pulse	0.75	3
Se	78	72	1	18.016	ppb	1.38	7,366.40	7.792E-02	Pulse	0.30	3
Mo	95	103	2	19.532	ppb	0.79	91,668.69	4.500E-02	Pulse	0.30	3
Ag	107	103	3	18.338	ppb	1.57	759,162.88	1.580E-01	Pulse	0.30	3
Cd	111	115	3	18.456	ppb	0.80	172,368.09	3.157E-02	Pulse	0.30	3
Sb	121	115	3	18.412	ppb	0.61	612,077.16	1.121E-01	Pulse	0.30	3
Ba	137	159	3	19.744	ppb	0.91	256,304.28	3.449E-02	Pulse	0.30	3
Tl	205	209	3	19.196	ppb	0.45	1,430,149.39	3.391E-01	Analog	0.30	3
Pb	208	209	3	18.834	ppb	0.69	1,894,871.19	4.493E-01	Analog	0.30	3
U	238	209	3	18.818	ppb	0.64	2,017,087.75	4.783E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	983,254.63	0.77	87.0	Analog	0.30	3
2	Sc	45	105,941.25	0.93	99.8	Pulse	0.30	3
3	Sc	45	2,796,742.88	0.47	100.6	Analog	0.30	3
1	Ge	72	94,531.70	0.92	104.4	Pulse	0.30	3
2	Ge	72	73,439.78	0.95	100.4	Pulse	0.30	3
2	Rh	103	2,036,985.54	0.98	95.9	Analog	0.30	3
3	Rh	103	4,804,454.06	0.63	96.8	Analog	0.30	3
3	In	115	5,459,982.09	0.86	98.7	Analog	0.30	3
3	Tb	159	7,431,358.43	0.38	94.5	Analog	0.30	3
3	Bi	209	4,217,615.84	0.69	94.3	Analog	0.30	3

Quantitation Report

File Name	A0308097.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:32
Sample Name	CCB7,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	80.01	27.78	2.757E-05	Pulse	0.30	3
B	11	6	3	20.767	ppb	1.91	118,570.73	1.173E-01	Pulse	0.30	3
Na	23	45	2	840.277	ppb	6.44	1,095,618.80	1.029E+01	Analog	0.30	3
Mg	26	45	2	0.962	ppb	90.23	293.35	2.762E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,204.52	1.131E-02	Pulse	0.30	3
K	39	45	2	23.726	ppb	19.49	34,633.54	3.252E-01	Pulse	0.30	3
Ca	44	45	3	2.536	ppb	9.99	9,936.72	3.515E-03	Pulse	0.30	3
V	51	45	2	0.092	ppb	9.38	1,117.87	1.049E-02	Pulse	0.30	3
Cr	52	45	2	0.046	ppb	7.34	530.02	4.974E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	54.57	5.117E-04	Pulse	0.30	3
Fe	56	45	2	0.144	ppb	36.86	4,483.15	4.203E-02	Pulse	0.30	3
Co	59	45	2	0.003	ppb	54.84	41.12	3.882E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	30.00	4.051E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	9,647.36	1.299E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	576.69	7.760E-03	Pulse	0.30	3
As	75	72	2	0.022	ppb	27.39	28.45	3.828E-04	Pulse	0.75	3
Se	78	72	1	0.011	ppb	114.90	4.44	4.679E-05	Pulse	0.30	3
Mo	95	103	2	0.163	ppb	10.19	802.28	3.882E-04	Pulse	0.30	3
Ag	107	103	3	0.508	ppb	19.14	32,151.35	6.536E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-137.51	-2.508E-05	Pulse	0.30	3
Sb	121	115	3	0.036	ppb	8.72	1,483.47	2.706E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	187.81	2.493E-05	Pulse	0.30	3
Tl	205	209	3	0.068	ppb	1.97	6,349.38	1.495E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	153.76	3.613E-05	Pulse	0.30	3
U	238	209	3	0.003	ppb	6.83	430.96	1.015E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,010,778.96	1.67	89.5	Analog	0.30	3
2	Sc	45	106,576.72	2.00	100.4	Pulse	0.30	3
3	Sc	45	2,827,706.10	0.88	101.7	Analog	0.30	3
1	Ge	72	95,435.67	0.65	105.4	Pulse	0.30	3
2	Ge	72	74,235.85	1.30	101.5	Pulse	0.30	3
2	Rh	103	2,066,639.86	0.16	97.3	Analog	0.30	3
3	Rh	103	4,920,068.85	0.28	99.1	Analog	0.30	3
3	In	115	5,483,057.40	0.28	99.1	Analog	0.30	3
3	Tb	159	7,535,929.68	0.41	95.8	Analog	0.30	3
3	Bi	209	4,247,841.71	0.68	94.9	Analog	0.30	3

Quantitation Report

File Name	A0308098.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:38
Sample Name	N018918-003C-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	21,514.24	-2.392E-01	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	7,117,691.15	-7.912E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.891E-04	Error	0.30	3
Mg	26	45	2	230265.432	ppb	2.24	11,801,292.05	2.231E+02	Analog	0.30	3
Al	27	45	2	206.396	ppb	2.62	22,347.85	4.226E-01	Pulse	0.30	3
K	39	45	2	113616.071	ppb	1.94	25,388,385.45	4.800E+02	Analog	0.30	3
Ca	44	45	3	487917.723	ppb	0.35	350,618,585.89	2.414E+02	Analog	0.30	3
V	51	45	2	12.693	ppb	2.78	37,487.63	7.088E-01	Pulse	0.30	3
Cr	52	45	2	12.336	ppb	1.53	45,964.07	8.690E-01	Pulse	0.30	3
Mn	55	45	2	104.881	ppb	2.50	217,543.25	4.113E+00	Pulse	0.30	3
Fe	56	45	2	135.343	ppb	2.50	433,063.19	8.188E+00	Pulse	0.30	3
Co	59	45	2	8.176	ppb	1.58	54,865.67	1.037E+00	Pulse	0.30	3
Ni	60	72	2	23.025	ppb	0.14	34,347.39	1.057E+00	Pulse	0.30	3
Cu	63	72	2	9.654	ppb	1.36	47,154.37	1.451E+00	Pulse	0.30	3
Zn	66	72	2	63.759	ppb	1.23	39,865.80	1.227E+00	Pulse	0.30	3
As	75	72	2	9.446	ppb	2.19	3,646.84	1.122E-01	Pulse	0.75	3
Se	78	72	1	35.048	ppb	1.47	5,736.79	1.516E-01	Pulse	0.30	3
Mo	95	103	2	165.799	ppb	1.24	277,223.19	3.819E-01	Pulse	0.30	3
Ag	107	103	3	6.431	ppb	0.27	109,435.66	5.686E-02	Pulse	0.30	3
Cd	111	115	3	6.975	ppb	0.33	27,407.26	1.193E-02	Pulse	0.30	3
Sb	121	115	3	8.919	ppb	0.39	124,797.35	5.433E-02	Pulse	0.30	3
Ba	137	159	3	239.404	ppb	0.52	1,338,215.86	4.178E-01	Analog	0.30	3
Tl	205	209	3	8.426	ppb	1.29	188,584.92	1.490E-01	Pulse	0.30	3
Pb	208	209	3	9.120	ppb	0.82	275,484.14	2.177E-01	Pulse	0.30	3
U	238	209	3	39.396	ppb	1.24	1,267,216.12	1.001E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-91,064.69	-12.96	-8.1	Analog	0.30	3
2	Sc	45	52,902.78	1.70	49.8	Pulse	0.30	3
3	Sc	45	1,452,542.20	0.59	52.2	Analog	0.30	3
1	Ge	72	37,843.64	1.33	41.8	Pulse	0.30	3
2	Ge	72	32,492.02	0.99	44.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	725,932.57	0.21	34.2	Pulse	0.30	3
3	Rh	103	1,924,642.33	0.31	38.8	Analog	0.30	3
3	In	115	2,296,989.10	0.39	41.5	Analog	0.30	3
3	Tb	159	3,203,292.77	0.05	40.7	Analog	0.30	3
3	Bi	209	1,265,695.82	0.54	28.3	Analog	0.30	3

Quantitation Report

File Name	A0308099.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:43
Sample Name	N018918-003C-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.467	ppb	4.08	7,157.34	1.343E-02	Pulse	0.30	3
B	11	6	3	1083.626	ppb	0.71	2,865,804.69	5.378E+00	Analog	0.30	3
Na	23	45	2	1981755.971	ppb	0.99	1,593,445,327.37	2.187E+04	Analog	0.30	3
Mg	26	45	2	46454.092	ppb	1.22	3,280,572.87	4.502E+01	Analog	0.30	3
Al	27	45	2	34.529	ppb	1.15	5,867.52	8.050E-02	Pulse	0.30	3
K	39	45	2	21001.797	ppb	1.40	6,479,613.65	8.891E+01	Analog	0.30	3
Ca	44	45	3	99811.811	ppb	0.18	102,767,375.13	4.938E+01	Analog	0.30	3
V	51	45	2	2.528	ppb	1.46	10,606.04	1.455E-01	Pulse	0.30	3
Cr	52	45	2	2.283	ppb	2.82	11,820.73	1.623E-01	Pulse	0.30	3
Mn	55	45	2	24.088	ppb	0.42	68,886.34	9.452E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-6,697.85	-9.156E-02	Pulse	0.30	3
Co	59	45	2	1.666	ppb	4.64	15,391.00	2.114E-01	Pulse	0.30	3
Ni	60	72	2	4.502	ppb	3.24	9,591.97	2.077E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,737.30	-4.057E-01	Pulse	0.30	3
Zn	66	72	2	10.610	ppb	2.33	9,735.18	2.108E-01	Pulse	0.30	3
As	75	72	2	2.177	ppb	3.53	1,199.11	2.596E-02	Pulse	0.75	3
Se	78	72	1	7.257	ppb	9.92	1,799.07	3.139E-02	Pulse	0.30	3
Mo	95	103	2	34.773	ppb	0.80	93,056.73	8.010E-02	Pulse	0.30	3
Ag	107	103	3	1.365	ppb	1.02	40,548.89	1.382E-02	Pulse	0.30	3
Cd	111	115	3	1.691	ppb	2.71	9,964.57	2.894E-03	Pulse	0.30	3
Sb	121	115	3	2.073	ppb	0.31	43,622.41	1.267E-02	Pulse	0.30	3
Ba	137	159	3	49.241	ppb	0.24	421,434.42	8.596E-02	Pulse	0.30	3
Tl	205	209	3	2.039	ppb	1.87	81,995.35	3.628E-02	Pulse	0.30	3
Pb	208	209	3	1.945	ppb	0.40	105,272.39	4.657E-02	Pulse	0.30	3
U	238	209	3	7.738	ppb	0.12	444,554.71	1.967E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	532,893.97	0.65	47.2	Analog	0.30	3
2	Sc	45	72,887.50	3.00	68.6	Pulse	0.30	3
3	Sc	45	2,081,156.67	1.09	74.8	Analog	0.30	3
1	Ge	72	57,314.56	0.24	63.3	Pulse	0.30	3
2	Ge	72	46,197.31	3.60	63.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,161,595.56	2.31	54.7	Analog	0.30	3
3	Rh	103	2,933,030.34	1.65	59.1	Analog	0.30	3
3	In	115	3,443,332.42	1.24	62.3	Analog	0.30	3
3	Tb	159	4,902,747.85	1.33	62.3	Analog	0.30	3
3	Bi	209	2,260,393.98	0.70	50.5	Analog	0.30	3

Quantitation Report

File Name	A0308100.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:49
Sample Name	N018918-003C-MSD,MSD,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.415	ppb	1.05	1,815.73	2.271E-03	Pulse	0.30	3
B	11	6	3	230.613	ppb	3.54	923,909.70	1.156E+00	Mix	0.30	3
Na	23	45	2	399823.617	ppb	0.31	408,985,349.46	4.412E+03	Analog	0.30	3
Mg	26	45	2	9356.085	ppb	0.76	840,492.03	9.068E+00	Pulse	0.30	3
Al	27	45	2	2.554	ppb	10.19	1,562.99	1.686E-02	Pulse	0.30	3
K	39	45	2	4308.414	ppb	1.20	1,707,555.20	1.842E+01	Analog	0.30	3
Ca	44	45	3	20480.795	ppb	0.35	25,595,815.73	1.013E+01	Analog	0.30	3
V	51	45	2	0.546	ppb	4.35	3,306.02	3.564E-02	Pulse	0.30	3
Cr	52	45	2	0.483	ppb	0.88	3,309.10	3.570E-02	Pulse	0.30	3
Mn	55	45	2	5.019	ppb	1.62	18,305.77	1.974E-01	Pulse	0.30	3
Fe	56	45	2	0.044	ppb	84.77	3,330.95	3.597E-02	Pulse	0.30	3
Co	59	45	2	0.368	ppb	2.69	4,331.67	4.675E-02	Pulse	0.30	3
Ni	60	72	2	0.973	ppb	1.72	2,819.62	4.594E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	585.25	9.509E-03	Pulse	0.30	3
Zn	66	72	2	2.293	ppb	5.24	3,179.26	5.182E-02	Pulse	0.30	3
As	75	72	2	0.438	ppb	2.04	326.82	5.324E-03	Pulse	0.75	3
Se	78	72	1	1.565	ppb	5.84	527.81	6.771E-03	Pulse	0.30	3
Mo	95	103	2	6.821	ppb	3.36	25,379.70	1.572E-02	Pulse	0.30	3
Ag	107	103	3	0.232	ppb	7.16	16,333.61	4.197E-03	Pulse	0.30	3
Cd	111	115	3	0.388	ppb	3.89	3,014.86	6.663E-04	Pulse	0.30	3
Sb	121	115	3	0.442	ppb	2.10	12,402.02	2.740E-03	Pulse	0.30	3
Ba	137	159	3	10.074	ppb	1.05	112,830.94	1.762E-02	Pulse	0.30	3
Tl	205	209	3	0.468	ppb	1.18	27,241.36	8.545E-03	Pulse	0.30	3
Pb	208	209	3	0.378	ppb	1.05	29,334.55	9.202E-03	Pulse	0.30	3
U	238	209	3	1.456	ppb	0.74	118,020.61	3.702E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	799,693.44	2.51	70.8	Analog	0.30	3
2	Sc	45	92,700.41	2.67	87.3	Pulse	0.30	3
3	Sc	45	2,525,704.13	0.74	90.8	Analog	0.30	3
1	Ge	72	77,969.40	0.91	86.1	Pulse	0.30	3
2	Ge	72	61,377.01	1.79	83.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,613,717.58	1.31	76.0	Analog	0.30	3
3	Rh	103	3,891,858.14	0.33	78.4	Analog	0.30	3
3	In	115	4,525,454.62	0.87	81.8	Analog	0.30	3
3	Tb	159	6,404,653.03	0.85	81.4	Analog	0.30	3
3	Bi	209	3,187,946.86	0.35	71.3	Analog	0.30	3

Quantitation Report

File Name	A0308101.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:55
Sample Name	N018919-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	1.598E-05	Pulse	0.30	3
B	11	6	3	226.900	ppb	0.94	950,393.88	1.138E+00	Mix	0.30	3
Na	23	45	2	300147.439	ppb	1.28	307,575,615.42	3.312E+03	Analog	0.30	3
Mg	26	45	2	6896.631	ppb	1.37	620,685.52	6.685E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	270.34	2.911E-03	Pulse	0.30	3
K	39	45	2	3360.041	ppb	1.92	1,338,217.38	1.441E+01	Analog	0.30	3
Ca	44	45	3	45082.320	ppb	0.71	57,629,831.36	2.230E+01	Analog	0.30	3
V	51	45	2	1.801	ppb	3.84	9,776.61	1.052E-01	Pulse	0.30	3
Cr	52	45	2	164.771	ppb	1.08	1,075,843.95	1.159E+01	Analog	0.30	3
Mn	55	45	2	1.939	ppb	2.36	7,114.14	7.663E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-20,433.58	-2.201E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-235.62	-2.532E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-334.63	-5.405E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,099.71	-1.775E-02	Pulse	0.30	3
Zn	66	72	2	0.857	ppb	13.43	1,509.34	2.435E-02	Pulse	0.30	3
As	75	72	2	0.666	ppb	11.00	496.82	8.027E-03	Pulse	0.75	3
Se	78	72	1	0.966	ppb	12.60	324.46	4.178E-03	Pulse	0.30	3
Mo	95	103	2	4.505	ppb	2.82	17,273.22	1.039E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,516.16	1.128E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-155.44	-3.300E-05	Pulse	0.30	3
Sb	121	115	3	0.006	ppb	43.29	408.91	8.683E-05	Pulse	0.30	3
Ba	137	159	3	6.337	ppb	0.45	75,302.72	1.110E-02	Pulse	0.30	3
Tl	205	209	3	0.093	ppb	4.46	6,513.90	1.932E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,297.35	-1.275E-03	Pulse	0.30	3
U	238	209	3	0.837	ppb	1.05	71,756.24	2.129E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	835,466.80	0.33	73.9	Analog	0.30	3
2	Sc	45	92,874.87	2.90	87.5	Pulse	0.30	3
3	Sc	45	2,583,800.55	0.61	92.9	Analog	0.30	3
1	Ge	72	77,689.35	0.37	85.8	Pulse	0.30	3
2	Ge	72	61,930.20	1.53	84.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,663,024.59	1.35	78.3	Analog	0.30	3
3	Rh	103	4,005,526.05	0.62	80.7	Analog	0.30	3
3	In	115	4,709,997.73	0.49	85.2	Analog	0.30	3
3	Tb	159	6,785,299.28	0.52	86.3	Analog	0.30	3
3	Bi	209	3,370,987.52	1.05	75.3	Analog	0.30	3

Quantitation Report

File Name	A0308102.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:00
Sample Name	N018919-002B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.524	ppb	3.40	40,930.78	5.724E-02	Pulse	0.30	3
B	11	6	3	2671.254	ppb	1.19	9,465,207.76	1.324E+01	Analog	0.30	3
Na	23	45	2	1303119.201	ppb	1.09	1,342,405,695.55	1.438E+04	Analog	0.30	3
Mg	26	45	2	31055.811	ppb	1.10	2,809,937.25	3.010E+01	Analog	0.30	3
Al	27	45	2	195.602	ppb	1.14	37,446.07	4.011E-01	Pulse	0.30	3
K	39	45	2	14664.803	ppb	0.71	5,803,169.43	6.215E+01	Analog	0.30	3
Ca	44	45	3	189502.379	ppb	0.60	240,593,618.64	9.375E+01	Analog	0.30	3
V	51	45	2	17.441	ppb	0.79	90,764.29	9.720E-01	Pulse	0.30	3
Cr	52	45	2	704.993	ppb	1.01	4,627,928.77	4.957E+01	Analog	0.30	3
Mn	55	45	2	100.136	ppb	1.00	366,674.17	3.927E+00	Pulse	0.30	3
Fe	56	45	2	67.037	ppb	1.53	380,226.58	4.073E+00	Pulse	0.30	3
Co	59	45	2	8.044	ppb	0.73	95,294.63	1.021E+00	Pulse	0.30	3
Ni	60	72	2	8.456	ppb	1.45	22,891.31	3.891E-01	Pulse	0.30	3
Cu	63	72	2	3.009	ppb	3.12	35,077.12	5.963E-01	Pulse	0.30	3
Zn	66	72	2	85.196	ppb	1.71	96,292.00	1.637E+00	Pulse	0.30	3
As	75	72	2	12.286	ppb	2.69	8,586.39	1.459E-01	Pulse	0.75	3
Se	78	72	1	13.509	ppb	3.81	4,256.28	5.843E-02	Pulse	0.30	3
Mo	95	103	2	29.189	ppb	2.92	98,283.31	6.724E-02	Pulse	0.30	3
Ag	107	103	3	4.066	ppb	9.40	129,640.49	3.677E-02	Pulse	0.30	3
Cd	111	115	3	8.281	ppb	1.10	59,247.04	1.417E-02	Pulse	0.30	3
Sb	121	115	3	9.760	ppb	1.04	248,634.53	5.945E-02	Pulse	0.30	3
Ba	137	159	3	131.630	ppb	0.44	1,411,798.63	2.297E-01	Analog	0.30	3
Tl	205	209	3	22.623	ppb	3.73	505,313.77	3.996E-01	Pulse	0.30	3
Pb	208	209	3	23.108	ppb	4.44	696,931.07	5.512E-01	Pulse	0.30	3
U	238	209	3	35.184	ppb	4.58	1,130,565.68	8.942E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	715,173.56	0.94	63.3	Analog	0.30	3
2	Sc	45	93,376.21	1.57	87.9	Pulse	0.30	3
3	Sc	45	2,566,354.30	0.46	92.3	Analog	0.30	3
1	Ge	72	72,769.22	4.48	80.4	Pulse	0.30	3
2	Ge	72	58,839.83	2.02	80.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,461,474.87	0.73	68.8	Analog	0.30	3
3	Rh	103	3,526,136.34	0.24	71.0	Analog	0.30	3
3	In	115	4,182,447.72	0.48	75.6	Analog	0.30	3
3	Tb	159	6,145,877.41	0.43	78.1	Analog	0.30	3
3	Bi	209	1,266,039.44	4.42	28.3	Analog	0.30	3

Quantitation Report

File Name	A0308103.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:06
Sample Name	N018919-002B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.245	ppb	3.87	10,499.23	1.222E-02	Pulse	0.30	3
B	11	6	3	686.648	ppb	0.73	2,932,324.97	3.413E+00	Analog	0.30	3
Na	23	45	2	292996.519	ppb	0.12	323,553,646.29	3.234E+03	Analog	0.30	3
Mg	26	45	2	6911.441	ppb	0.18	670,306.88	6.699E+00	Pulse	0.30	3
Al	27	45	2	40.972	ppb	2.87	9,336.18	9.332E-02	Pulse	0.30	3
K	39	45	2	3335.642	ppb	1.50	1,432,061.96	1.431E+01	Analog	0.30	3
Ca	44	45	3	43480.702	ppb	0.08	57,456,816.92	2.151E+01	Analog	0.30	3
V	51	45	2	3.999	ppb	0.81	22,712.96	2.270E-01	Pulse	0.30	3
Cr	52	45	2	164.977	ppb	0.78	1,160,691.65	1.160E+01	Analog	0.30	3
Mn	55	45	2	23.302	ppb	0.45	91,494.96	9.144E-01	Pulse	0.30	3
Fe	56	45	2	16.498	ppb	0.77	102,807.52	1.027E+00	Pulse	0.30	3
Co	59	45	2	1.930	ppb	0.45	24,511.14	2.450E-01	Pulse	0.30	3
Ni	60	72	2	1.981	ppb	2.28	5,976.96	9.217E-02	Pulse	0.30	3
Cu	63	72	2	0.271	ppb	10.92	15,820.73	2.440E-01	Pulse	0.30	3
Zn	66	72	2	21.625	ppb	0.29	27,334.84	4.214E-01	Pulse	0.30	3
As	75	72	2	2.916	ppb	1.48	2,252.84	3.473E-02	Pulse	0.75	3
Se	78	72	1	3.295	ppb	6.82	1,157.87	1.425E-02	Pulse	0.30	3
Mo	95	103	2	7.075	ppb	1.01	28,635.37	1.631E-02	Pulse	0.30	3
Ag	107	103	3	2.842	ppb	6.64	109,398.29	2.637E-02	Pulse	0.30	3
Cd	111	115	3	2.057	ppb	2.57	17,277.58	3.521E-03	Pulse	0.30	3
Sb	121	115	3	2.232	ppb	1.21	66,931.35	1.364E-02	Pulse	0.30	3
Ba	137	159	3	29.288	ppb	0.23	363,225.48	5.114E-02	Pulse	0.30	3
Tl	205	209	3	1.611	ppb	1.83	101,537.69	2.873E-02	Pulse	0.30	3
Pb	208	209	3	2.260	ppb	1.00	191,141.51	5.408E-02	Pulse	0.30	3
U	238	209	3	3.282	ppb	0.32	294,858.72	8.342E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	859,168.32	1.08	76.0	Analog	0.30	3
2	Sc	45	100,061.34	1.47	94.2	Pulse	0.30	3
3	Sc	45	2,670,846.56	0.09	96.0	Analog	0.30	3
1	Ge	72	81,301.82	1.76	89.8	Pulse	0.30	3
2	Ge	72	64,859.32	1.64	88.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,756,059.77	2.24	82.7	Analog	0.30	3
3	Rh	103	4,148,184.28	0.17	83.6	Analog	0.30	3
3	In	115	4,908,084.92	0.62	88.7	Analog	0.30	3
3	Tb	159	7,102,187.95	0.31	90.3	Analog	0.30	3
3	Bi	209	3,534,494.32	0.21	79.0	Analog	0.30	3

Quantitation Report

File Name	A0308104.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:11
Sample Name	N018935-001A,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	54.13	24.44	2.684E-05	Pulse	0.30	3
B	11	6	3	71.972	ppb	0.97	337,504.93	3.708E-01	Pulse	0.30	3
Na	23	45	2	12083.492	ppb	0.93	13,692,144.80	1.343E+02	Analog	0.30	3
Mg	26	45	2	2396.112	ppb	1.38	236,832.25	2.324E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	77.49	7.590E-04	Pulse	0.30	3
K	39	45	2	273.450	ppb	2.05	140,617.85	1.380E+00	Pulse	0.30	3
Ca	44	45	3	10846.456	ppb	0.42	14,396,202.56	5.368E+00	Analog	0.30	3
V	51	45	2	0.186	ppb	6.72	1,596.81	1.567E-02	Pulse	0.30	3
Cr	52	45	2	0.264	ppb	2.07	2,063.59	2.025E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-438.15	-4.302E-03	Pulse	0.30	3
Fe	56	45	2	0.032	ppb	49.81	3,593.19	3.526E-02	Pulse	0.30	3
Co	59	45	2	0.005	ppb	41.66	68.21	6.691E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	87.39	1.231E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,101.77	1.845E-01	Pulse	0.30	3
Zn	66	72	2	1.417	ppb	3.97	2,488.53	3.506E-02	Pulse	0.30	3
As	75	72	2	0.038	ppb	5.75	41.07	5.785E-04	Pulse	0.75	3
Se	78	72	1	0.056	ppb	95.68	22.22	2.423E-04	Pulse	0.30	3
Mo	95	103	2	0.129	ppb	5.10	603.37	3.101E-04	Pulse	0.30	3
Ag	107	103	3	0.294	ppb	18.70	21,776.42	4.718E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,546.81	-4.815E-04	Pulse	0.30	3
Sb	121	115	3	0.003	ppb	53.90	381.13	7.205E-05	Pulse	0.30	3
Ba	137	159	3	1.285	ppb	0.78	16,900.15	2.283E-03	Pulse	0.30	3
Tl	205	209	3	0.081	ppb	4.75	7,015.28	1.729E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,530.42	-6.234E-04	Pulse	0.30	3
U	238	209	3	2.376	ppb	0.27	245,199.69	6.042E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	910,323.20	0.42	80.6	Analog	0.30	3
2	Sc	45	101,939.01	2.19	96.0	Pulse	0.30	3
3	Sc	45	2,681,836.59	0.44	96.4	Analog	0.30	3
1	Ge	72	91,426.40	1.38	101.0	Pulse	0.30	3
2	Ge	72	70,984.45	1.14	97.0	Pulse	0.30	3
2	Rh	103	1,946,987.42	1.82	91.7	Analog	0.30	3
3	Rh	103	4,615,552.08	0.14	93.0	Analog	0.30	3
3	In	115	5,289,067.96	0.22	95.6	Analog	0.30	3
3	Tb	159	7,402,134.40	0.64	94.1	Analog	0.30	3
3	Bi	209	4,058,157.48	0.65	90.7	Analog	0.30	3

Quantitation Report

File Name	A0308105.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:17
Sample Name	N018936-002A,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	680.81	15.55	1.917E-05	Pulse	0.30	3
B	11	6	3	240.616	ppb	1.38	989,214.49	1.205E+00	Analog	0.30	3
Na	23	45	2	371386.491	ppb	1.45	392,751,380.82	4.098E+03	Analog	0.30	3
Mg	26	45	2	7168.595	ppb	1.75	665,825.59	6.948E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	202.50	2.111E-03	Pulse	0.30	3
K	39	45	2	3424.631	ppb	0.85	1,407,702.32	1.469E+01	Analog	0.30	3
Ca	44	45	3	39654.894	ppb	0.34	49,275,470.37	1.962E+01	Analog	0.30	3
V	51	45	2	1.848	ppb	3.64	10,326.93	1.078E-01	Pulse	0.30	3
Cr	52	45	2	168.295	ppb	0.36	1,134,302.81	1.183E+01	Analog	0.30	3
Mn	55	45	2	2.185	ppb	2.62	8,267.24	8.629E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-19,119.84	-1.995E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-326.11	-3.405E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-364.44	-5.899E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-64.47	-1.009E-03	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-715.17	-1.158E-02	Pulse	0.30	3
As	75	72	2	0.704	ppb	4.21	524.24	8.474E-03	Pulse	0.75	3
Se	78	72	1	1.060	ppb	5.48	346.68	4.585E-03	Pulse	0.30	3
Mo	95	103	2	4.837	ppb	2.06	18,415.61	1.115E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	3,704.68	9.486E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-111.23	-2.408E-05	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	18.11	378.91	8.203E-05	Pulse	0.30	3
Ba	137	159	3	6.662	ppb	1.11	78,595.82	1.167E-02	Pulse	0.30	3
Tl	205	209	3	0.058	ppb	4.90	4,368.59	1.318E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,818.80	-1.152E-03	Pulse	0.30	3
U	238	209	3	0.897	ppb	0.91	75,704.95	2.283E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	820,770.38	2.37	72.6	Analog	0.30	3
2	Sc	45	95,854.76	2.63	90.3	Pulse	0.30	3
3	Sc	45	2,511,533.21	0.54	90.3	Analog	0.30	3
1	Ge	72	75,628.57	0.95	83.5	Pulse	0.30	3
2	Ge	72	61,844.10	1.94	84.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,650,983.88	0.81	77.7	Analog	0.30	3
3	Rh	103	3,905,411.33	0.35	78.7	Analog	0.30	3
3	In	115	4,619,320.07	0.48	83.5	Analog	0.30	3
3	Tb	159	6,737,556.29	0.07	85.7	Analog	0.30	3
3	Bi	209	3,315,948.21	0.76	74.1	Analog	0.30	3

Quantitation Report

File Name	A0308106.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:22
Sample Name	CCV8,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	19.342	ppb	0.83	94,787.25	1.052E-01	Pulse	0.30	3
B	11	6	3	214.401	ppb	1.23	969,415.86	1.076E+00	Mix	0.30	3
Na	23	45	2	664.548	ppb	5.48	855,539.67	8.349E+00	Pulse	0.30	3
Mg	26	45	2	188.159	ppb	1.68	18,876.70	1.842E-01	Pulse	0.30	3
Al	27	45	2	15.699	ppb	1.97	4,409.98	4.302E-02	Pulse	0.30	3
K	39	45	2	209.368	ppb	1.97	113,695.50	1.109E+00	Pulse	0.30	3
Ca	44	45	3	201.313	ppb	0.85	265,281.11	1.019E-01	Pulse	0.30	3
V	51	45	2	18.639	ppb	0.84	106,446.51	1.038E+00	Pulse	0.30	3
Cr	52	45	2	18.366	ppb	0.70	132,548.50	1.293E+00	Pulse	0.30	3
Mn	55	45	2	19.571	ppb	0.44	78,733.77	7.680E-01	Pulse	0.30	3
Fe	56	45	2	19.212	ppb	0.80	122,080.84	1.191E+00	Pulse	0.30	3
Co	59	45	2	18.554	ppb	0.67	241,294.66	2.354E+00	Pulse	0.30	3
Ni	60	72	2	18.350	ppb	1.29	59,655.93	8.427E-01	Pulse	0.30	3
Cu	63	72	2	18.192	ppb	0.45	180,513.75	2.550E+00	Pulse	0.30	3
Zn	66	72	2	18.626	ppb	2.91	25,776.15	3.641E-01	Pulse	0.30	3
As	75	72	2	18.619	ppb	1.40	15,652.49	2.211E-01	Pulse	0.75	3
Se	78	72	1	18.628	ppb	1.64	7,117.41	8.057E-02	Pulse	0.30	3
Mo	95	103	2	19.179	ppb	2.95	88,854.56	4.419E-02	Pulse	0.30	3
Ag	107	103	3	18.375	ppb	0.22	729,166.13	1.583E-01	Pulse	0.30	3
Cd	111	115	3	18.417	ppb	0.82	166,159.83	3.150E-02	Pulse	0.30	3
Sb	121	115	3	18.400	ppb	0.26	590,877.94	1.120E-01	Pulse	0.30	3
Ba	137	159	3	19.562	ppb	0.15	251,839.04	3.417E-02	Pulse	0.30	3
Tl	205	209	3	18.997	ppb	1.16	1,422,235.17	3.356E-01	Analog	0.30	3
Pb	208	209	3	18.858	ppb	0.86	1,906,600.10	4.499E-01	Analog	0.30	3
U	238	209	3	18.898	ppb	0.56	2,035,708.50	4.803E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	901,182.80	1.02	79.8	Analog	0.30	3
2	Sc	45	102,516.95	1.50	96.5	Pulse	0.30	3
3	Sc	45	2,604,612.43	0.30	93.7	Analog	0.30	3
1	Ge	72	88,295.37	5.84	97.5	Pulse	0.30	3
2	Ge	72	70,791.69	1.23	96.8	Pulse	0.30	3
2	Rh	103	2,010,966.60	0.60	94.7	Analog	0.30	3
3	Rh	103	4,605,359.24	0.21	92.8	Analog	0.30	3
3	In	115	5,274,150.16	0.44	95.4	Analog	0.30	3
3	Tb	159	7,369,362.04	0.52	93.7	Analog	0.30	3
3	Bi	209	4,238,339.10	0.31	94.7	Analog	0.30	3

Quantitation Report

File Name	A0308107.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:28
Sample Name	CCB8,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	154.02	37.78	4.066E-05	Pulse	0.30	3
B	11	6	3	18.601	ppb	1.63	99,266.70	1.066E-01	Pulse	0.30	3
Na	23	45	2	366.331	ppb	7.17	516,703.02	5.059E+00	Pulse	0.30	3
Mg	26	45	2	0.880	ppb	53.78	274.46	2.683E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,201.18	1.176E-02	Pulse	0.30	3
K	39	45	2	8.387	ppb	22.05	26,605.28	2.604E-01	Pulse	0.30	3
Ca	44	45	3	3.263	ppb	6.26	10,063.41	3.874E-03	Pulse	0.30	3
V	51	45	2	0.057	ppb	5.77	872.29	8.535E-03	Pulse	0.30	3
Cr	52	45	2	0.033	ppb	32.64	413.93	4.057E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	850.36	62.40	6.125E-04	Pulse	0.30	3
Fe	56	45	2	0.127	ppb	12.40	4,185.33	4.097E-02	Pulse	0.30	3
Co	59	45	2	0.003	ppb	47.55	50.58	4.934E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	31.66	4.523E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,664.96	2.090E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	441.65	6.297E-03	Pulse	0.30	3
As	75	72	2	0.007	ppb	107.54	14.67	2.088E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	0.00	0.000E+00	Pulse	0.30	3
Mo	95	103	2	0.101	ppb	5.40	498.92	2.468E-04	Pulse	0.30	3
Ag	107	103	3	0.563	ppb	18.88	32,581.10	7.009E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-65.53	-1.234E-05	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	1.10	1,483.47	2.793E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	260.76	3.480E-05	Pulse	0.30	3
Tl	205	209	3	0.038	ppb	4.48	4,096.28	9.628E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	413.84	9.726E-05	Pulse	0.30	3
U	238	209	3	0.003	ppb	13.42	441.87	1.039E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	931,148.65	1.24	82.4	Analog	0.30	3
2	Sc	45	102,178.57	1.35	96.2	Pulse	0.30	3
3	Sc	45	2,597,724.28	0.79	93.4	Analog	0.30	3
1	Ge	72	88,875.05	1.04	98.2	Pulse	0.30	3
2	Ge	72	70,155.49	1.45	95.9	Pulse	0.30	3
2	Rh	103	2,021,292.47	0.74	95.2	Analog	0.30	3
3	Rh	103	4,648,758.05	0.17	93.6	Analog	0.30	3
3	In	115	5,310,915.50	0.06	96.0	Analog	0.30	3
3	Tb	159	7,486,902.53	0.59	95.2	Analog	0.30	3
3	Bi	209	4,254,381.53	0.14	95.1	Analog	0.30	3

Quantitation Report

File Name	A0308108.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:33
Sample Name	LLCCV2,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.481	ppb	1.88	2,384.71	2.631E-03	Pulse	0.30	3
B	11	6	3	70.618	ppb	0.19	329,936.02	3.641E-01	Pulse	0.30	3
Na	23	45	2	305.821	ppb	5.68	444,560.00	4.392E+00	Pulse	0.30	3
Mg	26	45	2	5.514	ppb	11.65	726.71	7.173E-03	Pulse	0.30	3
Al	27	45	2	36.726	ppb	3.58	8,595.78	8.487E-02	Pulse	0.30	3
K	39	45	2	12.736	ppb	23.68	28,224.78	2.788E-01	Pulse	0.30	3
Ca	44	45	3	22.559	ppb	5.08	34,781.38	1.342E-02	Pulse	0.30	3
V	51	45	2	0.958	ppb	2.28	5,921.28	5.847E-02	Pulse	0.30	3
Cr	52	45	2	0.982	ppb	6.67	7,171.36	7.079E-02	Pulse	0.30	3
Mn	55	45	2	0.544	ppb	2.26	2,218.98	2.192E-02	Pulse	0.30	3
Fe	56	45	2	10.213	ppb	1.12	65,682.43	6.487E-01	Pulse	0.30	3
Co	59	45	2	0.449	ppb	3.25	5,771.80	5.699E-02	Pulse	0.30	3
Ni	60	72	2	0.992	ppb	3.56	3,143.13	4.683E-02	Pulse	0.30	3
Cu	63	72	2	1.373	ppb	2.64	25,898.90	3.857E-01	Pulse	0.30	3
Zn	66	72	2	10.619	ppb	1.01	14,167.97	2.110E-01	Pulse	0.30	3
As	75	72	2	0.129	ppb	2.14	111.11	1.655E-03	Pulse	0.75	3
Se	78	72	1	0.497	ppb	2.39	181.12	2.148E-03	Pulse	0.30	3
Mo	95	103	2	0.525	ppb	6.40	2,425.84	1.223E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,709.29	2.105E-03	Pulse	0.30	3
Cd	111	115	3	0.472	ppb	1.18	4,292.46	8.083E-04	Pulse	0.30	3
Sb	121	115	3	0.482	ppb	1.93	15,863.01	2.987E-03	Pulse	0.30	3
Ba	137	159	3	1.099	ppb	1.74	14,746.54	1.959E-03	Pulse	0.30	3
Tl	205	209	3	0.346	ppb	2.36	27,466.24	6.407E-03	Pulse	0.30	3
Pb	208	209	3	0.945	ppb	0.51	97,439.28	2.273E-02	Pulse	0.30	3
U	238	209	3	0.446	ppb	1.13	48,699.92	1.136E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	906,259.04	0.24	80.2	Analog	0.30	3
2	Sc	45	101,259.46	1.04	95.4	Pulse	0.30	3
3	Sc	45	2,591,834.58	0.19	93.2	Analog	0.30	3
1	Ge	72	84,281.88	3.49	93.1	Pulse	0.30	3
2	Ge	72	67,141.51	1.09	91.8	Pulse	0.30	3
2	Rh	103	1,983,588.30	0.64	93.4	Analog	0.30	3
3	Rh	103	4,613,092.64	0.17	92.9	Analog	0.30	3
3	In	115	5,310,243.61	0.20	96.0	Analog	0.30	3
3	Tb	159	7,526,403.22	0.53	95.7	Analog	0.30	3
3	Bi	209	4,286,572.72	0.38	95.8	Analog	0.30	3

Quantitation Report

File Name	A0308109.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:39
Sample Name	ICSA3,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	12.22	1.342E-05	Pulse	0.30	3
B	11	6	3	10.101	ppb	1.33	58,701.37	6.454E-02	Pulse	0.30	3
Na	23	45	2	94166.001	ppb	0.22	107,613,812.84	1.040E+03	Analog	0.30	3
Mg	26	45	2	96159.726	ppb	0.53	9,642,853.05	9.318E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-2.75	-2.260E-05	Pulse	0.30	3
K	39	45	2	106150.208	ppb	0.24	46,412,455.42	4.485E+02	Analog	0.30	3
Ca	44	45	3	92465.004	ppb	0.69	129,839,288.06	4.575E+01	Analog	0.30	3
V	51	45	2	0.011	ppb	77.22	620.04	5.996E-03	Pulse	0.30	3
Cr	52	45	2	0.181	ppb	6.60	1,493.17	1.443E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-9,641.04	-9.320E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,267.40	-3.151E-02	Pulse	0.30	3
Co	59	45	2	0.002	ppb	135.76	38.77	3.727E-04	Pulse	0.30	3
Ni	60	72	2	0.274	ppb	10.92	932.80	1.387E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,261.65	1.971E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,336.25	-1.986E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	1.74	2.496E-05	Pulse	0.75	3
Se	78	72	1	0.023	ppb	110.93	7.78	9.755E-05	Pulse	0.30	3
Mo	95	103	2	0.057	ppb	5.11	257.79	1.454E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-25,322.59	-5.789E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20,494.48	-4.075E-03	Pulse	0.30	3
Sb	121	115	3	0.018	ppb	13.50	826.73	1.643E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-79,358.84	-1.116E-02	Pulse	0.30	3
Tl	205	209	3	0.033	ppb	0.50	3,029.32	8.770E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-120,327.49	-3.484E-02	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-7,867.74	-2.278E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	909,566.56	0.29	80.5	Analog	0.30	3
2	Sc	45	103,484.25	1.87	97.4	Pulse	0.30	3
3	Sc	45	2,838,465.20	1.33	102.1	Analog	0.30	3
1	Ge	72	82,140.89	4.50	90.7	Pulse	0.30	3
2	Ge	72	67,286.52	1.83	92.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,772,888.20	1.18	83.5	Analog	0.30	3
3	Rh	103	4,374,428.41	0.97	88.1	Analog	0.30	3
3	In	115	5,029,766.84	0.59	90.9	Analog	0.30	3
3	Tb	159	7,112,905.17	0.24	90.4	Analog	0.30	3
3	Bi	209	3,454,236.58	0.47	77.2	Analog	0.30	3

Quantitation Report

File Name	A0308110.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:45
Sample Name	ICSAB3,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.854	ppb	0.17	101,028.49	1.134E-01	Pulse	0.30	3
B	11	6	3	220.155	ppb	0.96	983,614.77	1.104E+00	Analog	0.30	3
Na	23	45	2	96624.816	ppb	1.73	111,073,240.57	1.067E+03	Analog	0.30	3
Mg	26	45	2	98514.510	ppb	1.61	9,937,356.66	9.546E+01	Analog	0.30	3
Al	27	45	2	16.534	ppb	9.07	4,647.85	4.468E-02	Pulse	0.30	3
K	39	45	2	108015.406	ppb	0.80	47,513,245.96	4.564E+02	Analog	0.30	3
Ca	44	45	3	94661.224	ppb	0.46	133,115,001.35	4.683E+01	Analog	0.30	3
V	51	45	2	20.885	ppb	0.92	121,069.42	1.163E+00	Pulse	0.30	3
Cr	52	45	2	20.115	ppb	1.22	147,407.39	1.416E+00	Pulse	0.30	3
Mn	55	45	2	18.164	ppb	2.29	74,196.08	7.128E-01	Pulse	0.30	3
Fe	56	45	2	19.297	ppb	2.14	124,521.06	1.196E+00	Pulse	0.30	3
Co	59	45	2	19.176	ppb	1.94	253,230.72	2.433E+00	Pulse	0.30	3
Ni	60	72	2	20.072	ppb	0.44	62,115.69	9.217E-01	Pulse	0.30	3
Cu	63	72	2	18.603	ppb	0.12	175,414.41	2.603E+00	Pulse	0.30	3
Zn	66	72	2	16.454	ppb	1.53	21,738.56	3.226E-01	Pulse	0.30	3
As	75	72	2	20.582	ppb	1.21	16,471.59	2.444E-01	Pulse	0.75	3
Se	78	72	1	20.599	ppb	0.36	7,535.36	8.909E-02	Pulse	0.30	3
Mo	95	103	2	23.735	ppb	1.27	96,355.76	5.468E-02	Pulse	0.30	3
Ag	107	103	3	18.104	ppb	1.49	671,329.07	1.560E-01	Pulse	0.30	3
Cd	111	115	3	17.223	ppb	0.76	146,181.56	2.946E-02	Pulse	0.30	3
Sb	121	115	3	20.649	ppb	0.36	623,771.91	1.257E-01	Pulse	0.30	3
Ba	137	159	3	19.171	ppb	0.85	234,301.29	3.349E-02	Pulse	0.30	3
Tl	205	209	3	22.794	ppb	0.57	1,364,458.66	4.026E-01	Analog	0.30	3
Pb	208	209	3	20.800	ppb	0.35	1,681,579.95	4.962E-01	Analog	0.30	3
U	238	209	3	23.533	ppb	0.54	2,027,074.66	5.981E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	890,820.77	0.61	78.8	Analog	0.30	3
2	Sc	45	104,127.07	2.79	98.1	Pulse	0.30	3
3	Sc	45	2,842,428.15	0.44	102.2	Analog	0.30	3
1	Ge	72	84,576.28	1.59	93.4	Pulse	0.30	3
2	Ge	72	67,392.95	1.34	92.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,762,275.32	1.32	83.0	Analog	0.30	3
3	Rh	103	4,302,549.07	0.18	86.7	Analog	0.30	3
3	In	115	4,961,647.27	0.32	89.7	Analog	0.30	3
3	Tb	159	6,995,997.88	0.04	88.9	Analog	0.30	3
3	Bi	209	3,389,166.44	0.27	75.8	Analog	0.30	3

Quantitation Report

File Name	A0311016.D
File Path	C:\ICPMH\1\DATA\160311A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/11/2016 09:02
Sample Name	N018855-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/11/2016 08:42
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

CONFIRMATION - NOT REPORTED

3/14/2016

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	32.19	60.01	4.057E-05	Pulse	0.30	3
B	11	6	3	2511.418	ppb	0.04	19,192,293.02	1.298E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-5.634E-05	Error	0.30	3
Mg	26	45	2	9299.808	ppb	0.60	1,793,027.21	1.010E+01	Analog	0.30	3
Al	27	45	2	3.425	ppb	9.61	1,598.00	9.009E-03	Pulse	0.30	3
K	39	45	2	24810.623	ppb	0.61	18,661,743.47	1.051E+02	Analog	0.30	3
Ca	44	45	3	83768.746	ppb	0.32	196,548,612.63	4.010E+01	Analog	0.30	3
V	51	45	2	1.031	ppb	2.60	11,494.41	6.475E-02	Pulse	0.30	3
Cr	52	45	2	28.807	ppb	0.27	382,955.12	2.157E+00	Pulse	0.30	3
Mn	55	45	2	28.067	ppb	0.97	202,570.43	1.141E+00	Pulse	0.30	3
Fe	56	45	2	17.993	ppb	1.25	209,549.45	1.180E+00	Pulse	0.30	3
Co	59	45	2	0.039	ppb	10.30	970.23	5.460E-03	Pulse	0.30	3
Ni	60	72	2	0.556	ppb	2.92	2,695.68	3.099E-02	Pulse	0.30	3
Cu	63	72	2	0.130	ppb	8.52	2,780.79	3.194E-02	Pulse	0.30	3
Zn	66	72	2	3.958	ppb	4.28	7,639.91	8.788E-02	Pulse	0.30	3
As	75	72	2	1.742	ppb	2.55	1,808.08	2.077E-02	Pulse	0.75	3
Se	78	72	1	0.131	ppb	27.98	61.12	6.027E-04	Pulse	0.30	3
Mo	95	103	2	70.293	ppb	0.58	360,764.14	1.653E-01	Pulse	0.30	3
Ag	107	103	3	0.170	ppb	54.85	9,086.82	1.907E-03	Pulse	0.30	3
Cd	111	115	3	0.001	ppb	1197.10	24.77	4.920E-06	Pulse	0.30	3
Sb	121	115	3	0.178	ppb	0.46	5,637.90	1.115E-03	Pulse	0.30	3
Ba	137	159	3	15.648	ppb	0.78	175,465.67	2.418E-02	Pulse	0.30	3
Tl	205	209	3	0.241	ppb	2.12	14,805.61	4.555E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-34,721.29	-1.068E-02	Pulse	0.30	3
U	238	209	3	4.872	ppb	0.80	421,287.16	1.296E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,478,896.49	0.11	52.0	Analog	0.30	3
2	Sc	45	177,531.48	1.73	87.4	Pulse	0.30	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	4,901,855.80	0.53	95.4	Analog	0.30	3
1	Ge	72	101,402.72	1.61	64.4	Pulse	0.30	3
2	Ge	72	87,000.27	2.90	69.1	Pulse	0.30	3
2	Rh	103	2,182,223.58	1.80	58.2	Analog	0.30	3
3	Rh	103	4,762,887.78	0.18	58.4	Analog	0.30	3
3	In	115	5,057,870.00	0.25	60.9	Analog	0.30	3
3	Tb	159	7,255,903.23	0.55	59.6	Analog	0.30	3
3	Bi	209	3,250,390.23	0.47	45.1	Analog	0.30	3

Quantitation Report

File Name	A0311017.D
File Path	C:\ICPMH\1\DATA\160311A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/11/2016 09:08
Sample Name	N018855-002A,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/11/2016 08:42
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

CONFIRMATION - NOT REPORTED

3/14/2016

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	26.41	57.78	3.991E-05	Pulse	0.30	3
B	11	6	3	2726.520	ppb	1.04	20,406,800.39	1.409E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-5.708E-05	Error	0.30	3
Mg	26	45	2	7816.099	ppb	0.40	1,487,317.77	8.488E+00	Analog	0.30	3
Al	27	45	2	3.759	ppb	8.27	1,711.87	9.764E-03	Pulse	0.30	3
K	39	45	2	25478.937	ppb	1.04	18,913,501.52	1.079E+02	Analog	0.30	3
Ca	44	45	3	15484.050	ppb	0.20	35,598,024.19	7.415E+00	Analog	0.30	3
V	51	45	2	1.109	ppb	1.41	12,150.44	6.933E-02	Pulse	0.30	3
Cr	52	45	2	35.565	ppb	1.08	466,553.73	2.663E+00	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,650.64	-9.420E-03	Pulse	0.30	3
Fe	56	45	2	7.379	ppb	1.41	86,590.75	4.942E-01	Pulse	0.30	3
Co	59	45	2	0.051	ppb	3.01	1,242.84	7.092E-03	Pulse	0.30	3
Ni	60	72	2	0.720	ppb	4.44	3,395.21	4.006E-02	Pulse	0.30	3
Cu	63	72	2	0.833	ppb	2.42	11,800.69	1.393E-01	Pulse	0.30	3
Zn	66	72	2	2.103	ppb	3.89	4,126.63	4.870E-02	Pulse	0.30	3
As	75	72	2	1.744	ppb	2.09	1,762.33	2.080E-02	Pulse	0.75	3
Se	78	72	1	0.104	ppb	11.33	47.78	4.805E-04	Pulse	0.30	3
Mo	95	103	2	78.692	ppb	1.28	397,838.62	1.851E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-7,224.83	-1.566E-03	Pulse	0.30	3
Cd	111	115	3	0.058	ppb	5.83	543.49	1.102E-04	Pulse	0.30	3
Sb	121	115	3	0.114	ppb	4.48	3,547.19	7.191E-04	Pulse	0.30	3
Ba	137	159	3	7.455	ppb	0.34	81,414.21	1.153E-02	Pulse	0.30	3
Tl	205	209	3	0.258	ppb	1.33	15,628.78	4.865E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-29,421.02	-9.157E-03	Pulse	0.30	3
U	238	209	3	4.075	ppb	0.69	348,281.83	1.084E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,448,673.05	0.64	50.9	Analog	0.30	3
2	Sc	45	175,225.48	1.79	86.3	Pulse	0.30	3
3	Sc	45	4,800,735.86	0.12	93.5	Analog	0.30	3
1	Ge	72	99,498.75	1.59	63.2	Pulse	0.30	3
2	Ge	72	84,727.62	0.72	67.3	Pulse	0.30	3
2	Rh	103	2,149,702.08	0.51	57.3	Analog	0.30	3
3	Rh	103	4,614,952.64	0.30	56.6	Analog	0.30	3
3	In	115	4,932,766.51	0.33	59.4	Analog	0.30	3
3	Tb	159	7,062,159.96	0.42	58.0	Analog	0.30	3
3	Bi	209	3,212,792.56	1.08	44.6	Analog	0.30	3

STANDARDS LOG

MERCURY Stock Standard Log

Stock STD							Exp Date		
Stock Std Code	STD Name	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Manufacturer	Comments	Initials
2MSST-120228B	7500 Series PA Tuning 1	2.5, 5.0, 10, 50 ppm	Agilent	19-64VYY2	10/28/12	11/1/12	12/31/2013		mi
C	7500 Series PA Tuning 2	5, 10 ppm	↓	19-62VYY2	↓	11/1/12	↓		↓
D	Gelmanium	100 ppm	High Purity Stds	1215310	10/25/12	11/6/12	4/15/2014		mi
2MSST-1303014	ICPMS Major Cations	50 ppm	ERA	750412	3/1/13	5/7/13	6/2015		mi
B	ICPMS Trace Metals	10 ppm	↓	740412	↓	5/7/13	10/2014		↓
C	ICPMS IS 1	10 ppm	High Purity Std	1211618	3/1/13	4/26/13	1/14/14		mi
2MSST-1303014A	ICPMS Tuning Solution	10 ppm	ERA	140309	3/21/13	3/29/13	4/2014		mi
↓	ICPMS IS 1	10 ppm	High Purity Std	1301405	↓	5/22/13	3/20/14		↓
2MSST-130603A	ICPMS IS 1	10 ppm	High Purity Std	1301405	6/3/13	8/7/13	5/29/14		WS
2MSST-130910C ~~2MSST-130910A~~ mc 2/14/14	Hg - STD (1°) mercury	1000 ppm	High Purity Std	1316504	9/10/13	9/11/13	3/4/15		mc
2MSST-130910A	ICPMS Trace Metals	10 ppm	ERA	740412	9/10/13	1/7/14	10/2014		HSG
2MSST-130910B	ICPMS Major Cations	50 ppm	↓	750412	9/10/13	↓	6/2015		HSG
2MSST-130913A	ICPMS IS 1	10 ppm	High Purity Std	1301405	9/13/13	↓	9/9/14		HSG
2MSST-131220A	7500 Series PA Tuning 1	Multi concentration of Analytes	Agilent	20-47VYY2	12/20/13	1/2/14	02/28/15		mi
↓ B	7500 Series PA Tuning 2	↓	↓	20-45VYY2	↓	1/2/14	02/28/15		mi
2MSST-140113A	Hg 2° Standard Mercury	1000 ppm	Ultra Scientific	P00139	mc 3/4/14 ~~mi~~ 01/13/14	mc 3/4/14 ~~R~~ 2/10/14	3/31/19		mc
2MSST-1402178	ICPMS IS 1	10 ppm	High Purity Stds	1333708	2/17/14	4/15/14	2/10/15	→ exp: 3/10/15 mi 3/10/14	PLV
2MSST-140317A	Uranium	1000 ppm	High Purity Stds	1326239	3/17/14	3/18/14	9/11/15		mi
2MSST-140404A	Germanium	1000 ppm	High Purity Stds	1309919	4/4/14	4/15/14 ~~9/29/15~~ mi 4/14/14	9/28/15		mi

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Logbool #1

3/10/14 9/12/13 9/28/13 9/29

MERCURY Stock Standard Log

Stock STD							Exp Date		
Stock Std Code	STD Name	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Manufacturer	Comments	Initials
2MSST-140530A	Cerium, 10 ppm	10 ppm	High Purity Stds	1321107	5/30/14	11/4/14	5/23/2015		mi
2MSST-140530B	ICP-MS-Internal Standard 1	10 ppm	↓	1333708	5/30/14	6/13/14	5/23/2015		mi
2MSST-140630A	ICP-MS Major cations	50 ppm	ERA	111013	6/30/14	11/1/14	4/2016	Exp: 11/1/15	mi
2MSST ~~2MSST~~ mi 8/5/14 -140805A	ICP-MS Internal Standard 1	10 ppm	High Purity Stds	1333708	8/5/14	11/4/14	7/29/15		mi
2MSST-141025A	ICP-MS trace metals	10 ppm	ERA	170913	10/25/14	11/1/14	3/2016	Exp: 11/1/15	mi
2MSST-150310A	Mercury	1000 ppm	High Purity Stds	1434315	3/10/15		9/10/16		mi
2MSST-150413A	7500 Series PA tuning 1	multi concentration of analytes	Agilent	21-169XYZ	4/13/15	4/13/15	7/31/16		mi
↓ B	↓ 2	↓	↓	↓	↓	↓	↓		↓
2MSST-150601A	ICP-MS Internal Std 1	10 ppm	High Purity Std	1420416	6/1/15	6/1/15	5/26/16		mi
2MSST-150907A	ICP-MS Internal Std 1	10 ppm	High Purity Std	1420416	9/7/15	9/7/15	9/29/16		mi
↓ B	Germanium	1000 ppm	High Purity Std	1506202	↓	↓	1/7/17		↓
2MSST-151019A	Uranium, 1000 ppm	1000 ppm	High Purity Std	1410530	10/~~20~~ 19/15 mi 10/19/15	10/19/15	4/16/17		mi

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Logbool #1

8/14/09

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
4/6/09	Zinc	MSST090406F	1000ppm	Ultra Scientific	J00510	4/6/9	4/30/09	7/31/15	NS
↓	Silicon	↓ G	10,000ppm	↓	J00332	↓	4/30/09	5/31/15	↓
4/8/09	Potassium	MSST090408A	10,000ppm	High Purity Stds	0902312	4/8/9	4/9/09.	10/2/2010	NS
↓	Sodium	↓ B	↓	↓	0815801	↓	↓	↓	↓
4/10/09	Potassium	MSST090410A	10,000ppm	Ultra Scientific	J01077	4/10/9	4/10/09	12/31/15	NS
4/22/09	Chromium	MSST090422A	1000ppm	Ultra Scientific	J00073	4/22/09	4/30/09	3/31/15	[illegible]
7/13/09	BISMUTH	MSST-090713A	1000ppm	High Purity Stds	0901405	7/13/7	7/16/9	1/10/11	NS
7/20/9	BISMUTH	MSST-090720A	1000ppm	EMD	HC764424A	7/20/9		7/31/10	NS
7/24/9	ALUMINUM	MSST-090724A	10,000ppm	High Purity Stds	0909814	7/24/9	8-13-09	1/20/11	NS
↓	CALCIUM	↓ B	↓	↓	0914001	↓	↓	↓	↓
↓	MAGNESIUM	↓ C	↓	↓	0909104	↓	↓	↓	↓
↓	POTASSIUM	↓ D	↓	↓	0902312	↓	10-20-9	↓	↓
↓	SODIUM	↓ E	↓	↓	0916903	↓	↓	↓	↓
7/28/9	ARSENIC	MSST-090728A	1000ppm	Ultra Scientific	J01103	7/28/9	8-13-9	12/31/15	NS
↓	MANGANESE	↓ B	10,000ppm	↓	J00797	↓	↓	10/31/15	↓
↓	VANADIUM	↓ C	1000ppm	↓	J01242	↓	↓	01/31/16	↓
10/2/9	MANGANESE	MSST-091002A	10,000ppm	High Purity Stds	0911903	10/2/9	10-28-9	3/11/2011	NS
12/28/9	TELLURIUM	MSST-091228A	1000ppm	High Purity Stds	0931525	12/28/9	1/3/10	6/21/2011	NS
↓	TELLURIUM	↓ B	↓	CPI Int'l	09L129	↓	↓	6/21/2011	NS

Advanced Technology Laboratories-Las Vegas
Logbook #1

8 12/8/09

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
1/18/10	Selenium	MSST-100118A	1000 ppm	Ultra Scientific	J00739	1/18/10	1-22-10	9-30-2015	NJ
	Barium	B			J01041			12-31-2015	
	Lead	C			K00652			8-31-16	
	Boron	D	10,000 ppm		J01243		1-25-10	1-31-16	
	Potassium	E			J01077		2-18-10	12-31-15	
	Sodium	F			K00911			10-31-16	
1/21/10	Aluminum	MSST-100121A	10,000 ppm	High Purity Std	0930228	1/21/10	1-22-10	7-14-2011	NJ
	Calcium	B			0927502				
	Magnesium	C			0909104				
	Iron	D			1001301				
	Strontium	E	1000ppm		0926711		1-22-10		
	Tin	F			0930609				
	Potassium	G	10,000ppm		0917022		2-18-10		
	Sodium	H			0911811				
3/18/10	Yttrium	MSST-100318A	1000 ppm	High Purity Std	0915912	3/18/10	4/16/10 ~~3/18/10~~	9-15-2011	NJ
4-22-10	Tin	MSST-100422A	1000 ppm	CPI International	09K050	4-22-10	5-19-10	10-20-11	NJ
	Titanium	B			08J039				
	Strontium	C			10B149				
4-28-10	Antimony	MSST-100428A	1000 ppm	High Purity Std	1009601	4-28-10	5-19-10 ~~10-22-11~~	10-22-11	NJ

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ICP Stock Standard Logbook

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
6/21/13	Magnesium	MSST-130621C	10,000 ppm	High Purity Standards	1301003	6/21/13	7/25/13	12/14/14	WES
7/31/13	Yttrium	MSST-130731A	1000 ppm	High Purity standards	1305206	7/31/13	8/1/13	1/25/15	AM
7/31/13	Scandium	MSST-130731B	1000 ppm	High Purity standards	1231735	7/31/13	8/1/13	1/25/15	AM
9/13/13	Boron 1°	MSST-130913A	5000 ppm	High Purity Standards	1221604	9/13/13	9/16/13	3/9/15	AM
↓	Molybdenum 1°	MSST-130913B	1000 ppm	↓	1222707	9/13/13	9/16/13	↓	↓
↓	Chromium 1°	MSST-130913C	1000 ppm	↓	1230012	9/13/13	9/16/13	↓	↓
↓	Aluminum 1°	MSST-130913D	10000 ppm	↓	1318241	9/13/13	~~9/16/13~~ 9/27/13	↓	↓
9/13/13	Antimony 2°	MSST-130913E	1000 ppm	Ultra Scientific	L012826	9/13/13		12/31/17	MI
11/26/13	Aluminum 2°	MSST-131126A	10000 ppm	Ultra Scientific	M002666B	11/26/13		4/30/17	AM
12/9/13	Yttrium	MSST-131209A	1000 ppm	High Purity Standards	1222829	12/9/13	3/24/14	~~5/27/15~~ 3/24/14 5/27/15	AM
12/9/13	Scandium	MSST-131209B	1000 ppm	High Purity Standards	1309122	12/9/13	3/24/14	~~5/27/15~~ 3/24/14 3/24/14 5/27/15	AM
12/23/13	Calcium 1°	MSST-131223A	10,000 ppm	High Purity Standards	1320711	12/23/13	1/6/14	6/13/15	AM
12/23/13	Magnesium 1°	MSST-131223B	↓	↓	1330907	↓	1/6/14	↓	AM
12/23/13	Manganese 1°	MSST-131223C	↓	↓	1331633	↓	1/6/14	↓	AM
AM 1/10/14 1/10/14	Aluminum 1°	MSST-140110A	10000 ppm	High Purity Standards	1334617	1/10/14	~~7/7/15~~ AM 1/10/14	7/7/15	AM
1/20/14	Nickel 2° AM 1/21/14	MSST-140120A	1000 ppm	~~High Purity Standards~~ Ultra Scientific	M008666	1/20/14		9/30/18	AM
↓	Sodium 2°	MSST-140120B	10000 ppm	AM 1/21/14 ↓	R01257	↓		12/31/20	↓
↓	Beryllium 2°	MSST-140120C	100 ppm	↓	R00202	↓		4/30/20	↓
1/21/14	Strontium 2°	MSST-140121A	1000 ppm	CPI International	14A095	1/21/14	1/21/14	7/16/2015	MI

Advanced Technology Laboratories-Las Vegas
Logbook #1

9/24/13

ICP Stock Standard Logbook

G 3/25/14

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
1/21/14	Tin 2°	MSST-140121B	1000 ppm	CPI International	1340860	1/21/14	1/21/14	7/16/2015	MI
↓	Titanium 2°	MSST-140121C	1000 ppm	CPI International	126230	1/21/14	1/21/14	7/16/2015	MI
2/18/14	Wave Cal Solution	MSST-140218A	1/20/100 ppm	Perkin Elmer Pure	10-133-YPX1	2/18/14		3/30/2015	MI
	Optima Family Multi-Element Standard	B	1/10/50 ppm		10-134YPX1			6/30/2015	
	VIS Wavecal Solution	C	1/10/50 ppm		10-71YPT1			6/30/2015	
	Instrument Calibration Standard 4	D	50/100 ppm		10-117YPY1			6/30/2015	
↓	Solution - Optimal Blank	E	—	Perkin Elmer Pure Plus	1-76KFX1			6/30/2015	↓
4/4/14	Magnesium 2°	MSST-140404A	10,000 ppm	Ultra Scientific	R00244	4/4/14	4/4/14	4/30/2020	MI
STF 5/28/14 4/5/28/14	Bismuth 1000ppm (1°)	MSST-140528A	1000ppm	High Purity Standards	1404513	5/28/14	5/28/14	11/27/2015	STF
5/28/14	Lithium 1000ppm (1°)	MSST-140528B	1000ppm		1231934	5/28/14	5/28/14	11/27/2015	STF
5/30/14	Calcium (Ca) 1°	MSST-140530A	10000 ppm	High Purity Standards	1404943	5/30/14	6/13/14	11/23/15	STF
	Iron (Fe) 1°	B	10000ppm		1324617		6/16/14	11/23/15	STF
	Magnesium (Mg) 1°	C	10,000ppm		1409813		6/13/14	11/23/15	STF
	Strontium (Sr) 1°	D	1000ppm		1401301		6/13/14	11/23/15	STF
6/3/14	Magnesium (Mg) 2°	MSST-140603A	10,000ppm	Ultra Scientific	R00244	6/3/14	STF 6/13/14	4/30/2020	STF
6/11/14	Copper	MSST-140611A	1000 ppm	High Purity Standards	1403501	6/11/14	6/12/14	12-5-15	MC
	Cobalt	B	1000ppm		1303712				
	Barium	C			1323402				
	Silver	D			1401302				

Advanced Technology Laboratories-Las Vegas
Logbook #1

ICP Stock Standard Logbook

Date	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date Stock/Manufact.	Initials
6/11/14	Arsenic	MSST-140611E	1000ppm	High Purity Standards	1312102	6/11/14	6/12/14	12-5/15	MC
	Vanadium	F			1308605			12-5-15	MC
	Antimony	G			1302425				
	Nickel	H			1314925				
	Potassium	J	10,000ppm		1407203		6/16/14		
	Sodium	J			1313419		6/16/14		
	Selenium	K	1,000ppm		~~1315~~ 1307213		6/12/14		
	Lead	L			1315823				
	Beryllium	M			1412111				
	Thallium	N			1325905				
	Titanium	O			1401005				
	Zinc	P			1310535				
	Cadmium	Q			1312903				
	Tin	R			1315803		9/19/14		
	Silicon	S	10,000ppm		1411821		6/12/14		
9/19/14	Tin	MSST-140919A	1000 ppm	High Purity Standards	1414148	9/19/14		3-15-16	MI
1/5/15	Magnesium	MSST-150105A	10000 ppm	High Purity Stds	1409813	1/5/15		6-10-16	MI
	Calcium	B	1000ppm		1422607				
	Aluminum	C	1000 ppm		1422333				

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
1/5/15	Strontium 1°	MSST-150105D	10000 ppm	High Purity Stds	1412501	1/5/15	2/10/15	6/10/16	MET
↓	Scandium	↓ E	m 1/5/15 1000 ppm	↓	1414317	↓	1/30/15	↓	↓
↓	Yttrium	↓ F	↓	↓	1423204	↓	1/30/15	↓	↓
1/12/15	Arsenic 2°	MSST-150112A	1000 ppm	Ultra Scientific	R00893	1/12/15		9/30/2020	MET
↓	Copper 2°	↓ B	↓	↓	BH02515 ~~RM08187~~ m1 1/12/15	↓		6/30/2021	↓
↓	Antimony 2°	↓ C	↓	↓	RM08187	↓		9/30/2021	↓
↓	Chromium 2°	↓ D	↓	↓	BH01345	↓	1/30/15	12/31/2019	↓
↓	Molybdenum 2°	↓ E	↓	↓	RM07695	↓	1/30/15	1/31/2022	↓
↓	Thallium 2°	↓ F	↓	↓	BH02110	↓	1/30/15	7/31/2020	↓
3/9/15	Chromium 1°	MSST-150309A	1000 ppm	High Purity Standards	1320011	3/9/15	3/9/15	9/3/16	MET
↓	Molybdenum 1°	↓ B	↓	↓	1420609	↓	↓	↓	↓
↓	Boron 1°	↓ C	5000	↓	1421703	↓	↓	↓	↓
3/10/15	Mercury 1°	MSST-150310A	1000 ppm	High Purity Standards	14343	3/10/15	4/5/15	9/10/16	[illegible]
5/14/15	Cadmium 2°	MSST-150514A	1000 ppm	Ultra Scientific	CL-2608	5/14/15		8/31/21	[illegible]
5/14/15	Zinc 2°	MSST-150514B	1000 ppm	Ultra Scientific	T00108	5/14/15		2/28/21	[illegible]
5/18/15	Manganese 1°	MSST-150518A	10000 ppm	High Purity Standards	1413613	5/18/15	6/1/15	11/8/16	[illegible]
6/15/15	Barium 2°	MSST-150615A	1000 ppm	Ultra Scientific	CM-2389	6/15/15	6/15/15	6/30/22	MI
↓	Lead 2°	↓ B	↓	↓	CL-4072	↓	↓	11/30/21 ~~10/16/2~~ m1 6/1/15	↓
↓	Silicon 2°	↓ C	10000	↓	CL-2940	↓	↓	8/31/2021	↓

Advanced Technology Laboratories-Las Vegas
Logbook #1

Advanced Technology Laboratories-Las Vegas 3151-3153 W. Post Rd. Las Vegas, NV 89118 Tel: 702-307-2659 Fax 702-307-2691

8/3/2015

ICP Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
6/15/15	tin 2°	MSST-150615D	1000 ppm	CPI	13H086	6/15/15		12/15/16	MI
	Titanium 2°	↓ E	↓	↓	14K176	↓		↓	↓
7/2/15	Aluminum	MSST-150702A	10000 ppm	High Purity Standards	1516016	7/2/15	11/23/15	12/25/16	HSG
	Calcium	↓ B	↓	↓	1511140	↓	↓	↓	↓
	Magnesium	↓ C	↓	↓	1510445	↓	↓	↓	↓
7/17/15	Strontium 2°	MSST-150717A	1000	CPI	15F052	7/17/15	9/10/15	01/14/17	HSG
9/9/15	Selenium 2°	MSST-150909A	1000 ppm	Ultra Scientific	R00180	9/9/15	9/10/15	4/30/20	AA
9/23/15	Scandium primary	MSST-150923A	1000 ppm	High Purity Standards	1506438	9/23/15	9/28/15	3/17/17	AM
9/23/15	Yttrium primary	MSST-150923B	1000 ppm	High Purity Standards	1507112	9/23/15	9/28/15	3/17/17	AM
9/28/15	Lead secondary	MSST-150928A	1000 ppm	Ultra Scientific	CM-3389	9/28/15		7/3/22	AM
10/29/15	Calcium	MSST-151029A	10000 ppm	Ultra Scientific	CM-4634	10/29/15 ~~9/30/22~~	11/2/15	9/30/22	Am
10/29/15	Manganese	MSST-151029B	1000 ppm	Ultra Scientific	CM-2432	10/29/15	10/29/15	6/30/22	Am
10/29/15	Thallium	MSST-151029C	1000	Ultra Scientific	CM-1100	10/29/15		4/30/22	Am
11/10/15	Iron	MSST-151102A	10000 ppm	High Purity Standards	1524703	11/2/15	11/23/15	4/28/17	Am
11/10/15	Strontium	MSST-151102B	1000 ppm	High Purity Standards	1429002	11/2/15	↓	4/28/17	Am
11/10/15	Bismuth	MSST-151102C	1000 ppm	High Purity Standards	1404513	11/2/15	11/23/15	4/28/17	Am
11/10/15	Lithium	MSST-151102D	1000 ppm	High Purity Standards	1516729	11/2/15	↓	↓	
12/11/15	Titanium	MSST-151207A	1000 ppm	High purity standards	1510001	12/7/15	4/5/16	6/1/17	Am
12/11/15	Cadmium	MSST-151207B	1000 ppm	High purity standards	1512903	12/7/15	↓	6/1/17	Am

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
12/11/15	Arsenic	MSST-151207C	1000 ppm	High Purity Standards	1500712	12/7/15	12/15/15	6/1/18	Am
	Cobalt	MSST-151207D	1000 ppm		1425215	12/7/15		6/1/18	
	Zinc	MSST-151207E			1403401			6/1/17	
	Beryllium	MSST-151207F			1412111				
	Nickel	MSST-151207G			1512402				
	Barium	MSST-151207H			1431507				
	Antimony	-151207I			1520412				
	Copper	-151207J			1403501				
	Selenium	151207K			1427632				
	Silver	151207L			~~1527709~~ 1527902 Am 12/8/15				
	Tin	151207M			1516806				
	lead	151207N			1513919				
	Vanadium	151207O			1420604				
	Thallium	151207P			1523215				
	Silicon	151208Q			1528501				
	Potassium	151207R	10000 ppm		1512614				
	Sodium	151207S			1526616				
	Aluminum	151207T			1526032				
	Calcium	151207U			1527523				

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Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
12/11/17	Magnesium	MSST-151207V	10000 ppm	High Purity Standards	1510445	12/7/15	12/15/15	6/1/17	AM

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Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)	
9/7/15	~~2MUS~~ 500 ppb Hg 2°	2MUST-150907B	2MSST-140113A	1000 ppm	0.05ml	1
IM 9/7/15 10/8/15	m1 9/7/15 500 ppb Hg 1°	2MUST-150907A	2MSST-150310A	1000 ppm	0.05ml	
↓	500 ppb Hg 2°	↓ B	2MSST-140113A	1000 ppm	0.05ml	
9/7/15	Mix internal Standard A	2MUST-150907C	2MSST-150907A	10 ppm	500 ml	
	↓	↓	2MSST-150907B	1000 ppm	5 ml	5
	2000 ml A 50 ppb IS	2MUST-150907D	2MUST-150907C	10 ppm	12.5 ml	
	~~LCS~~ 2 IcV/LCS/MS/MSD Solution B	2MUST-150907E	MSST-150917A(Sr)	1000 ppm	10 ml	
	m1 10/8/15		MSST-150615D(Sn)			
			↓ E (Ti) IM 10/8/15			
			MSST-100118D(B)	10,000 ppm		10
	LLCV / LLICV Solution B	2MUST-150907F	MSST-150717A (Sr)	1000 ppm	1 ml	
			MSST-150615D (Sn)			
			↓ E (Ti)			
			MSST-100118D(B)	15000 ppm	5 ml	
m1 10/8/15	200 / ~~2000 ppb~~ ICAV	~~2MUST-150907G~~	2MSST-140630A / 2MSST-141025A	10 / ~~50~~ ppm	10 / ~~20~~ ml	15
	ICAV (Si Sn Ti Sr B)	2MUST-150907G	MSST-140611E (Si)	10000 ppm	10 ml	
			m1 10/8/15 MSST-140910A(Sn)	1000 ppm		
			MSST-140611D (Ti)	↓		
			MSST-150105D(Sr)	1000 ppm	↓	
↓	↓	~~MSST-150907C~~ m1 10/8/15	MSST-150309C(B)	5000 ppm	20 ml	20

	PREPARATION INFORMATION								
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	100 ml	500 ppb	2% HNO3 4% HCl	JT Baker	11532/ 977262	~~10/9/15~~ 11/9/15	3/31/16		MI
	100 ml	500 ppb	2% HNO3 4% HCl	JT Baker	11532/ 977262	11/8/15	9/10/16		MI
	100 ml	500 ppb	2% HNO3 4% HCl	↓	↓	11/8/15	3/31/19		↓
	500 ml	~ 10 ppm				9/7/16	9/7/16		MEI
5	↓	↓				↓	1/7/17		
	2500	50 ppb	1% HNO3 0.5% HCl	Omnitrace	557248/ 54027	9/7/16	9/7/16		
	1000	10/100 ppm	2.5% HNO3		55148	1/31/16	1/14/17		
							12/15/16		
							↓		
10	↓	↓	↓		↓	↓	1/31/16		
	1000 ml	1 ppm	2.5% HNO3		55148	1/31/16	1/14/17 mi 10/8/15 ~~10/8/15~~		
							12/15/16		
							↓		
	↓	50 ppm	↓		↓	↓	1/31/16		
15	500 ml	100/200 ppb	1% HNO3; 0.5% HCl		~~55148/ 54027~~		~~4/2016; 11/1/15~~		
	1000 ml	100 ppm	2.5% HNO3		55148	12/4/15	12/5/15		
		0 ppm					3/15/16		
							12/4/15		
							6/10/16		
20		100 ppm	↓	↓	↓	↓	9/3/16		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
9/7/15	200/2000 ppb ICAL	2MWST-150907H	2MSST-140630A / 2MSST-141025A	50/10 ppm	20/10 ml
			2MWST-150907G	10/100	10
			2MWST-150907C mi 10/8/15	10	2.5
	ICV (10/100 ppb) mi 10/8/15	2MWST-150907I	2MWST-150601D/F	1/10/100 ppm	5 ml
			2MWST-150907E		
			2MWST-150907C	10 ppm	2.5 ml
	LLICV/LLCCV Working Solution	2MWST-150907J	2MWST-150601H	0.1/0.5/1.0/10 ppm	0.5 ml
			2MWST-150907F	1/10 ppm	
			2MWST-150907C	10 ppm	2.5 ml
	ICSA (100 ppm NaKCaMg)	2MWST-150907K	2MWST-150105A/B (CaMg)	10000 ppm	5.0 ml
			2MWST-140611I/J (NaK)		
			2MWST-150907C	10 ppm	2.5 ml
	ICSAB (100 ppm NaKCaMg) + (20/200 ppb target analytes)	2MWST-150907L	2MWST-150105A/B (CaMg)	10000 ppm	5.0 ml
			2MWST-140611I/J (NaK)		
			2MWST-150907C	10 ppm	2.5 ml
			2MSST-141025A		1 ml
			2MWST-150907G ~~2MSST-140630A~~ mi 10/8/15	10/100 ppm ~~50 ppm~~ mi 10/8/15	1 ml
10/19/15	ICV/LCS/MS/MSD Solution D	2MWST-151019A	2MSST-151019A	1000 ppm	1 ml
	LLICV/LLCCV Solution A	2MWST-151019B	2MSST-140611E (As)	1000 ppm	0.10 ml
			mi 10/19/15 M (Be)		0.50 ml

PREPARATION INFORMATION

Final Vol. (ml)	Final Conc. (ug/ml)	Solvent: Solvent	Solvent: Supplier	Solvent: Lot #	Exp Date *: Working STD	Exp Date *: Manufacturer	Comments	Initial
500 ml	200/2000 ppb	1.0% HNO3 0.5% HCl	Omnitrace	55148/54028	11/1/15	4/2016; 11/1/15		MEI
↓	↓	↓	↓	↓	↓	12/5/15		↓
↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
500 ml	10/100 ppb	1% HNO3 0.5% HCl	↓	55148/54028	11/23/15	11/23/15; 12/1/15		↓
↓	↓	↓	↓	↓	↓	1/31/16		↓
↓	50 ppb	↓	↓	↓	↓	~~12~~ 9/7/16		↓
500 ml	0.1/0.5/1.0/10 ppb	↓	↓	↓	11/23/15	ml 10/8/15 11/23/15		↓
↓	1/50 ppb	↓	↓	↓	↓	1/31/16		↓
↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
500 ml	100 ppm	↓	↓	↓	12/5/15	6/10/16		↓
↓	↓	↓	↓	↓	↓	12/5/15		↓
↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
500 ml	100 ppm	↓	↓	↓	11/1/15	6/10/16		↓
↓	~~50~~ ml 10/8/15	↓	↓	↓	↓	12/5/15		↓
↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
↓	20 ppb	↓	↓	↓	↓	11/1/15 ~~12/5/15~~		↓
↓	20/200 ppb	↓	↓	↓	↓	ml 10/8/15 ~~11/1/15~~ 12/5/15		↓
1000 ml	1000 ppb	1% HNO3 0.5% HCl	Omnitrace	55148/54028	4/19/16	4/16/17 ~~12/5/15~~ ml 10/19/15		MEI
1000 mL	0.1 ppm	2.5% HNO3	↓	55148	11/23/15	12/5/15		↓
	0.5 ↓	↓	↓	↓	↓	↓		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

1. Act | 2. InAct

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7457	HYDROCHLORIC
7456	HYDROCHLORIC
7455	HYDROCHLORIC
7454	HYDROCHLORIC
7399	NITRIC ACID
7398	NITRIC ACID
7397	NITRIC ACID
7396	NITRIC ACID
7395	NITRIC ACID
7394	NITRIC ACID
7393	NITRIC ACID
7392	NITRIC ACID
7370	HYDROCHLORIC
7344	SAND
7343	STANNOUS CHL
7342	HEXANES
7302	NITRIC ACID
7301	NITRIC ACID
7300	HYDROGEN PER
7299	SODIUM Chloride
7298	HYDROCHLORIC
7297	HYDROCHLORIC

3647 Records

Bottle #: 7461 Chemical: HYDROCHLORIC ACID ☑ Active

Received:	7/31/2014	Expires:	3/9/2017
Synonyms:	MURIATIC ACID	Status:	Opened
Formula:	HCL	CAS #:	7647-01-0
Location:	Inorganics	Formula Wt:	36.46
8 Vendor:	omnitrace	Lot #:	54028
		Catalog #	HX0607-2
		Conc/Purity:	34-37%
		Amount:	2.5
		Units:	L
		Notes:	

opened: 3/9/2015

Merck Index:

Add to Reagents database

1. Act | 2. InAct

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7856	HEXANES
7855	HEXANES
7854	HEXANES
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7851	ACETONE
7850	ACETONE
7845	DICHLOROMETH
7844	DICHLOROMETH
7843	DICHLOROMETH
7842	DICHLOROMETH
7841	DICHLOROMETH
7840	DICHLOROMETH
7839	DICHLOROMETH
7838	DICHLOROMETH
7837	DICHLOROMETH
7836	DICHLOROMETH
7835	DICHLOROMETH
7834	DICHLOROMETH
7805	NITRIC ACID
7804	NITRIC ACID
7803	HEXANES
7802	HEXANES
7799	SODIUM CHLOR

3647 Records

Bottle #: 7858 Chemical: NITRIC ACID ☑ Active

Received:	9/1/2015	Expires:	9/7/2017
Synonyms:		Status:	New
Formula:	HNO3	CAS #:	7697-37-2
Location:	Inorganics	Formula Wt:	63.01
8 Vendor:	Emd	Lot #:	55148
		Catalog #	NX0407-2
		Conc/Purity:	67-70%
		Amount:	2.5
		Units:	L
		Notes:	

EMD Chemicals Inc.
480 S. Democrat Rd.
Gibbstown,, NJ 08027
TEL: (800) 222-0342
Fax:

Merck Index:

Add to Reagents database

opened: 9/7/2015

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)	
11/23/15	LLICV / LLCCV Selection A	2MWST - 151123C	MSST - 140611HD (Ni) m 11/23/15	1000 ppm	1.0 ml	1
			A (Cu)			
			C (Ba)			
			L (Pb)			
			2MSST - B-1019 A (Cd)		0.5 ml	5
			2MSST - 152518 A (Mn) m 11/23/15	10000 ppm	0.05 ml	
			MSST - 140611 F (V)	1000 ppm	1.0 ml	
			MSST - 151152 A (Fe)	10000 ppm		
			MSST - 140611 P (Zn)	1000 ppm	10 ml	
			MSST - 150105C (Al)	10000 ppm	1.0 ml	10
	ICV (10/100 ppb)	2MWST - 151123D	2MWST - 151123 A/B	1/10/100 ppm	5 ml	
			2MWST - 150907 G			
			2MSST - B-1019 A m 11/23/15	1000 ppm m 11/23/15		
			2MWST - 150907 C	100 ppm	2.5 ml	
	LLICV / LLCCV Working Selection	2MWST - 151123E	2MWST - 151123 C	0.1/0.5/1.0/10/50 ppb	0.5 ml	15
			2MWST - 150907 F			
			2MWST - 150907 C	10 ppm	2.5 ml	
12/5/15	ICAV (Si Sn Ti Sr B)	2MWST - 151207A m 12/5/15	MSST - 151207Q (Si)	1000 ppm	10 ml	
			MSST - 151207N (Sn)	100 ppm m 12/5/15		
			MSST - 151207A (B-Ti) m 12/5/15			20

PREPARATION INFORMATION								
Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
		Solvent	Supplier	Lot #	Working STD	Manufacturer		
1000 ml	1.0 ppm	2.5% HNO3	Omnitrace	55148	12/5/15	12/5/15		MET
	0.5 ppm					4/14/17		
	1.0 ppm							
	2 ppm					4/28/17		
						6/10/16		
500 ml	10/100 ppb	1.0% HNO3; 0.5% HCl	Omnitrace	55146, 57026	12/5/15	12/5/15;		MET
						12/5/15		
						4/14/17		
	50 ppb					9/7/16		
500 ml	0.1, 0.5, 1.0, 10, 50 ppb				12/5/15	12/5/15		
						1/31/16		
	50 ppb					9/7/16		
1000 ml	100 ppm	2.5% HNO3	Omnitrace	55148	6/5/16	6/1/17		MET
	10 ppm					6/1/17		
						6/1/17		

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/8/15	ICAL (Si Sn Ti Sr B)	2MWST-151207A	MSST-151102A (Sr)	1000 ppm	10 mL
12/8/15	↓	↓ 12/8/15	MSST-150307C (B)	5000 ppm	205 uL
	ICV/LCS/MS/MSL Solution A	2MWST-151207B	MSST-151207B (Cd)	1000 ppm	1.0 mL
			C (As)		
			D (Co)		
			E (Zn)		
			F (Be)		
			G (Ni)		
			H (Ba)		
			I (Sb)		
			J (Cu)		
			K (Se)		
			Kp (Tl)		
			M1 12/8/15 MN (Al)		
			M1 12/8/15 O (V)		
			MSST-150307B (Mo)		
			A (Cr)		
			MSST-150518A (Mn)	10000 ppm	
			MSST-151207R (K)		
			S (Na)		

PREPARATION INFORMATION								
Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
		Solvent	Supplier	Lot #	Working STD	Manufacturer		
1 1000 ml	10 ppm	2.5% HNO_3	Omnitrace	55148	6/3/16	4/28/17		DJW
↓	100 ppm	↓	↓	↓	↓	9/3/16		↓
1000 ml	1/10 ppm	2.5% HNO_3	omnitrace	55148	6/3/16	6/1/17		↓
↓	↓	↓	↓	↓	↓	↓		↓
5								
10								
15						↓		
						9/3/16		
						↓		
						11/8/16		
						6/1/17		
20 ↓	↓	↓	↓	↓	↓	↓		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/7/15 m 12/8/15	ICV/LCS/MS/MSD Solution A	2MWST ~~2MSST~~ - 151207B m 12/8/15	MSST - 151207T (Al)	10000 ppm	1.0 ml
			U (Ca)		
			X (Mg)		
			MSST - 151102A (Fe)		
	ICV/LCS/MS/MSD Solution B	2MWST - 151207C m 12/8/15	MSST - 150717A (Sr)	1000 ppm	10 ml
			MSST - 150615D (Sn)		
			E (Ti)		
			MSST - 100118 D (B)	10000 ppm	
			MSST - 150615C (Si)		
	ICV/LCS/MS/MSD Solution C	2MWST - 151207D m 12/8/15	MSST - 151207L (Ag)	1000 ppm	1.0 ml
	ICV/LCS/MS/MSD Solution D	2MWST - 151207E m 12/8/15	2MSST - 151019A (Cu)	1000 ppm	
	LL ICV/LLCCV Solution A	2MWST - 151207F	MSST - 151207C (As)	1000 ppm	0.10 ml
			F (Be)		0.50 ml
			D (Co)		
			K (Se)		
			MSST - 150909B (Mo)		
			L (Ag)		
			B (Cd)		
			I (Sb)		
			P (Tl)		

	PREPARATION INFORMATION								
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	1000 mL	1/10 ppm	2.5% HNO3	Omnitrace	55148	6/5/16	6/1/17		MCJ
							4/22/17		
5	100 mL	1/100 ppm				1/13/16 ~~6/5/16~~ m 12/5/15	1/14/17		
							12/15/16		
							12/15/16 ~~1/31/16~~		
							1/13/16 ~~8/31/21~~ m 12/5/15		
							8/31/21		
10	1000 mL	1 ppm				6/5/16	6/1/17		
						6/5/16	4/14/17		
	100 mL	0.1 ppm				6/5/16	6/1/17		
		0.5 ppm							
15									
							9/3/16		
20									

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)	
12/8/15 ~12/8/15	LLCV / LLCW Solution A	2MWST - 151207~~8~~7F ~12/8/15	MSST - 150307A (Cr)	1000 ppm	1.0 uL	1
			MSST - 151207G (Ni)			
			J (Cu)			
			H (Ba)			
			N (Pb)			5
			2MSST - 151019A (Cu)		0.5	
			MSST - 150518A (Mn)	10000 ppm	0.05	
			MSST - 151207O (V)	1000 ppm	1.0	
			MSST - 151102A (Fe)	10000 ppm	1.0	
			MSST - 151207E (Zn)	1000 ppm	10	10
			MSST - 151207T (Al)	10000 ppm	1.0	
	LLCW / LLCW Solution B	2MWST - 151207~~8~~7G ~12/8/15	MSST - 150717A (Sr)	1000 ppm	1.0 uL	
			MSST - 150615D (Sn)			
			E (Ti)			
			MSST - 100118D (B)	10000 ppm	1.0 mL	15
			MSST - 150615C (Si)			
	ICAL (200/2000 ppb)	2MWST - 151207~~8~~7H ~12/8/15	2MSST - 140623A / 2MSST - 141623A	50/10 ppm	20/10 uL	
			2MWST - 151207~~8~~7A ~12/8/15	10/100 ppm	10 uL	
			2MWST - 150907C	10 ppm	2.5 uL	
	ICV (10/100 ppb)	2MWST - 151207~~8~~7I ~12/8/15	2MWST - 151207~~8~~7B/C/D/E ~12/8/15	1/10/100 ppm	5 uL	20

	PREPARATION INFORMATION									
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	100 ml	1.0 ppm	2.5% HNO_3	Omnitrace	55148	6/5/16	6/1/17		MCT
5									
		0.5 ppm					4/16/17		
							11/3/16		
		1.0 ppm					6/1/17		
		10 ppm					4/28/17		
10							6/1/17		
	100 ml	1 ppm				1/31/16	1/14/17		
							12/15/16		
15		50 ppm					1/31/16		
		1 ppm					8/31/21		
	100 ml	200/2000 ppb	1.0% HNO_3; 0.5% HCl		55143; 174028	3/29/16	4/20/16; 3/20/16		
							6/6/16		
		50 ppb					9/7/16		
20	500 ml	10/100 ppb				1/31/16	6/5/16; 1/31/16		

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/8/15	ICV (10/100 ppb)	2MWST-151207 I	2MSST-150907C	10 ppm	2.5 ml
~12/8/17	LLCV ILLCV Working Solution	2MWST-151207 J ~12/8/15	2MWST-151207 F/G	0.1/0.5/1.0/10/50 ppm	0.5 ml
	↓	↓	2MWST-151207 C ~12/8/15	10 ppm	2.5
	ICSA (100 ppm KNaCaMg)	2MWST-151207 K ~12/8/15	MSST-151207 R/S/T/U/V ~12/8/15	10000 ppm	5.0 ml
	↓	↓	2MWST-150907C	10 ppm	2.5 ml
	ICSAB (100 ppm KNaCaMg)	2MWST-151207 L ~12/8/15	MSST-151207 R/S/U/V	10000 ppm	5.0 ml
	+ 20/200 ppb target analytes	↓	2MSST-141025A	10 ppm	1.0 ml
	↓	↓	2MWST-150907C	10 ppm	2.5 ml
↓	↓	↓	2MWST-151207 A	10/100 ppm	1.0 ml
12/8/15	500 ppb Hg (1°)	2MWST-151208 A	2MSST-150310 A ~12/8/15	1000 ppm	0.05 ml
	500 ppb Hg (2°)	↓ B	2MSST-140113A	↓	↓

PREPARATION INFORMATION								
Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
		Solvent	Supplier	Lot #	Working STD	Manufacturer		
500 ml	50 ppb	1% HNO_3 ; 0.5% HCl	omnitrace	55148 ; 54028	1/31/16	9/7/16		MEJ
500 ml	0.1/0.5/1/10 50 ppb				1/31/16	6/5/16 ; 1/31/16		
↓	50 ppb				↓	9/7/16		
500 ml	100 ppm				6/5/16	6/1/17		
↓	50 ppb				↓	9/7/16		
500 ml	100 ppm				3/20/16 ~~5/5/16~~	6/1/17		
	20/200 ppb				m1 12/5/15	3/20/16		
	50 ppb					9/7/16		
↓	20/200 ppb	↓	↓	↓	↓	6/5/16		↓
100 ml	500 ppb	2% HNO_3 4% HCl	JT Baker	11532/97262	1/8/16	9/10/16		MEJ
↓	↓	↓	↓	↓	1/8/16	3/31/19		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Advanced Technology Laboratories, Inc. 3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

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Logbook #2
ICPMS &Hg WK Std Log

719

ARCADIS

Project: PG&E Topock – GMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018861

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

RAW DATA

PRIVILEGED AND CONFIDENTIAL

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March 09, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018861

RE: PG&E Topock - GMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on February 23, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *09-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.0801
Lab Order: N018861

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N018861-003, N018861-006 and N018861-007 due to matrix interference. Samples were analyzed at lower dilution however retention time criteria was not met indicating possible matrix interference. Samples were reported at dilution that meet the detected peak retention time window.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary on some analytes for all samples due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meet internal standard recovery limit.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum on QC sample N018861-007B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
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ASSET Laboratories

Date: *09-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.0801
Lab Order: N018861
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018861-001A	MW-62-065-Q116	Groundwater	2/23/2016 8:41:00 AM	2/23/2016	3/9/2016
N018861-001B	MW-62-065-Q116	Groundwater	2/23/2016 8:41:00 AM	2/23/2016	3/9/2016
N018861-001C	MW-62-065-Q116	Groundwater	2/23/2016 8:41:00 AM	2/23/2016	3/9/2016
N018861-002A	MW-63-065-Q116	Groundwater	2/23/2016 10:04:00 AM	2/23/2016	3/9/2016
N018861-002B	MW-63-065-Q116	Groundwater	2/23/2016 10:04:00 AM	2/23/2016	3/9/2016
N018861-002C	MW-63-065-Q116	Groundwater	2/23/2016 10:04:00 AM	2/23/2016	3/9/2016
N018861-003A	MW-64BR-Q116	Groundwater	2/22/2016 12:23:00 PM	2/23/2016	3/9/2016
N018861-003B	MW-64BR-Q116	Groundwater	2/22/2016 12:23:00 PM	2/23/2016	3/9/2016
N018861-003C	MW-64BR-Q116	Groundwater	2/22/2016 12:23:00 PM	2/23/2016	3/9/2016
N018861-004A	MW-72-080-Q116	Groundwater	2/23/2016 10:40:00 AM	2/23/2016	3/9/2016
N018861-004B	MW-72-080-Q116	Groundwater	2/23/2016 10:40:00 AM	2/23/2016	3/9/2016
N018861-004C	MW-72-080-Q116	Groundwater	2/23/2016 10:40:00 AM	2/23/2016	3/9/2016
N018861-005A	MW-73-080-Q116	Groundwater	2/23/2016 11:00:00 AM	2/23/2016	3/9/2016
N018861-005B	MW-73-080-Q116	Groundwater	2/23/2016 11:00:00 AM	2/23/2016	3/9/2016
N018861-005C	MW-73-080-Q116	Groundwater	2/23/2016 11:00:00 AM	2/23/2016	3/9/2016
N018861-006A	MW-60BR-245-Q116	Groundwater	2/23/2016 11:35:00 AM	2/23/2016	3/9/2016
N018861-006B	MW-60BR-245-Q116	Groundwater	2/23/2016 11:35:00 AM	2/23/2016	3/9/2016
N018861-006C	MW-60BR-245-Q116	Groundwater	2/23/2016 11:35:00 AM	2/23/2016	3/9/2016
N018861-007A	MW-72BR-200-Q116	Groundwater	2/23/2016 4:01:00 PM	2/23/2016	3/9/2016
N018861-007B	MW-72BR-200-Q116	Groundwater	2/23/2016 4:01:00 PM	2/23/2016	3/9/2016
N018861-007C	MW-72BR-200-Q116	Groundwater	2/23/2016 4:01:00 PM	2/23/2016	3/9/2016
N018861-008A	MW-210A-Q116	Groundwater	2/23/2016 4:10:00 PM	2/23/2016	3/9/2016

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 8:41:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A**	QC Batch: **R106264**			PrepDate			Analyst: **RB**
Hexavalent Chromium	560	1.5	20		µg/L	100	3/4/2016 03:54 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	620	0.43	5.0		µg/L	5	3/7/2016 11:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 10:04:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160226B** QC Batch: **R106238**				PrepDate			Analyst: **RB**
Hexavalent Chromium	1.5	0.015	0.20		µg/L	1	2/26/2016 10:04 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160226A** QC Batch: **56418**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	2.1	0.086	1.0		µg/L	1	2/26/2016 11:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q116
Lab Order:	N018861	**Collection Date:**	2/22/2016 12:23:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A**	QC Batch: **R106264**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.075	1.0		µg/L	5	3/4/2016 06:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160226A**	QC Batch: **56418**			PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	2/26/2016 11:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160229A** QC Batch: **R106239**				PrepDate			Analyst: **RB**
Hexavalent Chromium	120	0.30	4.0		µg/L	20	2/29/2016 12:31 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_160226A** QC Batch: **56418**				PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	110	0.086	1.0		µg/L	1	2/26/2016 11:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 11:00:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A** QC Batch: **R106264**				PrepDate			Analyst: **RB**
Hexavalent Chromium	53	0.15	2.0		µg/L	10	3/4/2016 04:33 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160226A** QC Batch: **56418**				PrepDate		**2/26/2016**	Analyst: **CEI**
Chromium	49	0.086	1.0		µg/L	1	2/26/2016 11:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 11:35:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A**	QC Batch: **R106264**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.075	1.0		µg/L	5	3/4/2016 06:27 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	ND	0.43	5.0		µg/L	5	3/8/2016 12:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 4:01:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A** QC Batch: **R106264**				PrepDate			Analyst: **RB**
Hexavalent Chromium	6.0	0.075	1.0		µg/L	5	3/4/2016 07:05 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_160226A** QC Batch: **56419**				PrepDate	**2/26/2016**		Analyst: **CEI**
Chromium	5.6	0.086	1.0		µg/L	1	2/26/2016 11:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-210A-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 4:10:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A**	QC Batch: **R106264**			PrepDate			Analyst: **RB**
Hexavalent Chromium	ND	0.015	0.20		µg/L	1	3/4/2016 05:49 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R106238** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **PBW** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106238** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **LCSW** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.106	0.20	5.000	0	102	90	110				

Sample ID **N018833-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.078	0.20						0.07580	0	20	

Sample ID **N018833-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.164	0.20	1.000	0.07580	109	90	110				

Sample ID **N018833-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.118	0.20	1.000	0.07580	104	90	110	1.164	4.08	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018833-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0.05400	101	90	110				

Sample ID **N018833-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.106	0.20	1.000	0.09780	101	90	110				

Sample ID **N018833-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.1016	101	90	110				

Sample ID **N018833-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.076	0.20	1.000	0.07000	101	90	110				

Sample ID **N018833-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.132	0.20	1.000	0.08900	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018833-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.110	0.20	1.000	0.09340	102	90	110				

Sample ID **N018833-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0.05850	96.5	90	110				

Sample ID **N018833-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.108	0.20	1.000	0.06560	104	90	110				

Sample ID **N018833-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0.05460	104	90	110				

Sample ID **N018834-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.139	0.20	1.000	0.1067	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018834-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.211	0.20	1.000	0.1764	103	90	110				

Sample ID **N018834-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.193	0.20	1.000	0.1548	104	90	110				

Sample ID **N018834-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.113	0.20	1.000	0.06590	105	90	110				

Sample ID **N018861-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.507	0.20	1.000	1.455	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **LCS-R106239** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **LCSW** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.961	0.20	5.000	0	99.2	90	110				

Sample ID **MB-R106239** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **PBW** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **N018861-004ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	121.956	4.0						123.1	0.906	20	

Sample ID **N018861-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	223.418	4.0	100.0	123.1	100	90	110				

Sample ID **N018861-004AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	225.768	4.0	100.0	123.1	103	90	110	223.4	1.05	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018843-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.121	0.20	1.000	0.08790	103	90	110				

Sample ID **N018843-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.142	0.20	1.000	0.09600	105	90	110				

Sample ID **N018843-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.144	0.20	1.000	0.08670	106	90	110				

Sample ID **N018843-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.121	0.20	1.000	0.04940	107	90	110				

Sample ID **N018843-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.07340	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018843-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.125	0.20	1.000	0.08870	104	90	110				

Sample ID **N018843-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.104	0.20	1.000	0.09380	101	90	110				

Sample ID **N018843-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.149	0.20	1.000	0.06660	108	90	110				

Sample ID **N018843-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.171	0.20	1.000	0.1076	106	90	110				

Sample ID **N018843-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.119	0.20	1.000	0.06820	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N018844-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106239
Client ID:	ZZZZZZ	Batch ID:	R106239	TestNo:	EPA 218.6			Analysis Date:	2/29/2016	SeqNo:	2251837

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.06750	99.5	90	110				

Sample ID	N018844-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106239
Client ID:	ZZZZZZ	Batch ID:	R106239	TestNo:	EPA 218.6			Analysis Date:	2/29/2016	SeqNo:	2251839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.107	0.20	1.000	0.03120	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R106264** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **PBW** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106264** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **LCSW** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.945	0.20	5.000	0	98.9	90	110				

Sample ID **N018918-001BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	676.240	10						667.2	1.34	20	

Sample ID **N018918-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	918.905	10	250.0	667.2	101	90	110				

Sample ID **N018918-001BMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	914.080	10	250.0	667.2	98.7	90	110	918.9	0.526	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018861-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1042.890	20	500.0	555.6	97.5	90	110				

Sample ID **N018861-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	101.584	2.0	50.00	52.96	97.3	90	110				

Sample ID **N018861-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252832**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.069	0.20	1.000	0.06650	100	90	110				

Sample ID **N018861-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.208	1.0	5.000	0	104	90	110				

Sample ID **N018861-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.218	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018861-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	31.353	1.0	25.00	6.007	101	90	110				

Sample ID **N018936-001DMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.724	0.20	5.000	0.7916	98.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56418** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **PBW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56418** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **LCSW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.764	1.0	10.00	0	97.6	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.312	1.0	10.00	0	93.1	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.285	1.0	10.00	0	92.9	75	125	9.312	0.287	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.188	1.0	10.00	0	91.9	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.628	1.0	10.00	0	96.3	85	115				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.902	1.0	10.00	5.576	83.3	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.707	1.0	10.00	5.576	81.3	75	125	13.90	1.41	20	

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.089	1.0	10.00	0	101	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 8:41:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	4.6	0.11	0.25		mg/L	5	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 10:04:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.92	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q116
Lab Order:	N018861	**Collection Date:**	2/22/2016 12:23:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.91	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 11:00:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	4.7	0.11	0.25		mg/L	5	3/4/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 11:35:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160304J**	QC Batch: **R106281**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 4:01:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160304J** QC Batch: **R106281** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	0.10	0.022	0.050		mg/L	1	3/4/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106281** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **PBW** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106281** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **LCSW** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.491	0.050	0.5000	0	98.2	85	115				

Sample ID **N018833-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.524	0.050						0.5156	1.69	20	

Sample ID **N018833-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.023	0.050	0.5000	0.5156	102	75	125				

Sample ID **N018833-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ZZZZZZ** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.037	0.050	0.5000	0.5156	104	75	125	1.023	1.32	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 8:41:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	1.2	0.016	0.10		µg/L	1	3/7/2016 11:35 PM
Manganese	2.5	0.023	0.50		µg/L	1	3/7/2016 11:35 PM
Molybdenum	14	0.15	2.5		µg/L	5	3/7/2016 11:40 PM
Selenium	4.0	0.35	2.5		µg/L	5	3/7/2016 11:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 10:04:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	1.7	0.079	0.50		µg/L	5	3/7/2016 11:52 PM
Manganese	1.4	0.023	0.50		µg/L	1	3/7/2016 11:46 PM
Molybdenum	20	0.15	2.5		µg/L	5	3/7/2016 11:52 PM
Selenium	ND	0.35	2.5		µg/L	5	3/7/2016 11:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q116
Lab Order:	N018861	**Collection Date:**	2/22/2016 12:23:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	4.1	0.079	0.50		µg/L	5	3/8/2016 12:03 AM
Manganese	1000	0.23	5.0		µg/L	10	3/8/2016 12:08 AM
Molybdenum	70	0.15	2.5		µg/L	5	3/8/2016 12:03 AM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 12:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 10:40:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	12	0.079	0.50		µg/L	5	3/8/2016 12:19 AM
Manganese	31	0.023	0.50		µg/L	1	3/8/2016 12:14 AM
Molybdenum	80	0.73	12		µg/L	25	3/8/2016 03:53 PM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 12:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 11:00:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**			PrepDate	**2/26/2016**		Analyst: **CEI**
Arsenic	1.5	0.079	0.50		µg/L	5	3/8/2016 12:41 AM
Manganese	17	0.023	0.50		µg/L	1	3/8/2016 12:25 AM
Molybdenum	25	0.73	12		µg/L	25	3/8/2016 03:59 PM
Selenium	ND	1.7	12		µg/L	25	3/8/2016 03:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 11:35:00 AM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56418**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	6.9	0.079	0.50		µg/L	5	3/8/2016 12:53 AM
Manganese	19	0.11	2.5		µg/L	5	3/8/2016 12:53 AM
Molybdenum	60	0.73	12		µg/L	25	3/8/2016 04:04 PM
Selenium	ND	1.7	12		µg/L	25	3/8/2016 04:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *09-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q116
Lab Order:	N018861	**Collection Date:**	2/23/2016 4:01:00 PM
Project:	PG&E Topock - GMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018861-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160307A**	QC Batch: **56419**				PrepDate	**2/26/2016**	Analyst: **CEI**
Arsenic	16	0.079	0.50		µg/L	5	3/8/2016 01:15 AM
Manganese	24	0.11	2.5		µg/L	5	3/8/2016 01:15 AM
Molybdenum	81	0.73	12		µg/L	25	3/8/2016 01:20 AM
Selenium	ND	0.35	2.5		µg/L	5	3/8/2016 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56418** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.099	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56418** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.337	0.10	10.00	0	93.4	85	115				
Manganese	94.576	0.50	100.0	0	94.6	85	115				
Molybdenum	9.908	0.50	10.00	0	99.1	85	115				
Selenium	8.768	0.50	10.00	0	87.7	85	115				

Sample ID **N018833-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.911	0.10	10.00	2.296	96.2	75	125				
Manganese	96.605	0.50	100.0	0	96.6	75	125				
Molybdenum	16.054	0.50	10.00	5.356	107	75	125				
Selenium	10.729	0.50	10.00	1.654	90.7	75	125				

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.031	0.10	10.00	2.296	97.4	75	125	11.91	0.998	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018833-001B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.874	0.50	100.0	0	89.9	75	125	96.60	7.22	20	
Molybdenum	16.030	0.50	10.00	5.356	107	75	125	16.05	0.148	20	
Selenium	10.633	0.50	10.00	1.654	89.8	75	125	10.73	0.894	20	

Sample ID **N018834-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.020	0.10	10.00	2.271	97.5	75	125				
Manganese	90.157	0.50	100.0	0.6141	89.5	75	125				
Molybdenum	16.307	0.50	10.00	5.329	110	75	125				
Selenium	10.790	0.50	10.00	1.617	91.7	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56419** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **PBW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.231	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56419** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **LCSW** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.181	0.10	10.00	0	91.8	85	115				
Manganese	94.670	0.50	100.0	0	94.7	85	115				
Molybdenum	9.932	0.50	10.00	0	99.3	85	115				
Selenium	8.651	0.50	10.00	0	86.5	85	115				

Sample ID **N018843-010B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2247053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.001	0.10	10.00	2.210	97.9	75	125				
Manganese	90.378	0.50	100.0	0	90.4	75	125				
Molybdenum	16.093	0.50	10.00	5.252	108	75	125				
Selenium	10.696	0.50	10.00	1.585	91.1	75	125				

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.046	0.50	10.00	16.31	97.4	75	125				
Manganese	120.283	2.5	100.0	24.49	95.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.448	2.5	10.00	0	94.5	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.237	0.50	10.00	16.31	99.3	75	125	26.05	0.729	20	
Manganese	120.509	2.5	100.0	24.49	96.0	75	125	120.3	0.187	20	
Selenium	9.553	2.5	10.00	0	95.5	75	125	9.448	1.10	20	

Sample ID **N018861-007B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.797	12	10.00	81.14	76.5	75	125				

Sample ID **N018861-007B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **2/26/2016** RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	87.519	12	10.00	81.14	63.8	75	125	88.80	1.45	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Gary Clift		Phone: 949-727-1400, ext 200	Fax:
Title: SR. Technician	Phone: 916-786-3302 / Fax:		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number 2		
		Regulatory		6. Method of Cooling: ICE		
Global ID:		Specify State:				

Signature: Date: 2-23-16
I hereby authorize ASSET Labs to perform the tests indicated below

Sampled By: Jordan Tenne
I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for
Signature: Date: 2/23/16

Project Name: PG&E Topock - GMP
Project Number: RC000753.0801

Sample Temp: 3.7, 2.8, 5.0°C
Courier: T-7 ASSET
Tracking No.:

Matrix			
Ground	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No. N018861	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH 250 mL poly	Metals Dissolved (6020AFF) As; HNO3 500 mL poly	Metals Dissolved (6020AFF) Cr; HNO3 500 mL poly	Dissolved ICP metals (SW6010B/SW6020A) FF (Mo, Se); HNO3 500 mL poly	Dissolved ICP metals (SW6010B/SW6020A) FF (Mo, Se, Mn); HNO3 500 mL poly	Nitrate/Nitrite (SM4500N03) Nitrate; H2SO4 125 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1		MW-62-065-Q116	2/23/2016	841		X		X	X		X	X	E	3	P	BN	
2		MW-63-065-Q116	2/23/2016	1004		X		X	X		X	X	E	3	P	BN	
3		MW-64BR-Q116	2/22/2016	1223		X		X	X		X	X	E	3	P	BN	
4		MW-72-080-Q116	2/23/2016	1040		X		X	X		X	X	E	3	P	BN	
5		MW-73-080-Q116	2/23/2016	1100		X		X	X		X	X	E	3	P	BN	
6		MW-60BR-245-Q116	2/23/2016	1135		X		X	X		X	X	E	3	P	B	
7		MW-72BR-200-Q116	2/23/2016	1601		X		X	X		X	X	E	3	P	BN	
8		MW-210A-Q116	2/23/2016	1610		X							E	1	P	BN	
9																	
10																	

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
[illegible]	2/23/16 1700	[illegible]	2/23/16 @1700
[illegible]	2/23/16 @1730	[illegible]	2/23/16 @1930

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	2/23/2016	Workorder:	N018861
Rep sample Temp (Deg C):	3.7/2.8/5.0/1.9	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: MBC 3/1/2016

Reviewed By: 03/07/16

ASSET LV Sample Control

From: Marlon B. Cartin <marlon@assetlaboratories.com>
Sent: Friday, February 26, 2016 10:59 AM
To: 'Madsen, Laura'; 'ASSET LV Sample Control'; 'Bush, Dan'; Daniel.Moore@critigen.com
Cc: 'Maurel, Sean'; 'Harmon, Alison'; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com
Subject: RE: N018825; N018833; N018834 COC and Work Order Summary for Samples Received 2/23/2016

Hi Laura,

Done. You will receive a new Work Order sample summary.

Thanks,

Marlon B. Cartin
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421

From: Madsen, Laura [mailto:Laura.Madsen@arcadis.com]
Sent: Friday, February 26, 2016 8:09 AM
To: ASSET LV Sample Control; Bush, Dan; Daniel.Moore@critigen.com
Cc: Maurel, Sean; Harmon, Alison; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; Marlon B. Cartin
Subject: RE: N018825; N018833; N018834 COC and Work Order Summary for Samples Received 2/23/2016

Hi,
The following samples need to be logged in as Topock GMP (not RMP) on SDG N018834

- MW-62-065-Q116
- MW-64BR-Q116
- MW-73-080-Q116
- MW-60BR-245-Q116
- MW-72BR-200-Q116
- MW-210A-Q116

Thanks,
Laura

From: ASSET LV Sample Control [mailto:samplecontrol.lv@assetlaboratories.com]
Sent: Wednesday, February 24, 2016 5:19 PM
To: Bush, Dan <Dan.Bush@arcadis.com>; Daniel.Moore@critigen.com
Cc: Madsen, Laura <Laura.Madsen@arcadis.com>; Maurel, Sean <Sean.Maurel@arcadis.com>; Harmon, Alison <Ali.Harmon@arcadis.com>; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; rsunjara@blainetech.com
Subject: N018825; N018833; N018834 COC and Work Order Summary for Samples Received 2/23/2016

Enclosed are COC and WO Summary for samples received 2/23/2016. If you have any questions, please contact your Project Manager listed below.

Marlon Cartin

3151 W. Post Road
Las Vegas, Nevada
89118
Tel. No.: (702)-307-2659 Ext. 410
Cel. No.: (702)-439-0421
Email: marlon@assetlaboratories.com

Thank you for using ASSET Laboratories.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 | **F:** 702.307.2691
www.assetlaboratories.com

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ASSET Laboratories

WORK ORDER Summary

26-Feb-16

WorkOrder: N018861

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018861-001A	MW-62-065-Q116	2/23/2016 8:41:00 AM	3/8/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-001B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-001C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-002A	MW-63-065-Q116	2/23/2016 10:04:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-002B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-002C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-003A	MW-64BR-Q116	2/22/2016 12:23:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-003B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-003C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-004A	MW-72-080-Q116	2/23/2016 10:40:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-004B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-004C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-005A	MW-73-080-Q116	2/23/2016 11:00:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Feb-16

WorkOrder: N018861

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 2/23/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018861-005B	MW-73-080-Q116	2/23/2016 11:00:00 AM	3/8/2016	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-005C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-006A	MW-60BR-245-Q116	2/23/2016 11:35:00 AM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-006B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-006C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-007A	MW-72BR-200-Q116	2/23/2016 4:01:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-007B			3/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			3/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018861-007C			3/8/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018861-008A	MW-210A-Q116	2/23/2016 4:10:00 PM	3/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018861-009A	FOLDER		3/8/2016		EDD	RWQCB	☐	☐	☐	LAB
			3/8/2016		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: **N018861**

NAME	TEST METHOD
Claire Ignacio	EPA 6020
Ryan Balilu	EPA 218.6, SM 4500-NO3F

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106238
ASSET #: N018861

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

For N018861-002A only.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/8/2016 Date: —

2nd Level Reviewer Nancy 3/8/2016 Date: —

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106239
ASSET #: N018861

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 2/29/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

For N018861-004A run only.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 3/8/2016 Date: —

2nd Level Reviewer Nancy 3/8/2016 Date: —

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106264
ASSET #: N018861

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 3/4/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

For N018861-001A, 003A, 005A to 008A run only.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/8/2016 Date: –

2nd Level Reviewer Nancy 3/8/2016 Date: –

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018861-002A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 1.455* 1

= 1.455

Reporting result in two significant figures,

Cr^{+6}, µg/L = 1.5

ANALYSIS RUN LOG

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	CCV-1	CCV	1	Hexavalent Chromium	02/26/16 3:03 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/26/16 3:14 PM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	02/26/16 3:24 PM	Reported
13	MB-R106238	MBLK	1	Hexavalent Chromium	02/26/16 3:33 PM	Reported
14	LCS-R106238	LCS	1	Hexavalent Chromium	02/26/16 3:43 PM	Reported
15	N018478-019A	SAMP	200	Hexavalent Chromium	02/26/16 3:52 PM	Not Reported
16	N018478-019A	SAMP	100	Hexavalent Chromium	02/26/16 4:02 PM	Not Reported
17	N018833-001A	SAMP	1	Hexavalent Chromium	02/26/16 4:22 PM	Reported
18	N018833-001ADUP	DUP	1	Hexavalent Chromium	02/26/16 4:33 PM	Reported
19	N018833-001AMS	MS	1	Hexavalent Chromium	02/26/16 4:42 PM	Reported
20	N018833-001AMSD	MSD	1	Hexavalent Chromium	02/26/16 4:52 PM	Reported
21	N018833-002A	SAMP	1	Hexavalent Chromium	02/26/16 5:01 PM	Reported
22	N018833-002AMS	MS	1	Hexavalent Chromium	02/26/16 5:11 PM	Reported
23	CCV-2	CCV	1	Hexavalent Chromium	02/26/16 5:20 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	02/26/16 5:29 PM	Reported
25	N018833-003A	SAMP	1	Hexavalent Chromium	02/26/16 5:39 PM	Reported
26	N018833-003AMS	MS	1	Hexavalent Chromium	02/26/16 5:48 PM	Reported
27	N018833-004A	SAMP	1	Hexavalent Chromium	02/26/16 5:58 PM	Reported
28	N018833-004AMS	MS	1	Hexavalent Chromium	02/26/16 6:07 PM	Reported
29	N018833-005A	SAMP	1	Hexavalent Chromium	02/26/16 6:17 PM	Reported
30	N018833-005AMS	MS	1	Hexavalent Chromium	02/26/16 6:26 PM	Reported
31	N018833-006A	SAMP	1	Hexavalent Chromium	02/26/16 6:36 PM	Reported
32	N018833-006AMS	MS	1	Hexavalent Chromium	02/26/16 6:45 PM	Reported
33	N018833-007A	SAMP	1	Hexavalent Chromium	02/26/16 6:55 PM	Reported
34	N018833-007AMS	MS	1	Hexavalent Chromium	02/26/16 7:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	02/26/16 7:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	02/26/16 7:23 PM	Reported
37	N018833-008A	SAMP	1	Hexavalent Chromium	02/26/16 7:32 PM	Reported
38	N018833-008AMS	MS	1	Hexavalent Chromium	02/26/16 7:42 PM	Reported
39	N018833-009A	SAMP	1	Hexavalent Chromium	02/26/16 7:51 PM	Reported
40	N018833-009AMS	MS	1	Hexavalent Chromium	02/26/16 8:01 PM	Reported
41	N018833-010A	SAMP	1	Hexavalent Chromium	02/26/16 8:10 PM	Reported
42	N018833-010AMS	MS	1	Hexavalent Chromium	02/26/16 8:20 PM	Reported

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018834-001A	SAMP	1	Hexavalent Chromium	02/26/16 8:29 PM	Reported
44	N018834-001AMS	MS	1	Hexavalent Chromium	02/26/16 8:39 PM	Reported
45	N018834-002A	SAMP	1	Hexavalent Chromium	02/26/16 8:48 PM	Reported
46	N018834-002AMS	MS	1	Hexavalent Chromium	02/26/16 8:58 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	02/26/16 9:07 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	02/26/16 9:17 PM	Reported
49	N018834-003A	SAMP	1	Hexavalent Chromium	02/26/16 9:26 PM	Reported
50	N018834-003AMS	MS	1	Hexavalent Chromium	02/26/16 9:36 PM	Reported
51	N018834-004A	SAMP	1	Hexavalent Chromium	02/26/16 9:45 PM	Reported
52	N018834-004AMS	MS	1	Hexavalent Chromium	02/26/16 9:54 PM	Reported
53	N018861-002A	SAMP	1	Hexavalent Chromium	02/26/16 10:04 PM	Reported
54	N018861-002AMS	MS	1	Hexavalent Chromium	02/26/16 10:13 PM	Reported
55	N018861-004A	SAMP	1	Hexavalent Chromium	02/26/16 10:23 PM	Not Reported
56	N018861-004AMS	MS	1	Hexavalent Chromium	02/26/16 10:32 PM	Not Reported
57	CCV-5	CCV	1	Hexavalent Chromium	02/26/16 10:42 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	02/26/16 10:51 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160226B**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:20:39**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	CCV-1,CCV,1,	1	1000	Unknown		02/26/2016 15:03	Finished	CCV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	2	1000	Unknown		02/26/2016 15:14	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1	3	1000	Unknown		02/26/2016 15:24	Finished	CCB R160209C
13	MB-H2O,MBLK,1	4	1000	Unknown		02/26/2016 15:33	Finished	MB
14	LCS-H2O,LCS,1	5	1000	Unknown		02/26/2016 15:43	Finished	LCS @ 5ppb, IWST-160202B
15	N018478-019A,SAMP	6	1000	Unknown		02/26/2016 15:52	Finished	SAMP, 0.05 to 10mL
16	N018478-019A,SAMP	7	1000	Unknown		02/26/2016 16:02	Finished	SAMP, 0.1 to 10mL
17	N018833-001A,SAMP	8	1000	Unknown		02/26/2016 16:22	Finished	SAMP, 10mL
18	N018833-001ADUP,D	9	1000	Unknown		02/26/2016 16:33	Finished	DUP, 10mL
19	N018833-001AMS,MS	10	1000	Unknown		02/26/2016 16:42	Finished	MS(1ppb), IWST-160202B, 10r
20	N018833-001AMSD,M	11	1000	Unknown		02/26/2016 16:52	Finished	MSD(1ppb), IWST-160202B, 1
21	N018833-002A,SAMP	12	1000	Unknown		02/26/2016 17:01	Finished	SAMP, 10mL
22	N018833-002AMS,MS	13	1000	Unknown		02/26/2016 17:11	Finished	MS(1ppb), IWST-160202B, 10r
23	CCV-2,CCV,1	14	1000	Unknown		02/26/2016 17:20	Finished	CCV @ 10ppb, IWST 160202A
24	CCB-2,CCB,1	15	1000	Unknown		02/26/2016 17:29	Finished	CCB
25	N018833-003A,SAMP	16	1000	Unknown		02/26/2016 17:39	Finished	SAMP, 10mL
26	N018833-003AMS,MS	17	1000	Unknown		02/26/2016 17:48	Finished	MS(1ppb), IWST-160202B, 10r
27	N018833-004A,SAMP	18	1000	Unknown		02/26/2016 17:58	Finished	SAMP, 10mL
28	N018833-004AMS,MS	19	1000	Unknown		02/26/2016 18:07	Finished	MS(1ppb), IWST-160202B, 10r
29	N018833-005A,SAMP	20	1000	Unknown		02/26/2016 18:17	Finished	SAMP, 10mL
30	N018833-005AMS,MS	21	1000	Unknown		02/26/2016 18:26	Finished	MS(1ppb), IWST-160202B, 10r
31	N018833-006A,SAMP	22	1000	Unknown		02/26/2016 18:36	Finished	SAMP, 10mL
32	N018833-006AMS,MS	23	1000	Unknown		02/26/2016 18:45	Finished	MS(1ppb), IWST-160202B, 10r
33	N018833-007A,SAMP	24	1000	Unknown		02/26/2016 18:55	Finished	SAMP, 10mL
34	N018833-007AMS,MS	25	1000	Unknown		02/26/2016 19:04	Finished	MS(1ppb), IWST-160202B, 10r
35	CCV-3,CCV,1	26	1000	Unknown		02/26/2016 19:14	Finished	CCV @ 5ppb, IWST 160202A
36	CCB-3,CCB,1	27	1000	Unknown		02/26/2016 19:23	Finished	CCB
37	N018833-008A,SAMP	28	1000	Unknown		02/26/2016 19:32	Finished	SAMP, 10mL
38	N018833-008AMS,MS	29	1000	Unknown		02/26/2016 19:42	Finished	MS(1ppb), IWST-160202B, 10r
39	N018833-009A,SAMP	30	1000	Unknown		02/26/2016 19:51	Finished	SAMP, 10mL
40	N018833-009AMS,MS	31	1000	Unknown		02/26/2016 20:01	Finished	MS(1ppb), IWST-160202B, 10r
41	N018833-010A,SAMP	32	1000	Unknown		02/26/2016 20:10	Finished	SAMP, 10mL
42	N018833-010AMS,MS	33	1000	Unknown		02/26/2016 20:20	Finished	MS(1ppb), IWST-160202B, 10r
43	N018834-001A,SAMP	34	1000	Unknown		02/26/2016 20:29	Finished	SAMP, 10mL
44	N018834-001AMS,MS	35	1000	Unknown		02/26/2016 20:39	Finished	MS(1ppb), IWST-160202B, 10r
45	N018834-002A,SAMP	36	1000	Unknown		02/26/2016 20:48	Finished	SAMP, 10mL
46	N018834-002AMS,MS	37	1000	Unknown		02/26/2016 20:58	Finished	MS(1ppb), IWST-160202B, 10r
47	CCV-4,CCV,1	38	1000	Unknown		02/26/2016 21:07	Finished	CCV @ 10ppb, IWST 160202A
48	CCB-4,CCB,1	39	1000	Unknown		02/26/2016 21:17	Finished	CCB
49	N018834-003A,SAMP	40	1000	Unknown		02/26/2016 21:26	Finished	SAMP, 10mL
50	N018834-003AMS,MS	41	1000	Unknown		02/26/2016 21:36	Finished	MS(1ppb), IWST-160202B, 10r
51	N018834-004A,SAMP	42	1000	Unknown		02/26/2016 21:45	Finished	SAMP, 10mL
52	N018834-004AMS,MS	43	1000	Unknown		02/26/2016 21:54	Finished	MS(1ppb), IWST-160202B, 10r
53	N018861-002A,SAMP	44	1000	Unknown		02/26/2016 22:04	Finished	SAMP, 10mL
54	N018861-002AMS,MS	45	1000	Unknown		02/26/2016 22:13	Finished	MS(5ppb), IWST-160202B, 10r
55	N018861-004A,SAMP	46	1000	Unknown		02/26/2016 22:23	Finished	SAMP, 10mL
56	N018861-004AMS,MS	47	1000	Unknown		02/26/2016 22:32	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	48	1000	Unknown		02/26/2016 22:42	Finished	CCV @ 5ppb, IWST 160202A
58	CCB-5,CCB,1	49	1000	Unknown		02/26/2016 22:51	Finished	CCB
59	SHUTDOWN	50	1000	Unknown		02/26/2016 23:01	Finished	BLANK
60	Eluent: R160224A	51	1000	Unknown		n.a.	Finished	Eluent

61	PCR: R160226A	CurrentVial	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/29/16 11:08 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	02/29/16 11:19 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/29/16 11:29 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:38 AM	Not Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:47 AM	Reported
15	LCS-R106239	LCS	1	Hexavalent Chromium	02/29/16 11:57 AM	Reported
16	MB-R106239	MBLK	1	Hexavalent Chromium	02/29/16 12:06 PM	Reported
17	N018861-004A	SAMP	20	Hexavalent Chromium	02/29/16 12:31 PM	Reported
18	N018861-004ADUP	DUP	20	Hexavalent Chromium	02/29/16 12:41 PM	Reported
19	N018861-004AMS	MS	20	Hexavalent Chromium	02/29/16 12:51 PM	Reported
20	N018861-004AMSD	MSD	20	Hexavalent Chromium	02/29/16 1:00 PM	Reported
21	N018843-001A	SAMP	1	Hexavalent Chromium	02/29/16 1:10 PM	Reported
22	N018843-001AMS	MS	1	Hexavalent Chromium	02/29/16 1:19 PM	Reported
23	N018843-002A	SAMP	1	Hexavalent Chromium	02/29/16 1:29 PM	Reported
24	N018843-002AMS	MS	1	Hexavalent Chromium	02/29/16 1:38 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/29/16 1:48 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/29/16 1:57 PM	Reported
27	N018843-003A	SAMP	1	Hexavalent Chromium	02/29/16 2:07 PM	Reported
28	N018843-003AMS	MS	1	Hexavalent Chromium	02/29/16 2:16 PM	Reported
29	N018843-004A	SAMP	1	Hexavalent Chromium	02/29/16 2:26 PM	Reported
30	N018843-004AMS	MS	1	Hexavalent Chromium	02/29/16 2:35 PM	Reported
31	N018843-005A	SAMP	1	Hexavalent Chromium	02/29/16 2:44 PM	Reported
32	N018843-005AMS	MS	1	Hexavalent Chromium	02/29/16 2:54 PM	Reported
33	N018843-006A	SAMP	1	Hexavalent Chromium	02/29/16 3:03 PM	Reported
34	N018843-006AMS	MS	1	Hexavalent Chromium	02/29/16 3:13 PM	Reported
35	N018843-007A	SAMP	1	Hexavalent Chromium	02/29/16 3:22 PM	Reported
36	N018843-007AMS	MS	1	Hexavalent Chromium	02/29/16 3:32 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/29/16 3:41 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/29/16 3:51 PM	Reported
39	N018843-008A	SAMP	1	Hexavalent Chromium	02/29/16 4:00 PM	Reported
40	N018843-008AMS	MS	1	Hexavalent Chromium	02/29/16 4:10 PM	Reported
41	N018843-009A	SAMP	1	Hexavalent Chromium	02/29/16 4:19 PM	Reported
42	N018843-009AMS	MS	1	Hexavalent Chromium	02/29/16 4:29 PM	Reported

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018843-010A	SAMP	1	Hexavalent Chromium	02/29/16 4:38 PM	Reported
44	N018843-010AMS	MS	1	Hexavalent Chromium	02/29/16 4:48 PM	Reported
45	N018844-001A	SAMP	1	Hexavalent Chromium	02/29/16 4:57 PM	Reported
46	N018844-001AMS	MS	1	Hexavalent Chromium	02/29/16 5:06 PM	Reported
47	N018844-005A	SAMP	1	Hexavalent Chromium	02/29/16 5:16 PM	Reported
48	N018844-005AMS	MS	1	Hexavalent Chromium	02/29/16 5:25 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/29/16 5:35 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/29/16 5:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160229A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:47:52**
No. of Injections:	**53**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/29/2016 11:08	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		02/29/2016 11:19	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		02/29/2016 11:29	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		02/29/2016 11:38	Finished	CCB R160209C
14	CCB-1,CCB,1	5	1000	Unknown		02/29/2016 11:47	Finished	CCB R160209C
15	LCS-H2O,LCS,1	6	1000	Unknown		02/29/2016 11:57	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	7	1000	Unknown		02/29/2016 12:06	Finished	MB
17	N018861-004A,SAMP	8	1000	Unknown		02/29/2016 12:31	Finished	SAMP, 0.5 to 10mL
18	N018861-004ADUP,D	9	1000	Unknown		02/29/2016 12:41	Finished	DOP, 0.5 to 10mL
19	N018861-004AMS,MS	10	1000	Unknown		02/29/2016 12:51	Finished	MS(5ppb), IWST-160202B, 10r
20	N018861-004AMSD,M	11	1000	Unknown		02/29/2016 13:00	Finished	MSD(5ppb), IWST-160202B, 1
21	N018843-001A,SAMP	12	1000	Unknown		02/29/2016 13:10	Finished	SAMP, 10mL
22	N018843-001AMS,MS	13	1000	Unknown		02/29/2016 13:19	Finished	MS(1ppb), IWST-160202B, 10r
23	N018843-002A,SAMP	14	1000	Unknown		02/29/2016 13:29	Finished	SAMP, 10mL
24	N018843-002AMS,MS	15	1000	Unknown		02/29/2016 13:38	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/29/2016 13:48	Finished	CCV @ 10ppb, IWST 160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/29/2016 13:57	Finished	CCB
27	N018843-003A,SAMP	18	1000	Unknown		02/29/2016 14:07	Finished	SAMP, 10mL
28	N018843-003AMS,MS	19	1000	Unknown		02/29/2016 14:16	Finished	MS(1ppb), IWST-160202B, 10r
29	N018843-004A,SAMP	20	1000	Unknown		02/29/2016 14:26	Finished	SAMP, 10mL
30	N018843-004AMS,MS	21	1000	Unknown		02/29/2016 14:35	Finished	MS(1ppb), IWST-160202B, 10r
31	N018843-005A,SAMP	22	1000	Unknown		02/29/2016 14:44	Finished	SAMP, 10mL
32	N018843-005AMS,MS	23	1000	Unknown		02/29/2016 14:54	Finished	MS(1ppb), IWST-160202B, 10r
33	N018843-006A,SAMP	24	1000	Unknown		02/29/2016 15:03	Finished	SAMP, 10mL
34	N018843-006AMS,MS	25	1000	Unknown		02/29/2016 15:13	Finished	MS(1ppb), IWST-160202B, 10r
35	N018843-007A,SAMP	26	1000	Unknown		02/29/2016 15:22	Finished	SAMP, 10mL
36	N018843-007AMS,MS	27	1000	Unknown		02/29/2016 15:32	Finished	MS(1ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/29/2016 15:41	Finished	CCV @ 5ppb, IWST 160202A
38	CCB-3,CCB,1	29	1000	Unknown		02/29/2016 15:51	Finished	CCB
39	N018843-008A,SAMP	30	1000	Unknown		02/29/2016 16:00	Finished	SAMP, 10mL
40	N018843-008AMS,MS	31	1000	Unknown		02/29/2016 16:10	Finished	MS(1ppb), IWST-160202B, 10r
41	N018843-009A,SAMP	32	1000	Unknown		02/29/2016 16:19	Finished	SAMP, 10mL
42	N018843-009AMS,MS	33	1000	Unknown		02/29/2016 16:29	Finished	MS(1ppb), IWST-160202B, 10r
43	N018843-010A,SAMP	34	1000	Unknown		02/29/2016 16:38	Finished	SAMP, 10mL
44	N018843-010AMS,MS	35	1000	Unknown		02/29/2016 16:48	Finished	MS(1ppb), IWST-160202B, 10r
45	N018844-001A,SAMP	36	1000	Unknown		02/29/2016 16:57	Finished	SAMP, 10mL
46	N018844-001AMS,MS	37	1000	Unknown		02/29/2016 17:06	Finished	MS(1ppb), IWST-160202B, 10r
47	N018844-005A,SAMP	38	1000	Unknown		02/29/2016 17:16	Finished	SAMP, 10mL
48	N018844-005AMS,MS	39	1000	Unknown		02/29/2016 17:25	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/29/2016 17:35	Finished	CCV @ 10ppb, IWST 160202A
50	CCB-4,CCB,1	41	1000	Unknown		02/29/2016 17:44	Finished	CCB
51	SHUTDOWN	42	1000	Unknown		02/29/2016 17:54	Finished	BLANK
52	Eluent: R160224A	43	1000	Unknown		n.a.	Finished	Eluent
53	PCR: R160226A	44	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	BLANK	BLANK	1	Hexavalent Chromium	03/04/16 12:16 PM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	03/04/16 12:27 PM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/04/16 12:36 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	03/04/16 12:46 PM	Reported
15	MB-R106264	ICAL	1	Hexavalent Chromium	03/04/16 12:55 PM	Reported
16	LCS-R106264	ICAL	1	Hexavalent Chromium	03/04/16 1:05 PM	Reported
17	N018918-001B	SAMP	50	Hexavalent Chromium	03/04/16 1:14 PM	Reported
18	N018918-001BDUP	DUP	50	Hexavalent Chromium	03/04/16 1:24 PM	Reported
19	N018918-001BMS	MS	50	Hexavalent Chromium	03/04/16 1:33 PM	Reported
20	N018918-001BMSD	MSD	50	Hexavalent Chromium	03/04/16 1:43 PM	Reported
21	N018918-002C	SAMP	1	Hexavalent Chromium	03/04/16 1:52 PM	Reported
22	N018918-002CMS	MS	1	Hexavalent Chromium	03/04/16 2:02 PM	Reported
23	N018918-003B	SAMP	1	Hexavalent Chromium	03/04/16 2:11 PM	Not Reported
24	N018918-003BMS	MS	1	Hexavalent Chromium	03/04/16 2:20 PM	Not Reported
25	CCV-2	CCV	1	Hexavalent Chromium	03/04/16 2:30 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	03/04/16 2:39 PM	Reported
27	N018918-003B	SAMP	5	Hexavalent Chromium	03/04/16 2:49 PM	Reported
28	N018918-003BMS	MS	5	Hexavalent Chromium	03/04/16 2:58 PM	Reported
29	N018918-003B	SAMP	10	Hexavalent Chromium	03/04/16 3:26 PM	Not Reported
30	N018918-003BMS	MS	10	Hexavalent Chromium	03/04/16 3:37 PM	Not Reported
31	N018861-001A	SAMP	100	Hexavalent Chromium	03/04/16 3:54 PM	Reported
32	N018861-001AMS	MS	100	Hexavalent Chromium	03/04/16 4:05 PM	Reported
33	N018861-003A	SAMP	1	Hexavalent Chromium	03/04/16 4:14 PM	Not Reported
34	N018861-003AMS	MS	1	Hexavalent Chromium	03/04/16 4:24 PM	Not Reported
35	N018861-005A	SAMP	10	Hexavalent Chromium	03/04/16 4:33 PM	Not Reported
36	N018861-005AMS	MS	10	Hexavalent Chromium	03/04/16 4:43 PM	Not Reported
37	CCV-3	CCV	1	Hexavalent Chromium	03/04/16 4:52 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	03/04/16 5:02 PM	Reported
39	N018861-006A	SAMP	1	Hexavalent Chromium	03/04/16 5:11 PM	Not Reported
40	N018861-006AMS	MS	1	Hexavalent Chromium	03/04/16 5:21 PM	Not Reported
41	N018861-007A	SAMP	1	Hexavalent Chromium	03/04/16 5:30 PM	Not Reported
42	N018861-007AMS	MS	1	Hexavalent Chromium	03/04/16 5:40 PM	Not Reported
43	N018861-008A	SAMP	1	Hexavalent Chromium	03/04/16 5:49 PM	Reported

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
44	N018861-008AMS	MS	1	Hexavalent Chromium	03/04/16 5:59 PM	Reported
45	N018861-003A	SAMP	5	Hexavalent Chromium	03/04/16 6:08 PM	Reported
46	N018861-003AMS	MS	5	Hexavalent Chromium	03/04/16 6:17 PM	Reported
47	N018861-006A	SAMP	5	Hexavalent Chromium	03/04/16 6:27 PM	Reported
48	N018861-006AMS	MS	5	Hexavalent Chromium	03/04/16 6:36 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	03/04/16 6:46 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	03/04/16 6:55 PM	Reported
51	N018861-007A	SAMP	5	Hexavalent Chromium	03/04/16 7:05 PM	Reported
52	N018861-007AMS	MS	5	Hexavalent Chromium	03/04/16 7:14 PM	Reported
53	N018936-002A	SAMP	100	Hexavalent Chromium	03/04/16 7:24 PM	Reported
54	N018936-002AMS	MS	100	Hexavalent Chromium	03/04/16 7:33 PM	Reported
55	N018936-001D	SAMP	1	Hexavalent Chromium	03/04/16 7:43 PM	Reported
56	N018936-001DMS	MS	1	Hexavalent Chromium	03/04/16 7:52 PM	Reported
57	CCV-5	CCV	1	Hexavalent Chromium	03/04/16 8:02 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	03/04/16 8:11 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160304A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Mar/16 17:38:28**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	BLANK	1	1000	Unknown		03/04/2016 12:16	Finished	BLANK
12	CCV-1,CCV,1,	2	1000	Unknown		03/04/2016 12:27	Finished	CCV, IWST-160202A
13	PQL@0.2ppb,CCV2,1	3	1000	Unknown		03/04/2016 12:36	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	4	1000	Unknown		03/04/2016 12:46	Finished	CCB R160219D
15	MB-H20,MBLK,1	5	1000	Unknown		03/04/2016 12:55	Finished	MB
16	LCS-H2O,LCS,1	6	1000	Unknown		03/04/2016 13:05	Finished	LCS @ 5ppb, IWST-160202B
17	N018918-001B,SAMP	7	1000	Unknown		03/04/2016 13:14	Finished	SAMP, 0.2 to 10mL
18	N018918-001BDUP,D	8	1000	Unknown		03/04/2016 13:24	Finished	DUP, 0.2 to 10mL
19	N018918-001BMS,MS	9	1000	Unknown		03/04/2016 13:33	Finished	MS(5ppb), IWST-160202B, 10r
20	N018918-001BMSD,M	10	1000	Unknown		03/04/2016 13:43	Finished	MS(5ppb), IWST-160202B, 10r
21	N018918-002C,SAMP	11	1000	Unknown		03/04/2016 13:52	Finished	SAMP, 10mL
22	N018918-002CMS,MS	12	1000	Unknown		03/04/2016 14:02	Finished	MS(1ppb), IWST-160202B, 10r
23	N018918-003B,SAMP	13	1000	Unknown		03/04/2016 14:11	Finished	SAMP, 10mL
24	N018918-003BMS,MS	14	1000	Unknown		03/04/2016 14:20	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	15	1000	Unknown		03/04/2016 14:30	Finished	CCV 10ppb, IWST-1605202A
26	CCB-2,CCB,1	16	1000	Unknown		03/04/2016 14:39	Finished	CCB
27	N018918-003B,SAMP	17	1000	Unknown		03/04/2016 14:49	Finished	SAMP, 2 to 10mL
28	N018918-003BMS,MS	18	1000	Unknown		03/04/2016 14:58	Finished	MS(1ppb), IWST-160202B, 10r
29	N018918-003B,SAMP	19	1000	Unknown		03/04/2016 15:26	Finished	SAMP, 1 to 10mL
30	N018918-003BMS,MS	20	1000	Unknown		03/04/2016 15:37	Finished	MS(1ppb), IWST-160202B, 10r
31	N018861-001A,SAMP	21	1000	Unknown		03/04/2016 15:54	Finished	SAMP,0.1 to 10mL
32	N018861-001AMS,MS	22	1000	Unknown		03/04/2016 16:05	Finished	MS(5ppb), IWST-160202B, 10r
33	N018861-003A,SAMP	23	1000	Unknown		03/04/2016 16:14	Finished	SAMP, 10mL
34	N018861-003AMS,MS	24	1000	Unknown		03/04/2016 16:24	Finished	MS(1ppb), IWST-160202B, 10r
35	N018861-005A,SAMP	25	1000	Unknown		03/04/2016 16:33	Finished	SAMP, 1 to 10mL
36	N018861-005AMS,MS	26	1000	Unknown		03/04/2016 16:43	Finished	MS(5ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	27	1000	Unknown		03/04/2016 16:52	Finished	CCV 5ppb, IWST-1605202A
38	CCB-3,CCB,1	28	1000	Unknown		03/04/2016 17:02	Finished	CCB
39	N018861-006A,SAMP	29	1000	Unknown		03/04/2016 17:11	Finished	SAMP, 10mL
40	N018861-006AMS,MS	30	1000	Unknown		03/04/2016 17:21	Finished	MS(1ppb), IWST-160202B, 10r
41	N018861-007A,SAMP	31	1000	Unknown		03/04/2016 17:30	Finished	SAMP, 10mL
42	N018861-007AMS,MS	32	1000	Unknown		03/04/2016 17:40	Finished	MS(5ppb), IWST-160202B, 10r
43	N018861-008A,SAMP	33	1000	Unknown		03/04/2016 17:49	Finished	SAMP, 10mL
44	N018861-008AMS,MS	34	1000	Unknown		03/04/2016 17:59	Finished	MS(1ppb), IWST-160202B, 10r
45	N018861-003A,SAMP	35	1000	Unknown		03/04/2016 18:08	Finished	SAMP, 2 to 10mL
46	N018861-003AMS,MS	36	1000	Unknown		03/04/2016 18:17	Finished	MS(1ppb), IWST-160202B, 10r
47	N018861-006A,SAMP	37	1000	Unknown		03/04/2016 18:27	Finished	SAMP, 2 to 10mL
48	N018861-006AMS,MS	38	1000	Unknown		03/04/2016 18:36	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	39	1000	Unknown		03/04/2016 18:46	Finished	CCV 10ppb, IWST-1605202A
50	CCB-4,CCB,1	40	1000	Unknown		03/04/2016 18:55	Finished	CCB
51	N018861-007A,SAMP	41	1000	Unknown		03/04/2016 19:05	Finished	SAMP, 2 to 10mL
52	N018861-007AMS,MS	42	1000	Unknown		03/04/2016 19:14	Finished	MS(5ppb), IWST-160202B, 10r
53	N018936-002A,SAMP	43	1000	Unknown		03/04/2016 19:24	Finished	SAMP, 0.1 to 10mL
54	N018936-002AMS,MS	44	1000	Unknown		03/04/2016 19:33	Finished	MS(5ppb), IWST-160202B, 10r
55	N018936-001D,SAMP	45	1000	Unknown		03/04/2016 19:43	Finished	SAMP, 10mL
56	N018936-001DMS,MS	46	1000	Unknown		03/04/2016 19:52	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	47	1000	Unknown		03/04/2016 20:02	Finished	CCV 5ppb, IWST-1605202A
58	CCB-5,CCB,1	48	1000	Unknown		03/04/2016 20:11	Finished	CCB
59	SHUTDOWN	49	1000	Unknown		03/04/2016 20:20	Finished	BLANK
60	Eluent: R160302B	50	1000	Unknown		n.a.	Finished	Eluent

61	PCR: R160304A	51	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: REB

Reagent ID:
Sulfuric Acid: CIN-151130D
Diphenylcarbazide: CIN-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018833-006A1	9.34	—	—	—	—	R160219D
2)	A2	9.36	—	—	—	—	
3)	A3	9.37	—	—	—	—	
4)	7A1	9.34	—	—	—	—	
5)	A2	9.34	—	—	—	—	
6)	A3	9.34	—	—	—	—	
7)	8A1	9.35	—	—	—	—	
8)	A2	9.34	—	—	—	—	
9)	A3	9.33	—	—	—	—	
10)	9A1	9.38	—	—	—	—	
11)	A2	9.36	—	—	—	—	
12)	A3	9.35	—	—	—	—	
13)	10A1	9.36	—	—	—	—	
14)	A2	9.37	—	—	—	—	
15)	A3	9.36	—	—	—	—	

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: REB

Reagent ID:
Sulfuric Acid: CIN-151130D
Diphenylcarbazide: CIN-151130F
NH4OH + NH4SO4 eluent: R160224A, R160302B
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018834-001A1	9.44	—	—	—	—	R160219D
2)	A2	9.41	—	—	—	—	
3)	A3	9.48	—	—	—	—	
4)	2A1	9.39	—	—	—	—	
5)	A2	9.38	—	—	—	—	
6)	A3	9.39	—	—	—	—	
7)	3A1	9.41	—	—	—	—	
8)	A2	9.38	—	—	—	—	
9)	A3	9.42	—	—	—	—	
10)	4A1	9.42	—	—	—	—	
11)	A2	9.44	—	—	—	—	
12)	A3	9.38	—	—	—	—	
13)	N018861- ~~5A~~ 001A	9.44	—	—	—	—	
14)	~~6A~~ 2A	9.31	—	—	—	—	
15)	~~7A~~ 3A	9.33	—	—	—	—	
	~~8A~~ 4A	9.55	—	—	—	—	

Logbook No. 10

Reb 3/8/2016

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 2/24/16
Time Prepared: 01:00pm
Prepared By: MEB

Reagent ID:
Sulfuric Acid: CIM-151130D
Diphenylcarbazide: CIM-151130F
NH4OH + NH4SO4 eluent: R160202D
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018801-005A	9.43	–	–	–	–	R160219D
2)	6A	9.51	–	–	–	–	
3)	7A	9.55	–	–	–	–	
4)	8A	9.62	–	–	–	–	
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							MEB 2/24/16

Sample Preparation

Date Prepared: 2/25/16
Time Prepared: 11:40 AM
Prepared By: MEB

SLOPE: 97.2%
pH 4 - 4.01
7 - 7.00
10 - 10.04
CS - 6.44

Reagent ID:
Sulfuric Acid: CIM-151130D
Diphenylcarbazide: CIM-151130F
NH4OH + NH4SO4 eluent: R160224A
NH4OH + NH4SO4 buffer: R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N018843-001A1	9.37	–	–	–	–	R160219D
2)	A2	9.35	–	–	–	–	
3)	A3	9.38	–	–	–	–	
4)	2A1	9.42	–	–	–	–	
5)	A2	9.44	–	–	–	–	
6)	A3	9.41	–	–	–	–	
7)	3A1	9.40	–	–	–	–	
8)	A2	9.41	–	–	–	–	
9)	A3	9.39	–	–	–	–	
10)	4A1	9.41	–	–	–	–	
11)	A2	9.41	–	–	–	–	
12)	A3	9.40	–	–	–	–	
13)	5A1	9.42	–	–	–	–	
14)	A2	9.39	–	–	–	–	
15)	A3	9.41	–	–	–	–	

Logbook No. 10

Reb 3/8/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 2/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0546	0.2480	1.1957	2.3389	3.5494	4.7448	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 3/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	1	5	10	15	20	0.2	R^2
Area,mAU*min	0.2490	1.1983	2.3757	3.6209	4.8423	0.0507	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ICV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.125	0.20	5.000	0	103	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ZZZZZZ** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.234	0.20	0.2000	0	117	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCV** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.185	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCV-3	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106238
Client ID:	CCV	Batch ID:	R106238	TestNo:	EPA 218.6			Analysis Date:	2/26/2016	SeqNo:	2251777

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.138	0.20	5.000	0	103	95	105				

Sample ID	CCV-4	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106238
Client ID:	CCV	Batch ID:	R106238	TestNo:	EPA 218.6			Analysis Date:	2/26/2016	SeqNo:	2251789

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.092	0.20	10.00	0	101	95	105				

Sample ID	CCV-5	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106238
Client ID:	CCV	Batch ID:	R106238	TestNo:	EPA 218.6			Analysis Date:	2/26/2016	SeqNo:	2251797

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.175	0.20	5.000	0	104	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ICV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	0.20	5.000	0	100	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.220	0.20	0.2000	0	110	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	100	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ZZZZZZ** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.237	0.20	0.2000	0	118	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCV** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.946	0.20	10.00	0	99.5	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	CCV-3	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106239
Client ID:	CCV	Batch ID:	R106239	TestNo:	EPA 218.6			Analysis Date:	2/29/2016	SeqNo:	2251828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.990	0.20	5.000	0	99.8	95	105				

Sample ID	CCV-4	SampType:	CCV	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	106239
Client ID:	CCV	Batch ID:	R106239	TestNo:	EPA 218.6			Analysis Date:	2/29/2016	SeqNo:	2251840

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.270	0.20	10.00	0	103	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ICV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	0.20	5.000	0	97.0	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.216	0.20	0.2000	0	108	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.979	0.20	5.000	0	99.6	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.236	0.20	0.2000	0	118	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.079	0.20	10.00	0	101	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.028	0.20	10.00	0	100	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.000	0.20	5.000	0	100	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.923	0.20	10.00	0	99.2	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **ICB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106238**
Client ID: **CCB** Batch ID: **R106238** TestNo: **EPA 218.6** Analysis Date: **2/26/2016** SeqNo: **2251798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **ICB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/2/2016** SeqNo: **2251801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.014	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106239**
Client ID: **CCB** Batch ID: **R106239** TestNo: **EPA 218.6** Analysis Date: **2/29/2016** SeqNo: **2251841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ICB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/26/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.040	
CCV-5	5.040	
Average	5.038	
Actual RT Window	4.958 - 5.118	
Applied RT Window	4.838 - 5.238	
MB-R106238	N.A.	N.A.
LCS-R106238	5.048	PASS
N018833-001A	5.048	PASS
N018833-001ADUP	5.023	PASS
N018833-001AMS	5.023	PASS
N018833-001AMSD	5.031	PASS
N018833-002A	5.031	PASS
N018833-002AMS	5.040	PASS
N018833-003A	5.023	PASS
N018833-003AMS	5.040	PASS
N018833-004A	5.040	PASS
N018833-004AMS	5.031	PASS
N018833-005A	5.031	PASS
N018833-005AMS	5.031	PASS
N018833-006A	5.040	PASS
N018833-006AMS	5.040	PASS
N018833-007A	5.023	PASS
N018833-007AMS	5.031	PASS
N018833-008A	5.015	PASS
N018833-008AMS	5.031	PASS
N018833-009A	5.031	PASS
N018833-009AMS	5.031	PASS
N018833-010A	5.023	PASS
N018833-010AMS	5.031	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/26/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.040	
CCV-5	5.040	
Average	5.038	
Actual RT Window	4.958 - 5.118	
Applied RT Window	4.838 - 5.238	
N018834-001A	5.031	PASS
N018834-001AMS	5.031	PASS
N018834-002A	5.056	PASS
N018834-002AMS	5.031	PASS
N018834-003A	5.040	PASS
N018834-003AMS	5.031	PASS
N018834-004A	5.040	PASS
N018834-004AMS	5.031	PASS
N018861-002A	4.923	PASS
N018861-002AMS	4.923	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/29/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.031	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
LCS-R106239	5.040	PASS
MB-R106239	N.A.	N.A.
N018861-004A	5.023	PASS
N018861-004ADUP	5.031	PASS
N018861-004AMS	5.031	PASS
N018861-004AMSD	5.031	PASS
N018843-001A	5.040	PASS
N018843-001AMS	5.031	PASS
N018843-002A	5.040	PASS
N018843-002AMS	5.031	PASS
N018843-003A	5.048	PASS
N018843-003AMS	5.031	PASS
N018843-004A	5.031	PASS
N018843-004AMS	5.031	PASS
N018843-005A	5.023	PASS
N018843-005AMS	5.031	PASS
N018843-006A	5.031	PASS
N018843-006AMS	5.031	PASS
N018843-007A	5.031	PASS
N018843-007AMS	5.031	PASS
N018843-008A	5.031	PASS
N018843-008AMS	5.023	PASS
N018843-009A	5.023	PASS
N018843-009AMS	5.031	PASS
N018843-010A	5.031	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 2/29/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.031	
CCV-4	5.031	
Average	5.036	
Actual RT Window	4.956 - 5.116	
Applied RT Window	4.836 - 5.236	
N018843-010AMS	5.023	PASS
N018844-001A	5.023	PASS
N018844-001AMS	5.023	PASS
N018844-005A	5.023	PASS
N018844-005AMS	5.040	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/4/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
CCV-5	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
MB-R106264	N.A.	N.A.
LCS-R106264	5.040	PASS
N018918-001B	5.040	PASS
N018918-001BDUP	5.040	PASS
N018918-001BMS	5.040	PASS
N018918-001BMSD	5.040	PASS
N018918-002C	4.931	PASS
N018918-002CMS	4.915	PASS
N018918-003B	N.A.	N.A.
N018918-003BMS	N.A.	N.A.
N018918-003B	4.848	PASS
N018918-003BMS	4.840	PASS
N018918-003B	4.948	PASS
N018918-003BMS	4.956	PASS
N018861-001A	5.040	PASS
N018861-001AMS	5.040	PASS
N018861-003A	N.A.	N.A.
N018861-003AMS	4.731	FAIL
N018861-005A	5.031	PASS
N018861-005AMS	5.023	PASS
N018861-006A	N.A.	N.A.
N018861-006AMS	N.A.	N.A.
N018861-007A	4.648	FAIL
N018861-007AMS	4.648	FAIL

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/4/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
CCV-5	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
N018861-008A	5.040	PASS
N018861-008AMS	5.040	PASS
N018861-003A	N.A.	N.A.
N018861-003AMS	5.006	PASS
N018861-006A	N.A.	N.A.
N018861-006AMS	4.990	PASS
N018861-007A	4.990	PASS
N018861-007AMS	4.990	PASS
N018936-002A	5.031	PASS
N018936-002AMS	5.040	PASS
N018936-001D	4.981	PASS
N018936-001DMS	4.973	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

Reb 2/8/2016

INITIAL CALIBRATION

INJECTION LOG: 160202A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	02/02/16 1:31 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/02/16 1:42 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	02/02/16 1:51 PM	Reported
13	MB-H2O	MBLK	1	Hexavalent Chromium	02/02/16 2:01 PM	Reported
14	LCS-H2O	LCS	1	Hexavalent Chromium	02/02/16 2:10 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160202A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Feb/16 16:02:08**
No. of Injections:	**17**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	ICV,ICV,1,	10	1000	Unknown		02/02/2016 13:31	Finished	ICV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		02/02/2016 13:42	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		02/02/2016 13:51	Finished	ICB R160128A
13	MB-H2O,MBLK,1	13	1000	Unknown		02/02/2016 14:01	Finished	MB
14	LCS-H2O,LCS,1	14	1000	Unknown		02/02/2016 14:10	Finished	LCS @ 5ppb, IWST-160202B
15	SHUTDOWN	21	1000	Unknown		02/02/2016 15:19	Finished	BLANK
16	Eluent: R160201B	22	1000	Unknown		n.a.	Finished	Eluent
17	PCR: R160201C	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

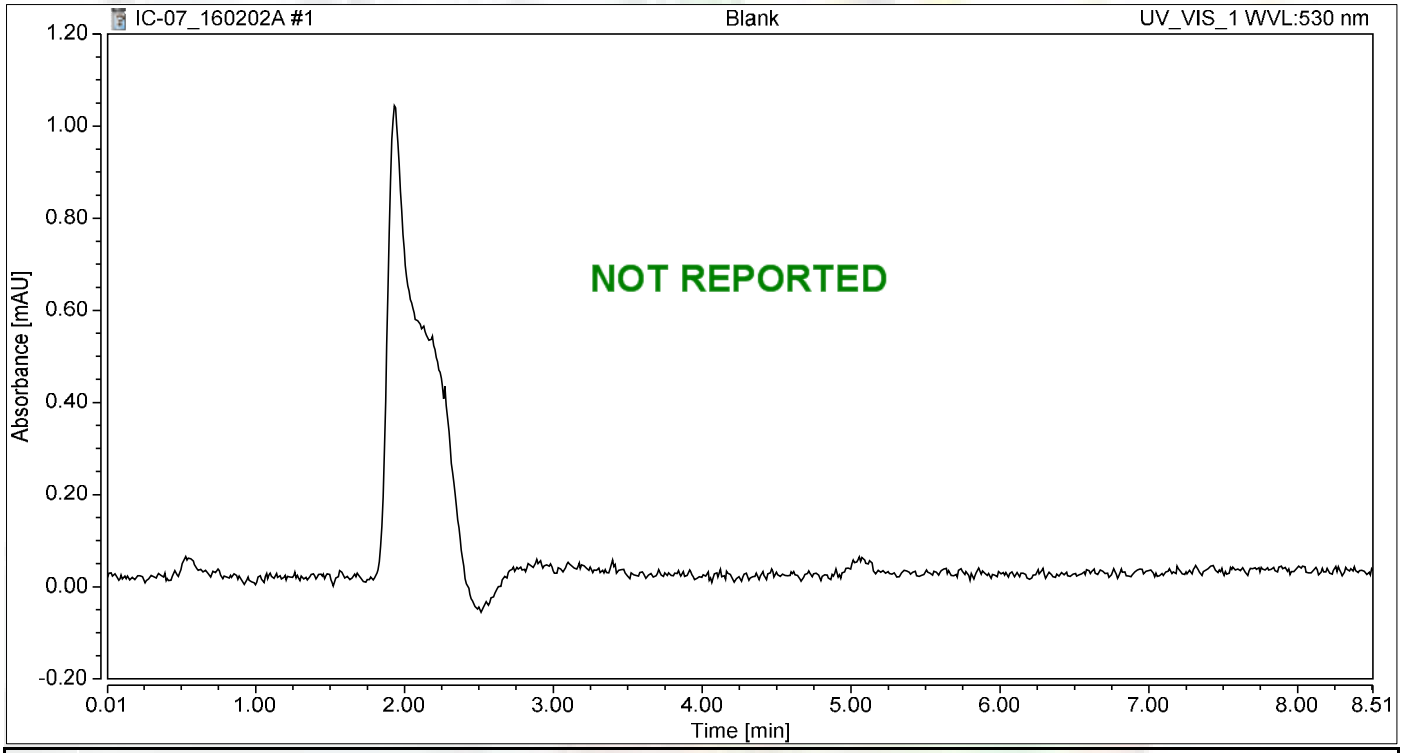
Nancy 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

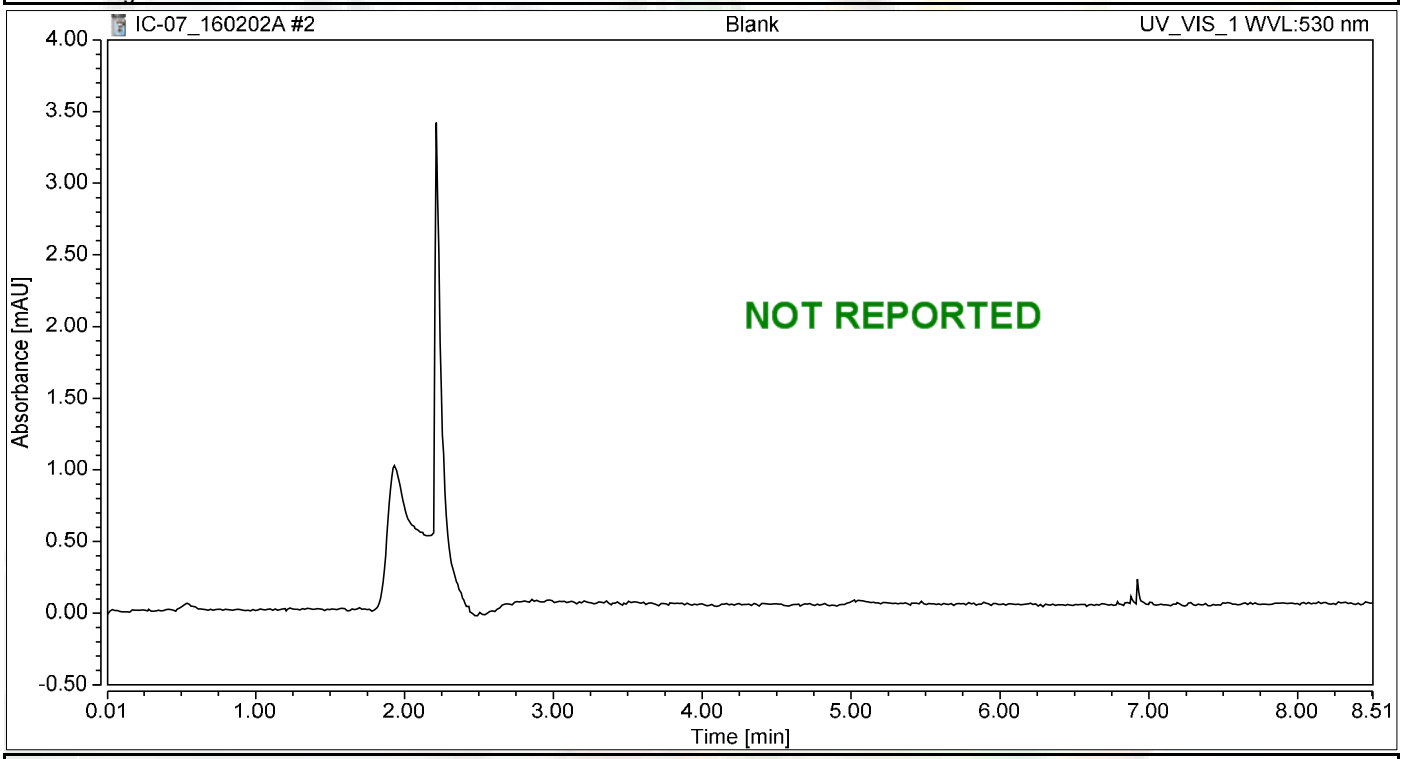
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

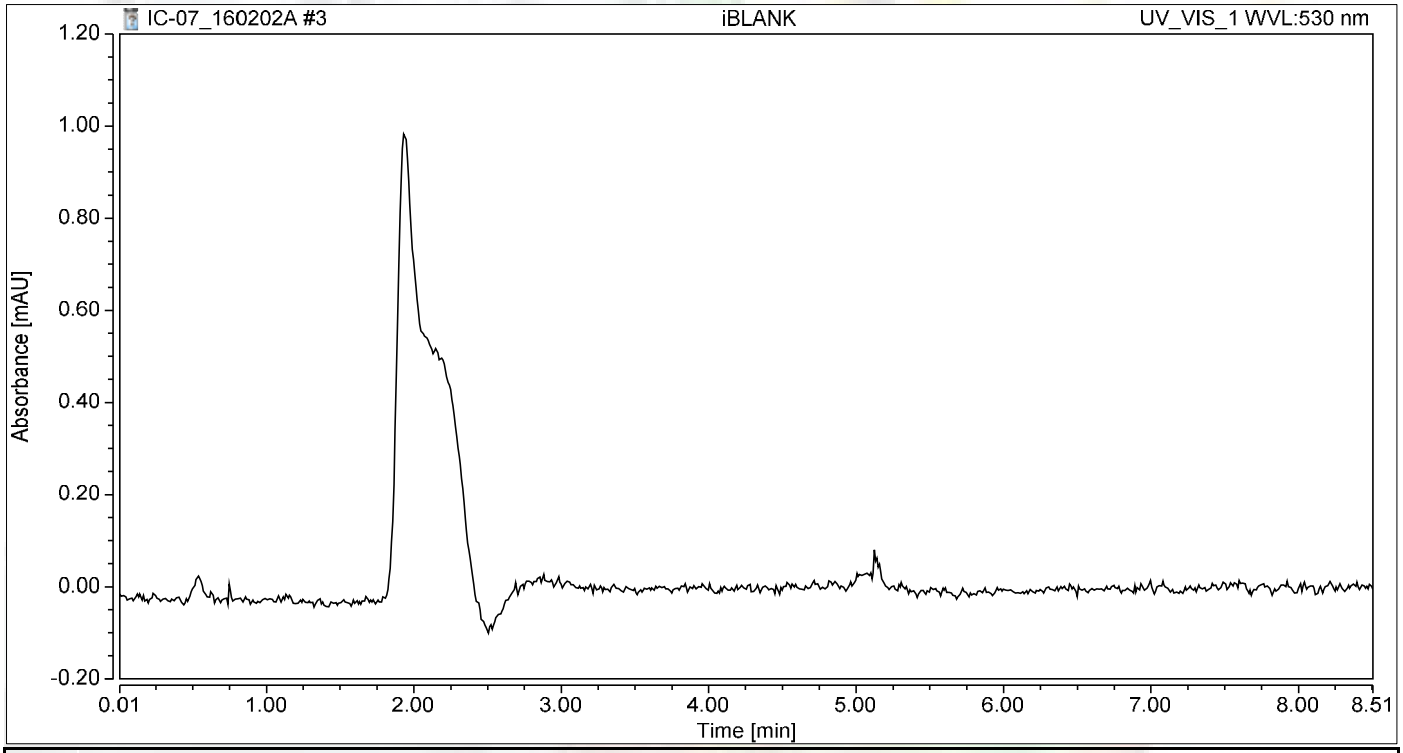
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

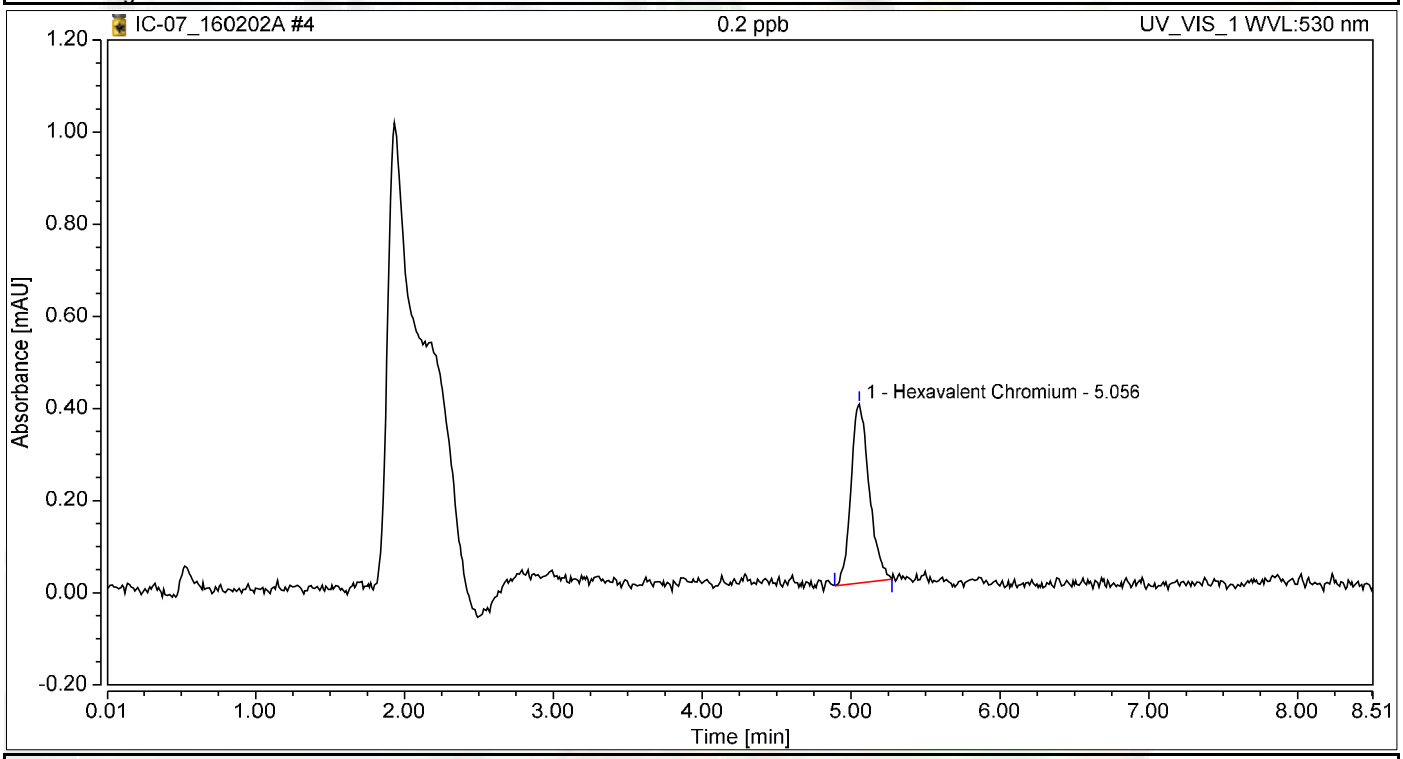
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

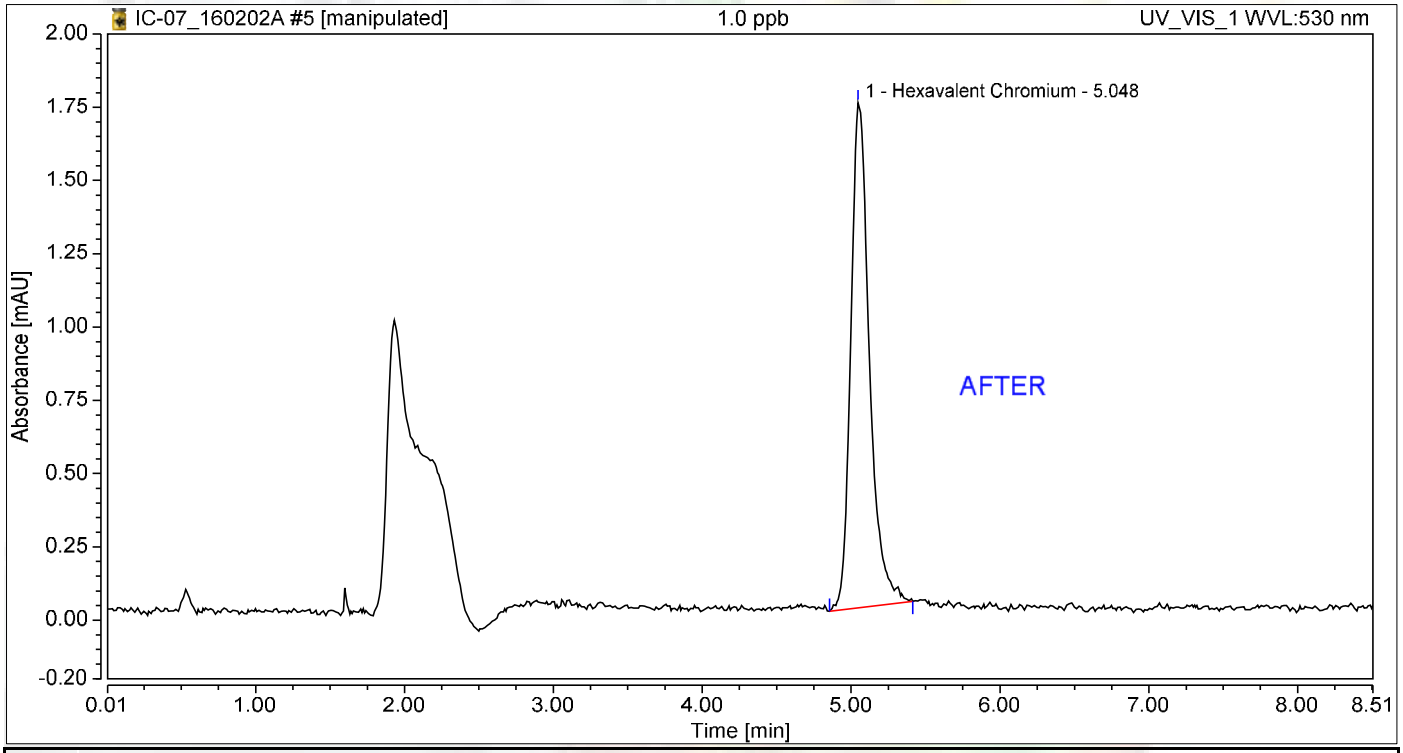
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.055	0.389	100.00	100.00	0.2305
Total:			**0.055**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.248	1.723	100.00	100.00	1.0477
Total:			**0.248**	**1.723**	**100.00**	**100.00**	

Nancy 2/8/2016

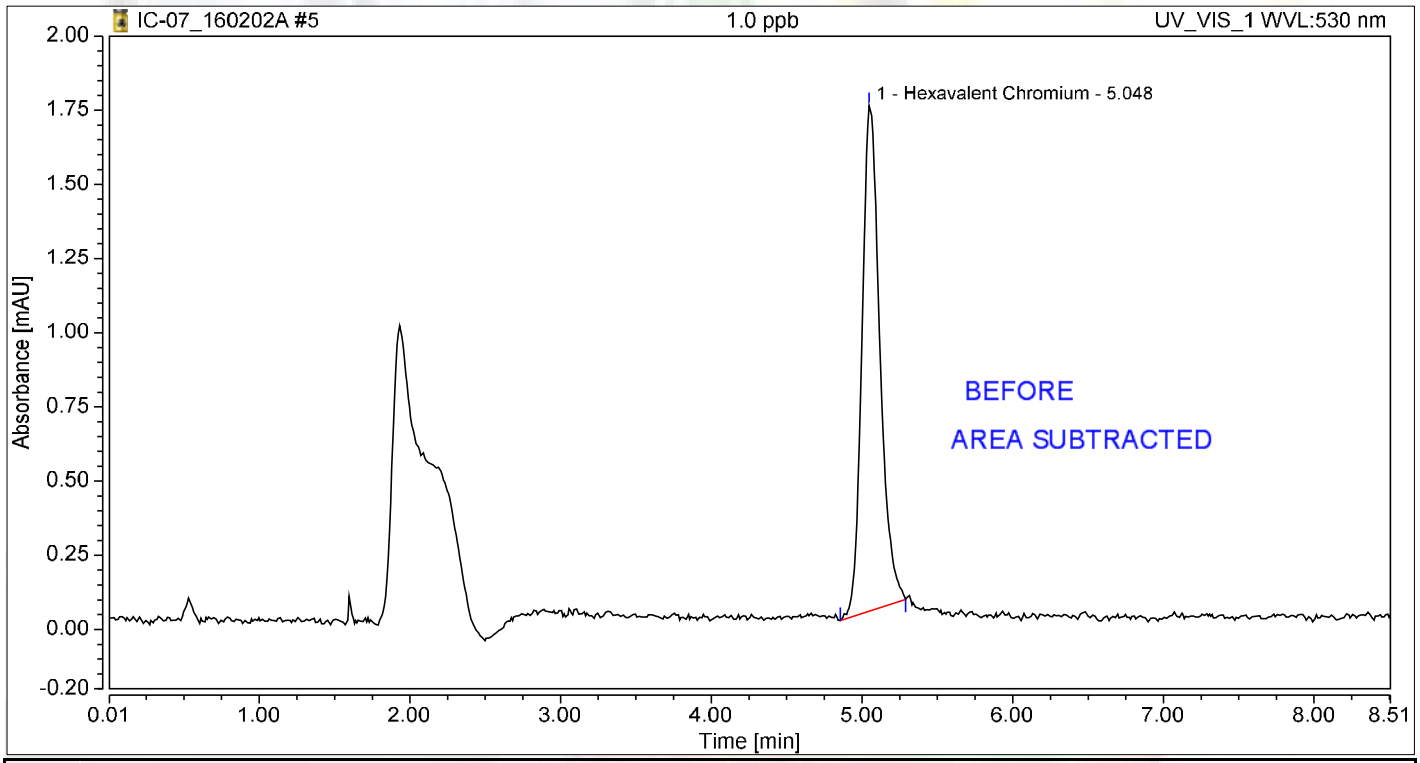
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.235	1.704	100.00	100.00	0.9945
Total:			**0.235**	**1.704**	**100.00**	**100.00**	

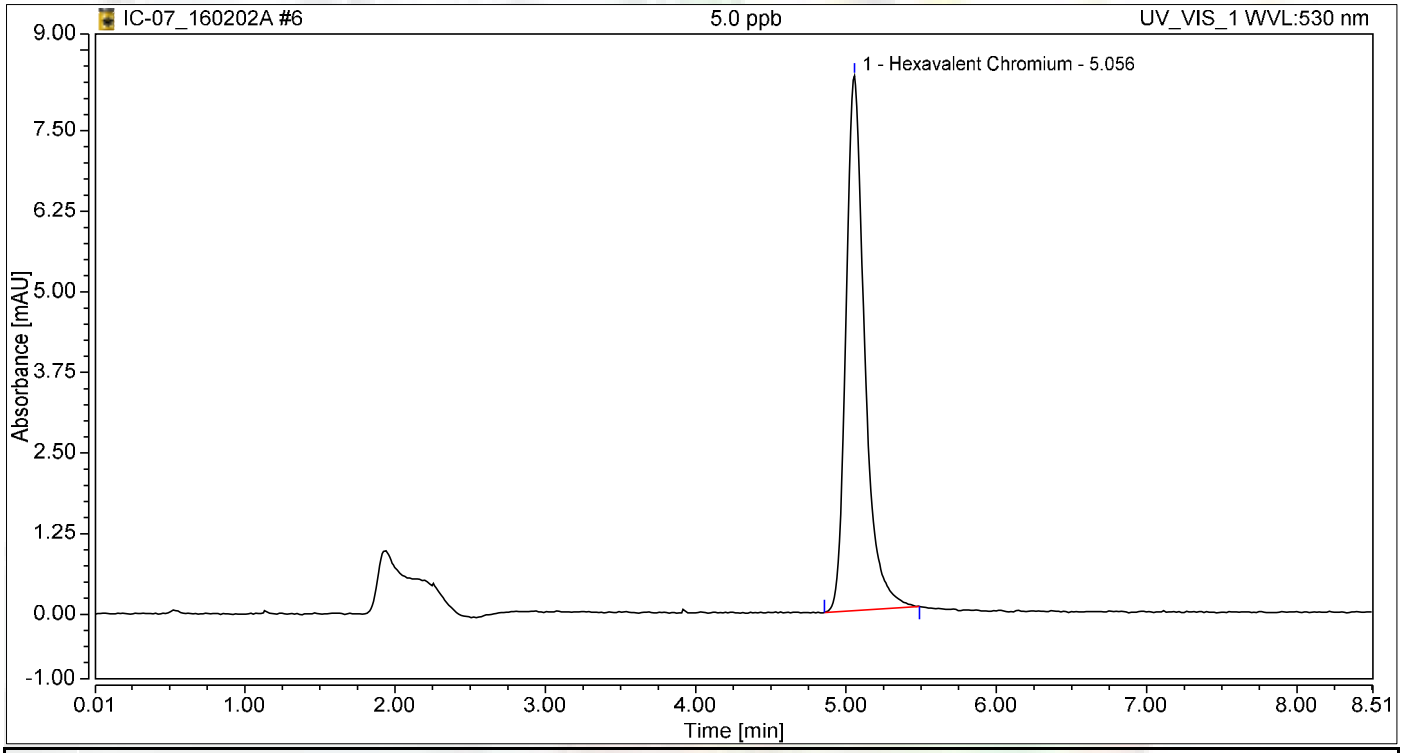
Reb 2/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

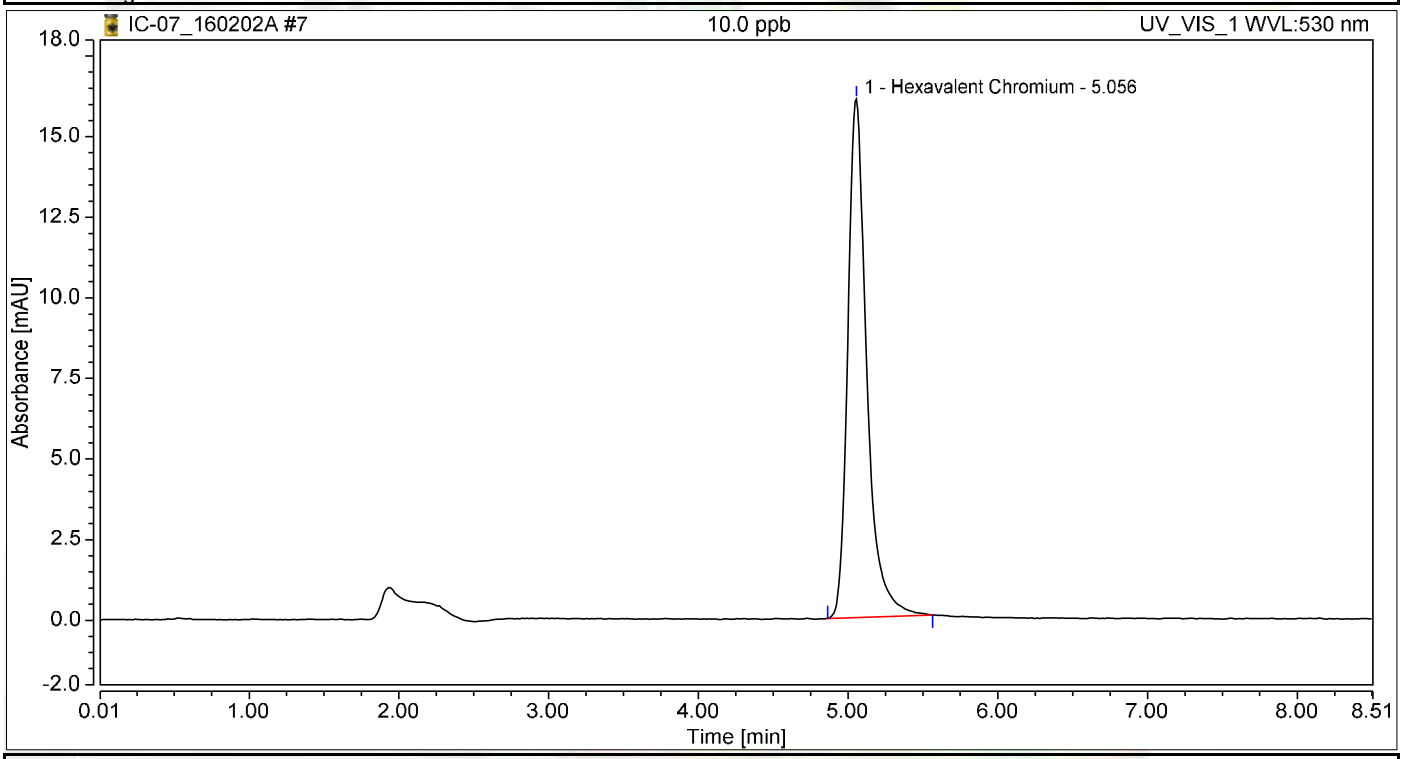
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.196	8.293	100.00	100.00	5.0518
Total:			**1.196**	**8.293**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 12:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

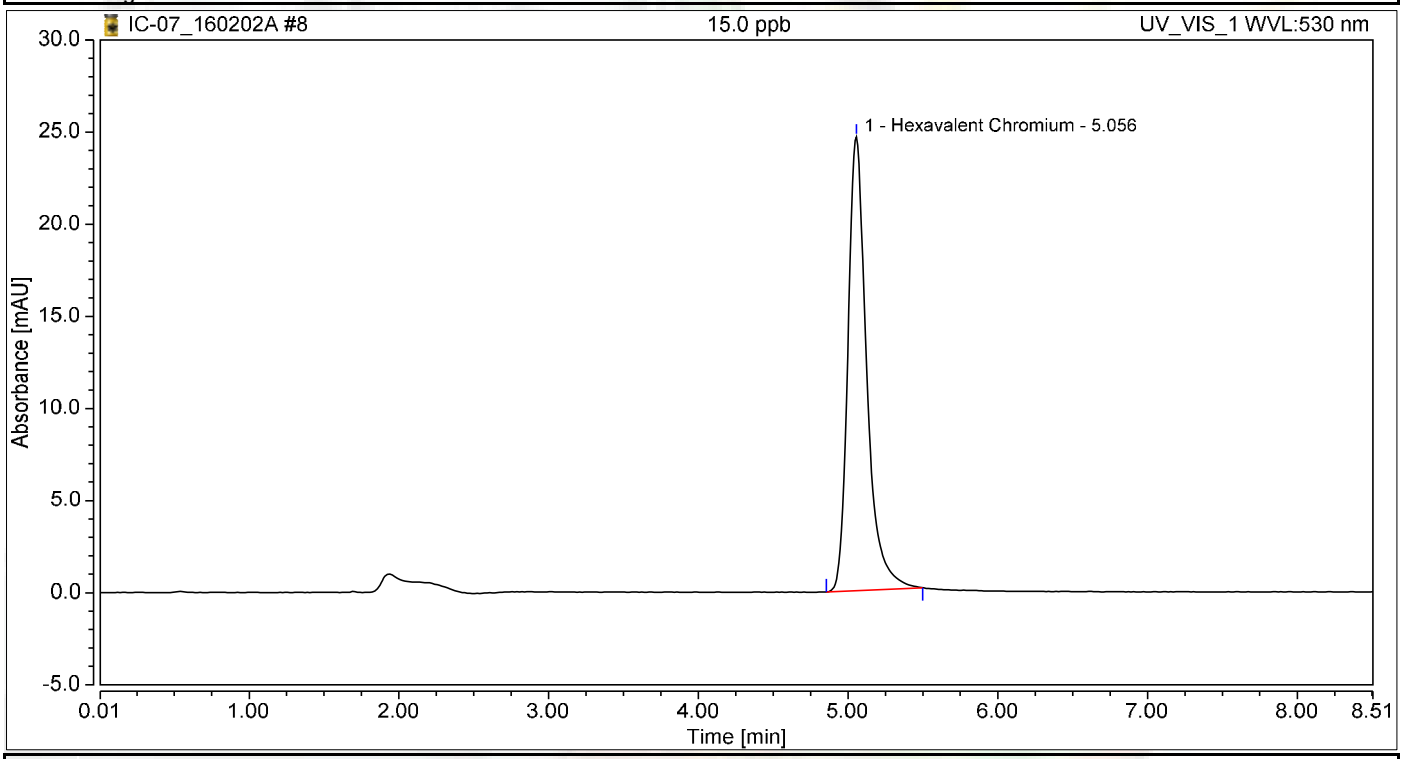
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	2.339	16.085	100.00	100.00	9.8818
Total:			**2.339**	**16.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

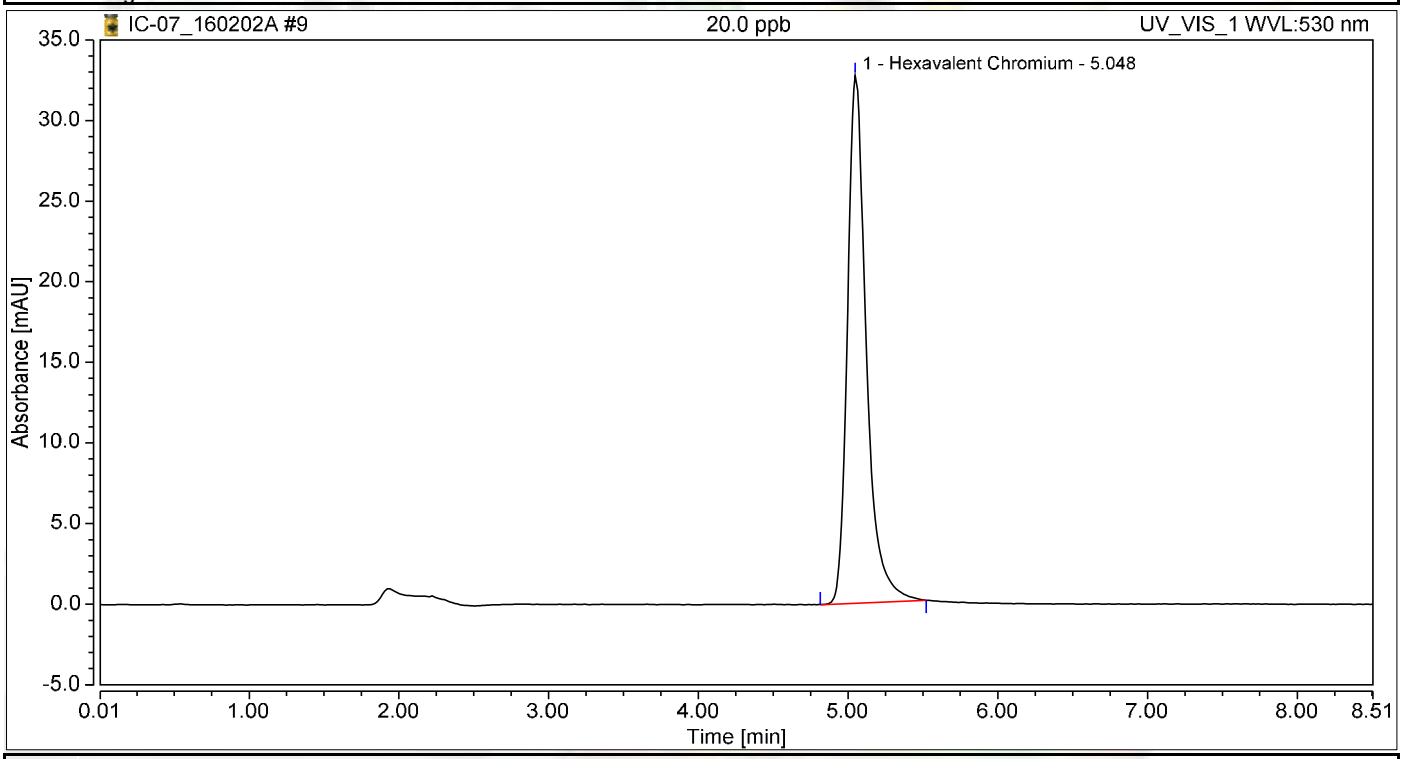
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.549	24.617	100.00	100.00	14.9960
Total:			**3.549**	**24.617**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



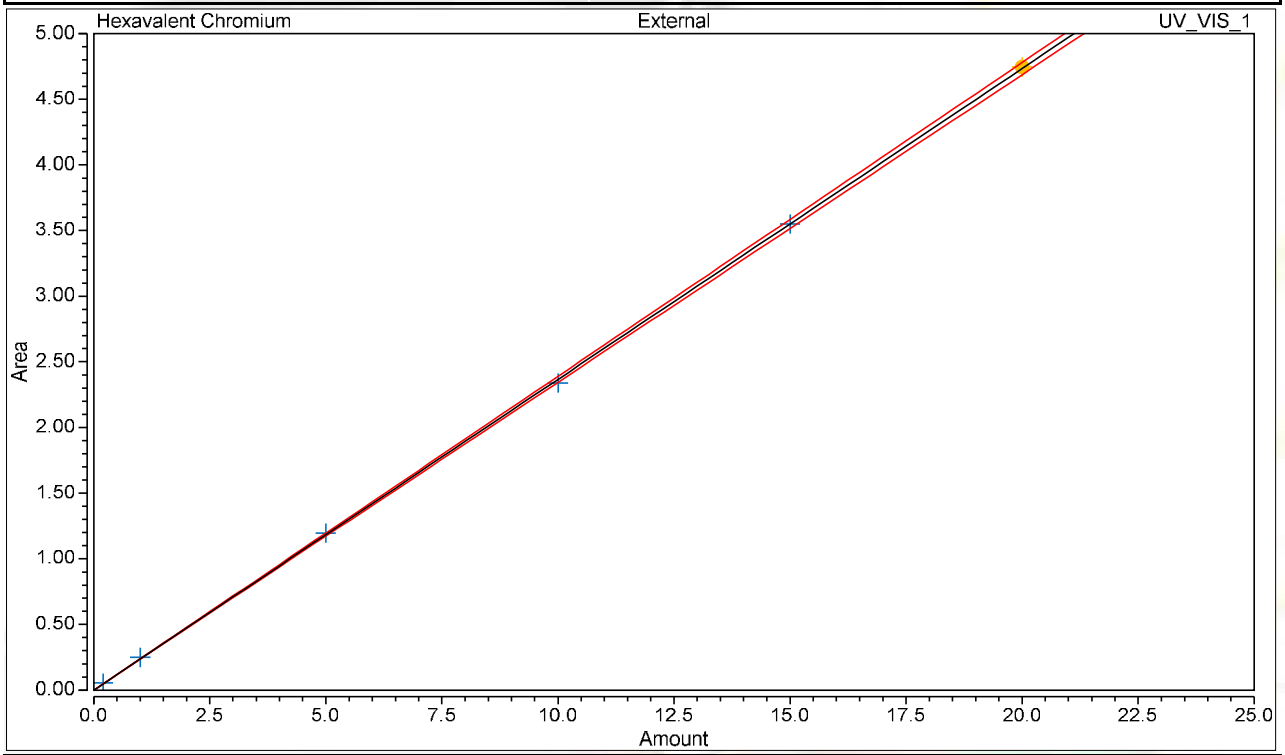
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	4.745	32.729	100.00	100.00	20.0465
Total:			**4.745**	**32.729**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2367
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99993

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

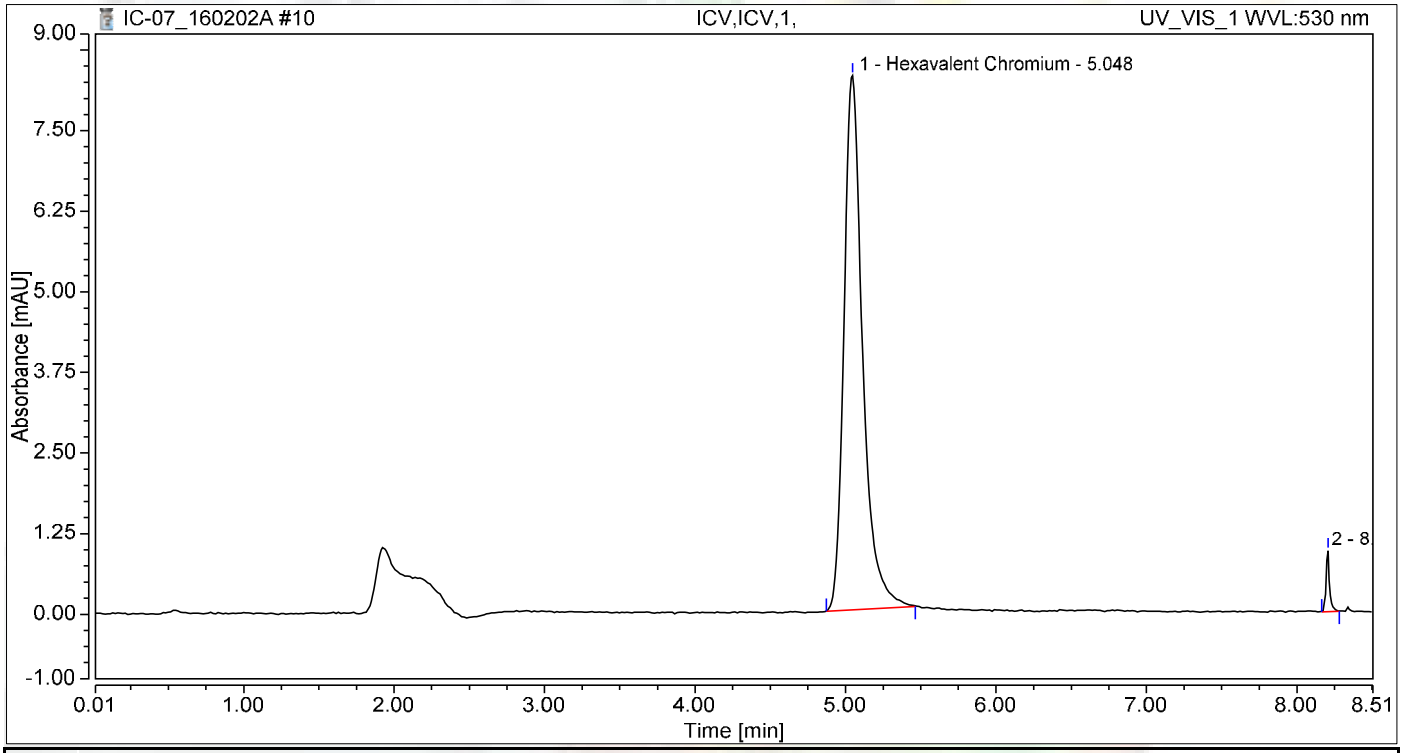
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	0.0546	0.055	0.389
5	1.0 ppb	02	1.0000	0.2480	0.248	1.723
6	5.0 ppb	03	5.0000	1.1957	1.196	8.293
7	10.0 ppb	04	10.0000	2.3389	2.339	16.085
8	15.0 ppb	05	15.0000	3.5494	3.549	24.617
9	20.0 ppb	06	20.0000	4.7448	4.745	32.729

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

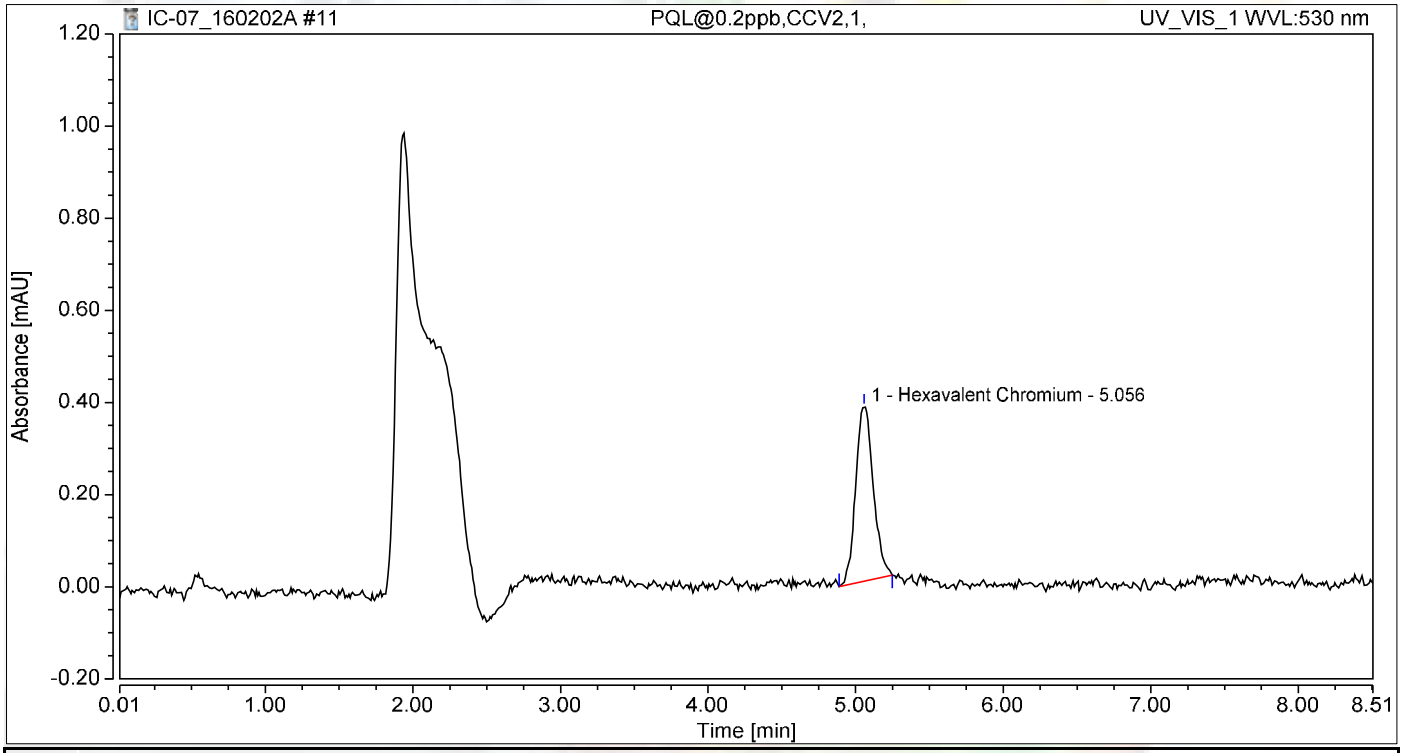
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.187	8.280	97.89	89.76	5.0149
2		8.206	0.026	0.944	2.11	10.24	n.a.
Total:			**1.213**	**9.225**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

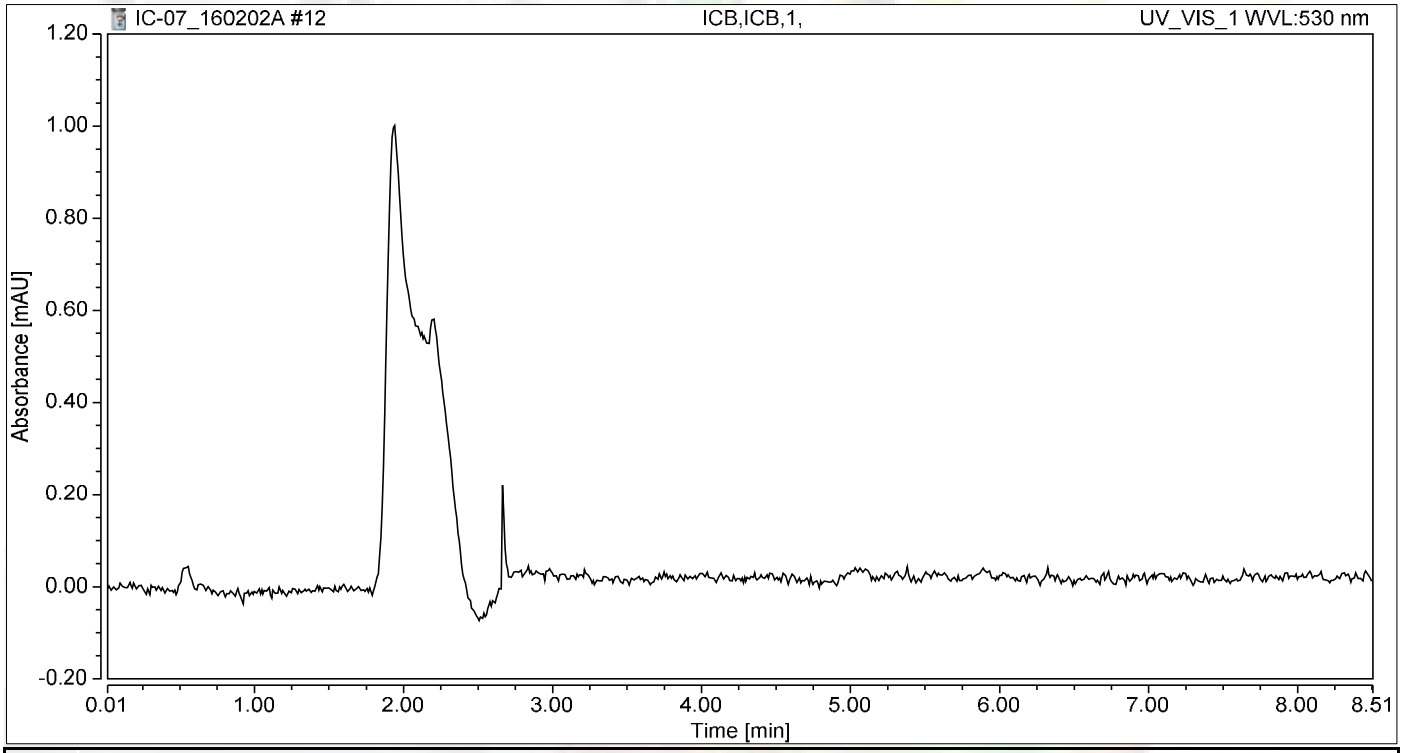
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.052	0.379	100.00	100.00	0.2196
Total:			**0.052**	**0.379**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 13:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

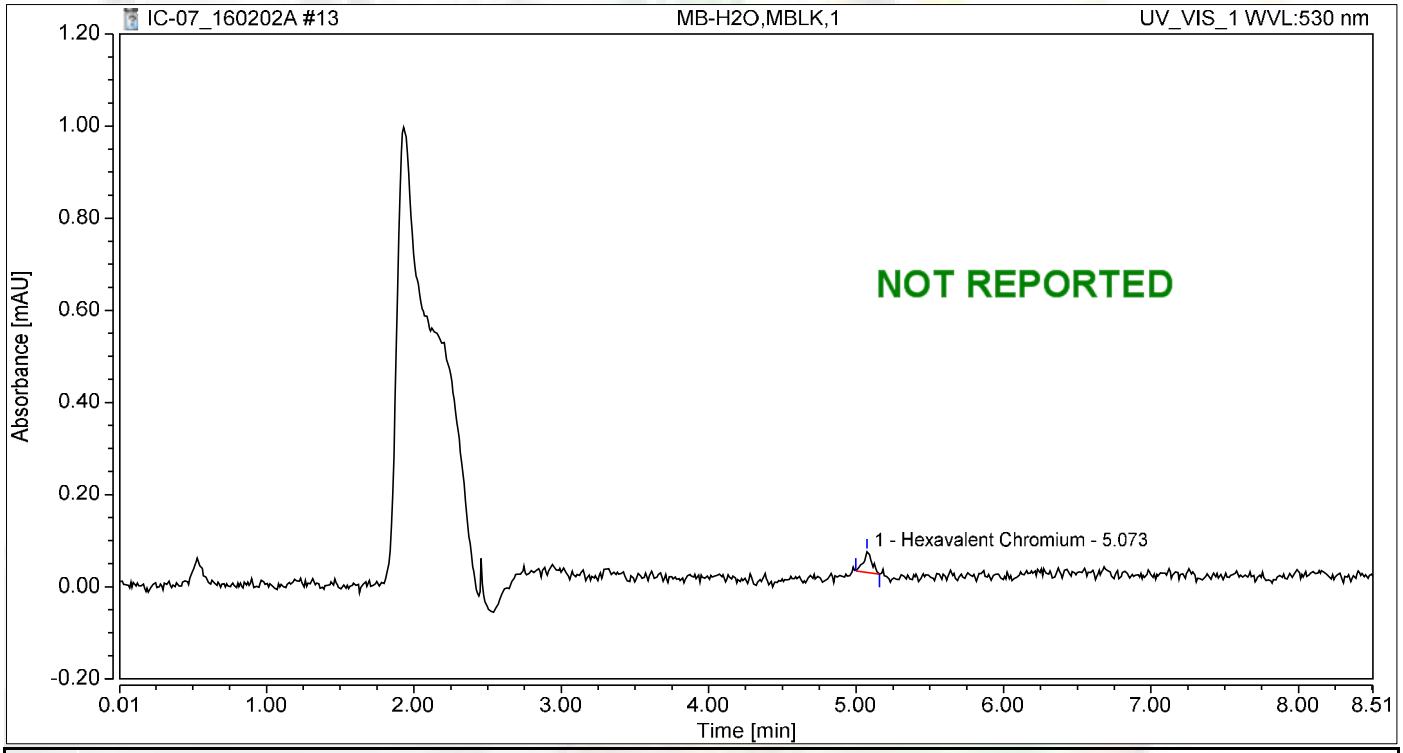
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

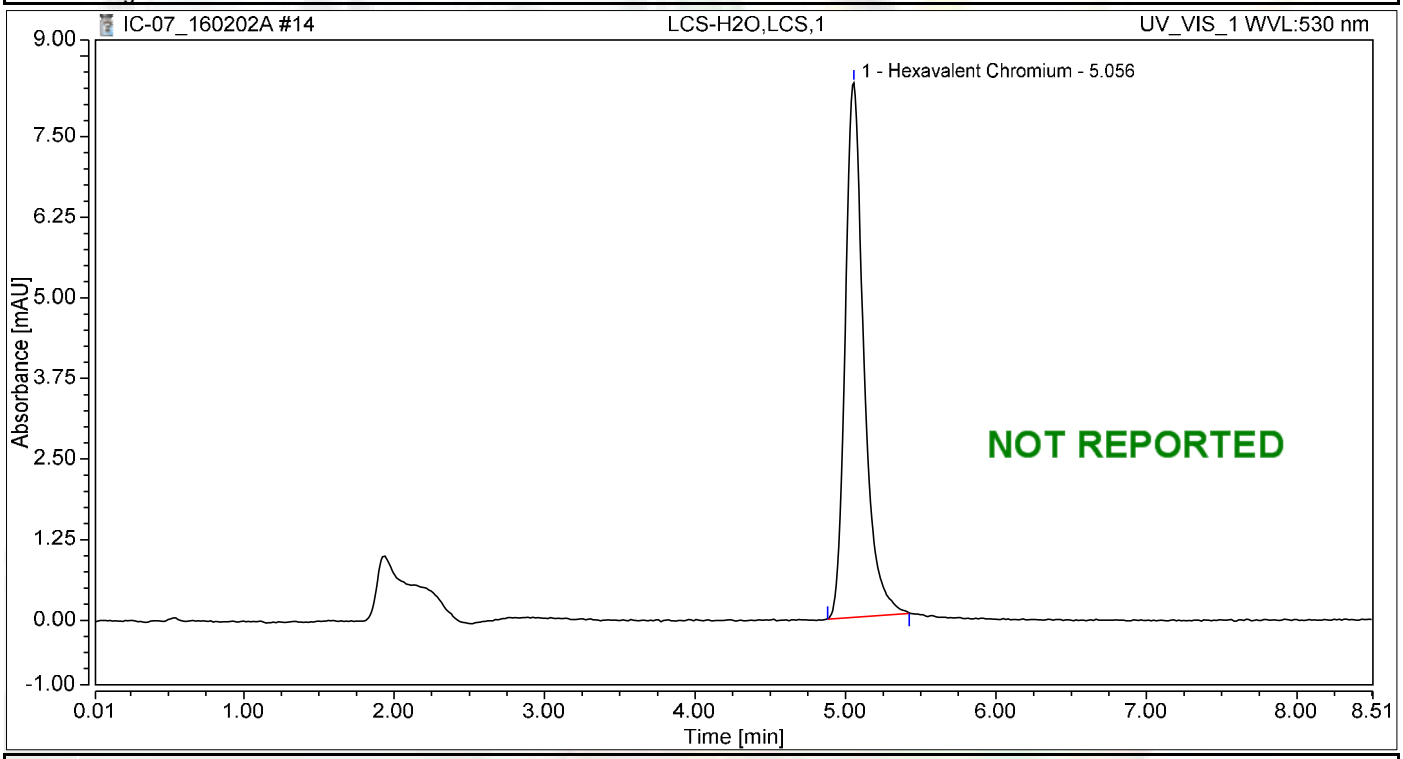
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.003	0.045	100.00	100.00	0.0130
Total:			**0.003**	**0.045**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Feb/16 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	1.183	8.285	100.00	100.00	4.9980
Total:			**1.183**	**8.285**	**100.00**	**100.00**	

RAW DATA

Reb 3/8/2016

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	CCV-1	CCV	1	Hexavalent Chromium	02/26/16 3:03 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/26/16 3:14 PM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	02/26/16 3:24 PM	Reported
13	MB-R106238	MBLK	1	Hexavalent Chromium	02/26/16 3:33 PM	Reported
14	LCS-R106238	LCS	1	Hexavalent Chromium	02/26/16 3:43 PM	Reported
15	N018478-019A	SAMP	200	Hexavalent Chromium	02/26/16 3:52 PM	Not Reported
16	N018478-019A	SAMP	100	Hexavalent Chromium	02/26/16 4:02 PM	Not Reported
17	N018833-001A	SAMP	1	Hexavalent Chromium	02/26/16 4:22 PM	Reported
18	N018833-001ADUP	DUP	1	Hexavalent Chromium	02/26/16 4:33 PM	Reported
19	N018833-001AMS	MS	1	Hexavalent Chromium	02/26/16 4:42 PM	Reported
20	N018833-001AMSD	MSD	1	Hexavalent Chromium	02/26/16 4:52 PM	Reported
21	N018833-002A	SAMP	1	Hexavalent Chromium	02/26/16 5:01 PM	Reported
22	N018833-002AMS	MS	1	Hexavalent Chromium	02/26/16 5:11 PM	Reported
23	CCV-2	CCV	1	Hexavalent Chromium	02/26/16 5:20 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	02/26/16 5:29 PM	Reported
25	N018833-003A	SAMP	1	Hexavalent Chromium	02/26/16 5:39 PM	Reported
26	N018833-003AMS	MS	1	Hexavalent Chromium	02/26/16 5:48 PM	Reported
27	N018833-004A	SAMP	1	Hexavalent Chromium	02/26/16 5:58 PM	Reported
28	N018833-004AMS	MS	1	Hexavalent Chromium	02/26/16 6:07 PM	Reported
29	N018833-005A	SAMP	1	Hexavalent Chromium	02/26/16 6:17 PM	Reported
30	N018833-005AMS	MS	1	Hexavalent Chromium	02/26/16 6:26 PM	Reported
31	N018833-006A	SAMP	1	Hexavalent Chromium	02/26/16 6:36 PM	Reported
32	N018833-006AMS	MS	1	Hexavalent Chromium	02/26/16 6:45 PM	Reported
33	N018833-007A	SAMP	1	Hexavalent Chromium	02/26/16 6:55 PM	Reported
34	N018833-007AMS	MS	1	Hexavalent Chromium	02/26/16 7:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	02/26/16 7:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	02/26/16 7:23 PM	Reported
37	N018833-008A	SAMP	1	Hexavalent Chromium	02/26/16 7:32 PM	Reported
38	N018833-008AMS	MS	1	Hexavalent Chromium	02/26/16 7:42 PM	Reported
39	N018833-009A	SAMP	1	Hexavalent Chromium	02/26/16 7:51 PM	Reported
40	N018833-009AMS	MS	1	Hexavalent Chromium	02/26/16 8:01 PM	Reported
41	N018833-010A	SAMP	1	Hexavalent Chromium	02/26/16 8:10 PM	Reported
42	N018833-010AMS	MS	1	Hexavalent Chromium	02/26/16 8:20 PM	Reported

INJECTION LOG: 160226B

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018834-001A	SAMP	1	Hexavalent Chromium	02/26/16 8:29 PM	Reported
44	N018834-001AMS	MS	1	Hexavalent Chromium	02/26/16 8:39 PM	Reported
45	N018834-002A	SAMP	1	Hexavalent Chromium	02/26/16 8:48 PM	Reported
46	N018834-002AMS	MS	1	Hexavalent Chromium	02/26/16 8:58 PM	Reported
47	CCV-4	CCV	1	Hexavalent Chromium	02/26/16 9:07 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	02/26/16 9:17 PM	Reported
49	N018834-003A	SAMP	1	Hexavalent Chromium	02/26/16 9:26 PM	Reported
50	N018834-003AMS	MS	1	Hexavalent Chromium	02/26/16 9:36 PM	Reported
51	N018834-004A	SAMP	1	Hexavalent Chromium	02/26/16 9:45 PM	Reported
52	N018834-004AMS	MS	1	Hexavalent Chromium	02/26/16 9:54 PM	Reported
53	N018861-002A	SAMP	1	Hexavalent Chromium	02/26/16 10:04 PM	Reported
54	N018861-002AMS	MS	1	Hexavalent Chromium	02/26/16 10:13 PM	Reported
55	N018861-004A	SAMP	1	Hexavalent Chromium	02/26/16 10:23 PM	Not Reported
56	N018861-004AMS	MS	1	Hexavalent Chromium	02/26/16 10:32 PM	Not Reported
57	CCV-5	CCV	1	Hexavalent Chromium	02/26/16 10:42 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	02/26/16 10:51 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160226B**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:20:39**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	CCV-1,CCV,1,	1	1000	Unknown		02/26/2016 15:03	Finished	CCV @ 5ppb, IWST 160202B
11	PQL@0.2ppb,CCV2,1	2	1000	Unknown		02/26/2016 15:14	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1	3	1000	Unknown		02/26/2016 15:24	Finished	CCB R160209C
13	MB-H2O,MBLK,1	4	1000	Unknown		02/26/2016 15:33	Finished	MB
14	LCS-H2O,LCS,1	5	1000	Unknown		02/26/2016 15:43	Finished	LCS @ 5ppb, IWST-160202B
15	N018478-019A,SAMP	6	1000	Unknown		02/26/2016 15:52	Finished	SAMP, 0.05 to 10mL
16	N018478-019A,SAMP	7	1000	Unknown		02/26/2016 16:02	Finished	SAMP, 0.1 to 10mL
17	N018833-001A,SAMP	8	1000	Unknown		02/26/2016 16:22	Finished	SAMP, 10mL
18	N018833-001ADUP,D	9	1000	Unknown		02/26/2016 16:33	Finished	DUP, 10mL
19	N018833-001AMS,MS	10	1000	Unknown		02/26/2016 16:42	Finished	MS(1ppb), IWST-160202B, 10r
20	N018833-001AMSD,M	11	1000	Unknown		02/26/2016 16:52	Finished	MSD(1ppb), IWST-160202B, 1
21	N018833-002A,SAMP	12	1000	Unknown		02/26/2016 17:01	Finished	SAMP, 10mL
22	N018833-002AMS,MS	13	1000	Unknown		02/26/2016 17:11	Finished	MS(1ppb), IWST-160202B, 10r
23	CCV-2,CCV,1	14	1000	Unknown		02/26/2016 17:20	Finished	CCV @ 10ppb, IWST 160202A
24	CCB-2,CCB,1	15	1000	Unknown		02/26/2016 17:29	Finished	CCB
25	N018833-003A,SAMP	16	1000	Unknown		02/26/2016 17:39	Finished	SAMP, 10mL
26	N018833-003AMS,MS	17	1000	Unknown		02/26/2016 17:48	Finished	MS(1ppb), IWST-160202B, 10r
27	N018833-004A,SAMP	18	1000	Unknown		02/26/2016 17:58	Finished	SAMP, 10mL
28	N018833-004AMS,MS	19	1000	Unknown		02/26/2016 18:07	Finished	MS(1ppb), IWST-160202B, 10r
29	N018833-005A,SAMP	20	1000	Unknown		02/26/2016 18:17	Finished	SAMP, 10mL
30	N018833-005AMS,MS	21	1000	Unknown		02/26/2016 18:26	Finished	MS(1ppb), IWST-160202B, 10r
31	N018833-006A,SAMP	22	1000	Unknown		02/26/2016 18:36	Finished	SAMP, 10mL
32	N018833-006AMS,MS	23	1000	Unknown		02/26/2016 18:45	Finished	MS(1ppb), IWST-160202B, 10r
33	N018833-007A,SAMP	24	1000	Unknown		02/26/2016 18:55	Finished	SAMP, 10mL
34	N018833-007AMS,MS	25	1000	Unknown		02/26/2016 19:04	Finished	MS(1ppb), IWST-160202B, 10r
35	CCV-3,CCV,1	26	1000	Unknown		02/26/2016 19:14	Finished	CCV @ 5ppb, IWST 160202A
36	CCB-3,CCB,1	27	1000	Unknown		02/26/2016 19:23	Finished	CCB
37	N018833-008A,SAMP	28	1000	Unknown		02/26/2016 19:32	Finished	SAMP, 10mL
38	N018833-008AMS,MS	29	1000	Unknown		02/26/2016 19:42	Finished	MS(1ppb), IWST-160202B, 10r
39	N018833-009A,SAMP	30	1000	Unknown		02/26/2016 19:51	Finished	SAMP, 10mL
40	N018833-009AMS,MS	31	1000	Unknown		02/26/2016 20:01	Finished	MS(1ppb), IWST-160202B, 10r
41	N018833-010A,SAMP	32	1000	Unknown		02/26/2016 20:10	Finished	SAMP, 10mL
42	N018833-010AMS,MS	33	1000	Unknown		02/26/2016 20:20	Finished	MS(1ppb), IWST-160202B, 10r
43	N018834-001A,SAMP	34	1000	Unknown		02/26/2016 20:29	Finished	SAMP, 10mL
44	N018834-001AMS,MS	35	1000	Unknown		02/26/2016 20:39	Finished	MS(1ppb), IWST-160202B, 10r
45	N018834-002A,SAMP	36	1000	Unknown		02/26/2016 20:48	Finished	SAMP, 10mL
46	N018834-002AMS,MS	37	1000	Unknown		02/26/2016 20:58	Finished	MS(1ppb), IWST-160202B, 10r
47	CCV-4,CCV,1	38	1000	Unknown		02/26/2016 21:07	Finished	CCV @ 10ppb, IWST 160202A
48	CCB-4,CCB,1	39	1000	Unknown		02/26/2016 21:17	Finished	CCB
49	N018834-003A,SAMP	40	1000	Unknown		02/26/2016 21:26	Finished	SAMP, 10mL
50	N018834-003AMS,MS	41	1000	Unknown		02/26/2016 21:36	Finished	MS(1ppb), IWST-160202B, 10r
51	N018834-004A,SAMP	42	1000	Unknown		02/26/2016 21:45	Finished	SAMP, 10mL
52	N018834-004AMS,MS	43	1000	Unknown		02/26/2016 21:54	Finished	MS(1ppb), IWST-160202B, 10r
53	N018861-002A,SAMP	44	1000	Unknown		02/26/2016 22:04	Finished	SAMP, 10mL
54	N018861-002AMS,MS	45	1000	Unknown		02/26/2016 22:13	Finished	MS(5ppb), IWST-160202B, 10r
55	N018861-004A,SAMP	46	1000	Unknown		02/26/2016 22:23	Finished	SAMP, 10mL
56	N018861-004AMS,MS	47	1000	Unknown		02/26/2016 22:32	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	48	1000	Unknown		02/26/2016 22:42	Finished	CCV @ 5ppb, IWST 160202A
58	CCB-5,CCB,1	49	1000	Unknown		02/26/2016 22:51	Finished	CCB
59	SHUTDOWN	50	1000	Unknown		02/26/2016 23:01	Finished	BLANK
60	Eluent: R160224A	51	1000	Unknown		n.a.	Finished	Eluent

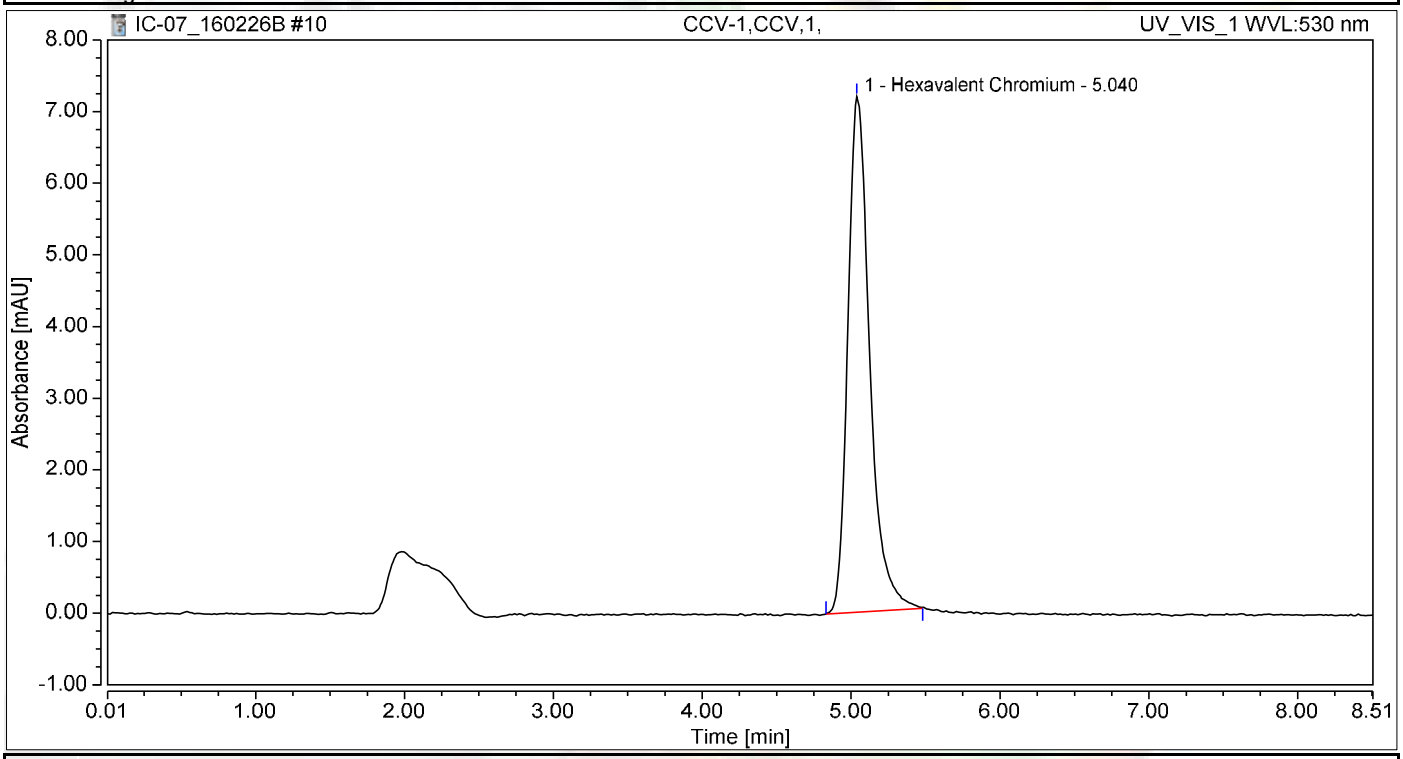
61	PCR: R160226A	CurrentVial	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

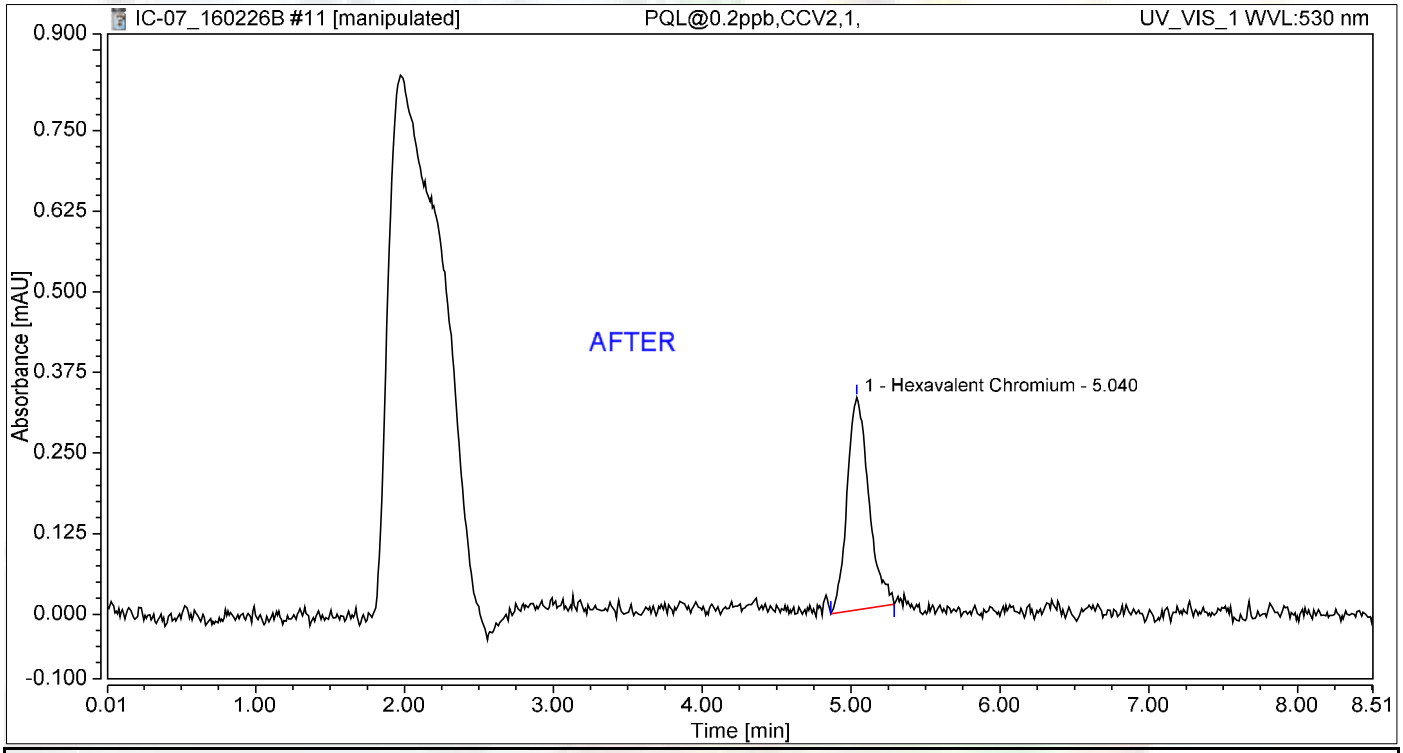
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.213	7.194	100.00	100.00	5.1252
Total:			**1.213**	**7.194**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.055	0.330	100.00	100.00	0.2338
Total:			**0.055**	**0.330**	**100.00**	**100.00**	

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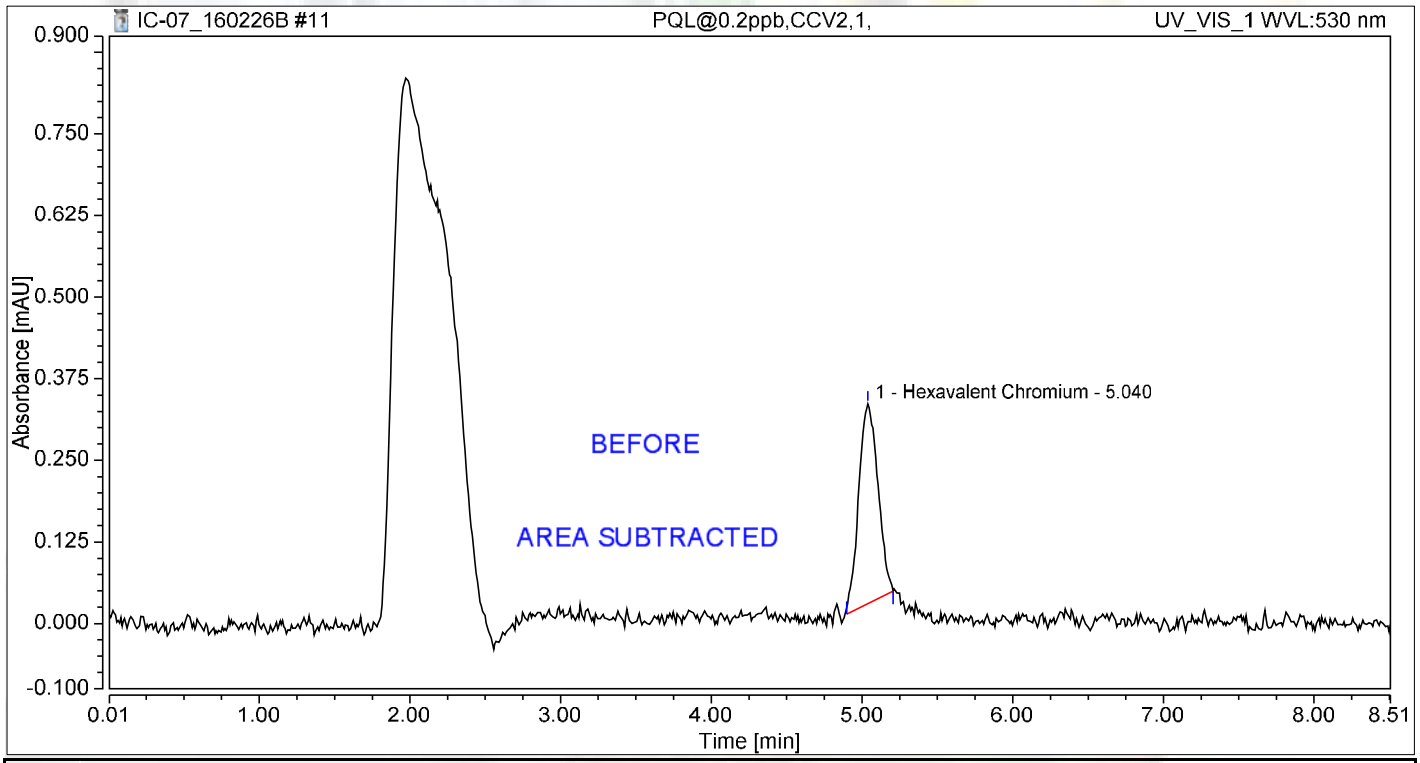
Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.045	0.306	100.00	100.00	0.1913
Total:			**0.045**	**0.306**	**100.00**	**100.00**	

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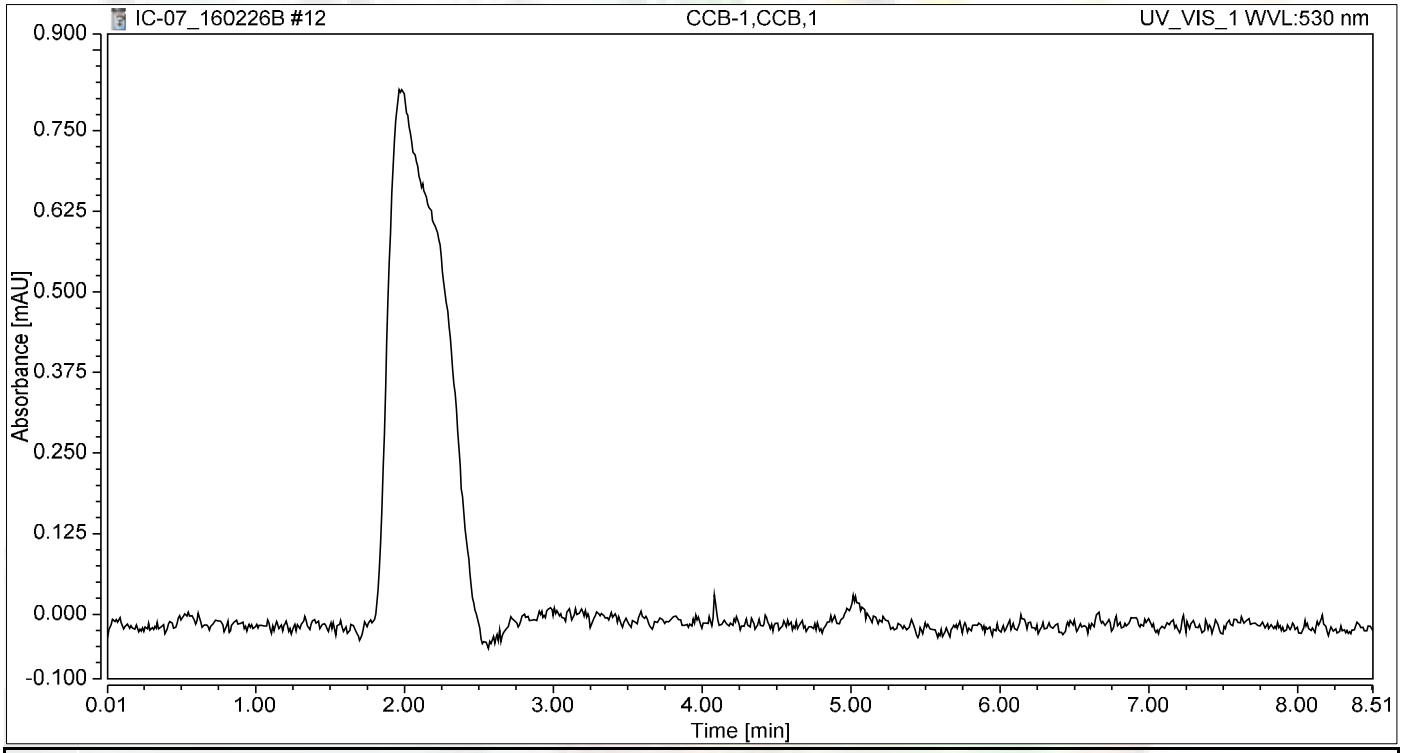
Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

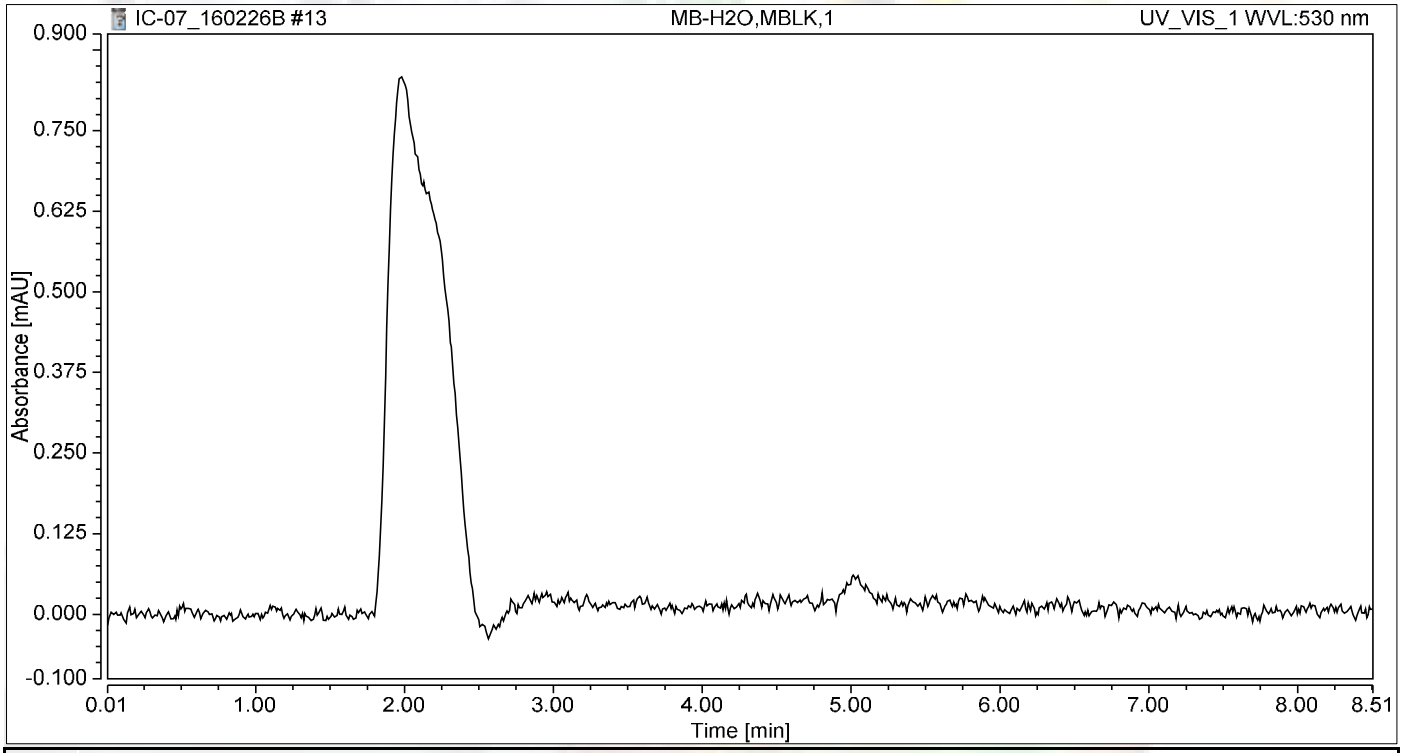
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

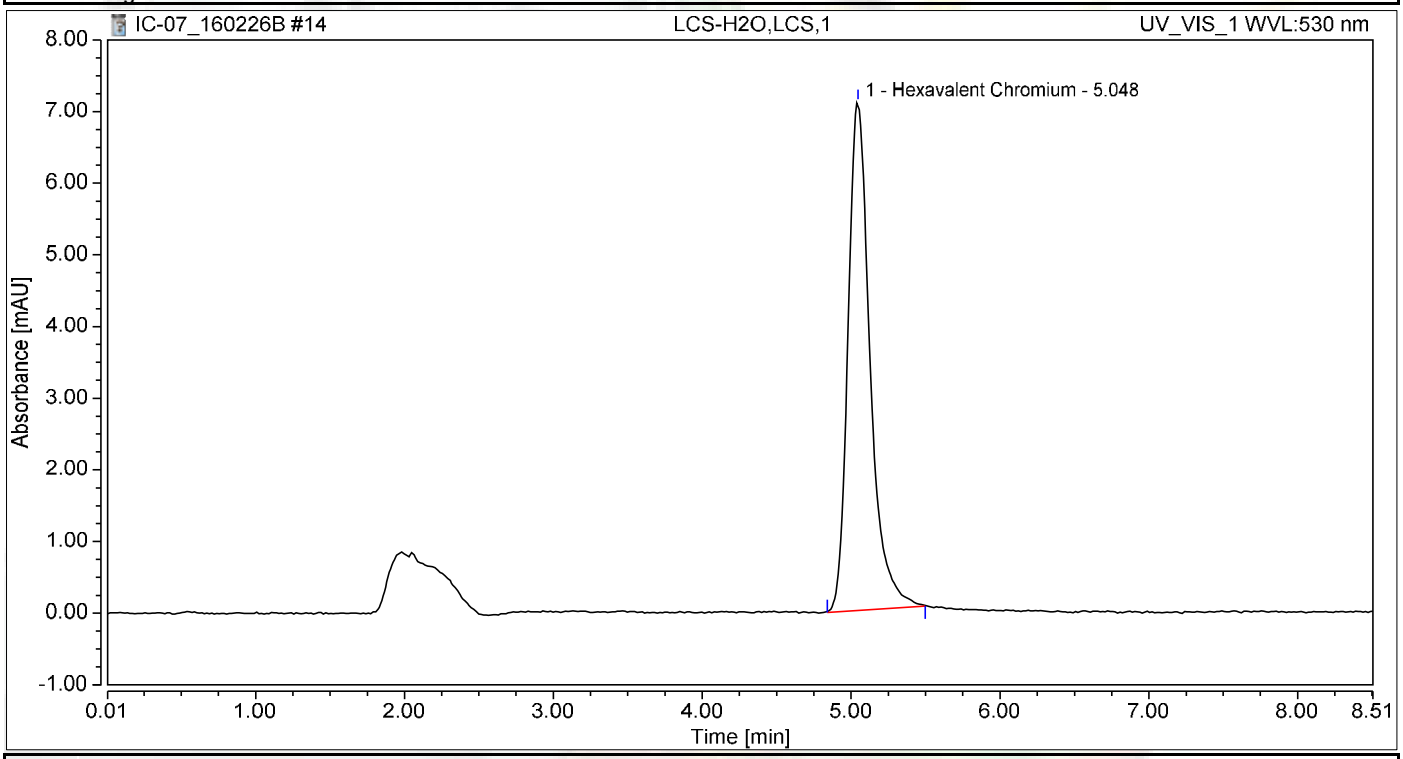
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

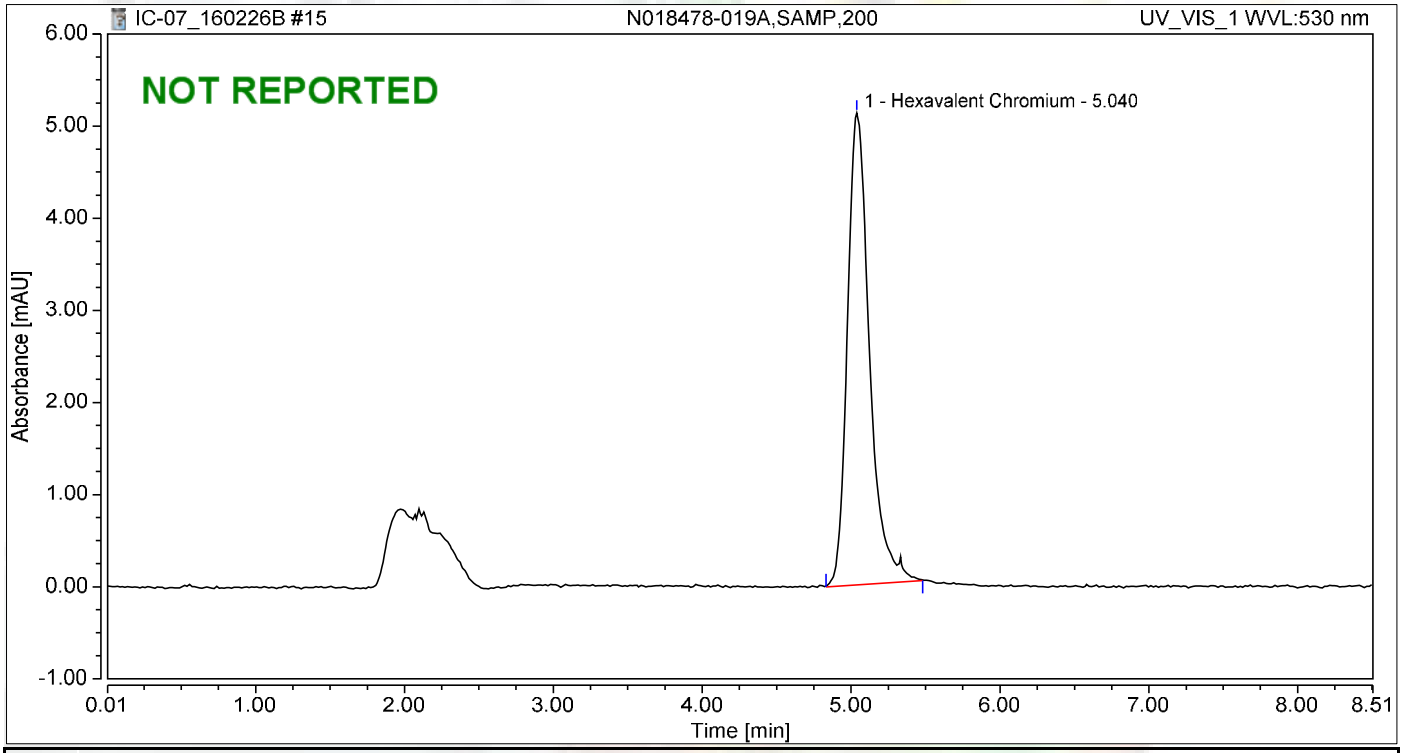
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	1.209	7.091	100.00	100.00	5.1060
Total:			**1.209**	**7.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018478-019A,SAMP,200**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 15:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

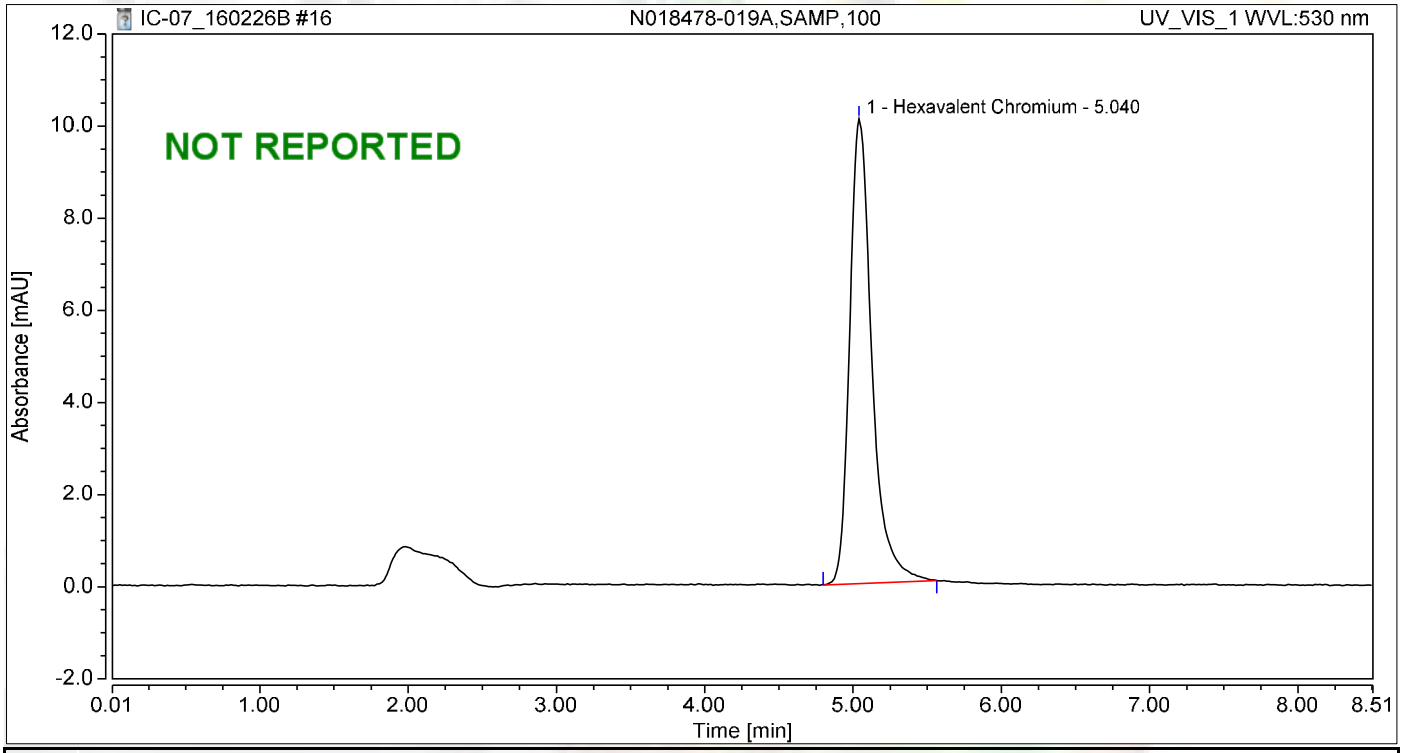
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.876	5.122	100.00	100.00	3.7002
Total:			**0.876**	**5.122**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018478-019A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

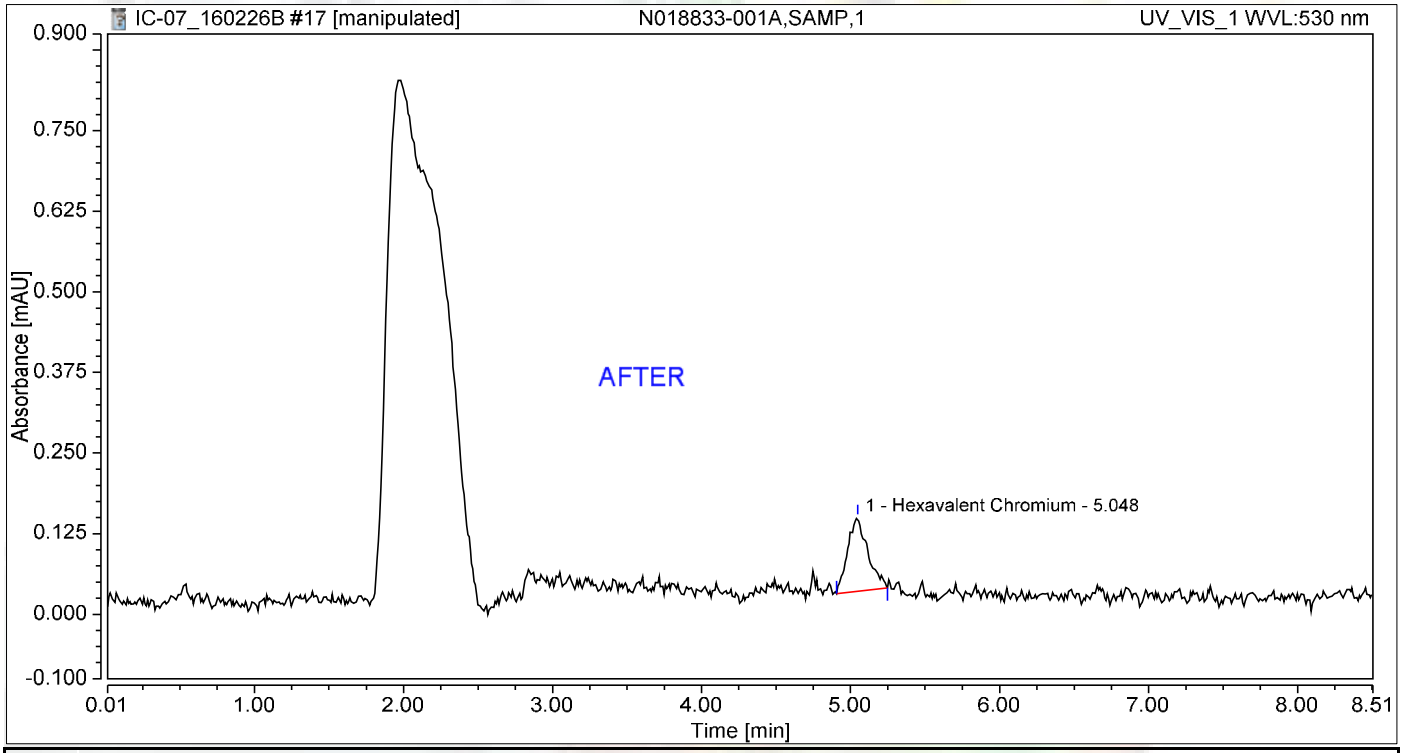
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.732	10.087	100.00	100.00	7.3156
Total:			**1.732**	**10.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.018	0.114	100.00	100.00	0.0758
Total:			**0.018**	**0.114**	**100.00**	**100.00**	

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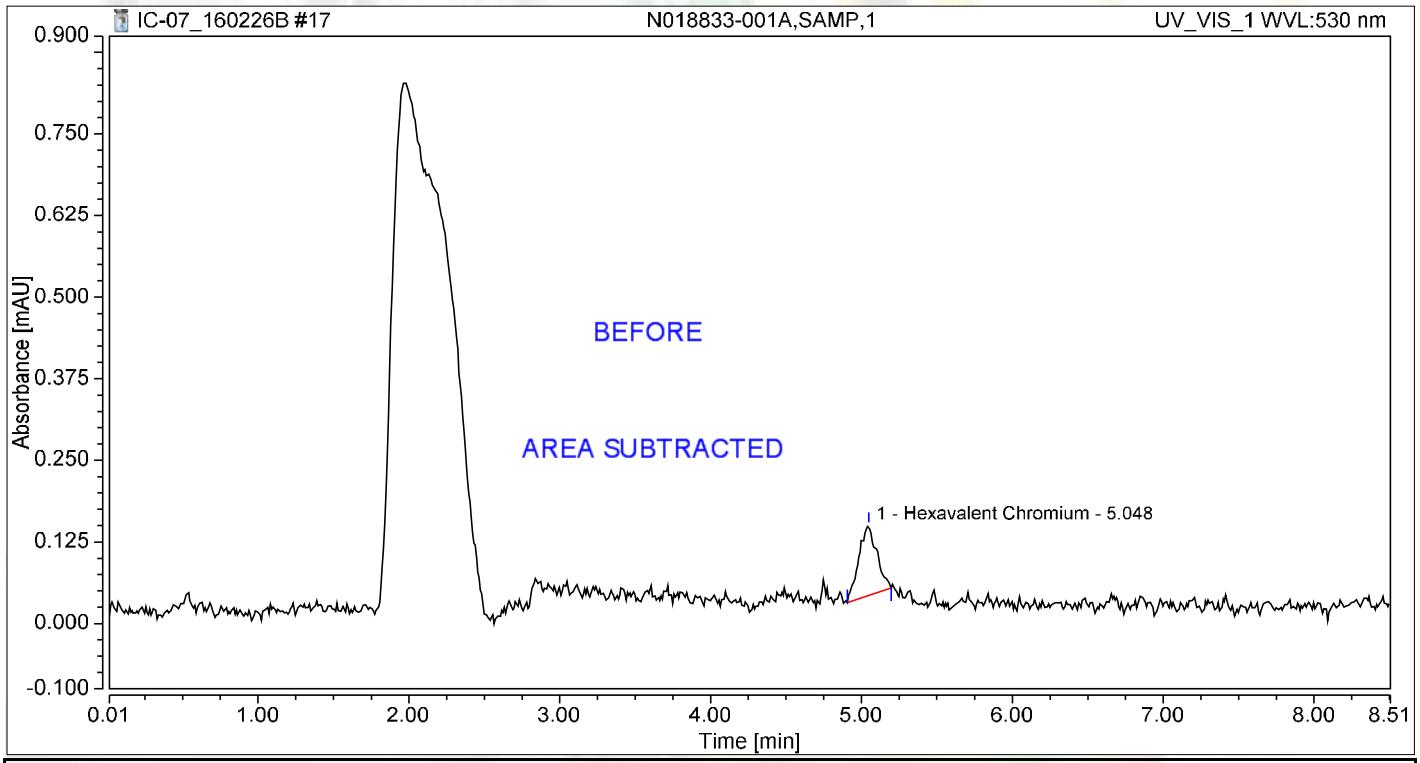
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.015	0.107	100.00	100.00	0.0640
Total:			**0.015**	**0.107**	**100.00**	**100.00**	

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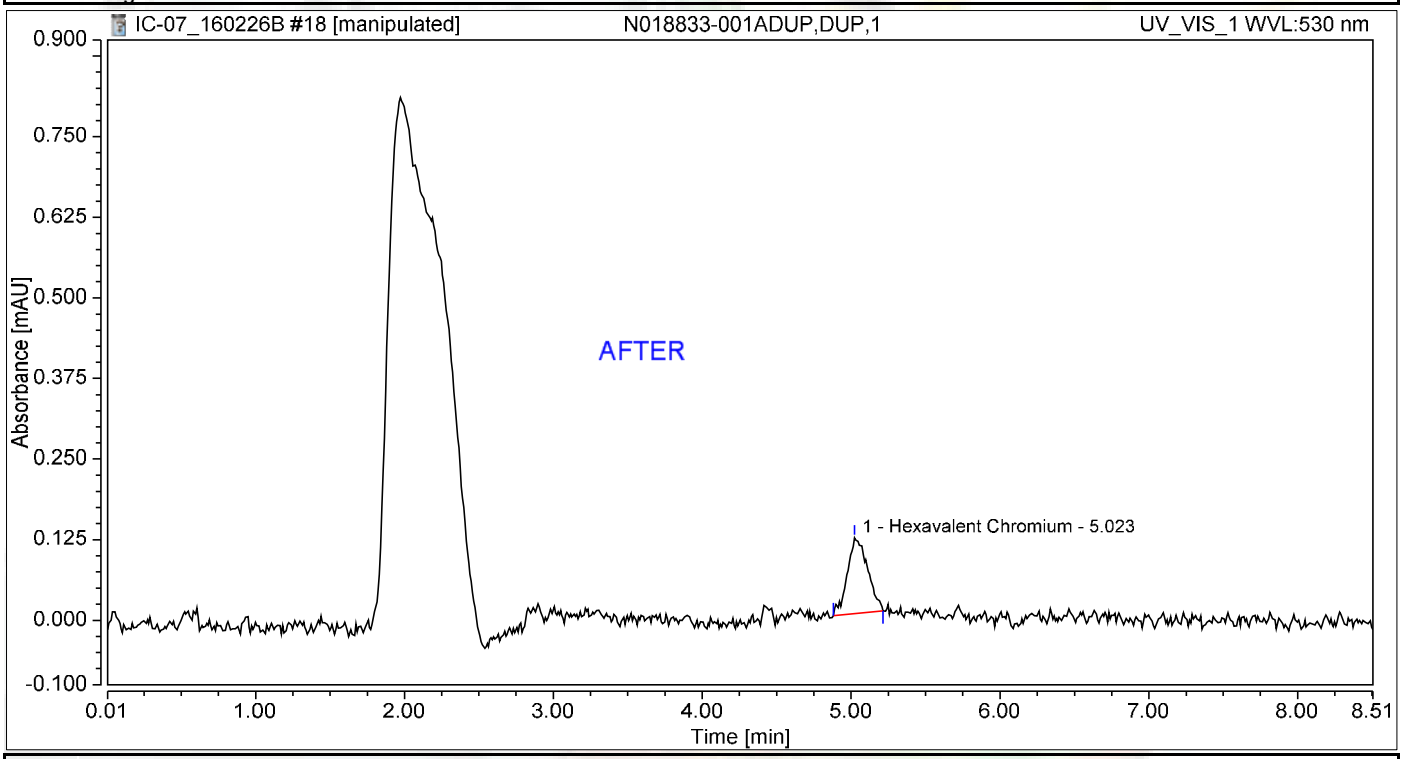
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.018	0.117	100.00	100.00	0.0777
Total:			**0.018**	**0.117**	**100.00**	**100.00**	

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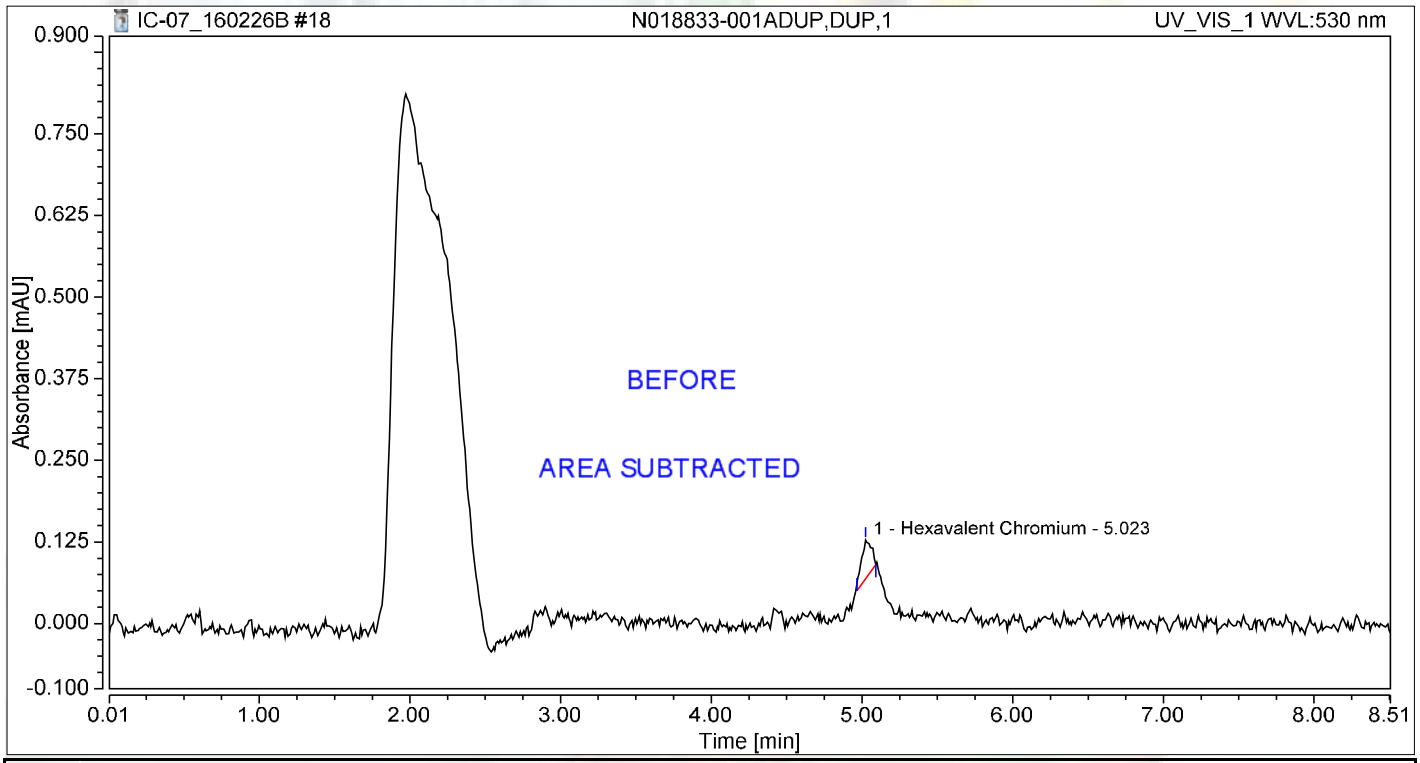
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.004	0.059	100.00	100.00	0.0185
Total:			**0.004**	**0.059**	**100.00**	**100.00**	

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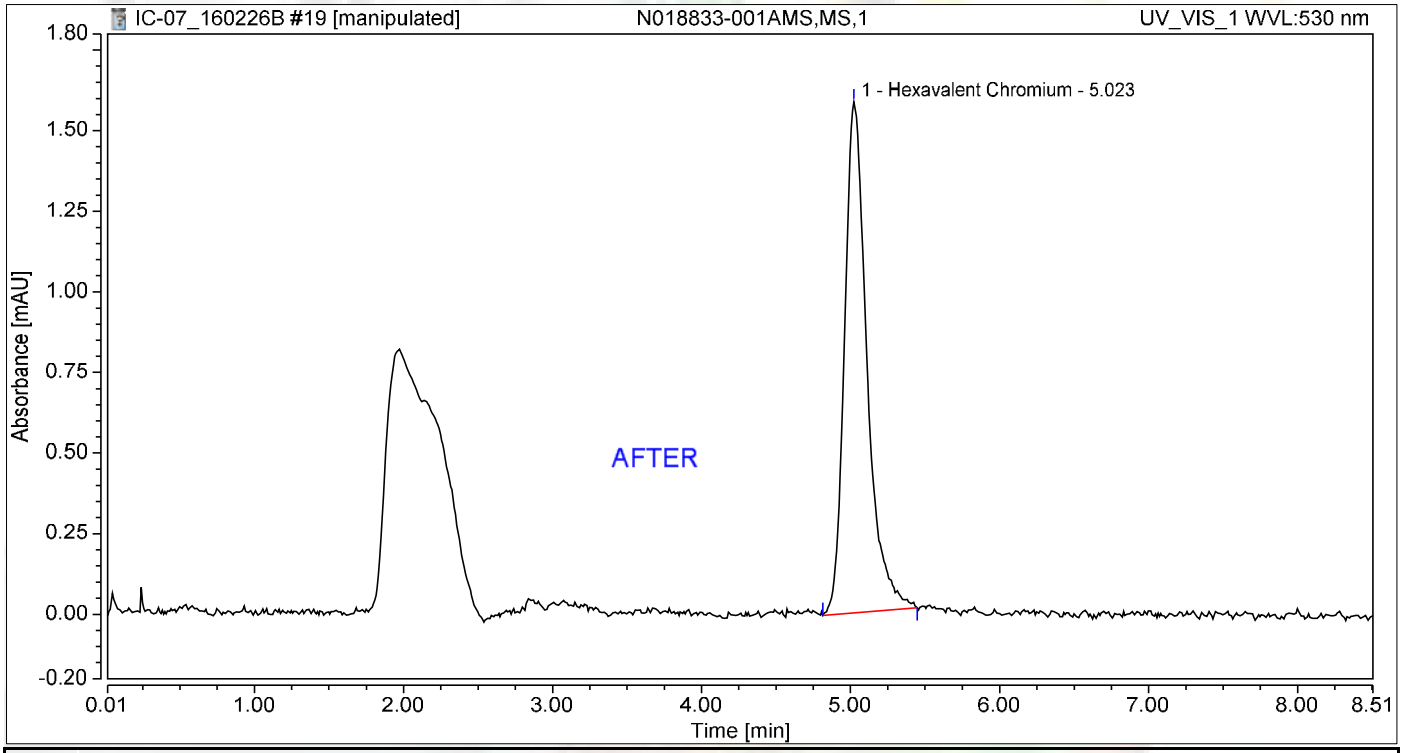
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.276	1.586	100.00	100.00	1.1644
Total:			**0.276**	**1.586**	**100.00**	**100.00**	

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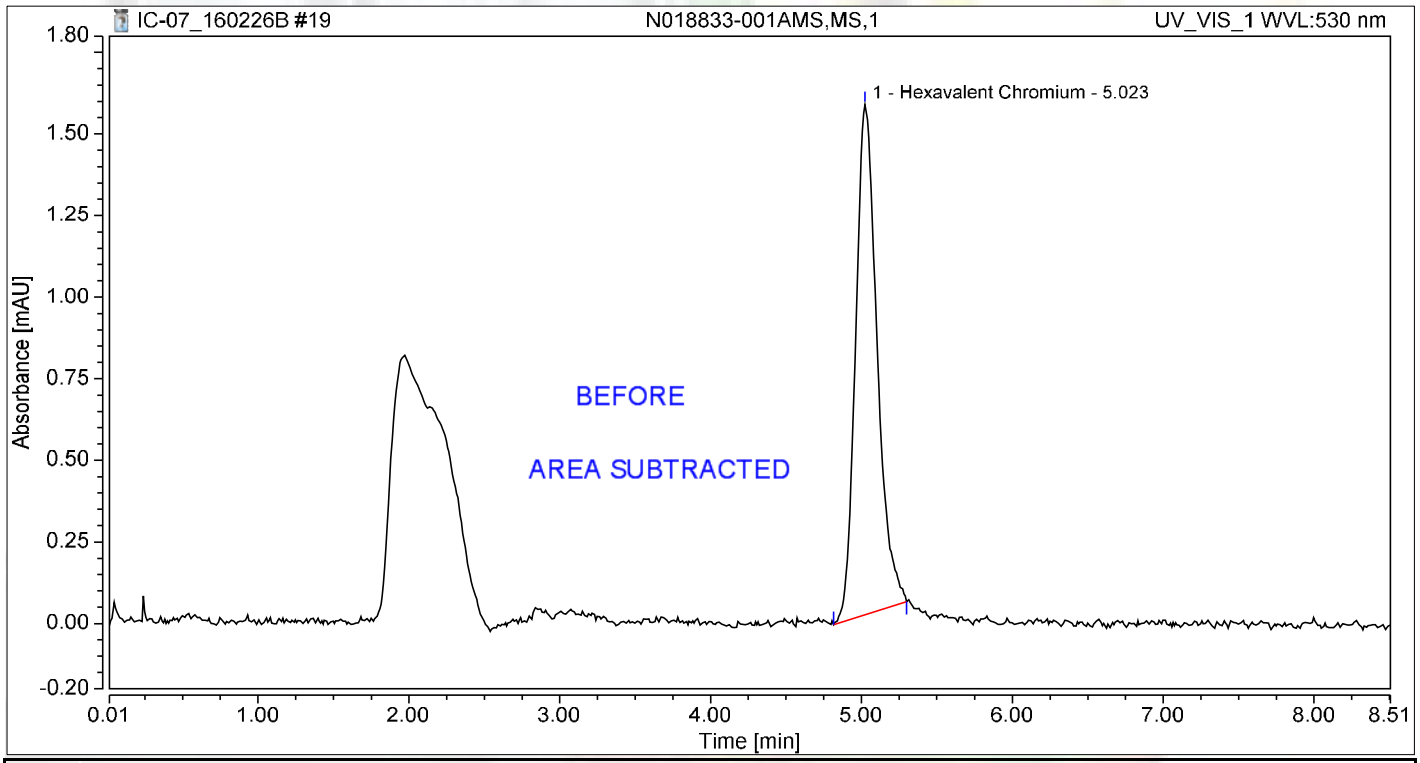
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

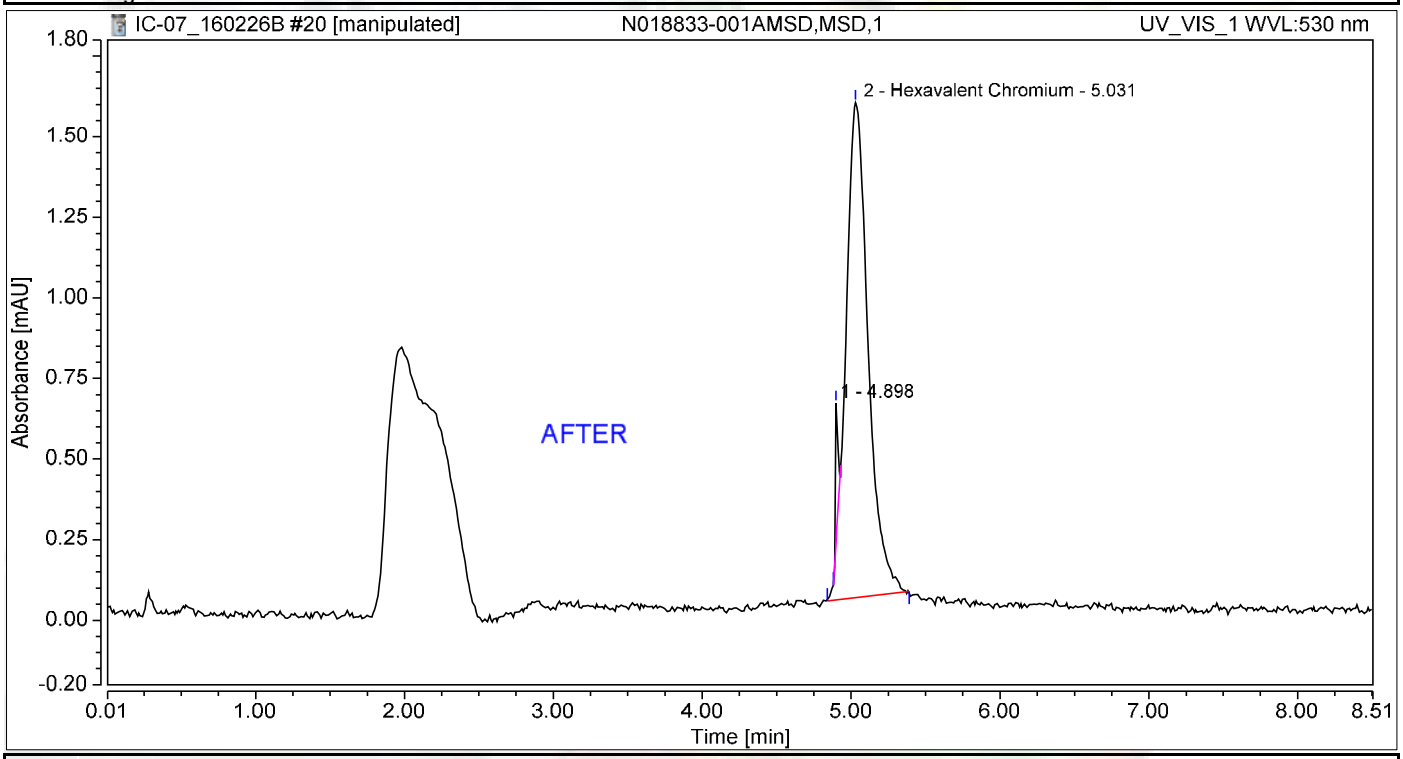
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.259	1.563	100.00	100.00	1.0922
Total:			**0.259**	**1.563**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.898	0.009	0.440	3.12	22.28	n.a.
2	Hexavalent Chromium	5.031	0.265	1.535	96.88	77.72	1.1178
Total:			**0.273**	**1.975**	**100.00**	**100.00**	

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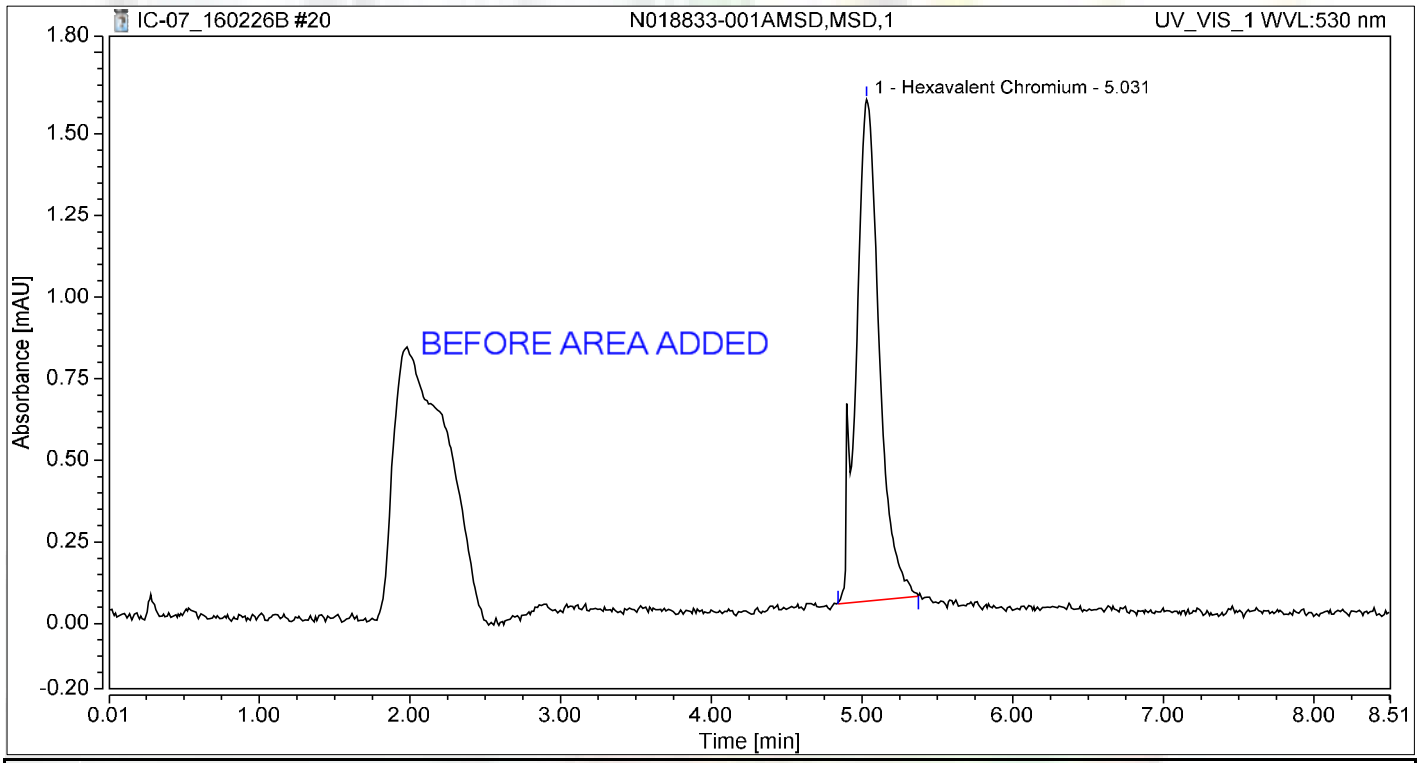
Chromatogram and Results

Injection Details

Injection Name:	**N018833-001AMSD,MSD,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.275	1.538	100.00	100.00	1.1612
Total:			**0.275**	**1.538**	**100.00**	**100.00**	

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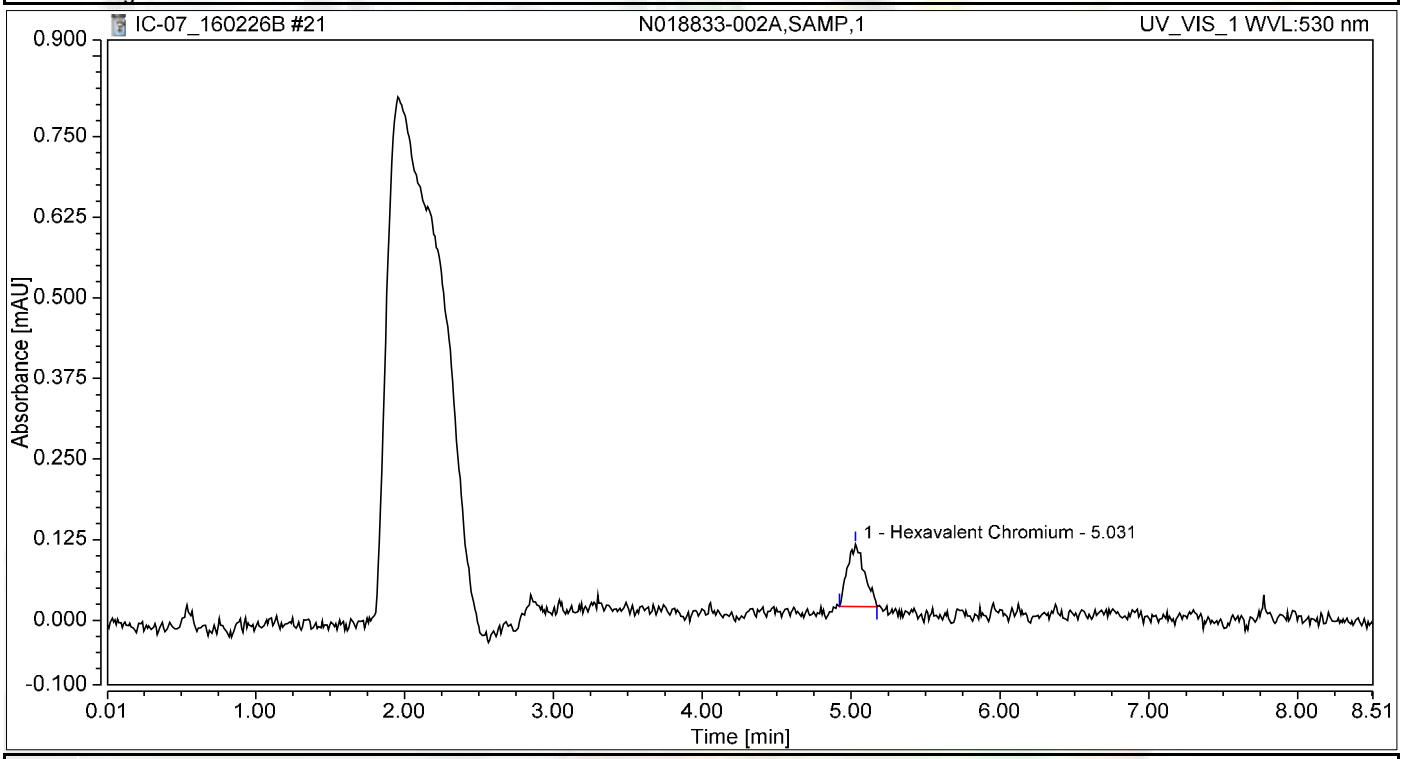
Chromatogram and Results

Injection Details

Injection Name:	**N018833-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

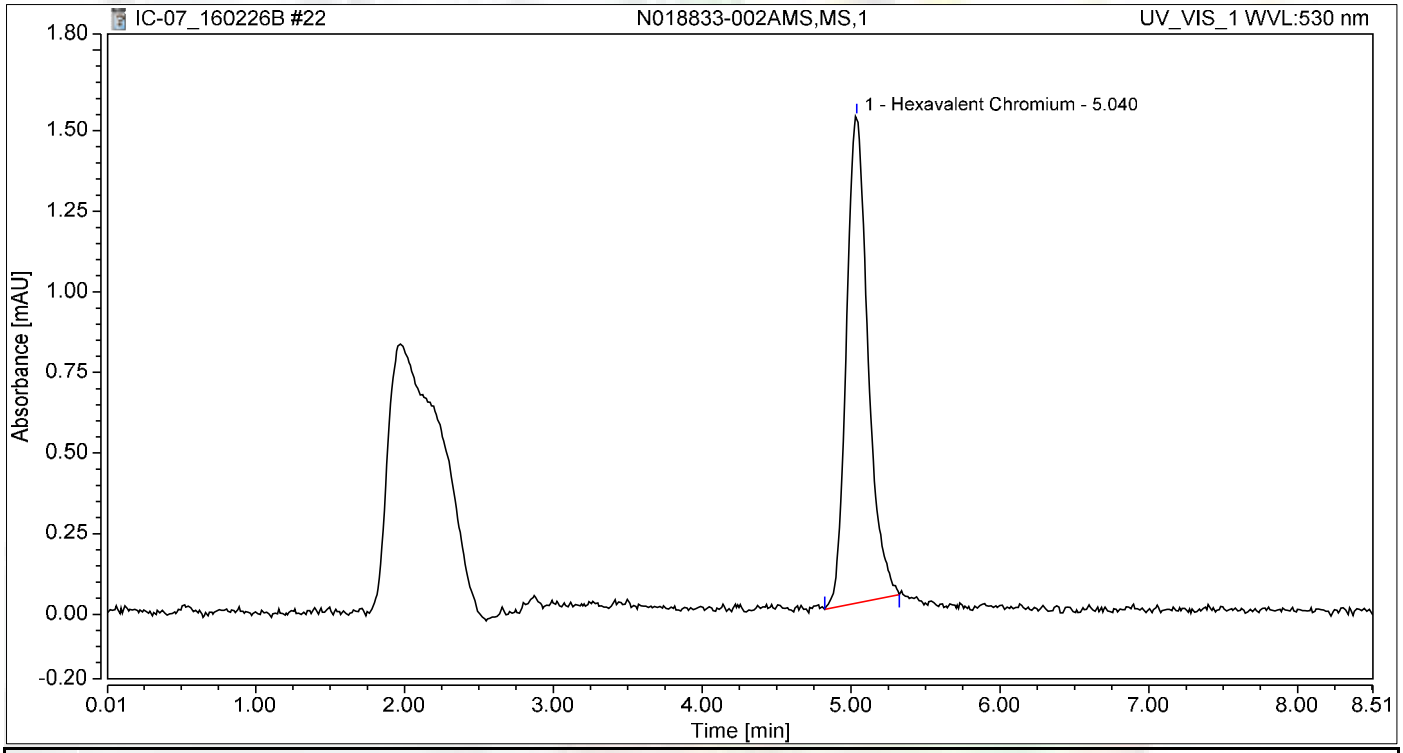
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.013	0.097	100.00	100.00	0.0540
Total:			**0.013**	**0.097**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

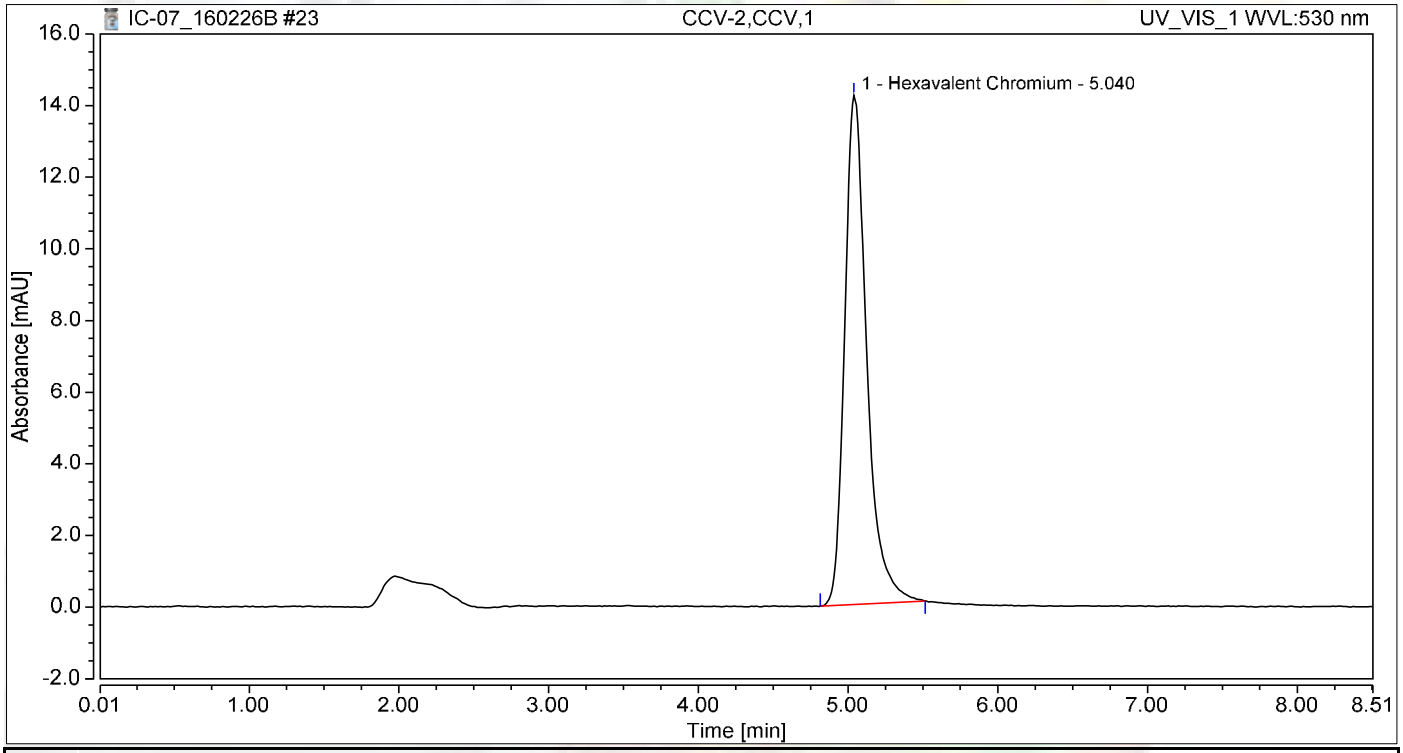
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.252	1.509	100.00	100.00	1.0658
Total:			**0.252**	**1.509**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

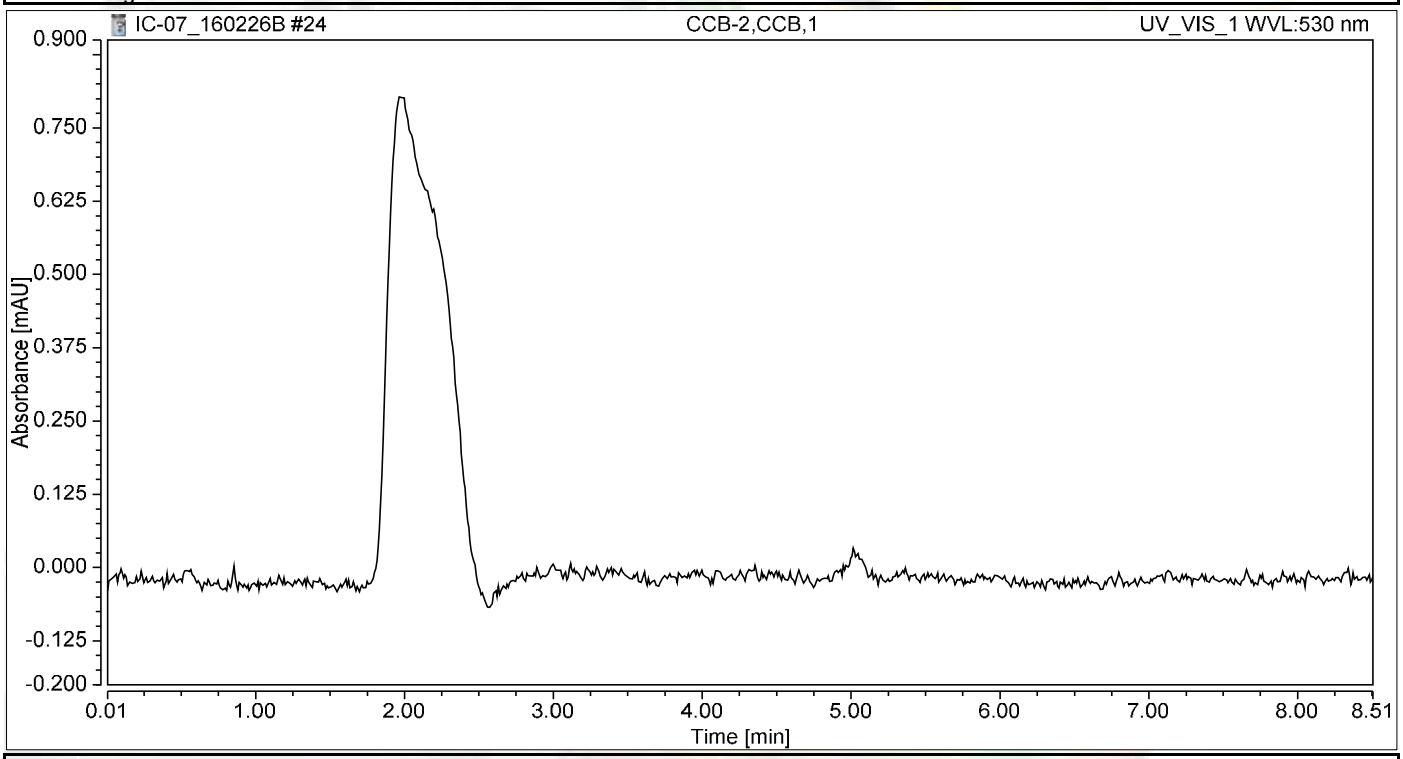
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.411	14.210	100.00	100.00	10.1848
Total:			**2.411**	**14.210**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

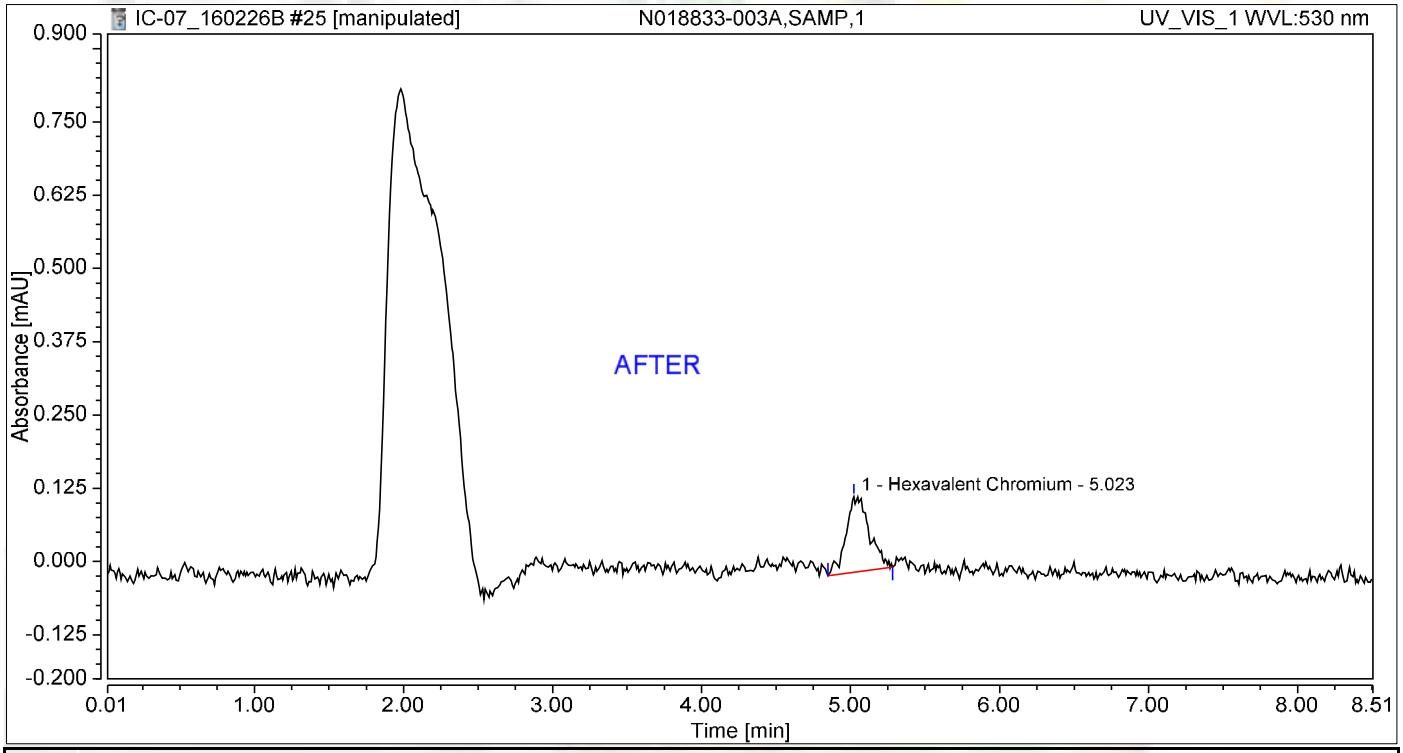
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.023	0.129	100.00	100.00	0.0978
Total:			**0.023**	**0.129**	**100.00**	**100.00**	

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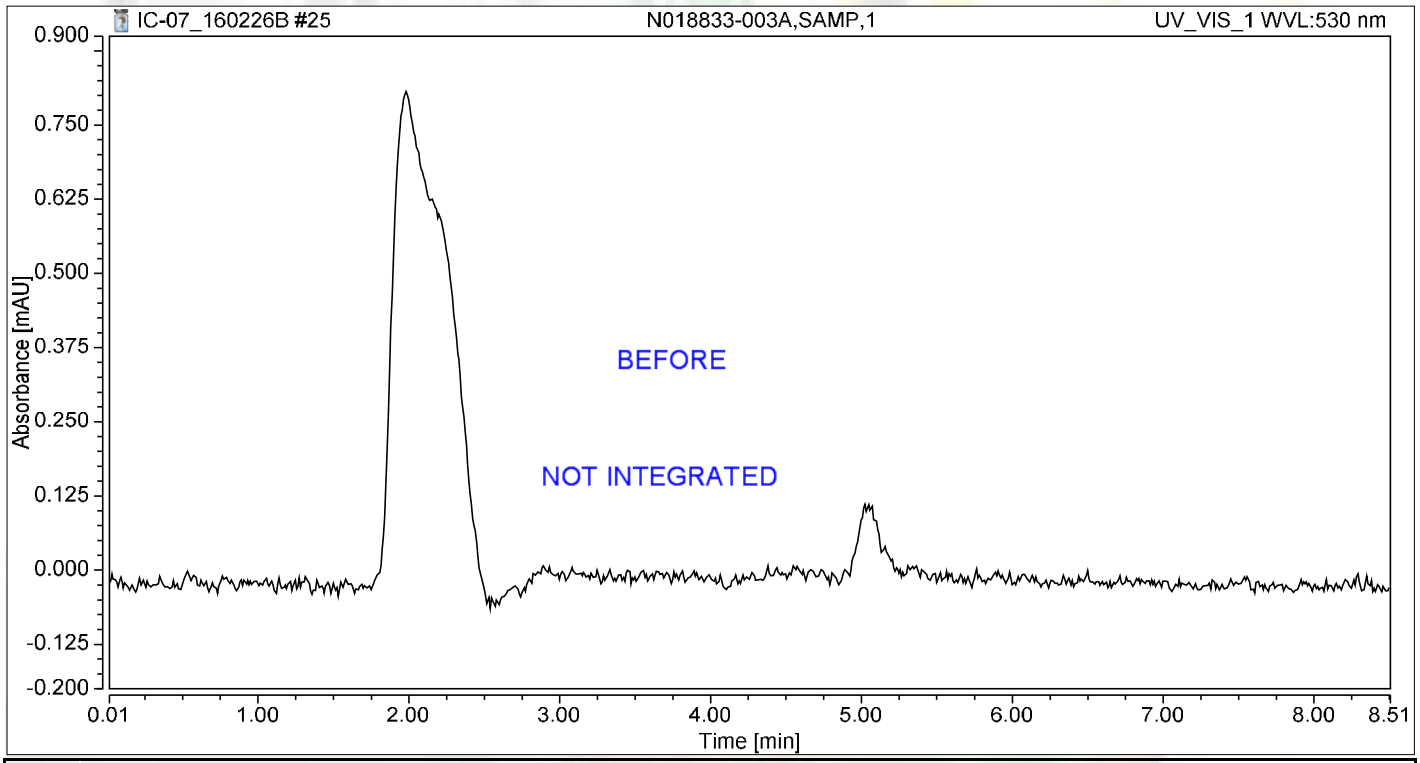
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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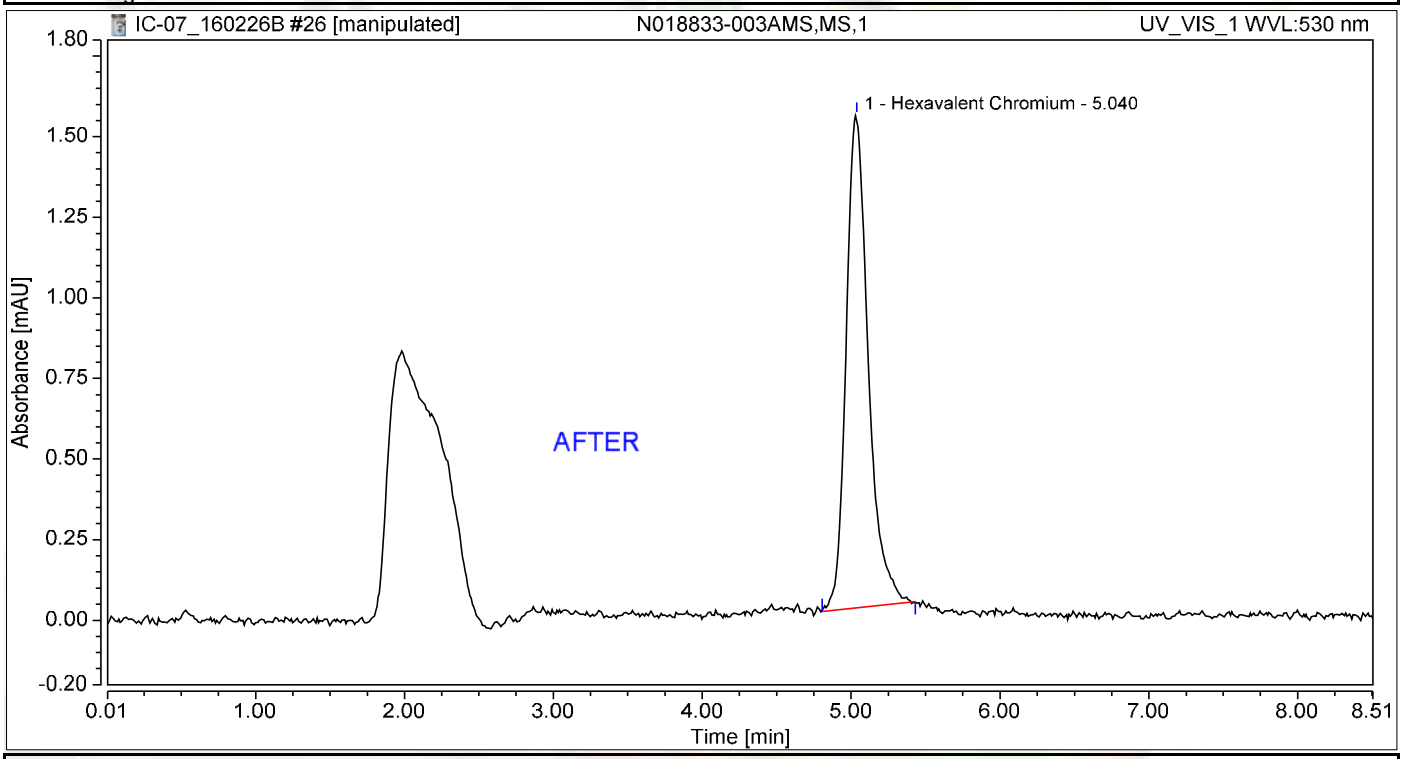
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.262	1.528	100.00	100.00	1.1058
Total:			**0.262**	**1.528**	**100.00**	**100.00**	

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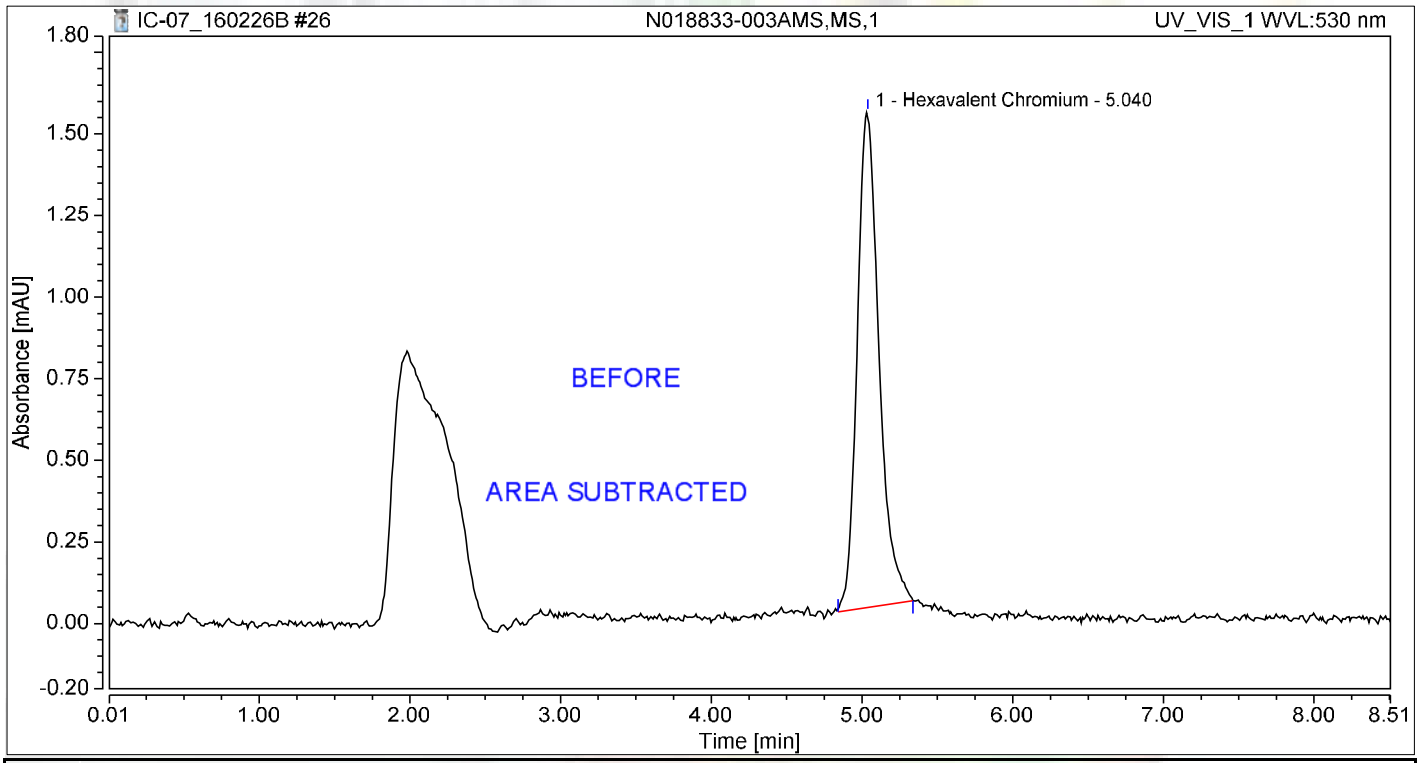
Chromatogram and Results

Injection Details

Injection Name:	**N018833-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.255	1.517	100.00	100.00	1.0765
Total:			**0.255**	**1.517**	**100.00**	**100.00**	

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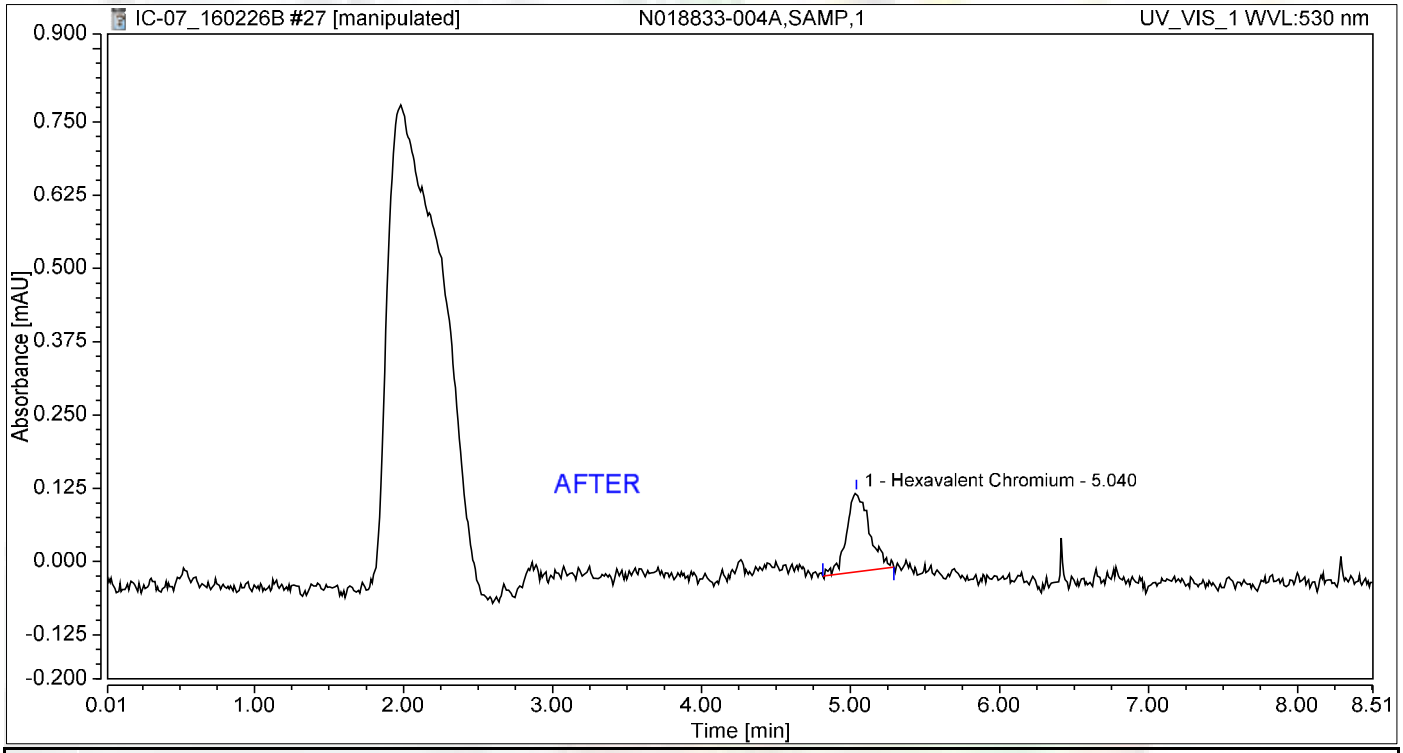
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.024	0.136	100.00	100.00	0.1016
Total:			**0.024**	**0.136**	**100.00**	**100.00**	

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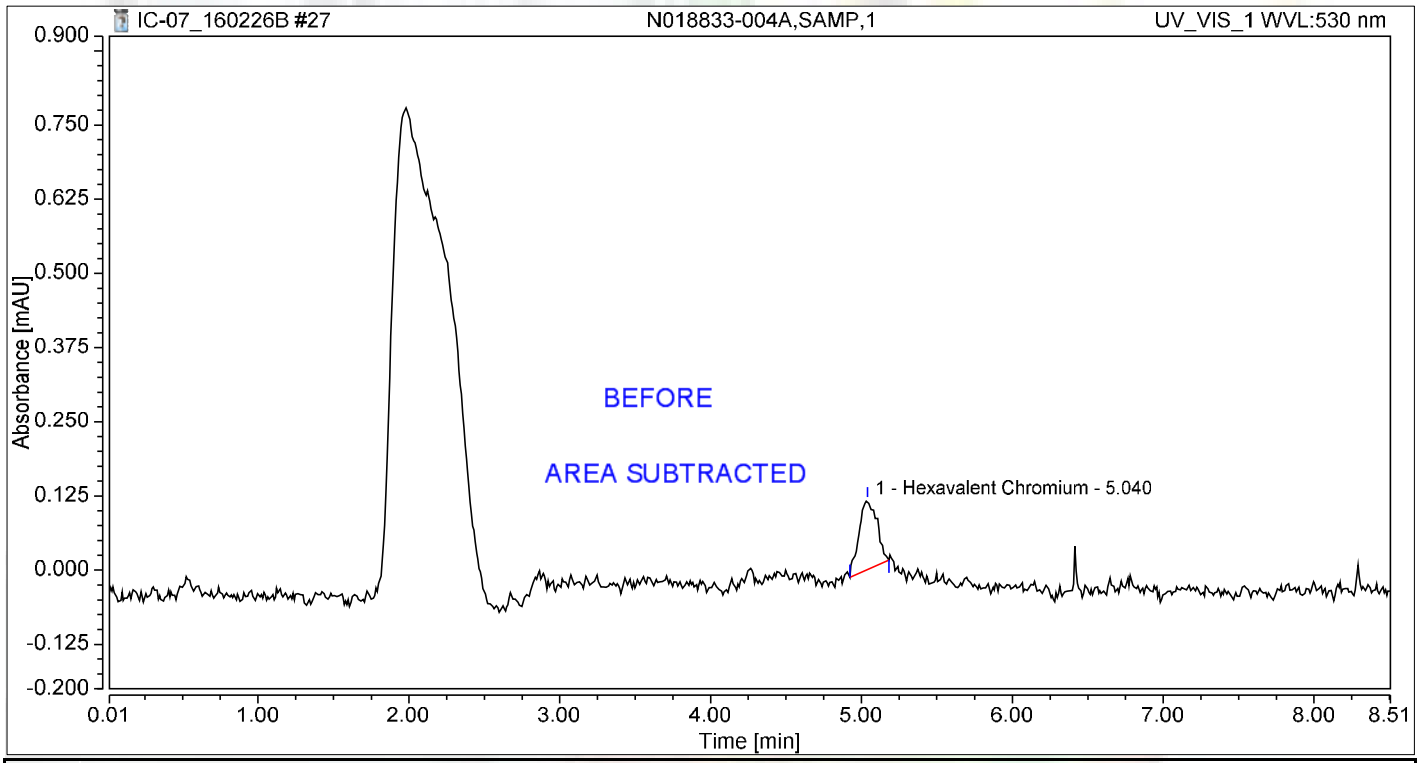
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 17:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.117	100.00	100.00	0.0679
Total:			**0.016**	**0.117**	**100.00**	**100.00**	

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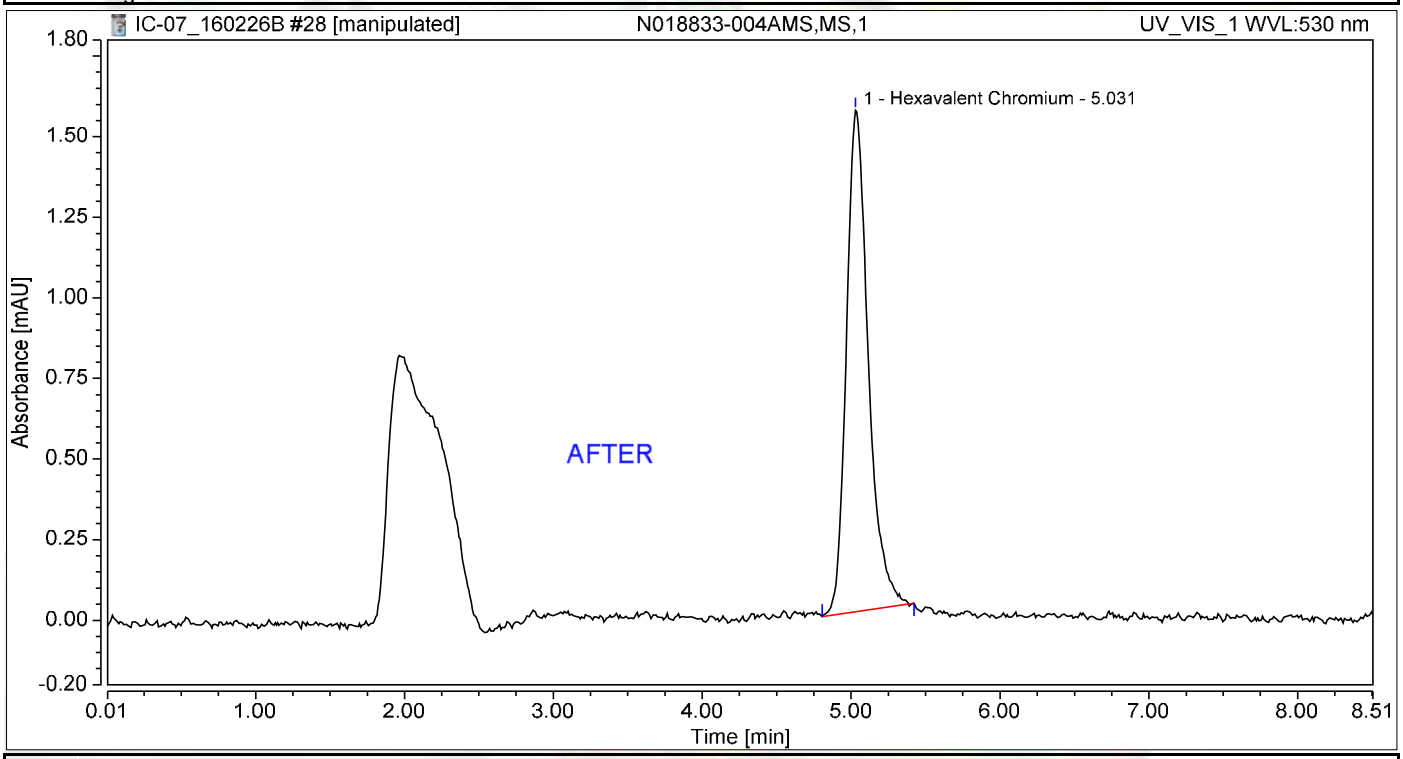
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.556	100.00	100.00	1.1131
Total:			**0.263**	**1.556**	**100.00**	**100.00**	

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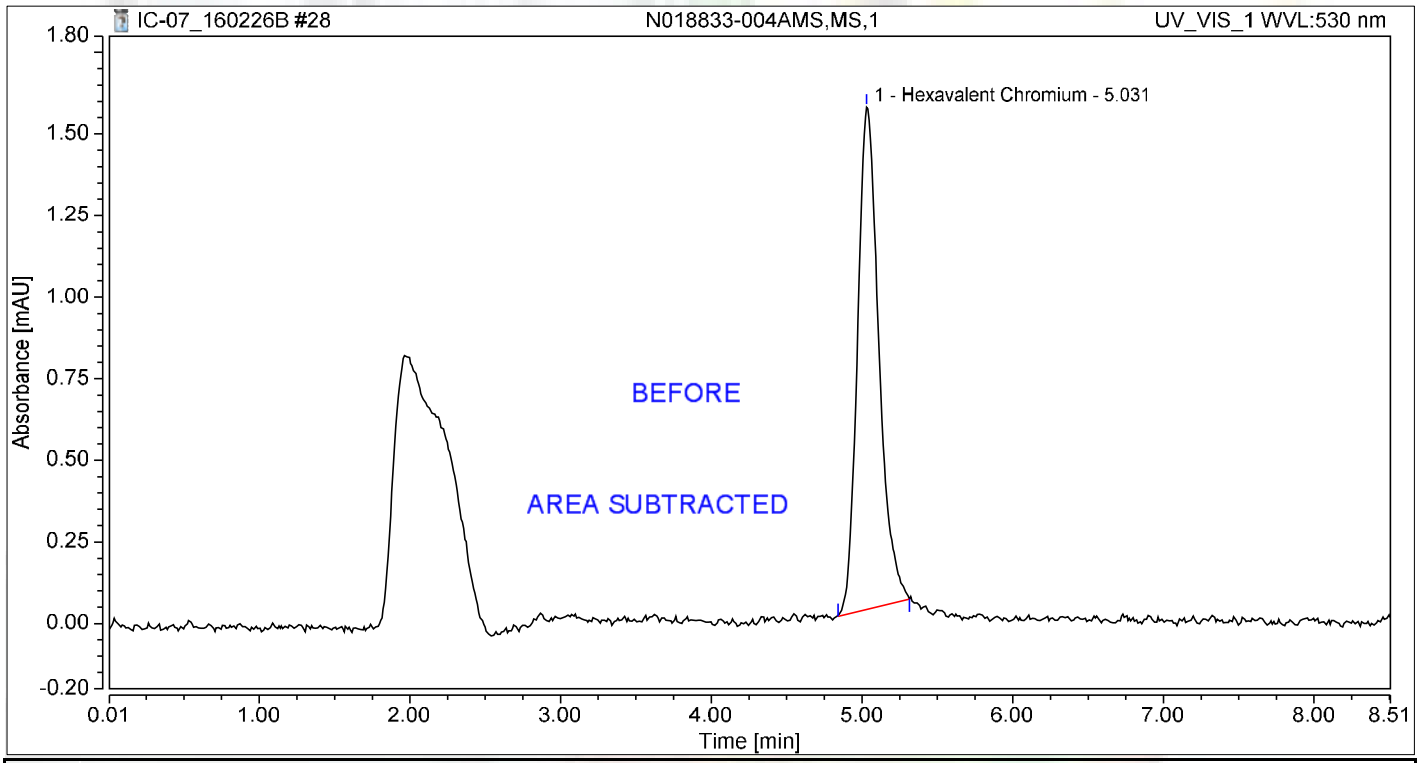
Chromatogram and Results

Injection Details

Injection Name:	**N018833-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.253	1.539	100.00	100.00	1.0688
Total:			**0.253**	**1.539**	**100.00**	**100.00**	

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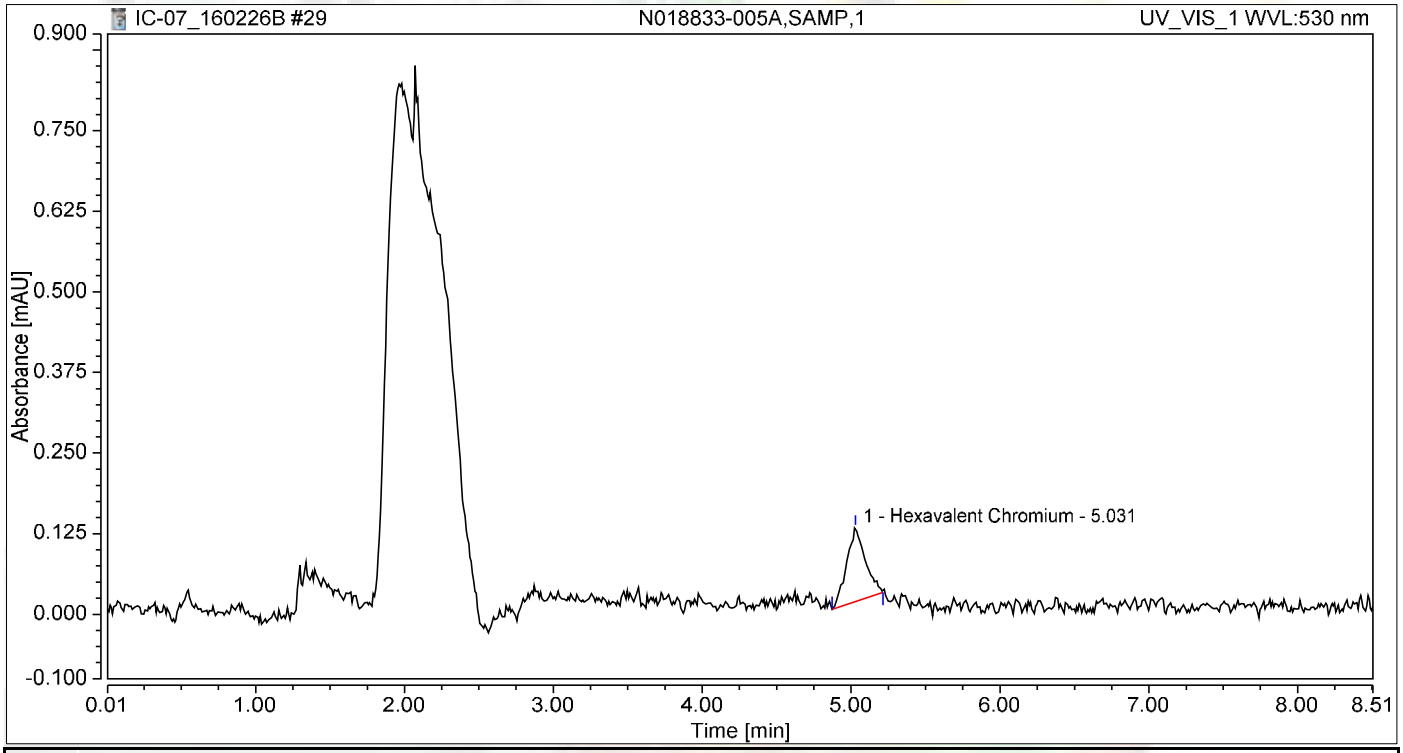
Chromatogram and Results

Injection Details

Injection Name:	**N018833-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

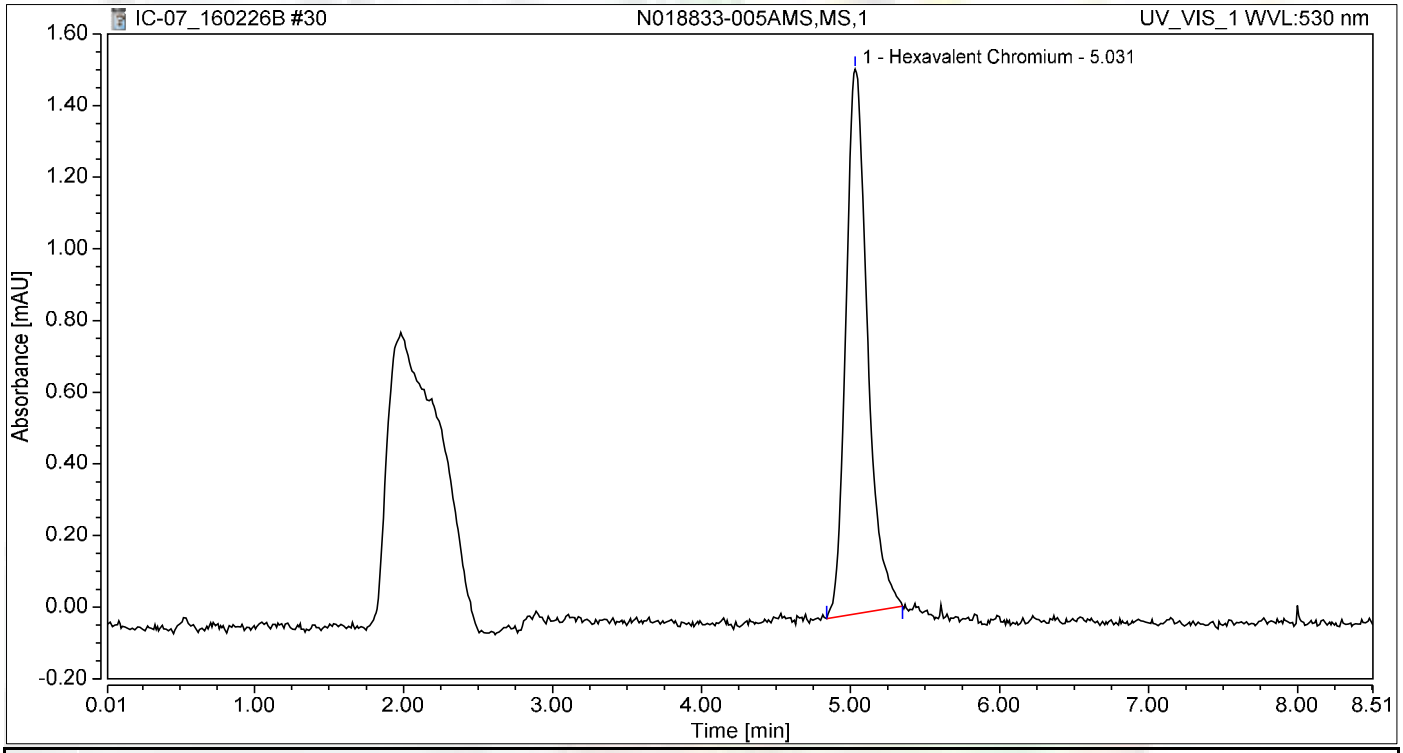
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.017	0.114	100.00	100.00	0.0700
Total:			**0.017**	**0.114**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

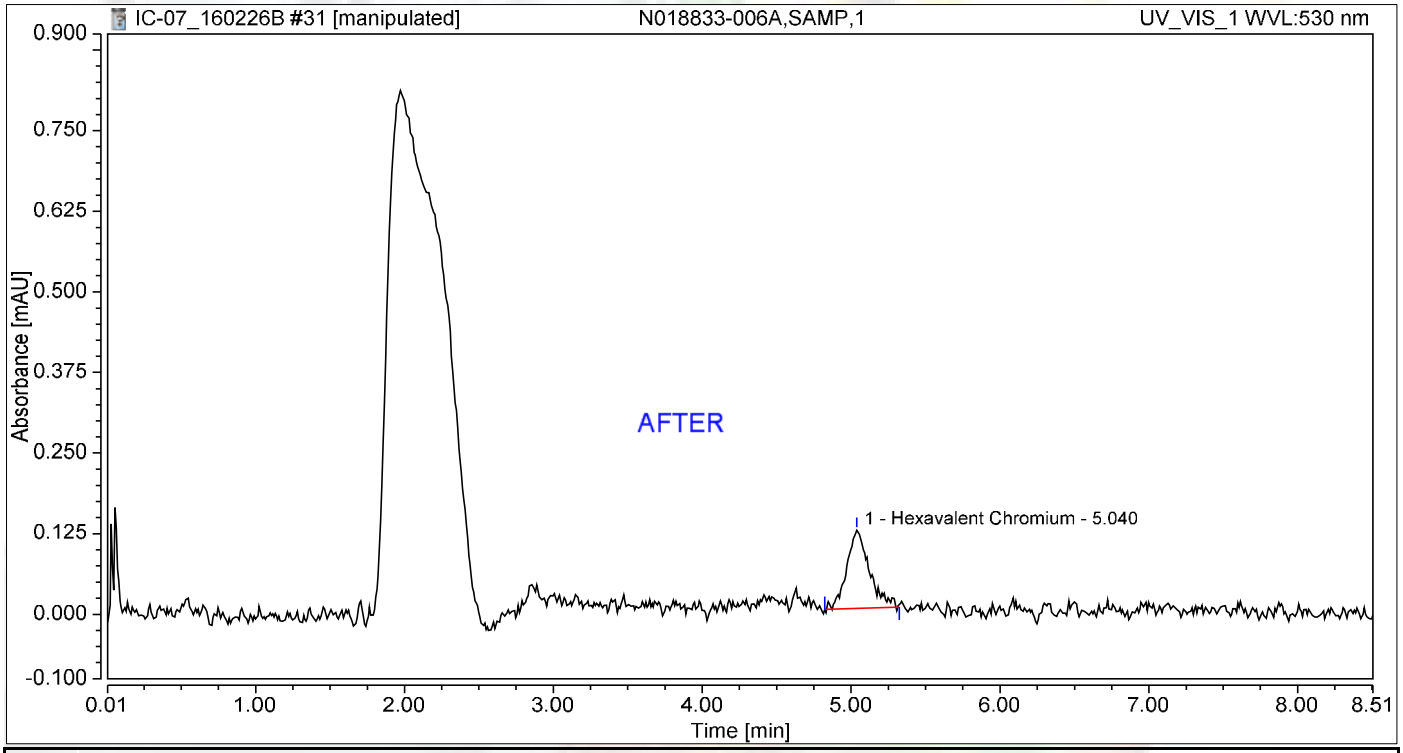
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.255	1.520	100.00	100.00	1.0757
Total:			**0.255**	**1.520**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.021	0.121	100.00	100.00	0.0890
Total:			**0.021**	**0.121**	**100.00**	**100.00**	

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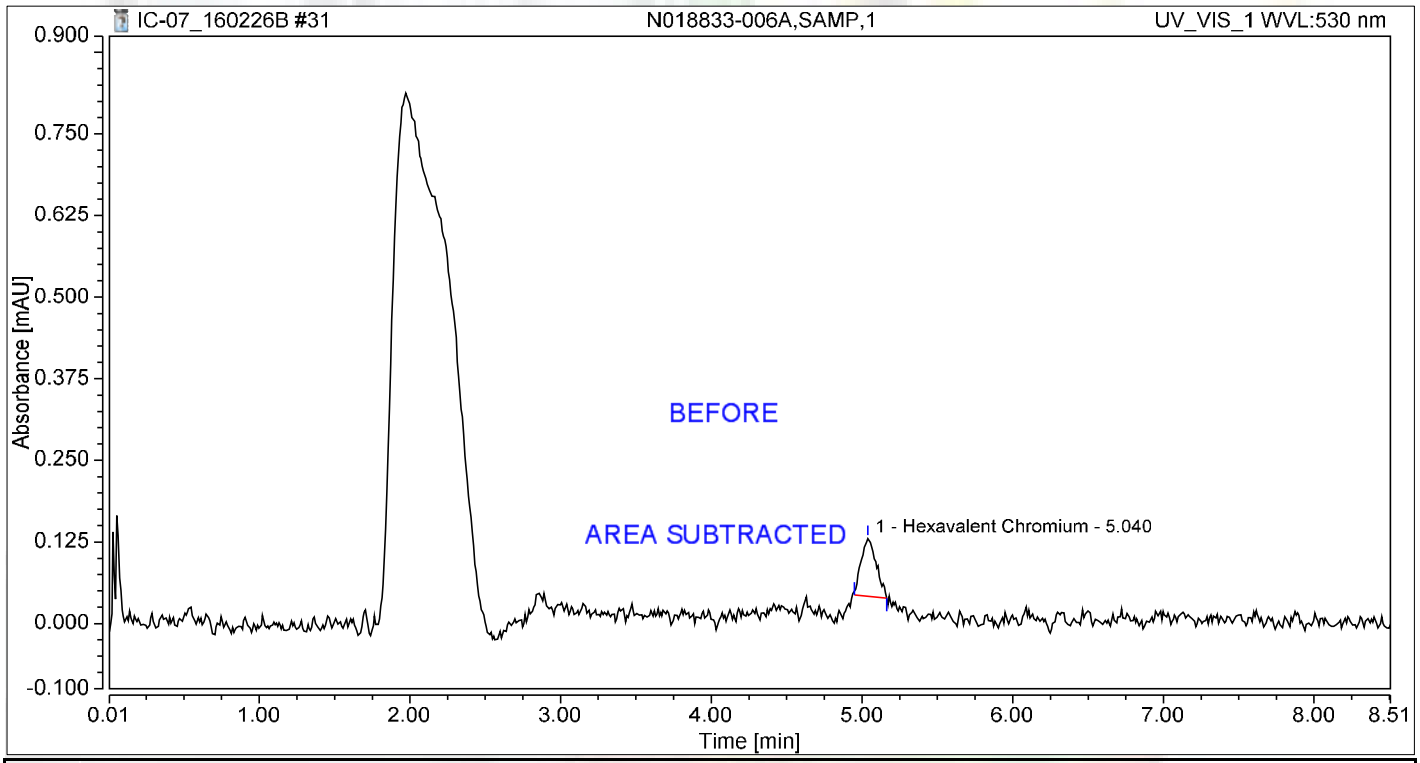
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.010	0.089	100.00	100.00	0.0434
Total:			**0.010**	**0.089**	**100.00**	**100.00**	

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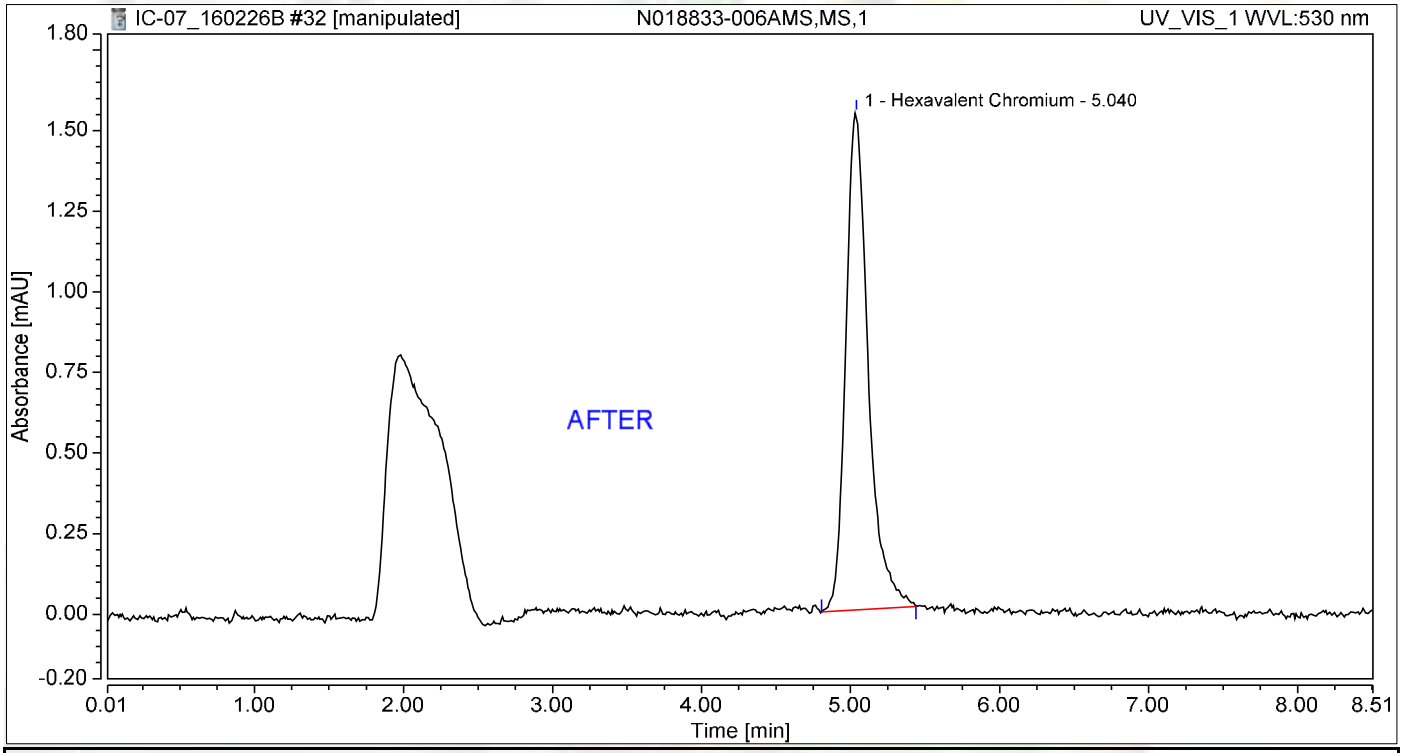
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.268	1.543	100.00	100.00	1.1321
Total:			**0.268**	**1.543**	**100.00**	**100.00**	

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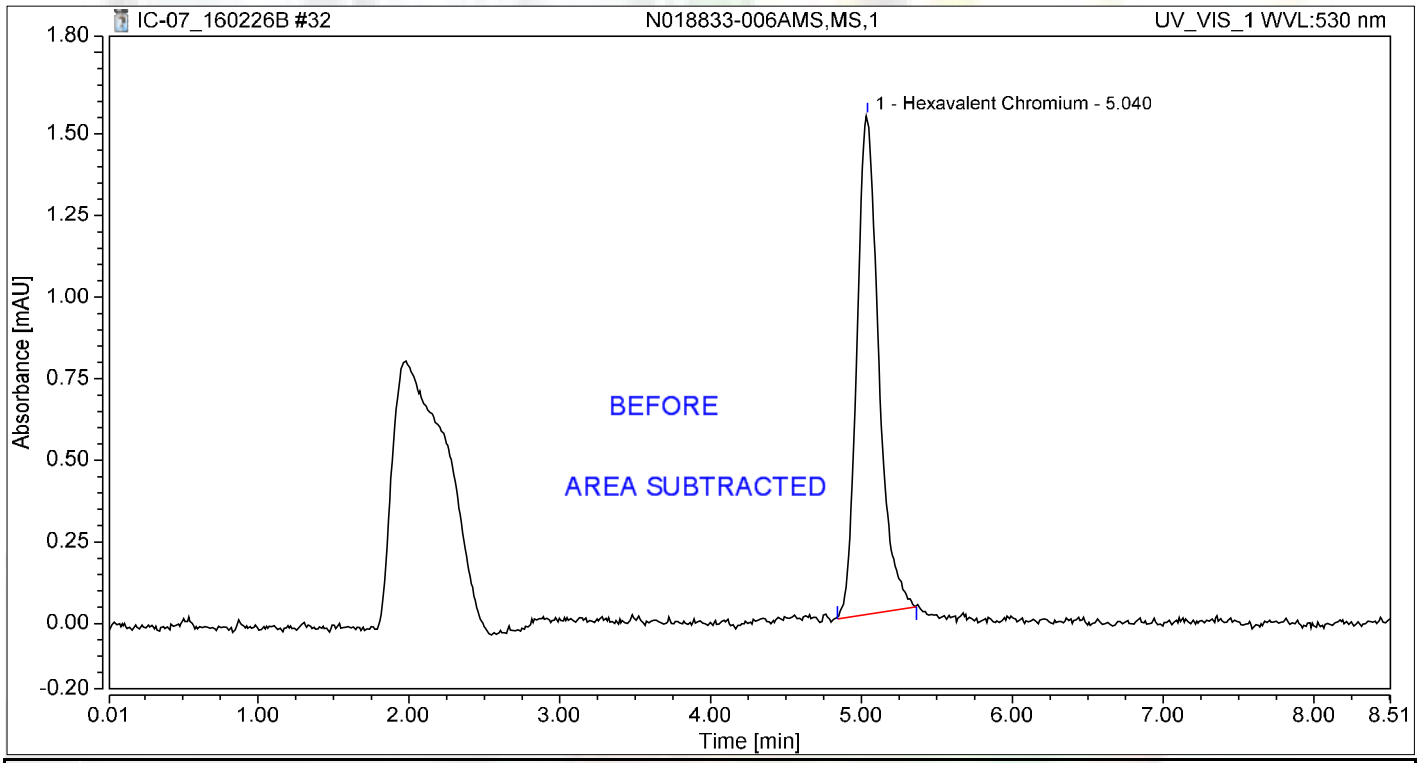
Chromatogram and Results

Injection Details

Injection Name:	**N018833-006AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.257	1.528	100.00	100.00	1.0864
Total:			**0.257**	**1.528**	**100.00**	**100.00**	

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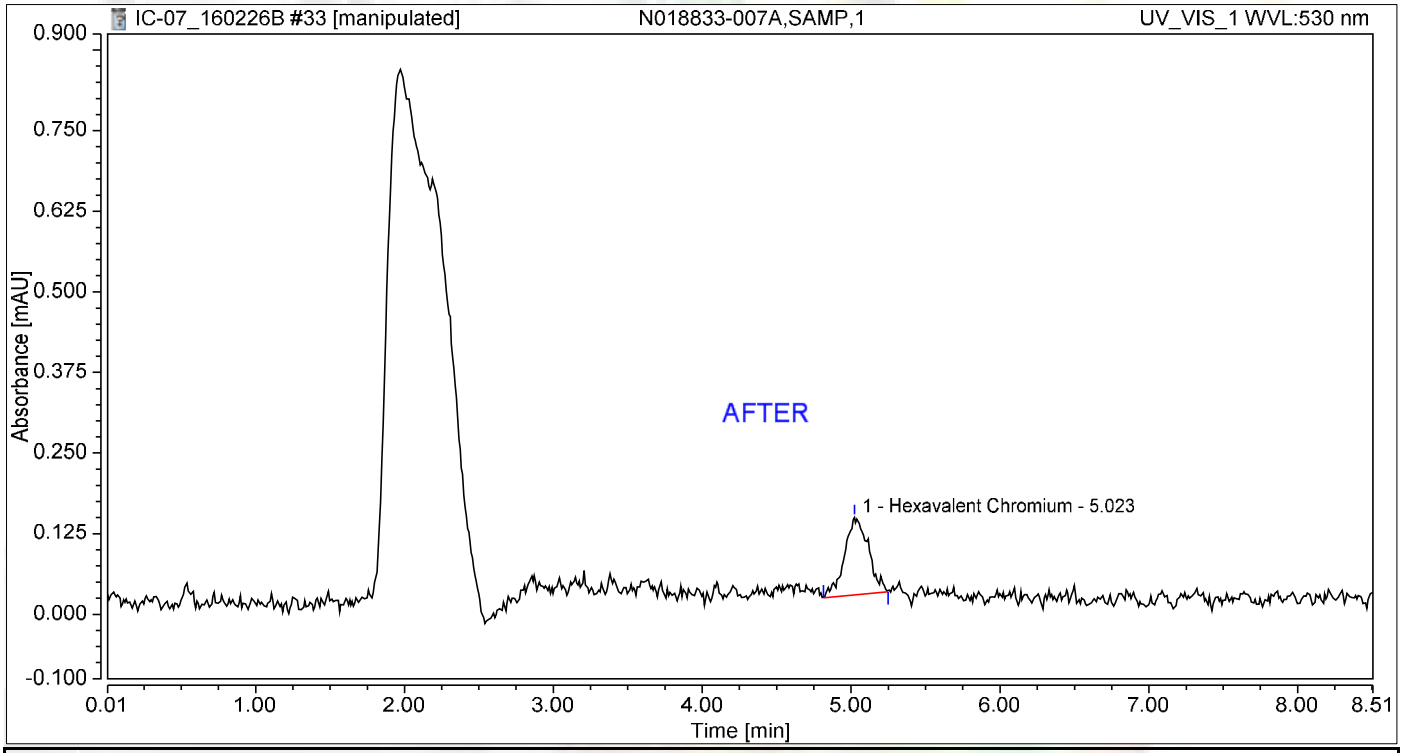
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.022	0.120	100.00	100.00	0.0934
Total:			**0.022**	**0.120**	**100.00**	**100.00**	

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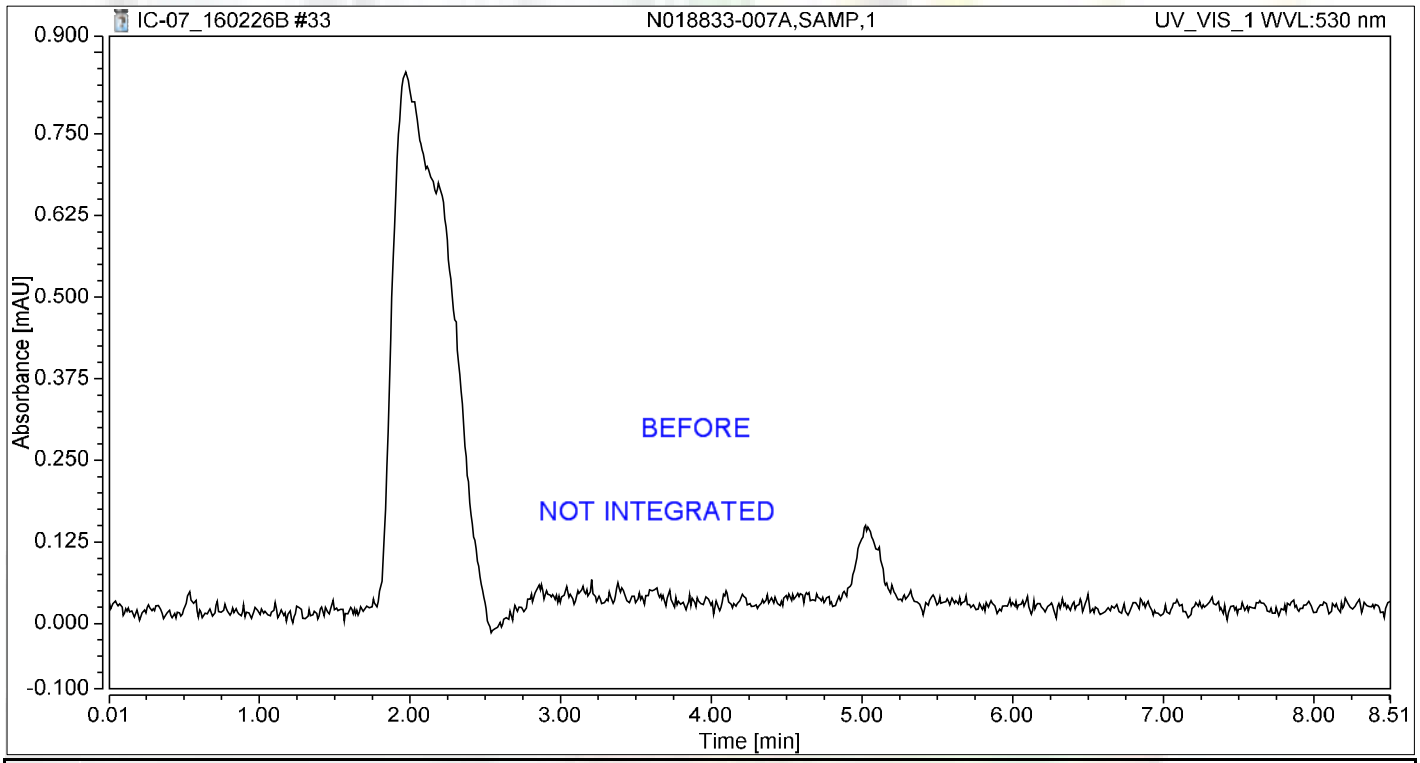
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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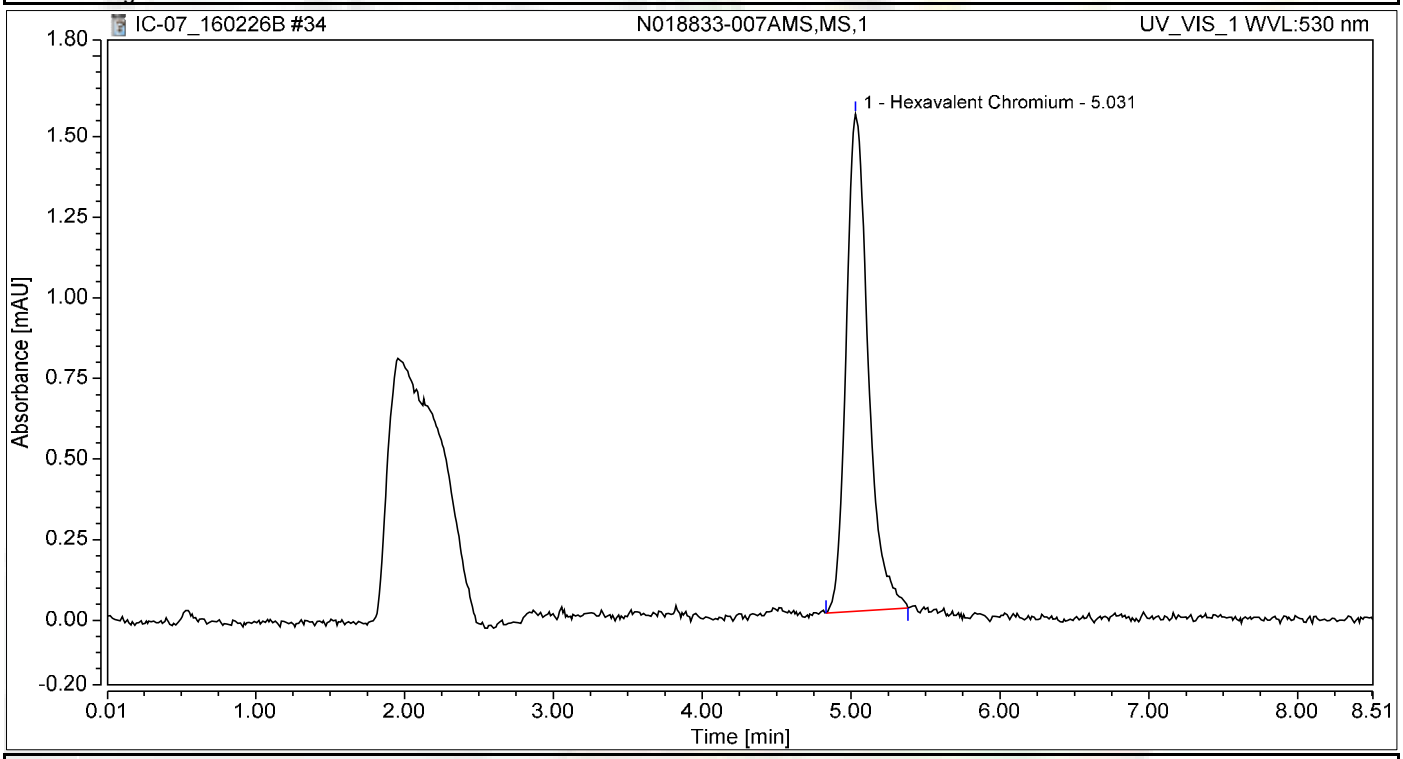
Chromatogram and Results

Injection Details

Injection Name:	**N018833-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

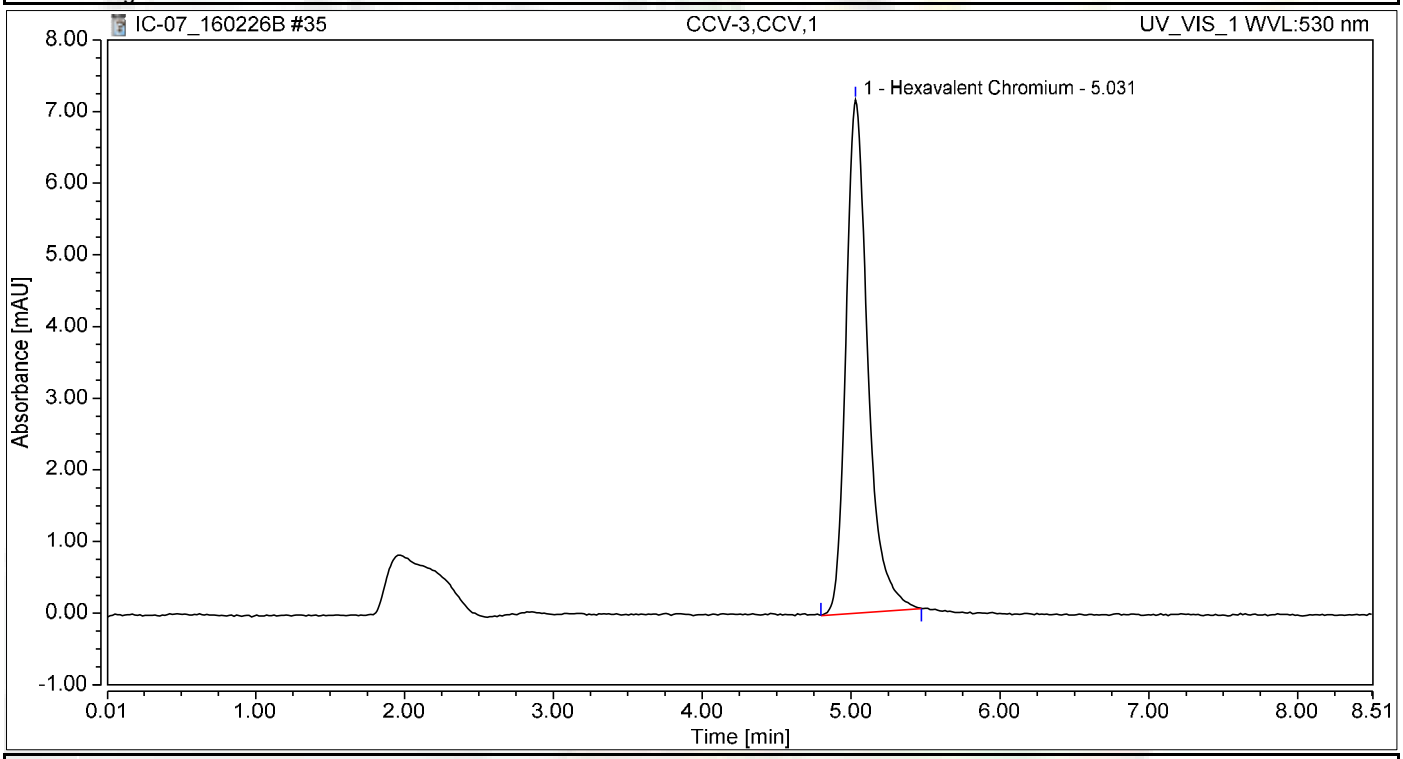
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.542	100.00	100.00	1.1098
Total:			**0.263**	**1.542**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

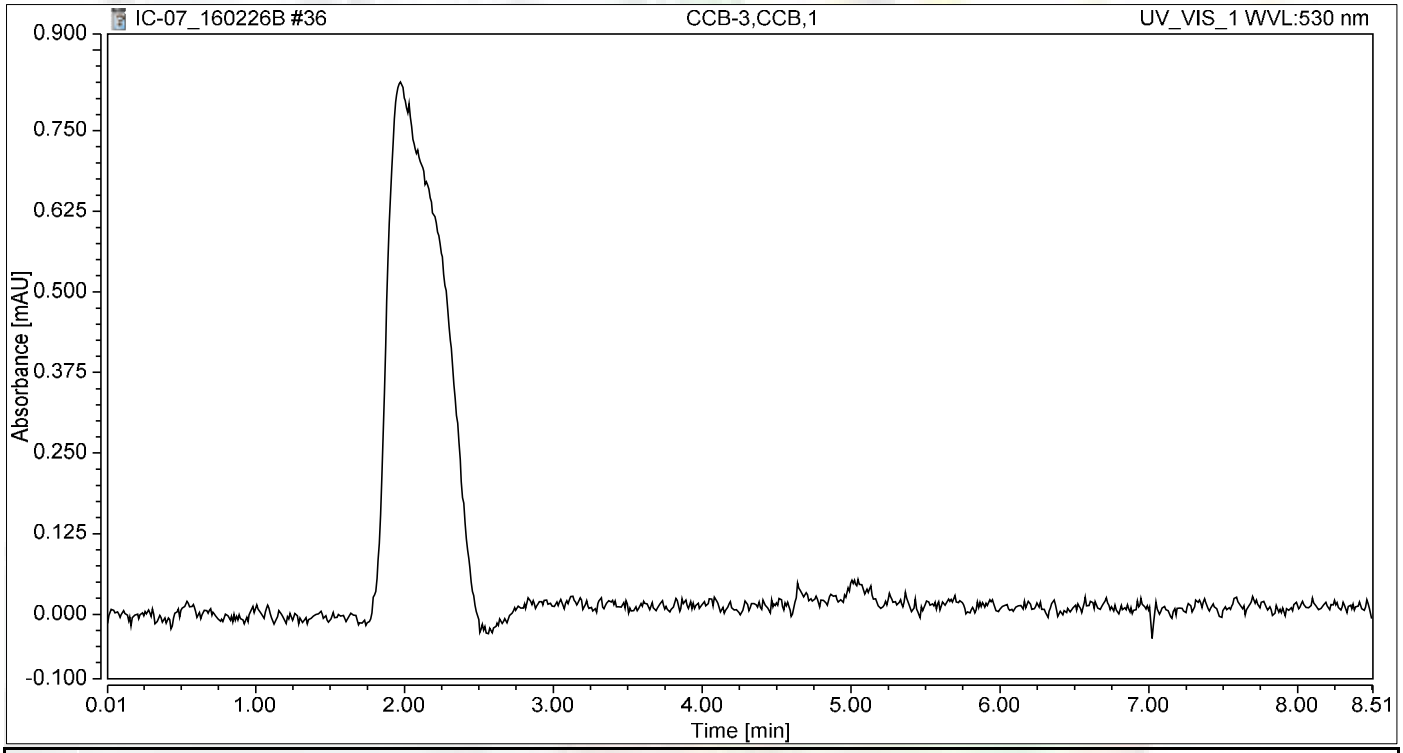
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.216	7.169	100.00	100.00	5.1380
Total:			**1.216**	**7.169**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

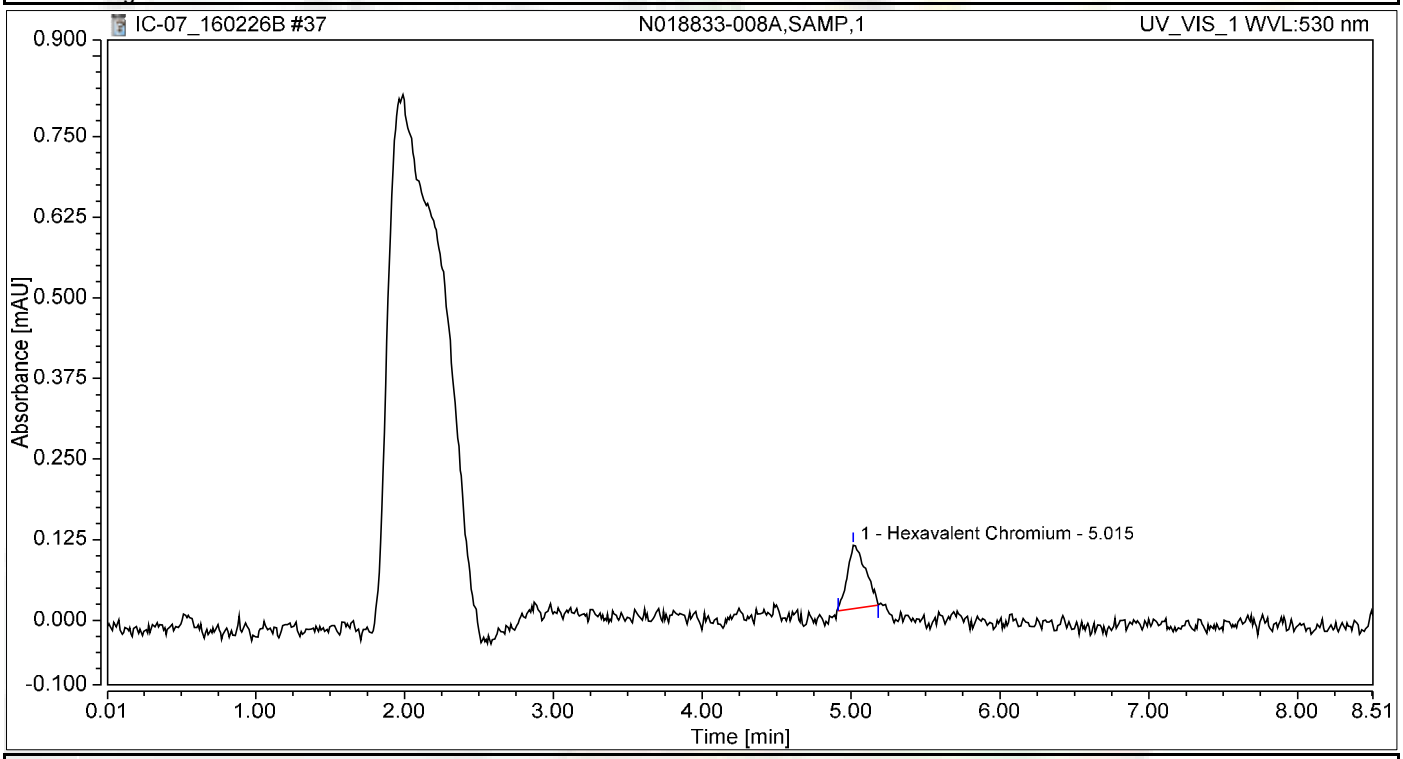
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

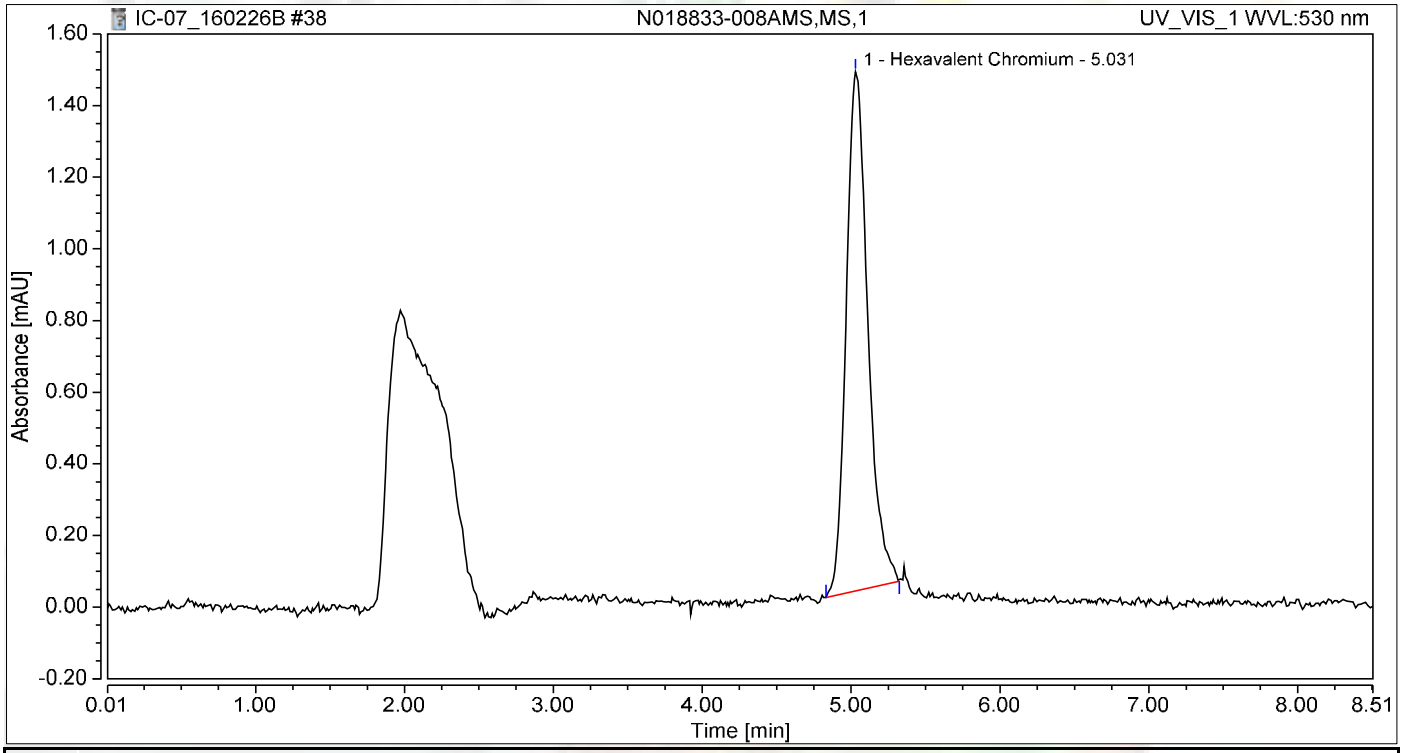
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.015	0.014	0.098	100.00	100.00	0.0585
Total:			**0.014**	**0.098**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

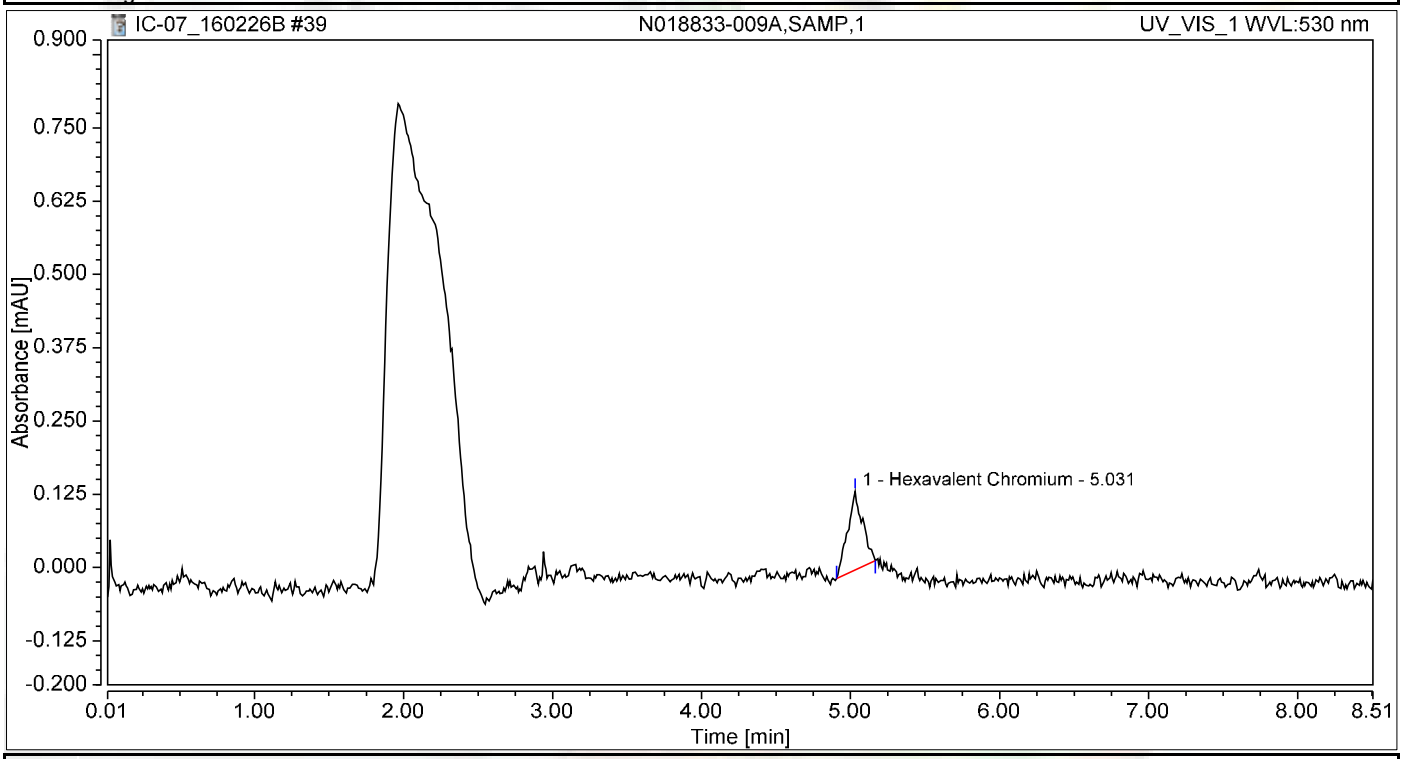
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.242	1.448	100.00	100.00	1.0233
Total:			**0.242**	**1.448**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 19:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

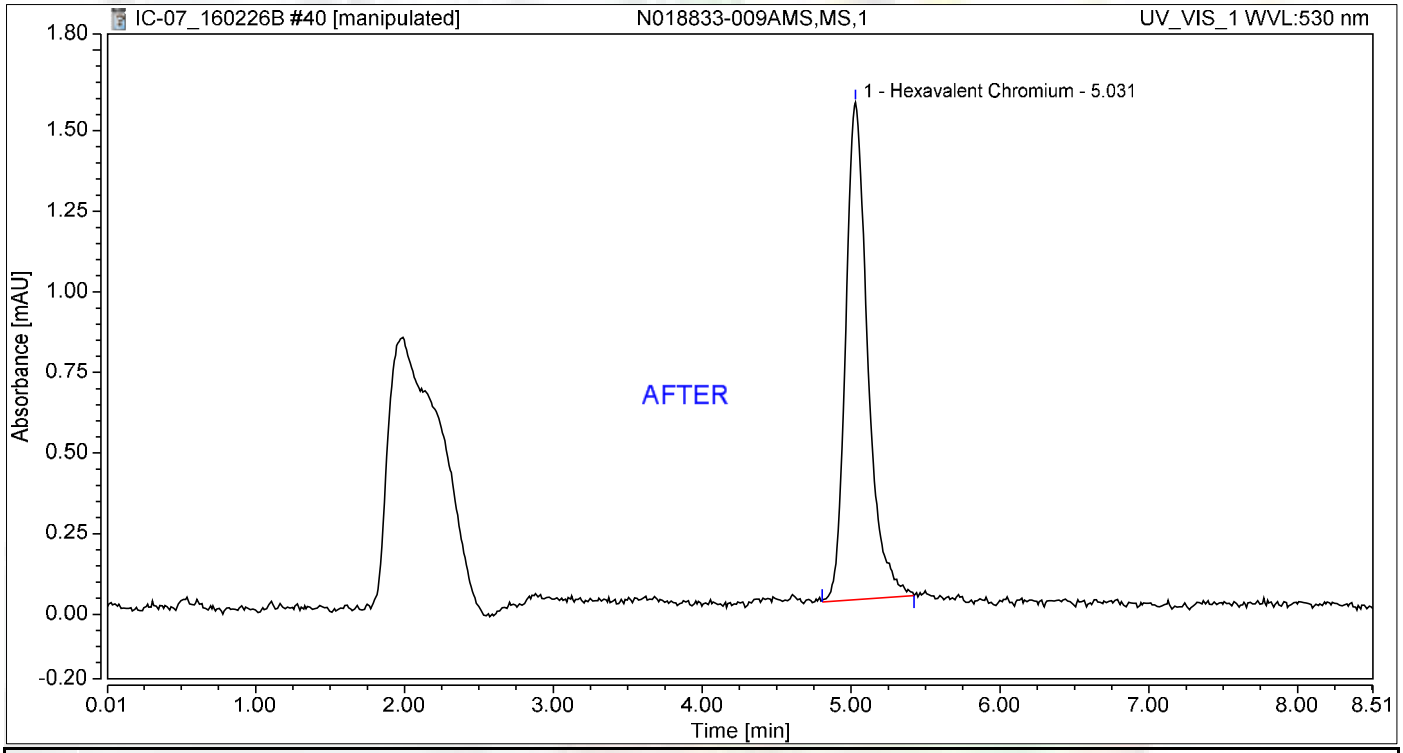
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.134	100.00	100.00	0.0656
Total:			**0.016**	**0.134**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.262	1.542	100.00	100.00	1.1084
Total:			**0.262**	**1.542**	**100.00**	**100.00**	

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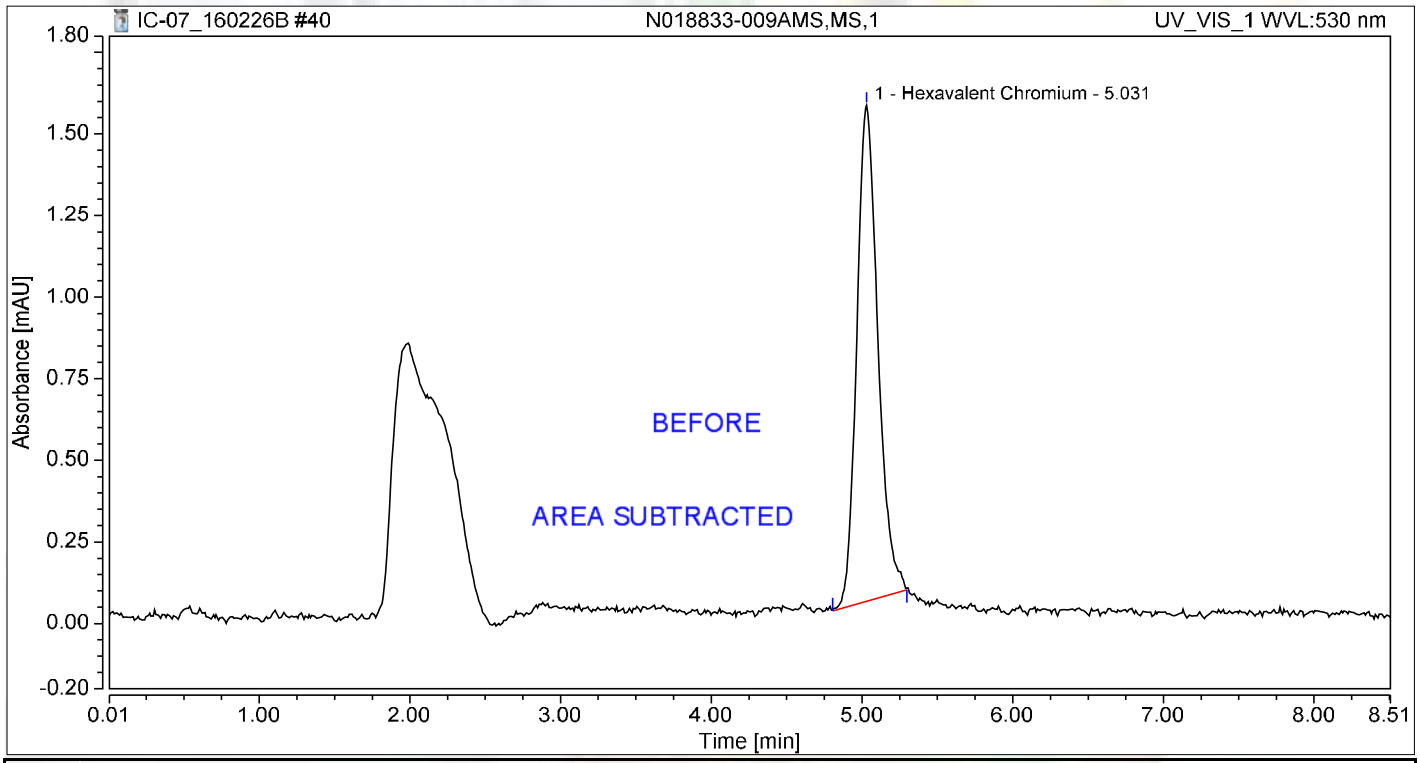
Chromatogram and Results

Injection Details

Injection Name:	**N018833-009AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.247	1.519	100.00	100.00	1.0439
Total:			**0.247**	**1.519**	**100.00**	**100.00**	

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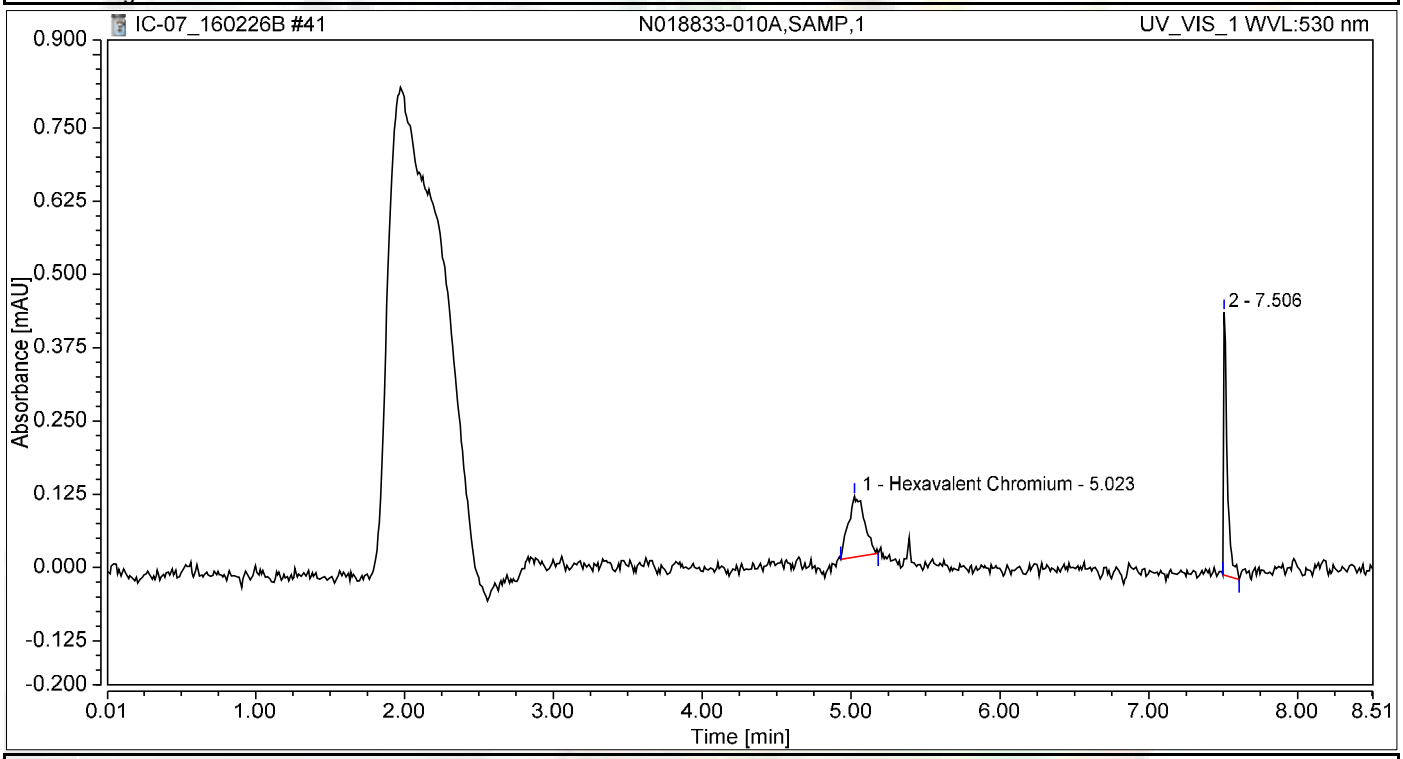
Chromatogram and Results

Injection Details

Injection Name:	**N018833-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

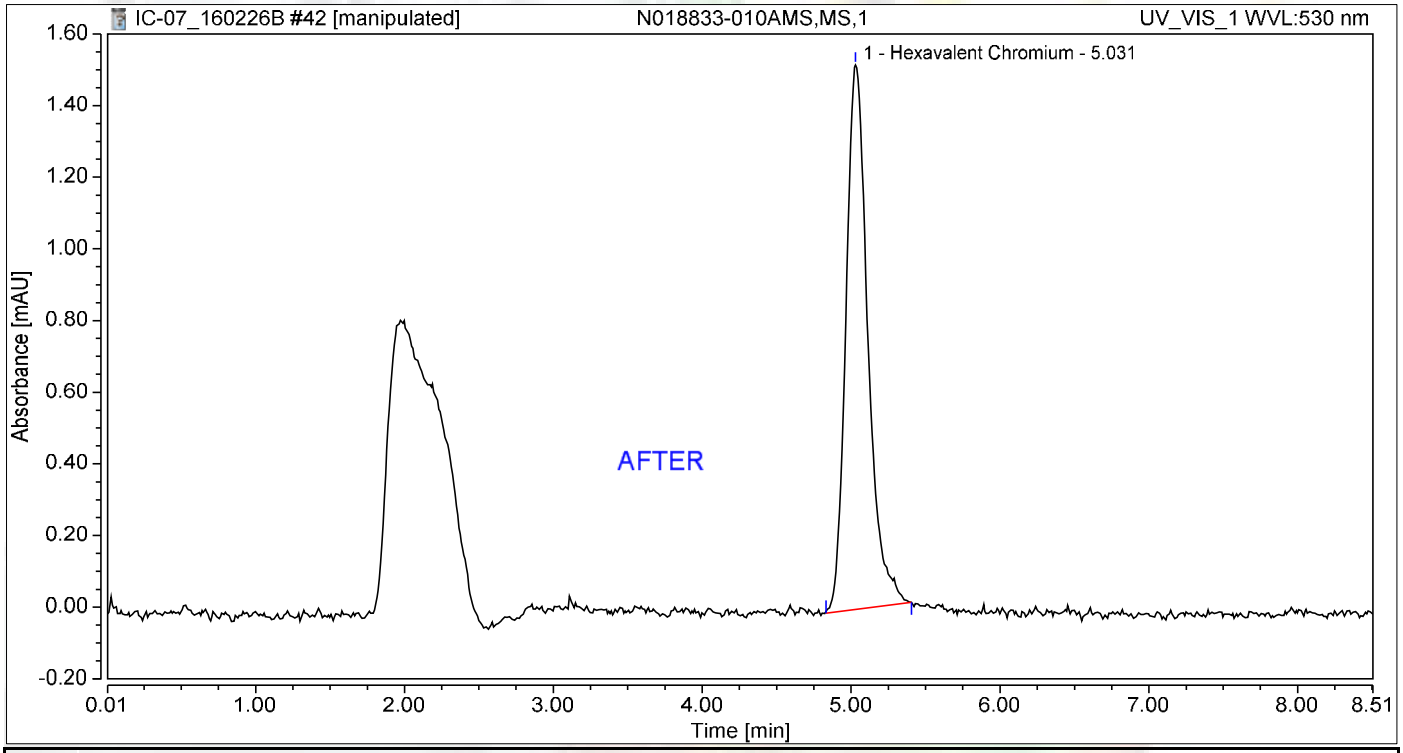
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.013	0.104	50.99	18.85	0.0546
2		7.506	0.012	0.449	49.01	81.15	n.a.
Total:			**0.025**	**0.553**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018833-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.258	1.520	100.00	100.00	1.0897
Total:			**0.258**	**1.520**	**100.00**	**100.00**	

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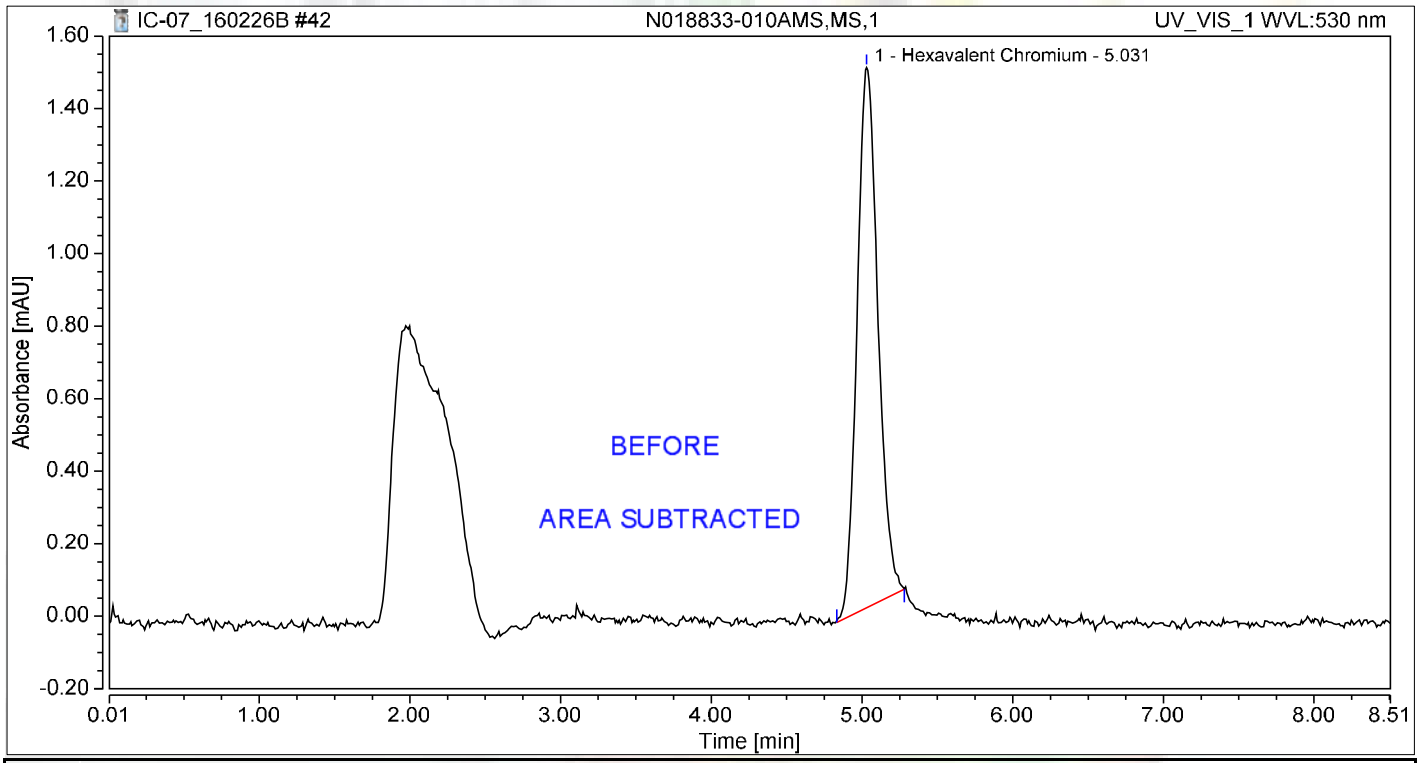
Chromatogram and Results

Injection Details

Injection Name:	**N018833-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.490	100.00	100.00	1.0125
Total:			**0.240**	**1.490**	**100.00**	**100.00**	

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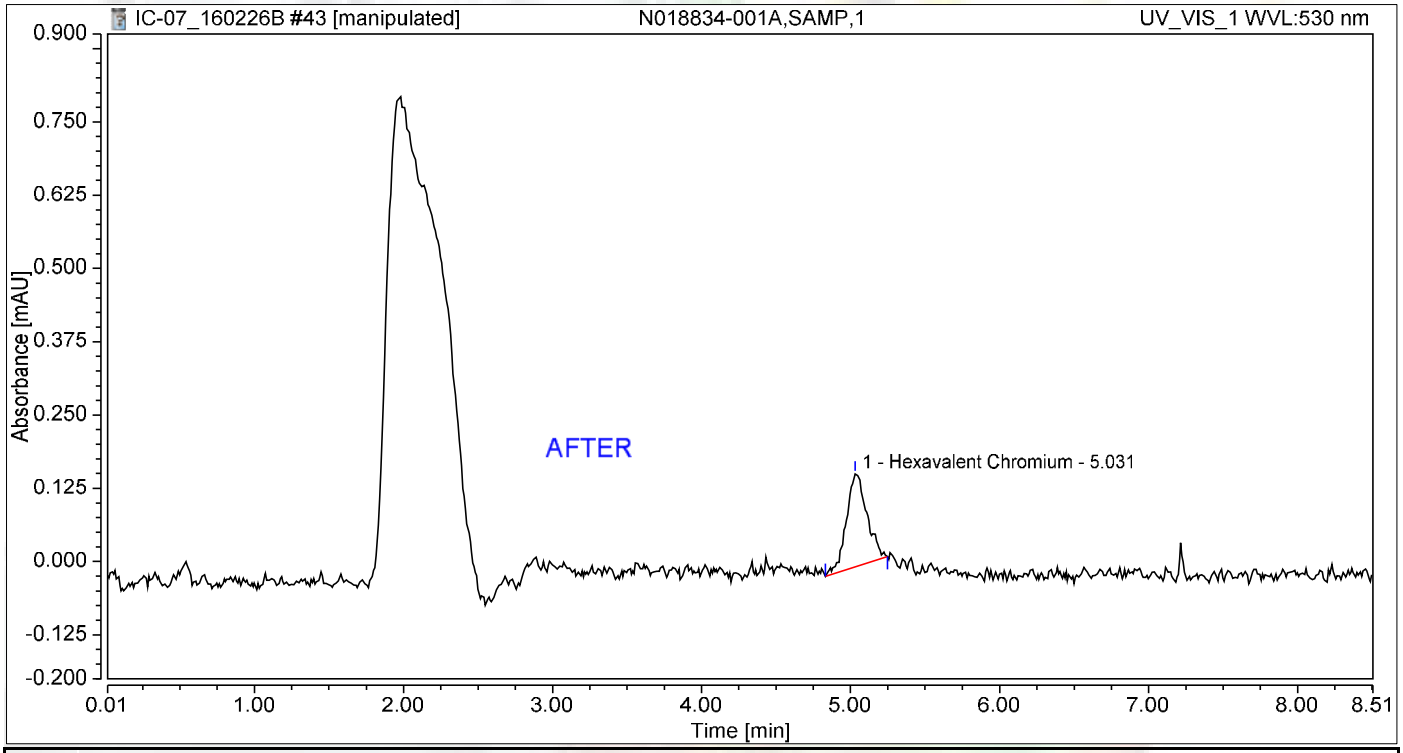
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.025	0.159	100.00	100.00	0.1067
Total:			**0.025**	**0.159**	**100.00**	**100.00**	

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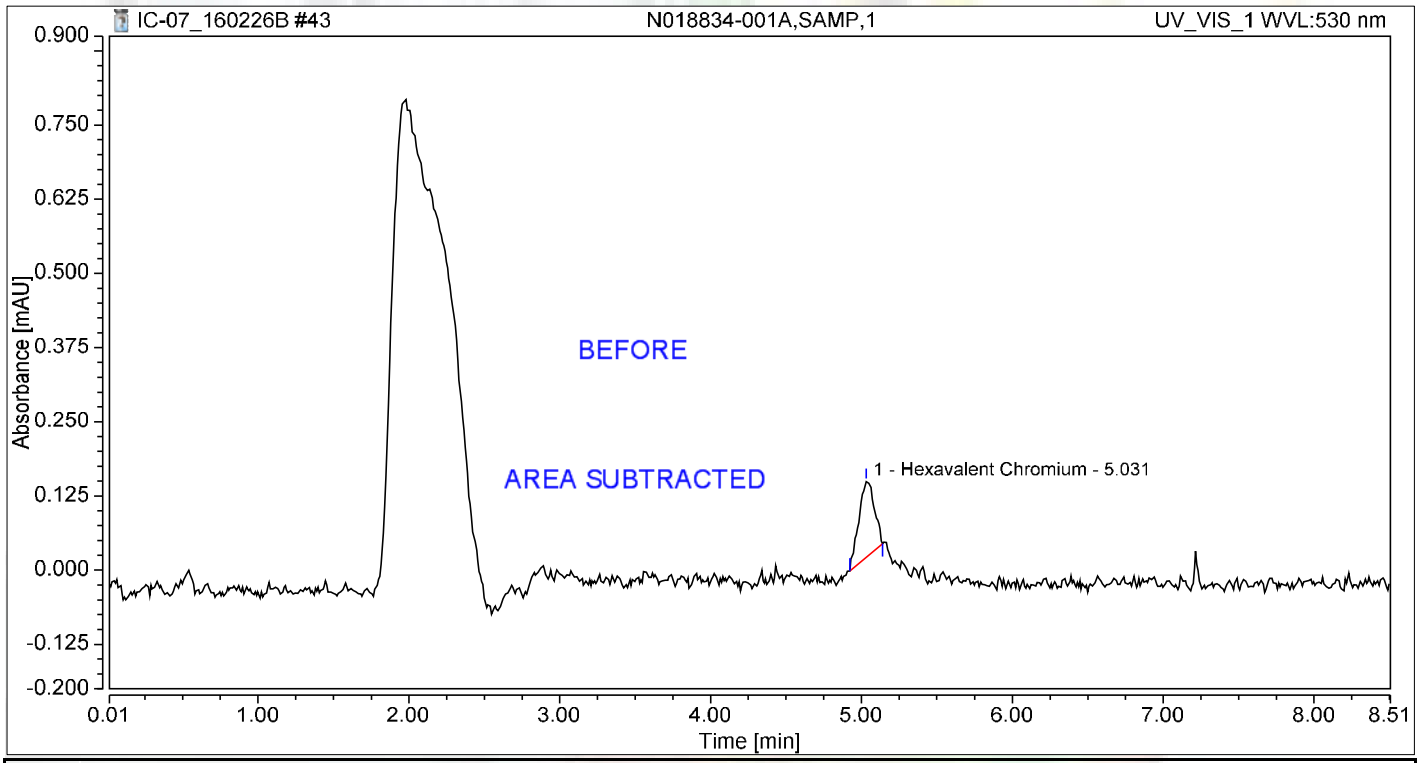
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.015	0.128	100.00	100.00	0.0647
Total:			**0.015**	**0.128**	**100.00**	**100.00**	

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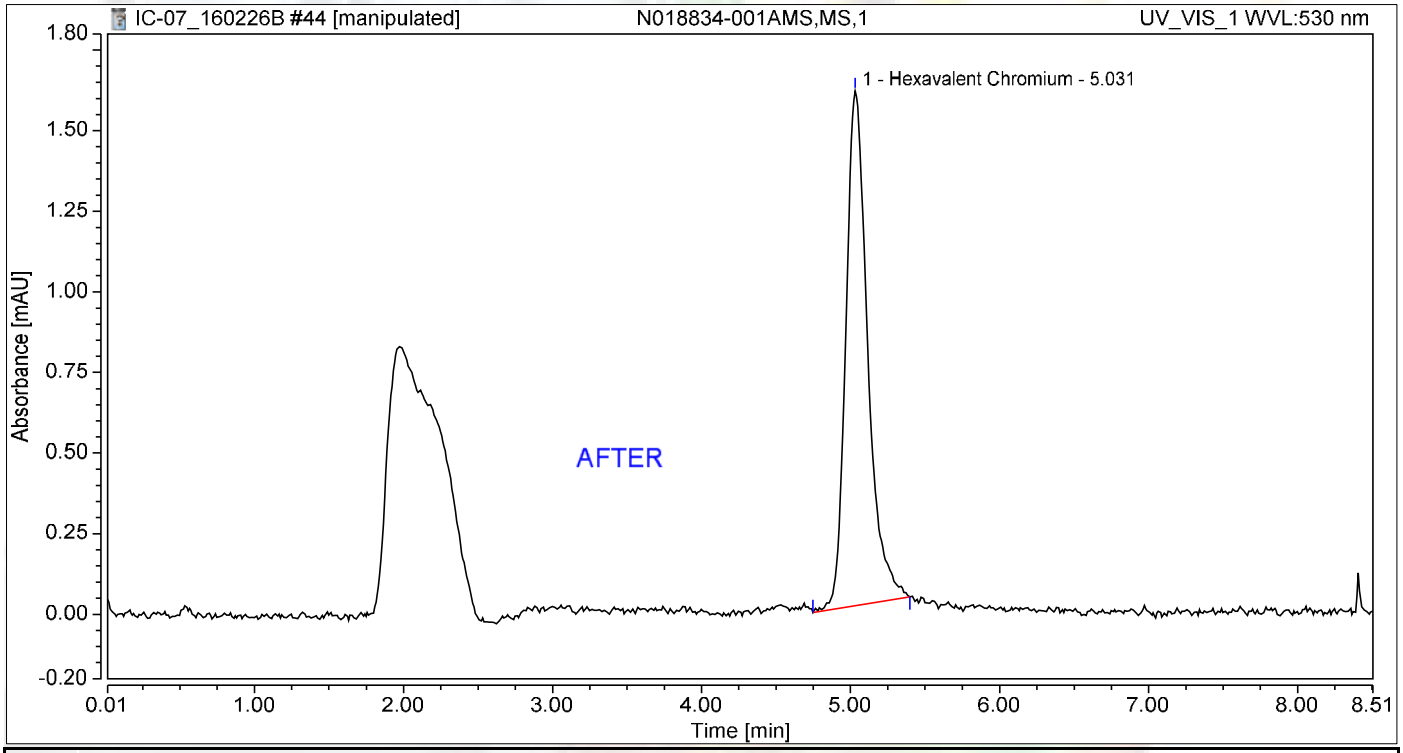
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.270	1.597	100.00	100.00	1.1394
Total:			**0.270**	**1.597**	**100.00**	**100.00**	

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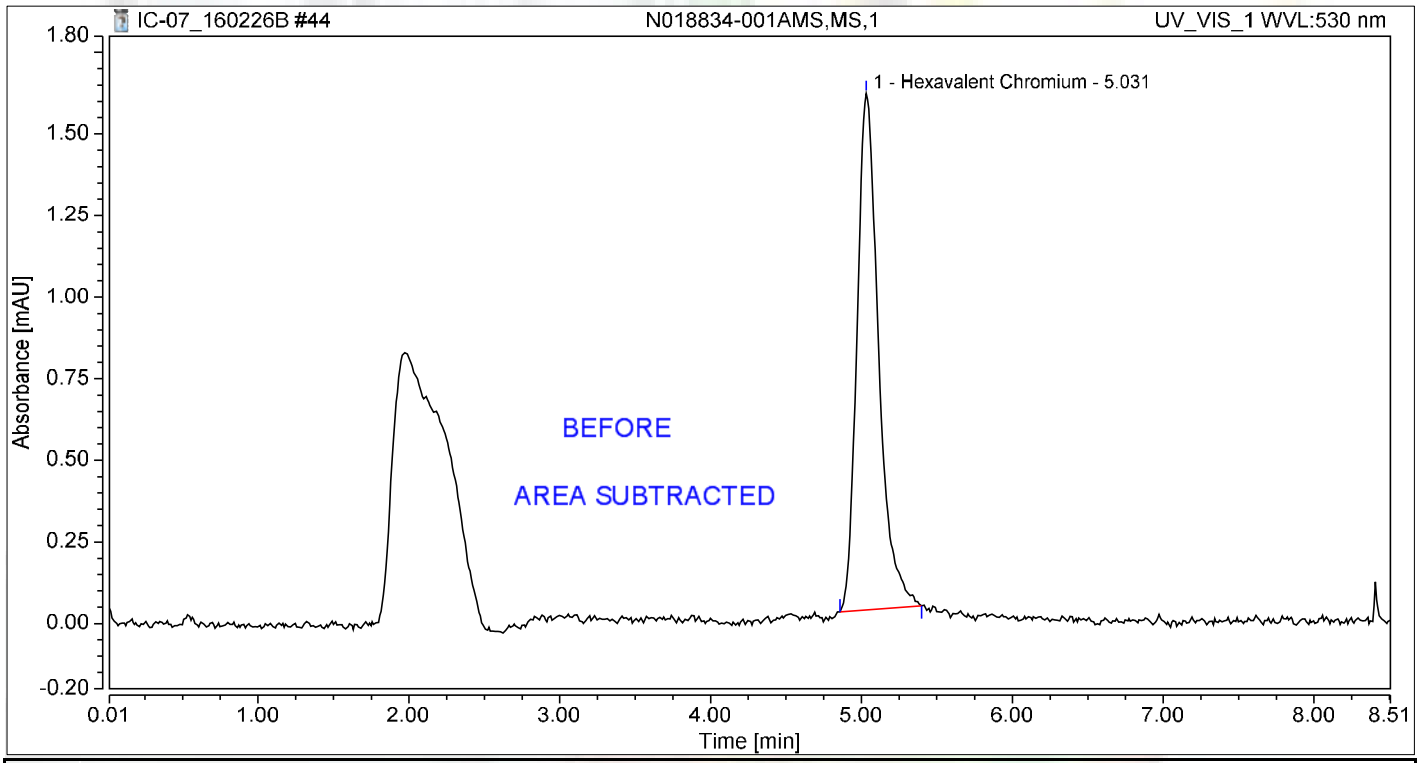
Chromatogram and Results

Injection Details

Injection Name:	**N018834-001AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.582	100.00	100.00	1.1103
Total:			**0.263**	**1.582**	**100.00**	**100.00**	

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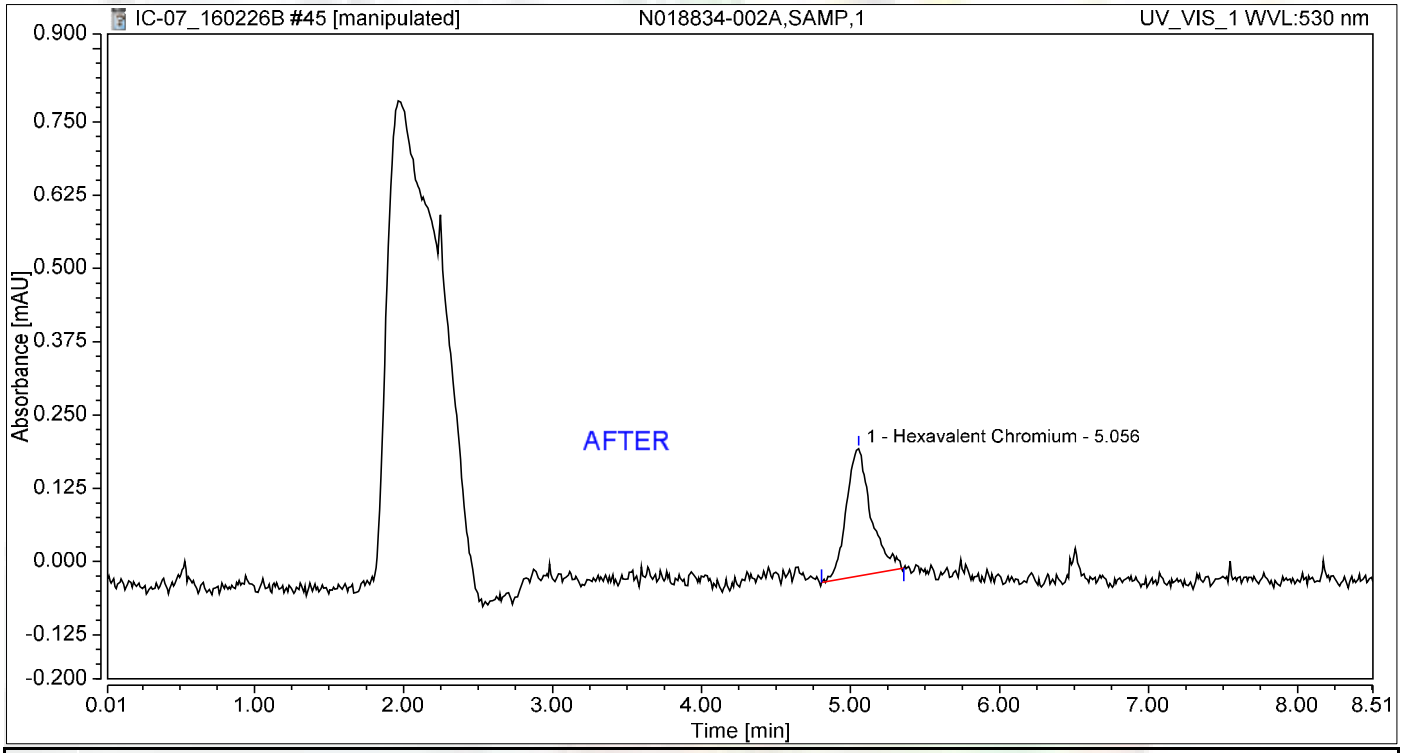
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.042	0.217	100.00	100.00	0.1764
Total:			**0.042**	**0.217**	**100.00**	**100.00**	

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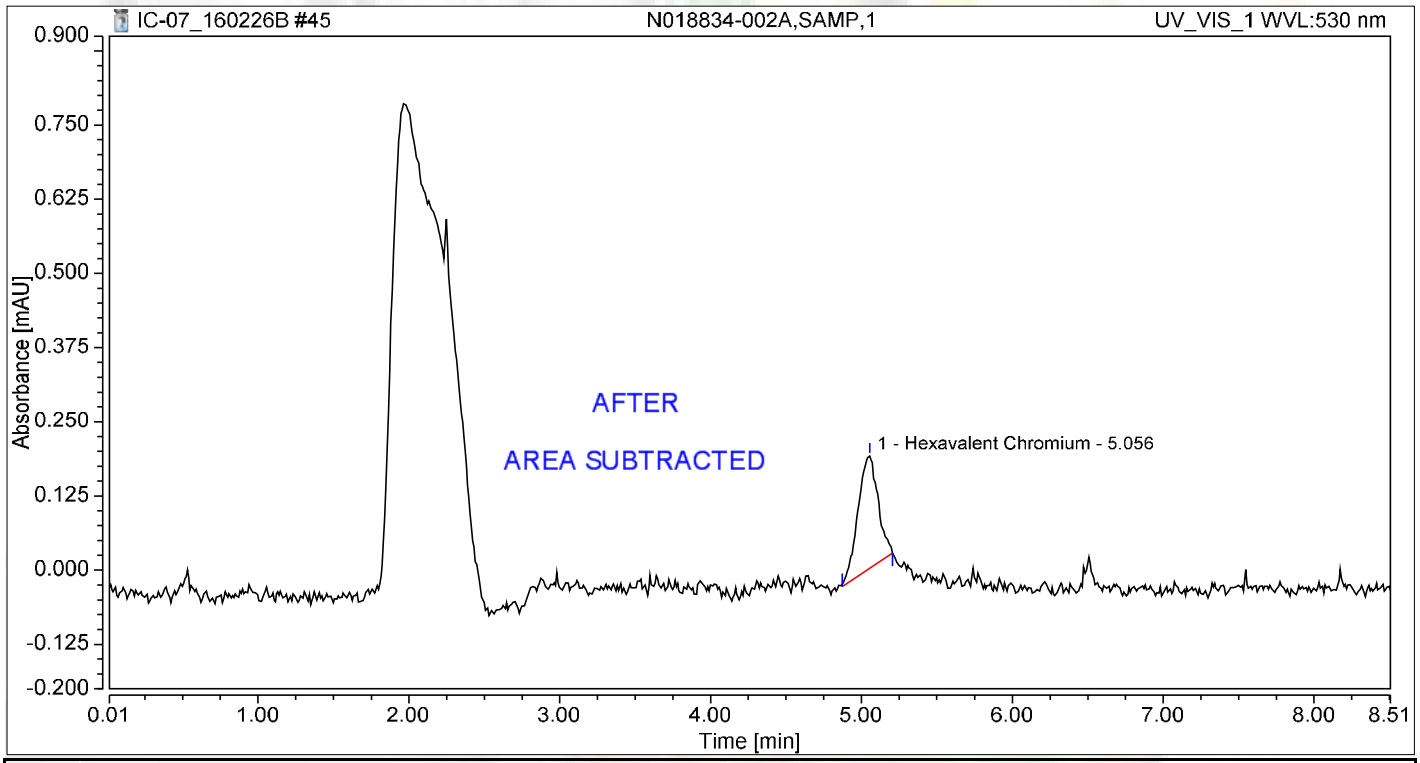
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.030	0.189	100.00	100.00	0.1248
Total:			**0.030**	**0.189**	**100.00**	**100.00**	

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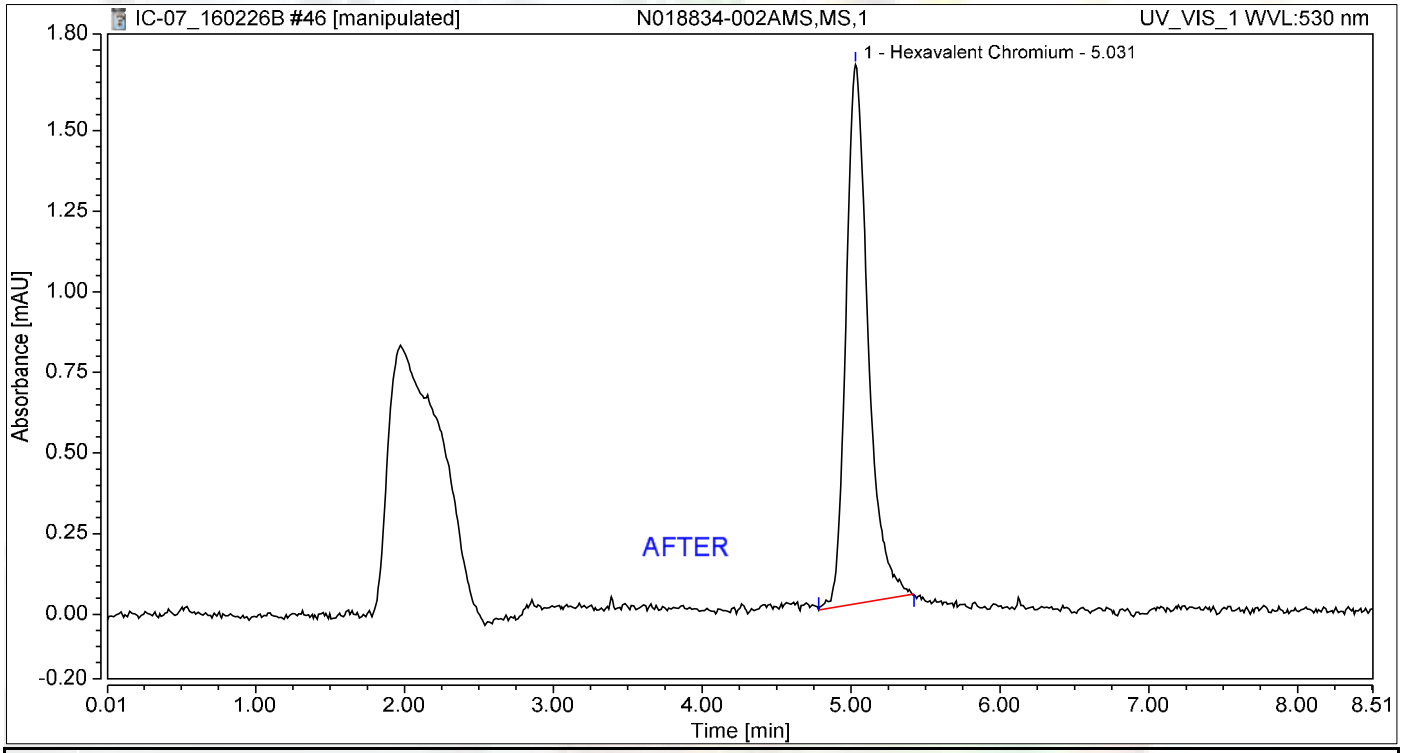
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.287	1.671	100.00	100.00	1.2106
Total:			**0.287**	**1.671**	**100.00**	**100.00**	

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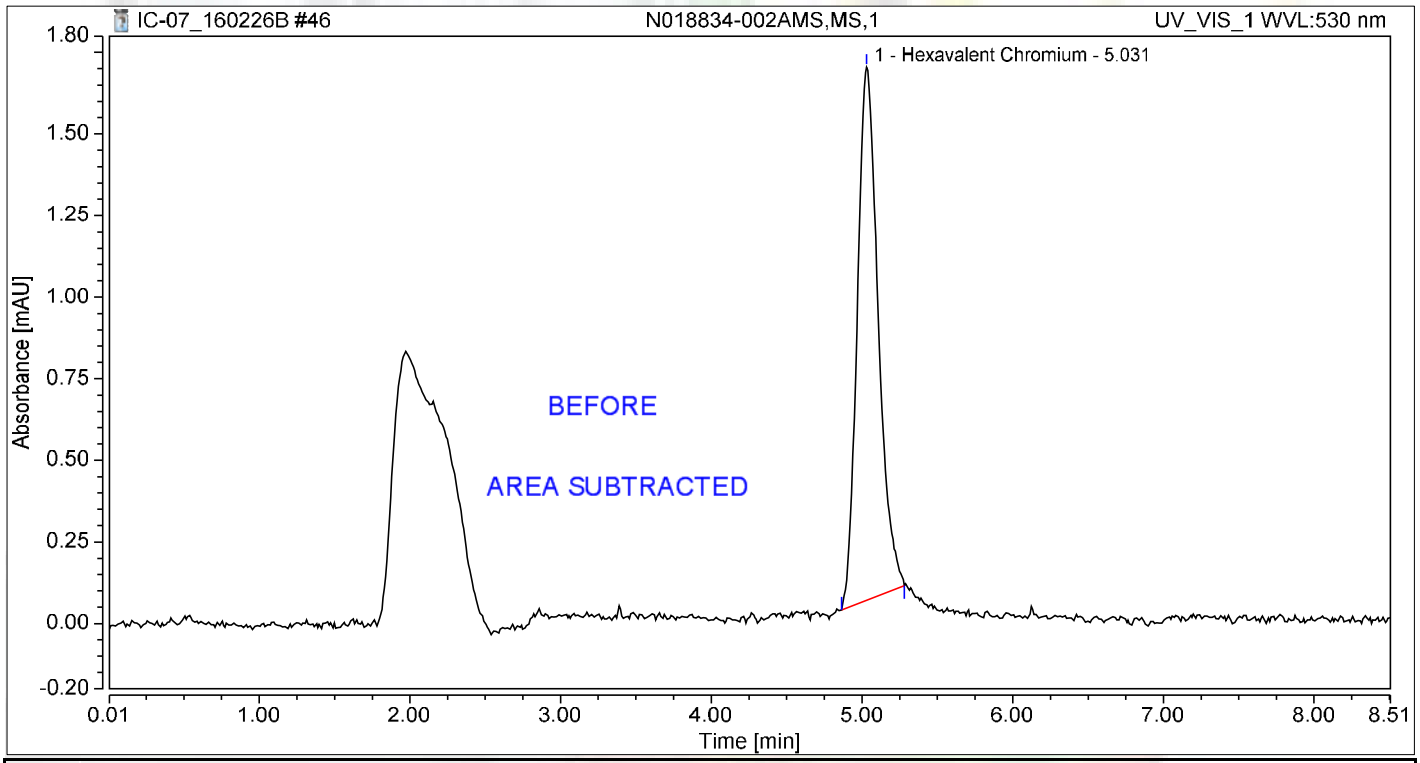
Chromatogram and Results

Injection Details

Injection Name:	**N018834-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.633	100.00	100.00	1.1102
Total:			**0.263**	**1.633**	**100.00**	**100.00**	

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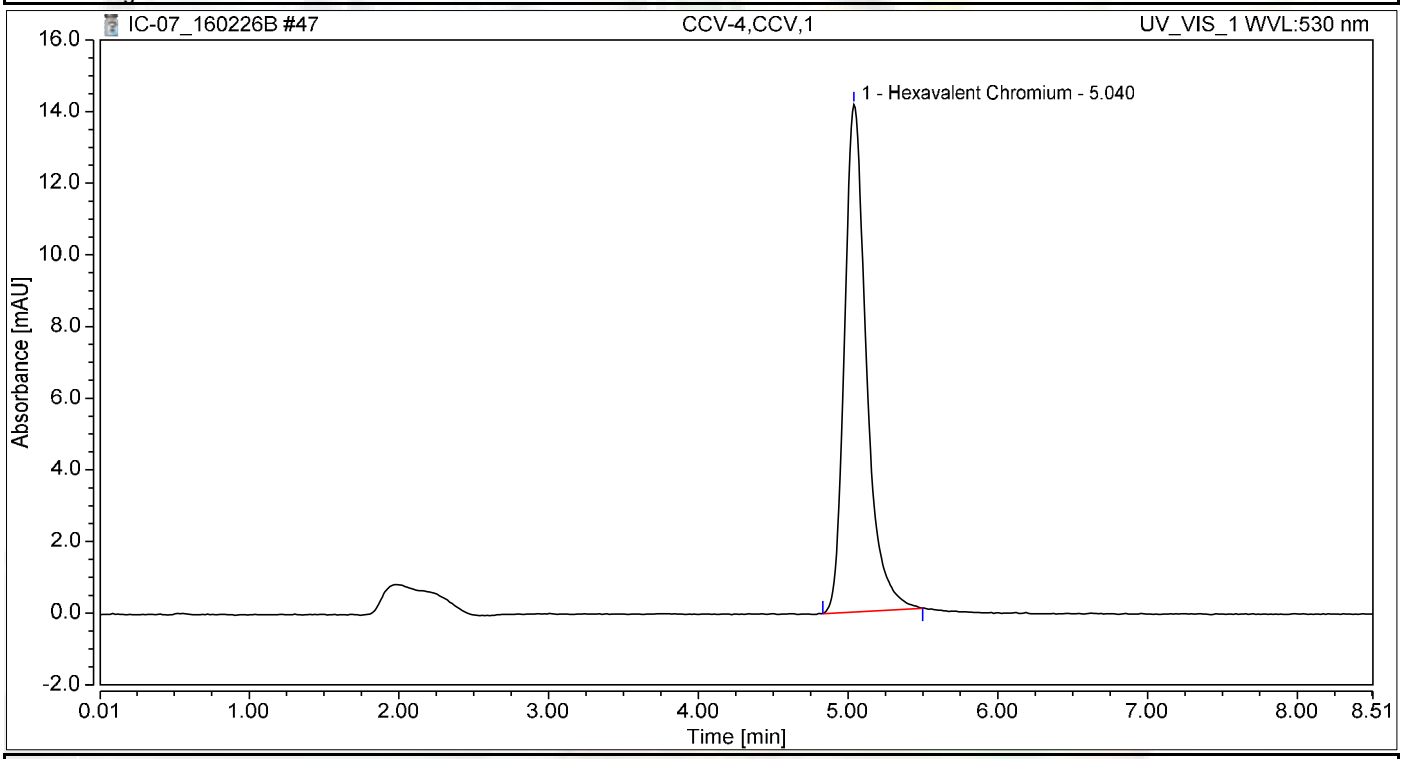
Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

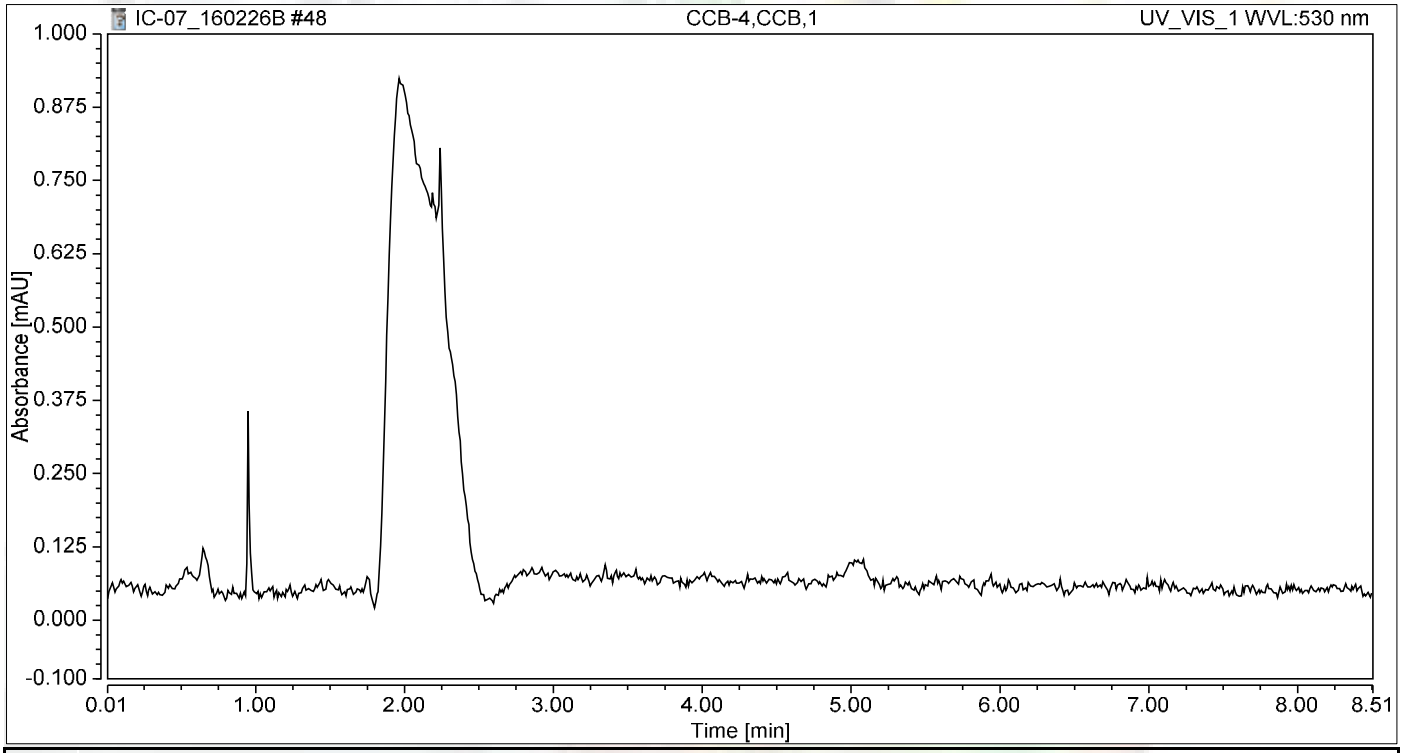
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.389	14.160	100.00	100.00	10.0918
Total:			**2.389**	**14.160**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

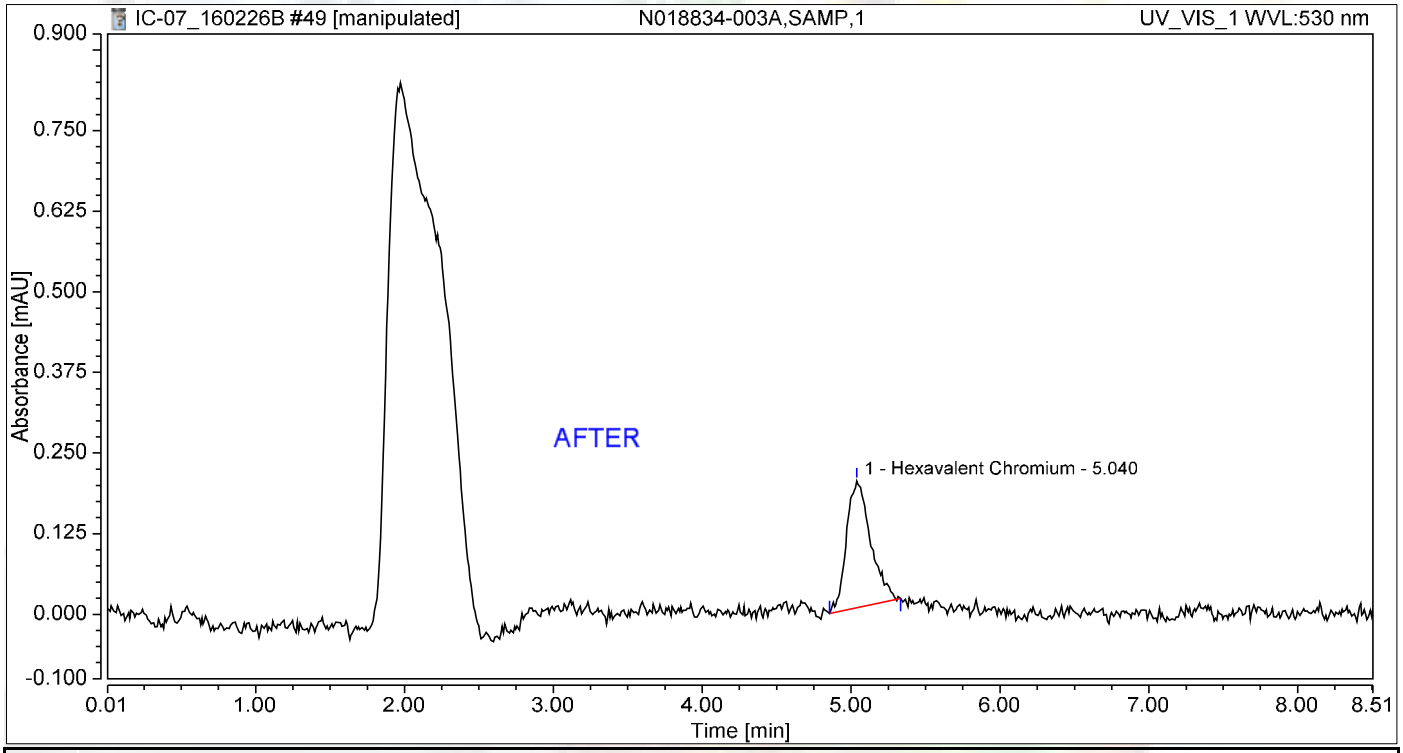
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.037	0.197	100.00	100.00	0.1548
Total:			**0.037**	**0.197**	**100.00**	**100.00**	

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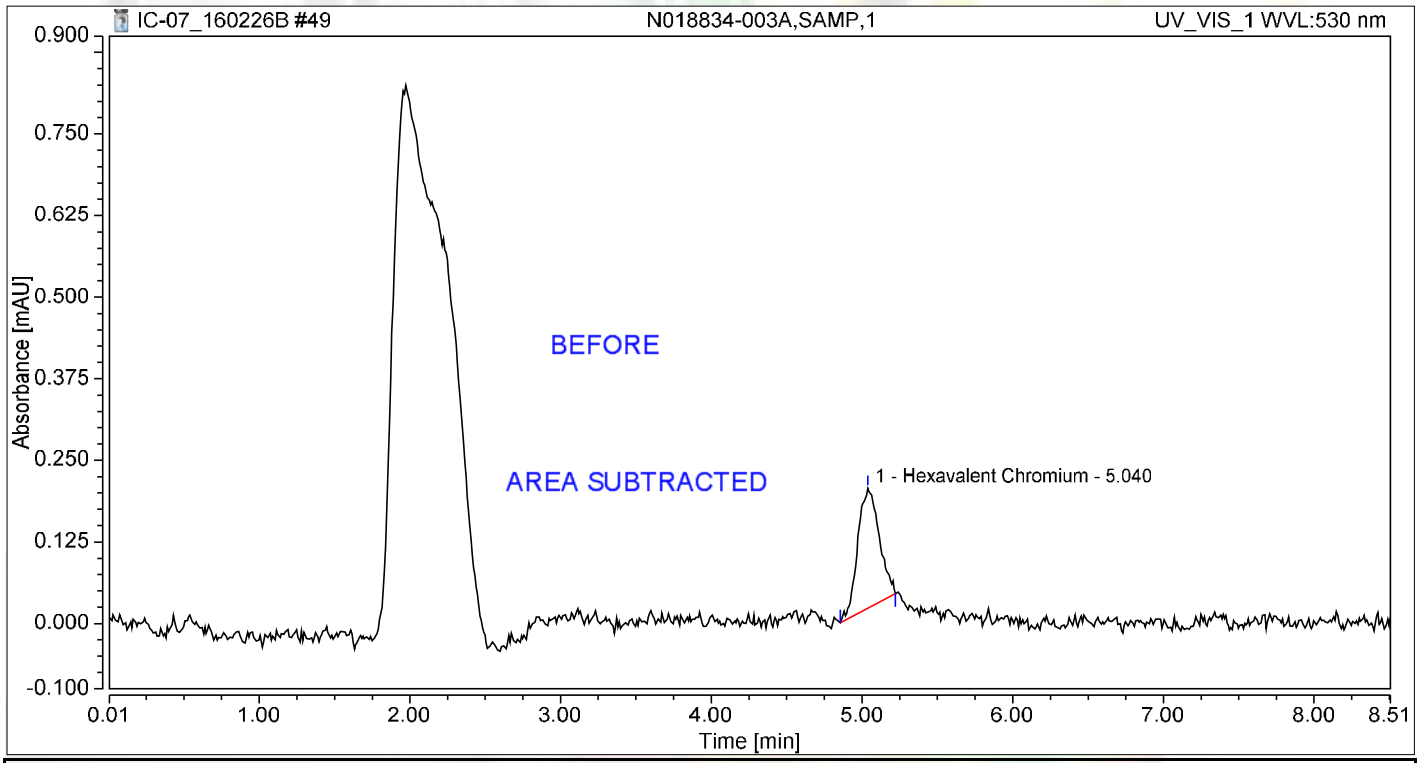
Chromatogram and Results

Injection Details

Injection Name:	**N018834-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.030	0.183	100.00	100.00	0.1285
Total:			**0.030**	**0.183**	**100.00**	**100.00**	

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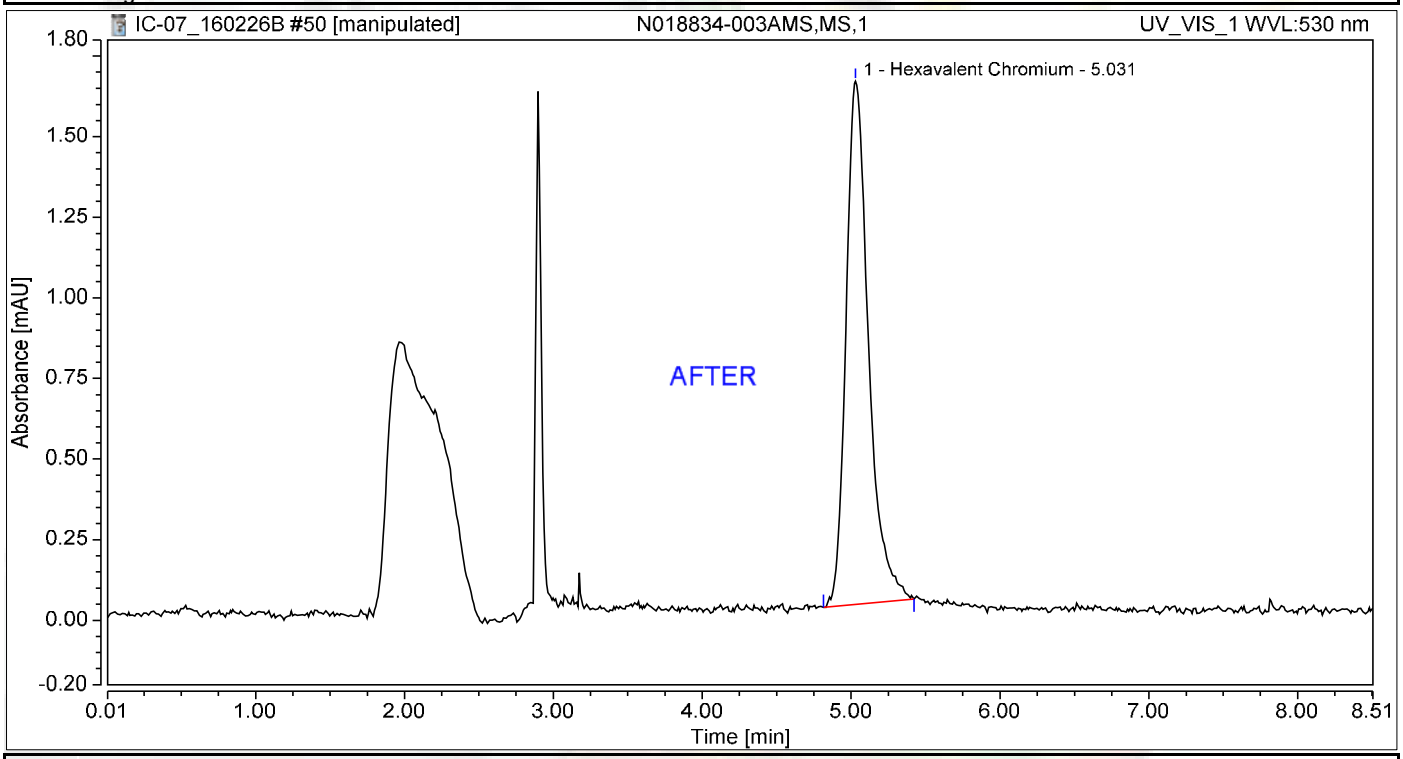
Chromatogram and Results

Injection Details

Injection Name:	**N018834-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

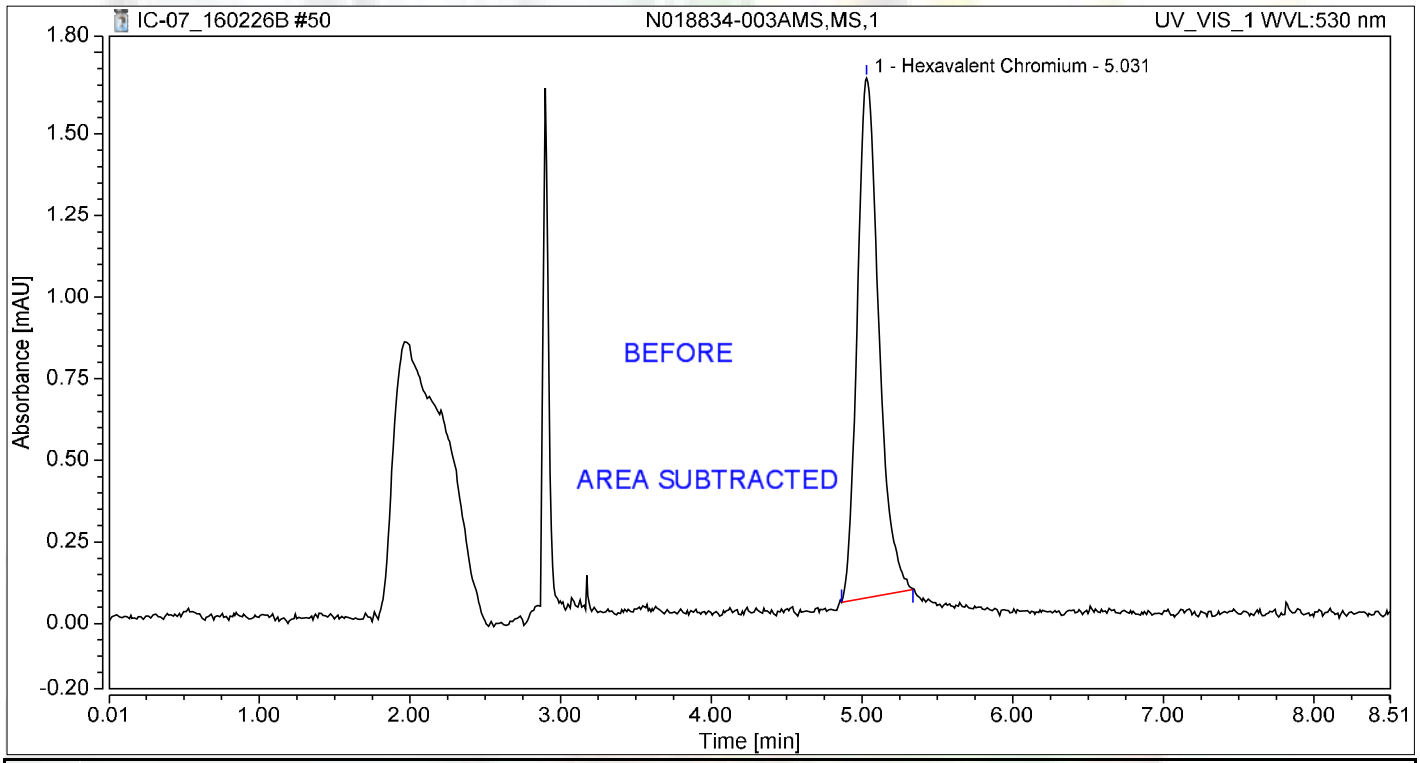
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.282	1.621	100.00	100.00	1.1933
Total:			**0.282**	**1.621**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

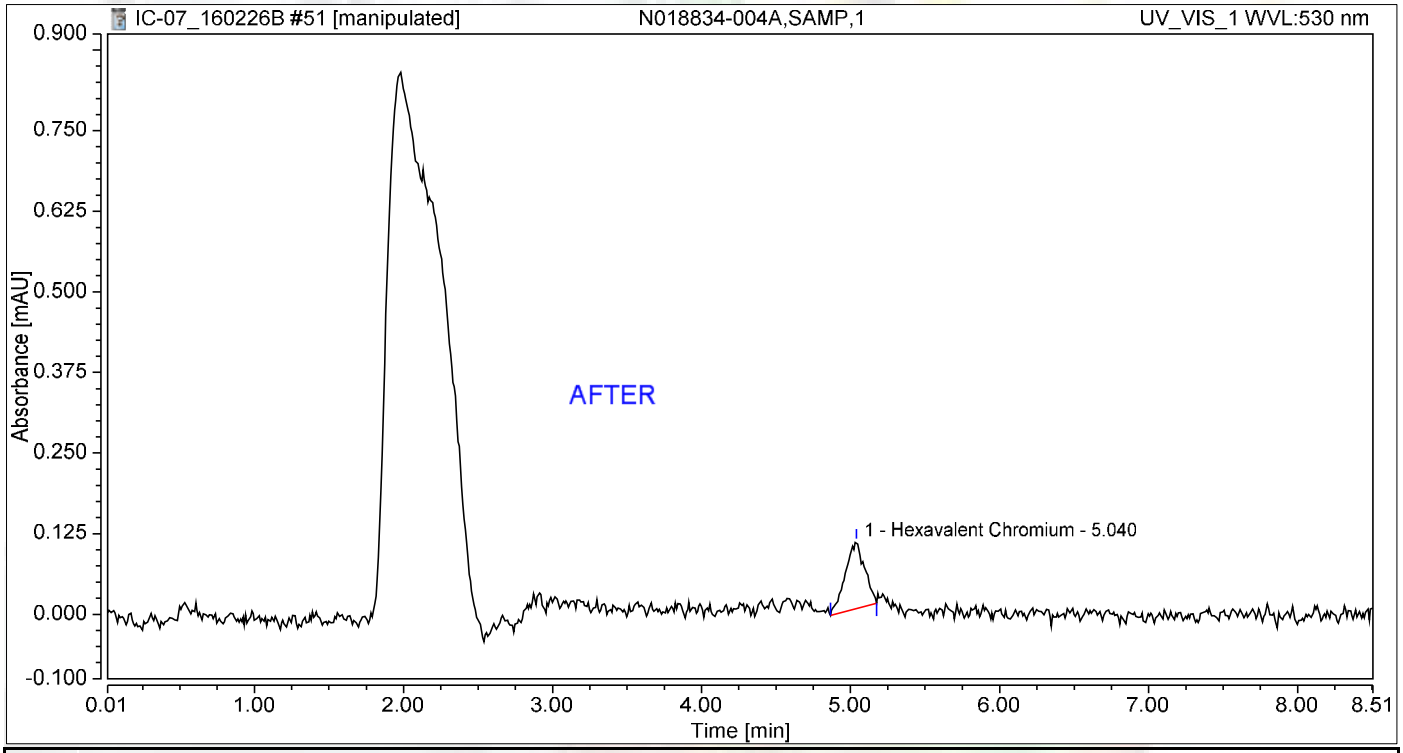
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.593	100.00	100.00	1.1212
Total:			**0.265**	**1.593**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018834-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.104	100.00	100.00	0.0659
Total:			**0.016**	**0.104**	**100.00**	**100.00**	

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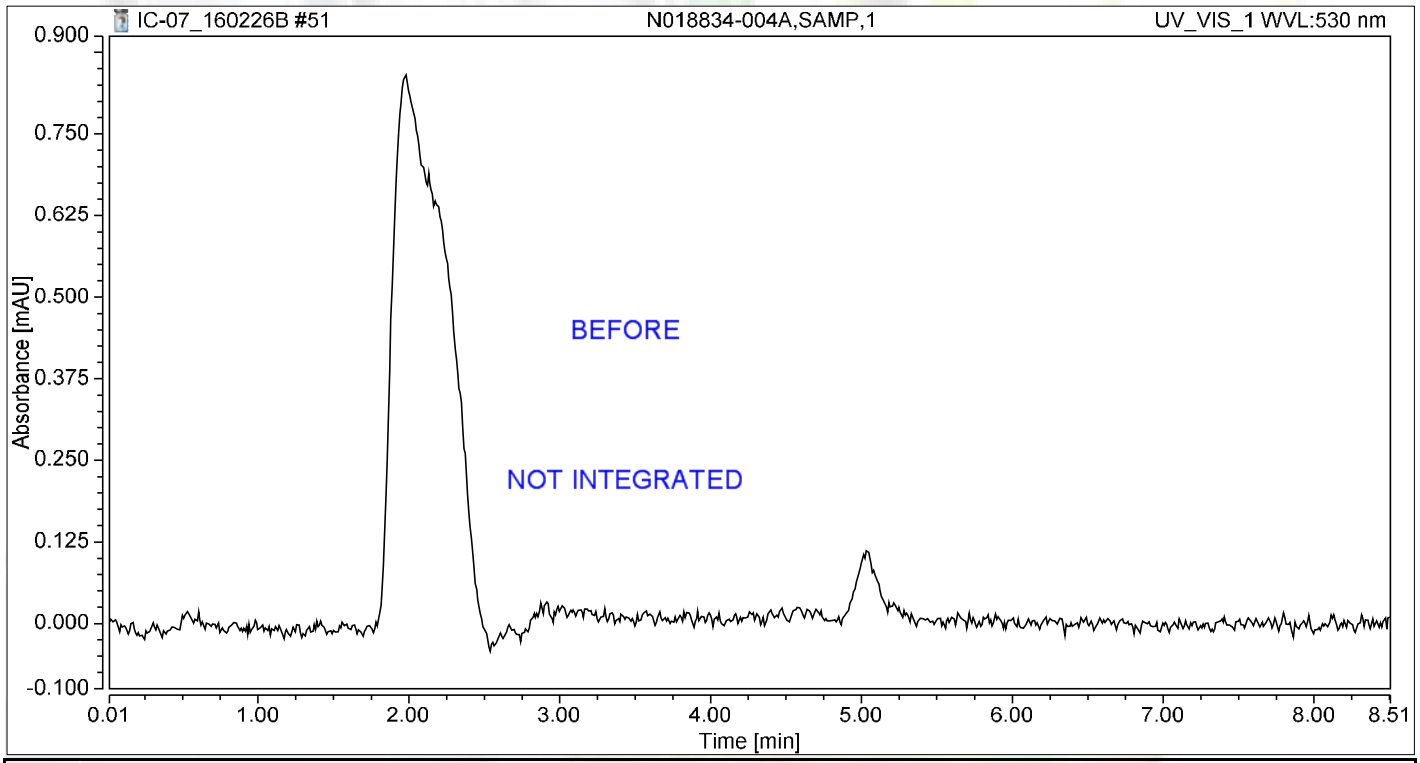
Chromatogram and Results

Injection Details

Injection Name:	**N018834-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

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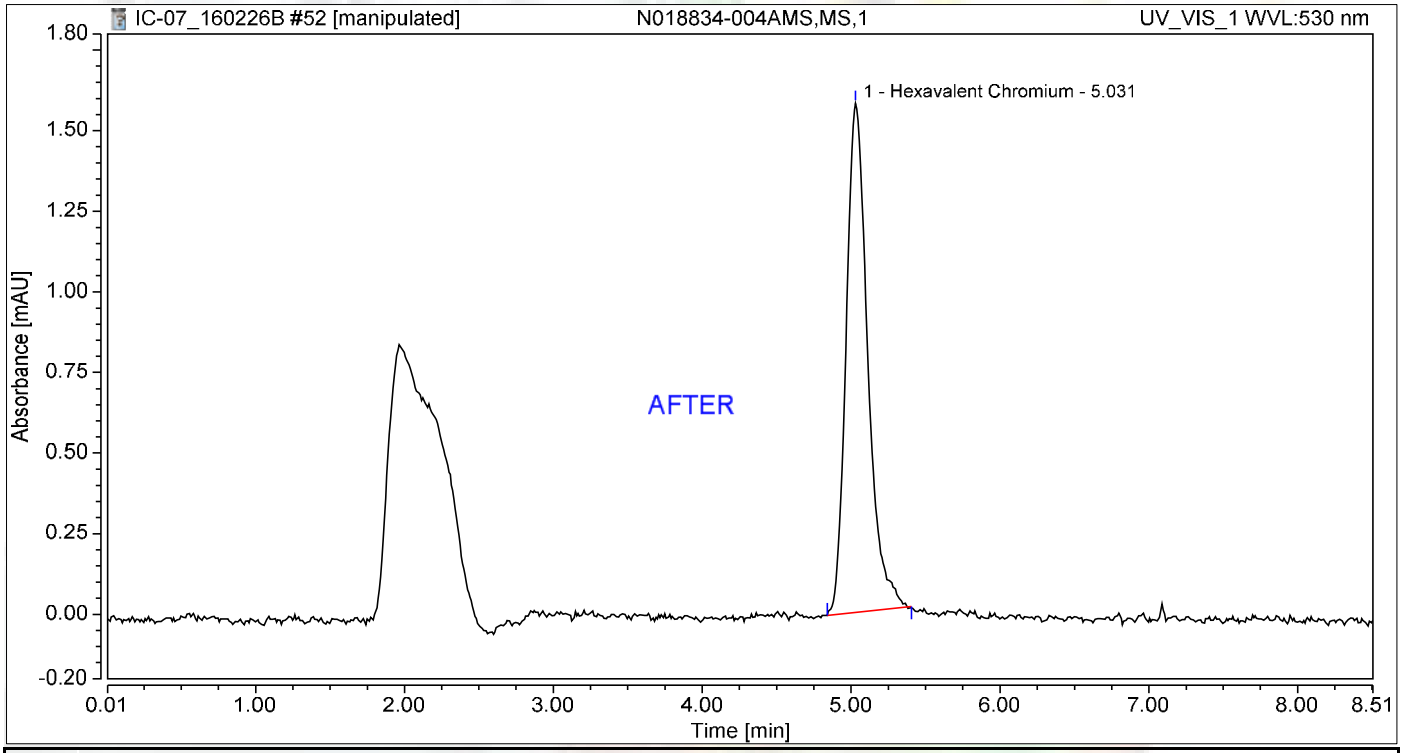
Chromatogram and Results

Injection Details

Injection Name:	**N018834-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.263	1.579	100.00	100.00	1.1132
Total:			**0.263**	**1.579**	**100.00**	**100.00**	

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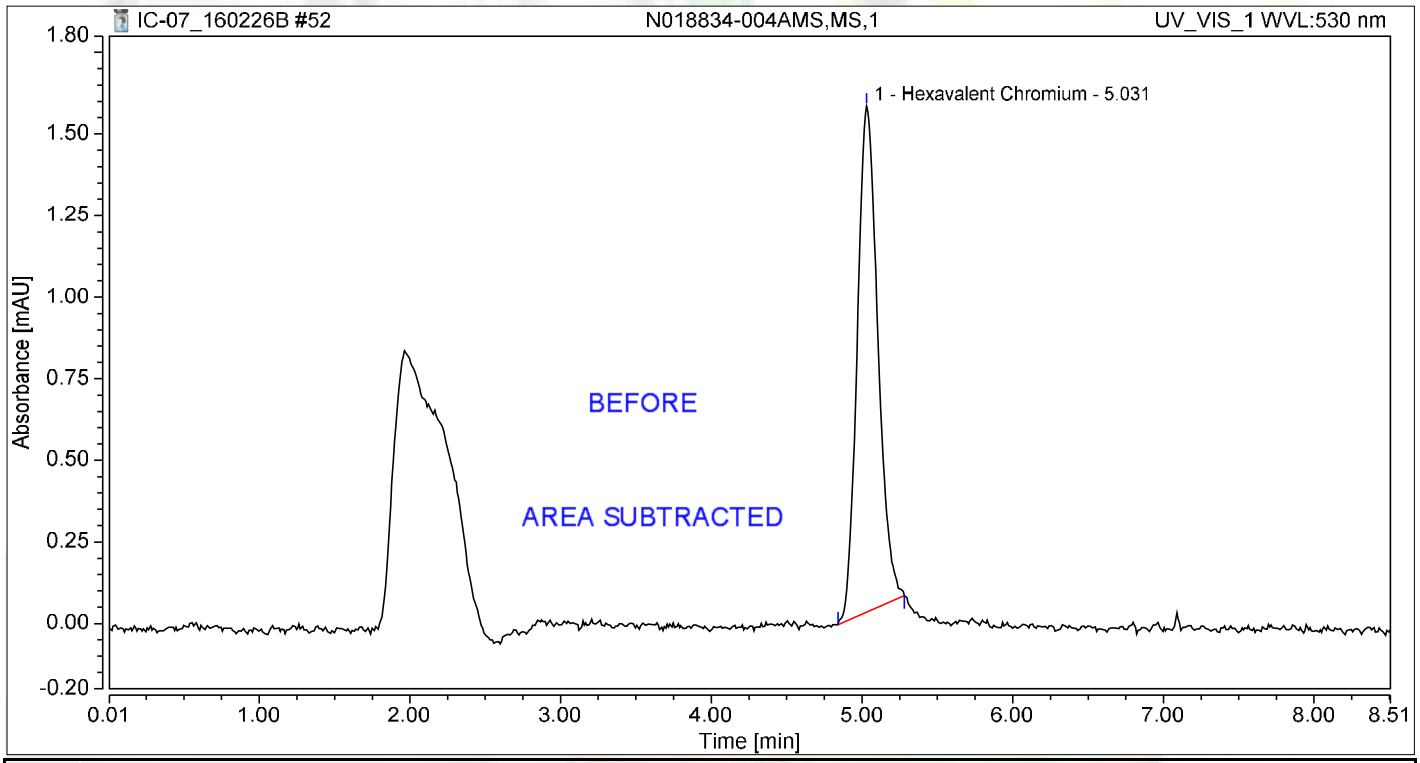
Chromatogram and Results

Injection Details

Injection Name:	**N018834-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 21:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.246	1.550	100.00	100.00	1.0386
Total:			**0.246**	**1.550**	**100.00**	**100.00**	

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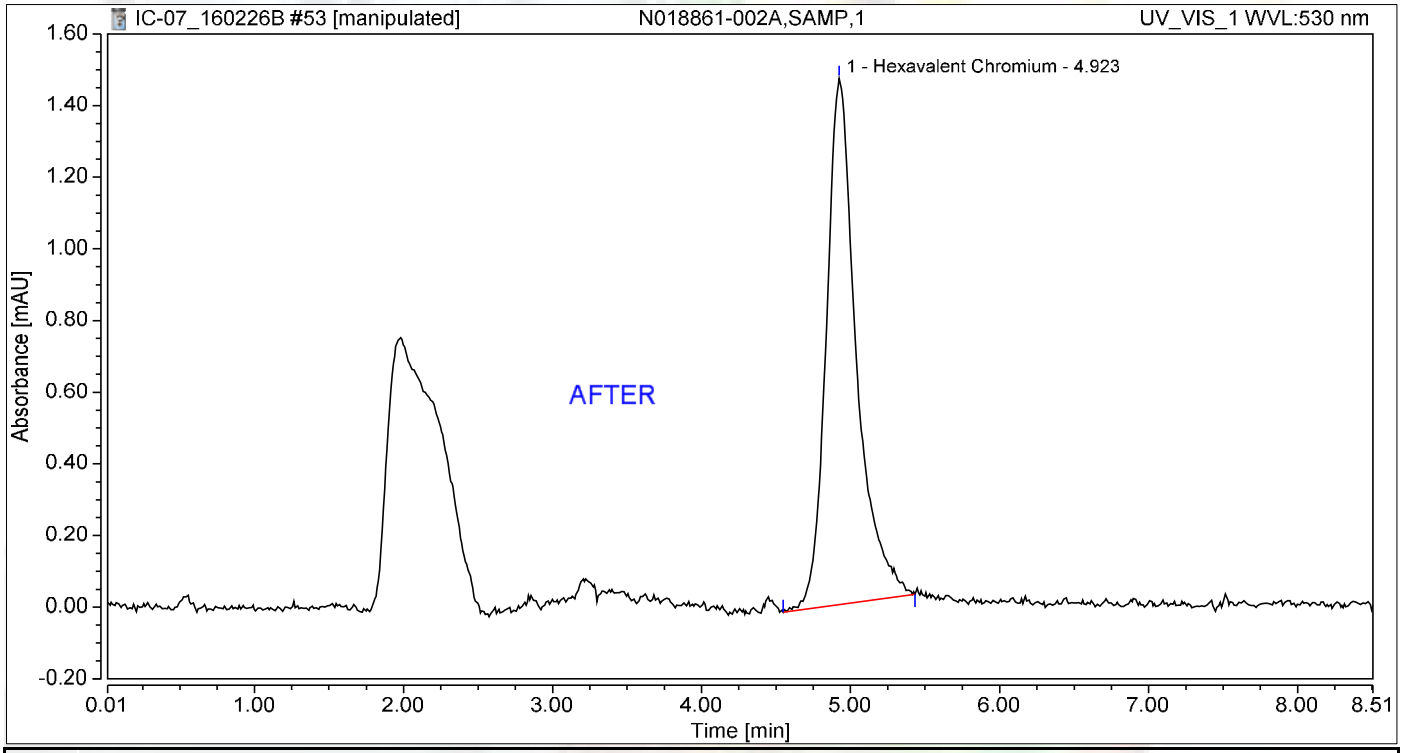
Chromatogram and Results

Injection Details

Injection Name:	**N018861-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.344	1.468	100.00	100.00	1.4550
Total:			**0.344**	**1.468**	**100.00**	**100.00**	

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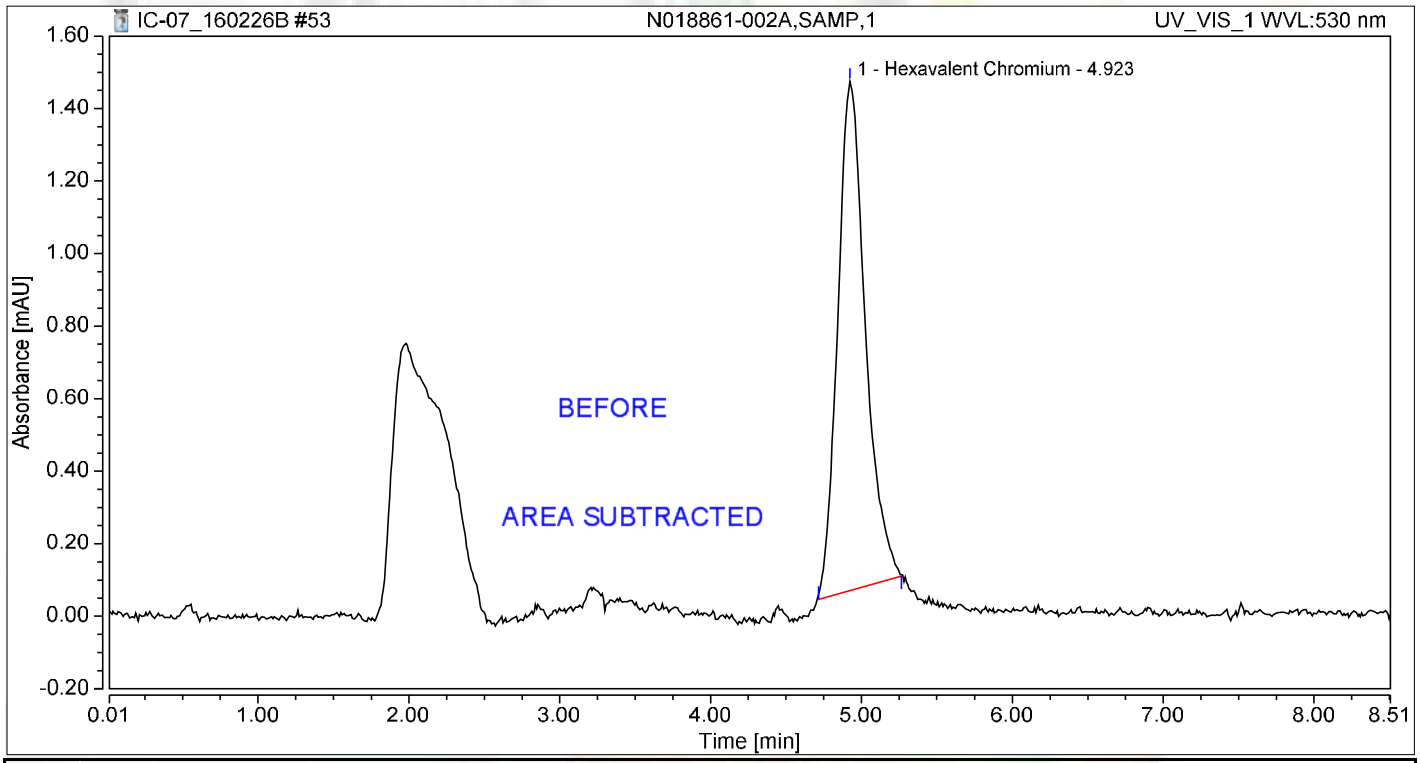
Chromatogram and Results

Injection Details

Injection Name:	**N018861-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.298	1.404	100.00	100.00	1.2592
Total:			**0.298**	**1.404**	**100.00**	**100.00**	

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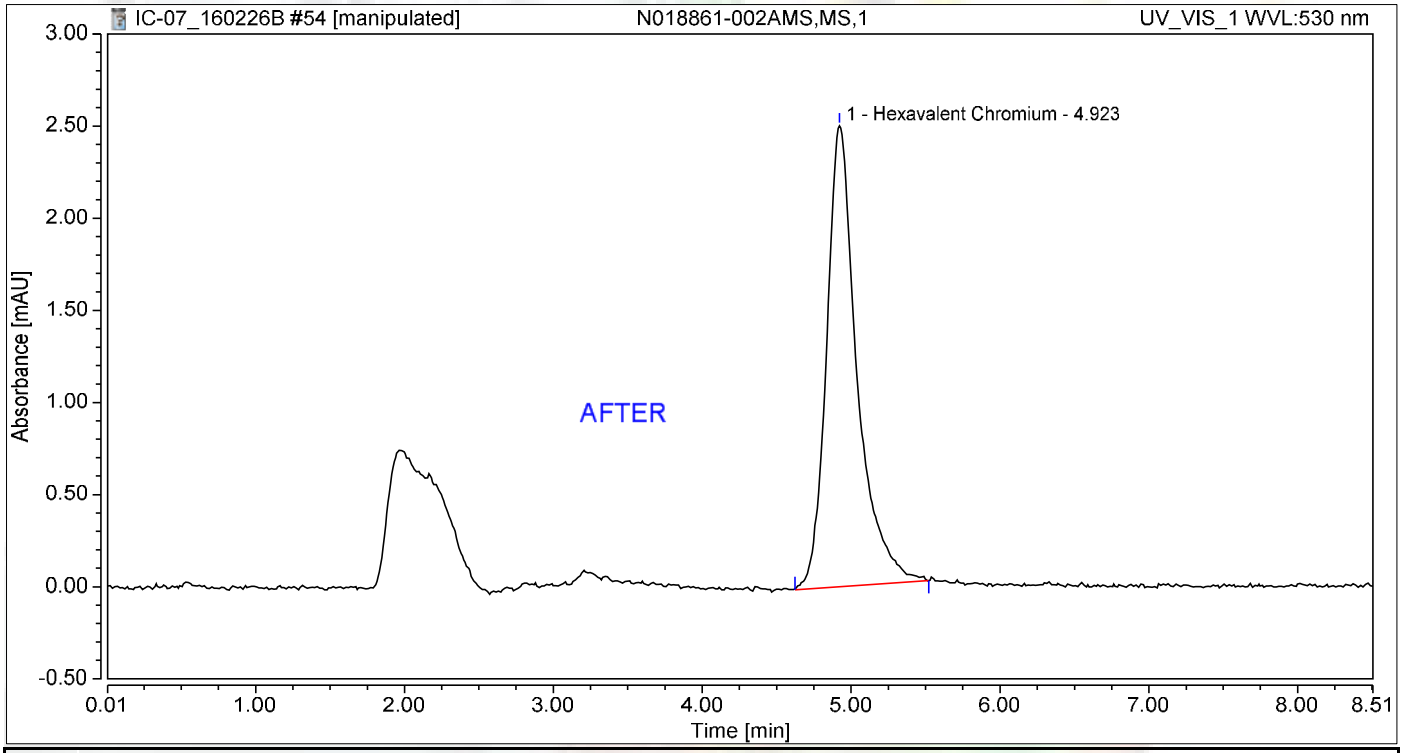
Chromatogram and Results

Injection Details

Injection Name:	**N018861-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.593	2.501	100.00	100.00	2.5074
Total:			**0.593**	**2.501**	**100.00**	**100.00**	

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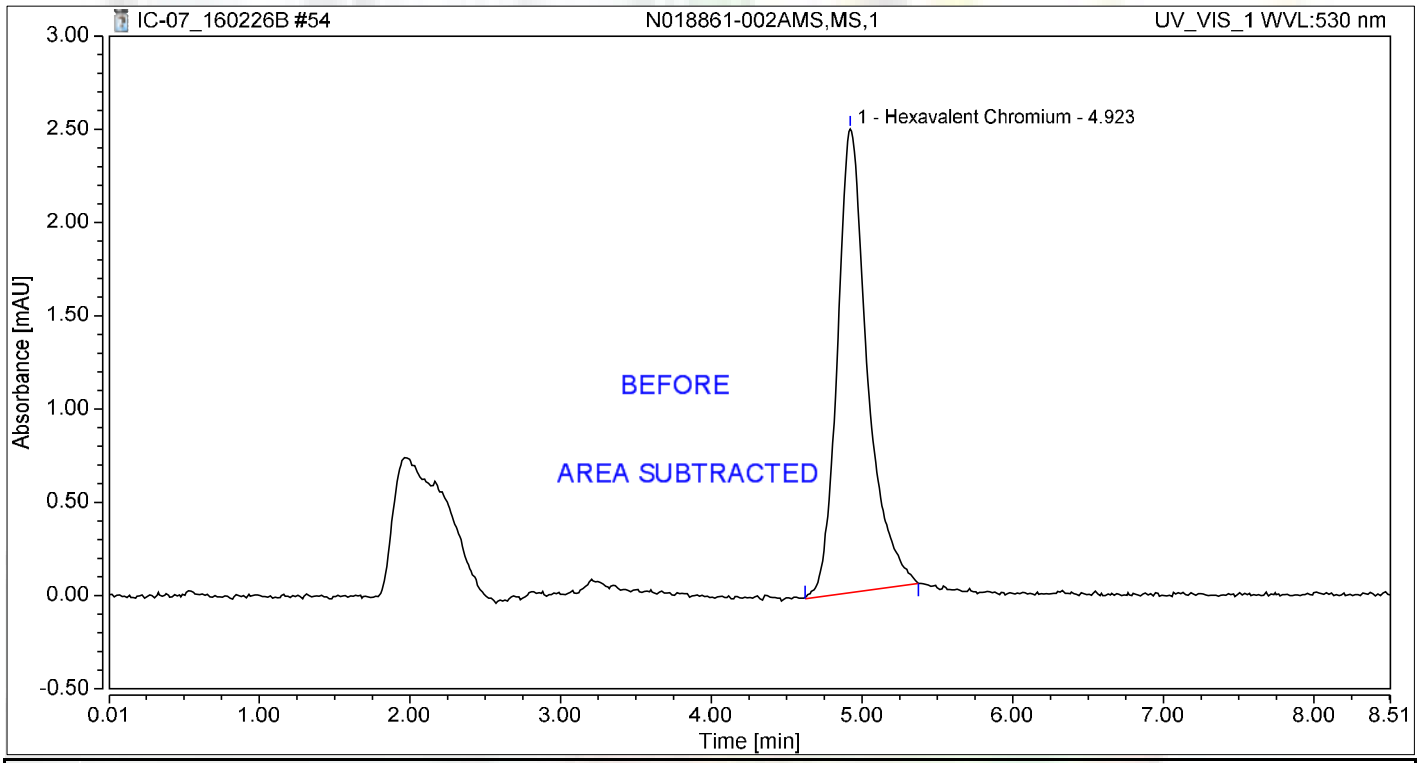
Chromatogram and Results

Injection Details

Injection Name:	**N018861-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.923	0.575	2.485	100.00	100.00	2.4291
Total:			**0.575**	**2.485**	**100.00**	**100.00**	

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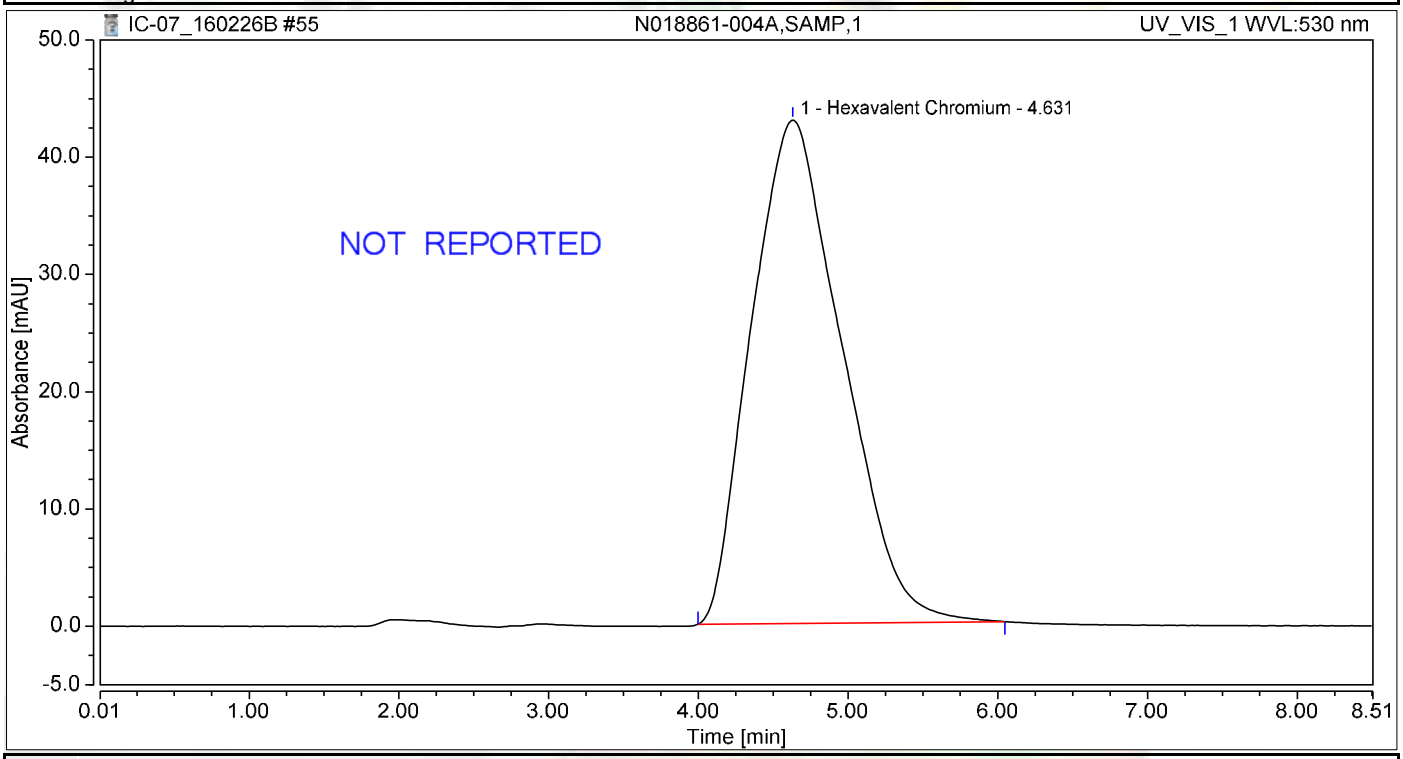
Chromatogram and Results

Injection Details

Injection Name:	**N018861-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**46**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

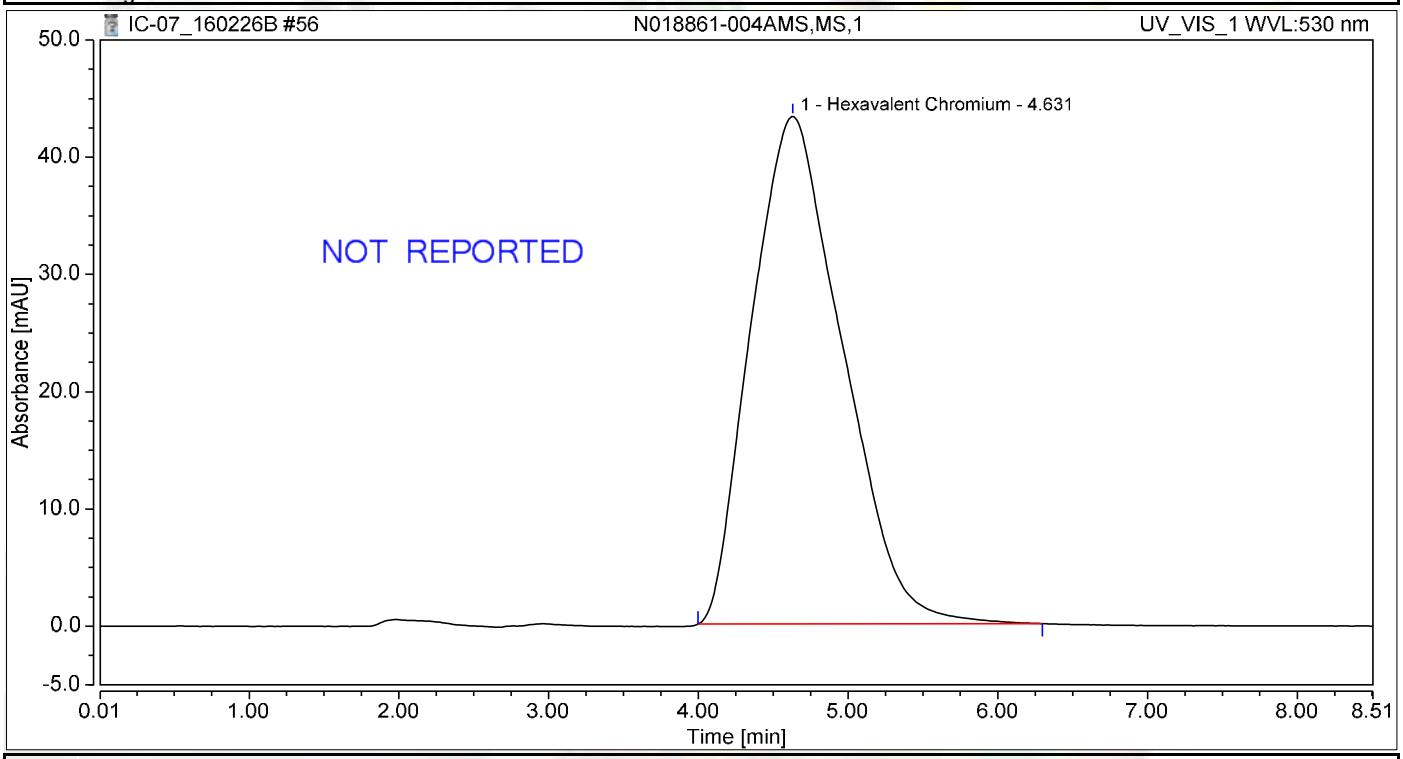
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.631	30.123	42.956	100.00	100.00	127.2667
Total:			**30.123**	**42.956**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**47**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

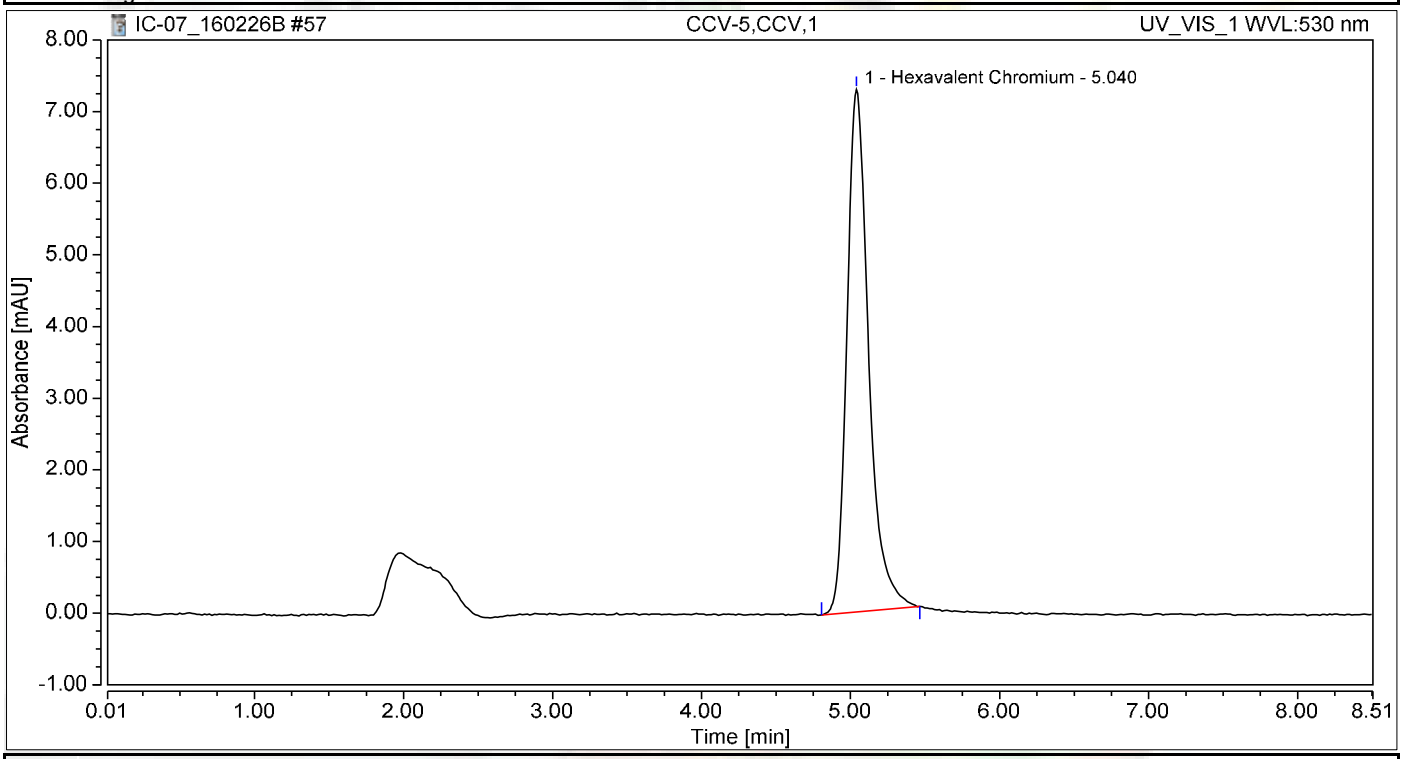
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.631	30.523	43.306	100.00	100.00	128.9587
Total:			**30.523**	**43.306**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**48**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

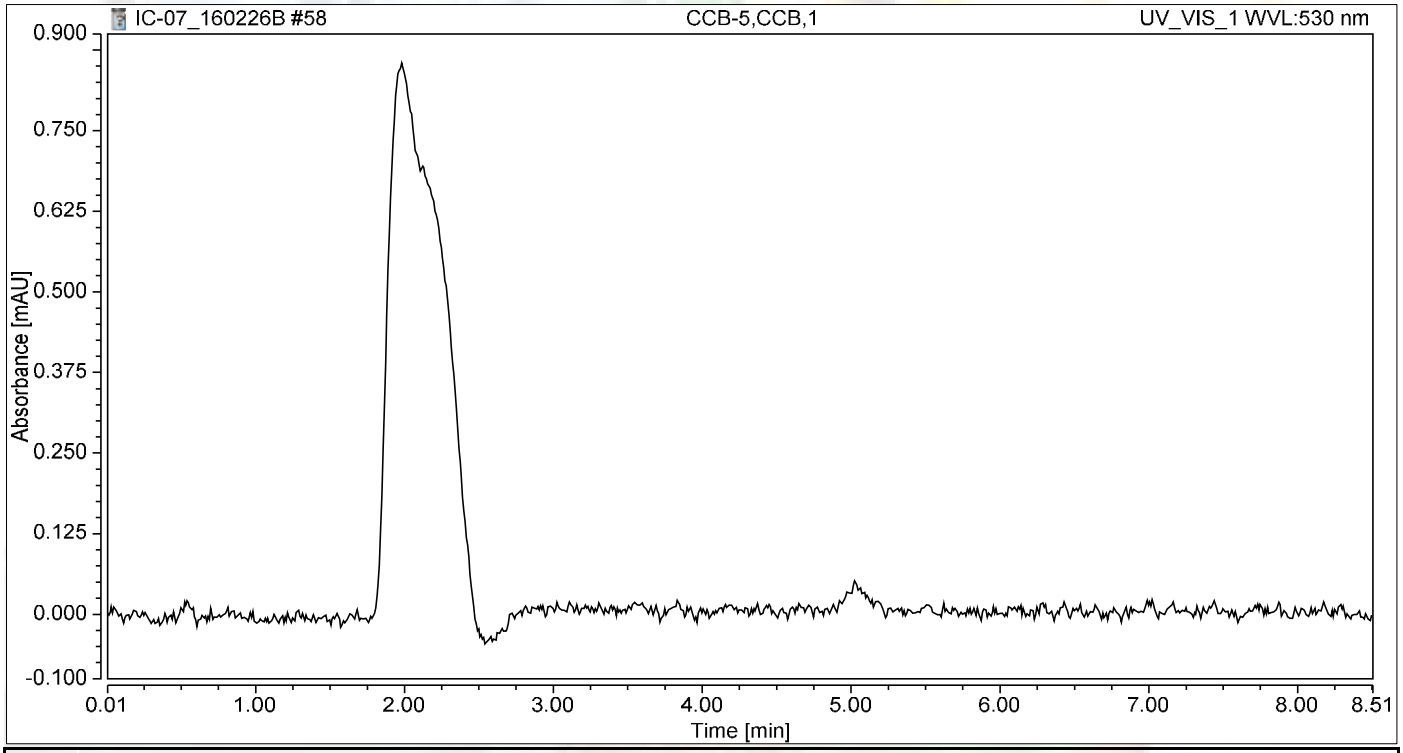
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.225	7.294	100.00	100.00	5.1751
Total:			**1.225**	**7.294**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**49**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Feb/16 22:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:48 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	02/02/16 11:58 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	02/02/16 12:08 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:22 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:33 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:42 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 12:52 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:02 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	02/02/16 1:11 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	02/29/16 11:08 AM	Not Reported
11	CCV-1	CCV	1	Hexavalent Chromium	02/29/16 11:19 AM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	02/29/16 11:29 AM	Reported
13	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:38 AM	Not Reported
14	CCB-1	CCB	1	Hexavalent Chromium	02/29/16 11:47 AM	Reported
15	LCS-R106239	LCS	1	Hexavalent Chromium	02/29/16 11:57 AM	Reported
16	MB-R106239	MBLK	1	Hexavalent Chromium	02/29/16 12:06 PM	Reported
17	N018861-004A	SAMP	20	Hexavalent Chromium	02/29/16 12:31 PM	Reported
18	N018861-004ADUP	DUP	20	Hexavalent Chromium	02/29/16 12:41 PM	Reported
19	N018861-004AMS	MS	20	Hexavalent Chromium	02/29/16 12:51 PM	Reported
20	N018861-004AMSD	MSD	20	Hexavalent Chromium	02/29/16 1:00 PM	Reported
21	N018843-001A	SAMP	1	Hexavalent Chromium	02/29/16 1:10 PM	Reported
22	N018843-001AMS	MS	1	Hexavalent Chromium	02/29/16 1:19 PM	Reported
23	N018843-002A	SAMP	1	Hexavalent Chromium	02/29/16 1:29 PM	Reported
24	N018843-002AMS	MS	1	Hexavalent Chromium	02/29/16 1:38 PM	Reported
25	CCV-2	CCV	1	Hexavalent Chromium	02/29/16 1:48 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	02/29/16 1:57 PM	Reported
27	N018843-003A	SAMP	1	Hexavalent Chromium	02/29/16 2:07 PM	Reported
28	N018843-003AMS	MS	1	Hexavalent Chromium	02/29/16 2:16 PM	Reported
29	N018843-004A	SAMP	1	Hexavalent Chromium	02/29/16 2:26 PM	Reported
30	N018843-004AMS	MS	1	Hexavalent Chromium	02/29/16 2:35 PM	Reported
31	N018843-005A	SAMP	1	Hexavalent Chromium	02/29/16 2:44 PM	Reported
32	N018843-005AMS	MS	1	Hexavalent Chromium	02/29/16 2:54 PM	Reported
33	N018843-006A	SAMP	1	Hexavalent Chromium	02/29/16 3:03 PM	Reported
34	N018843-006AMS	MS	1	Hexavalent Chromium	02/29/16 3:13 PM	Reported
35	N018843-007A	SAMP	1	Hexavalent Chromium	02/29/16 3:22 PM	Reported
36	N018843-007AMS	MS	1	Hexavalent Chromium	02/29/16 3:32 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	02/29/16 3:41 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	02/29/16 3:51 PM	Reported
39	N018843-008A	SAMP	1	Hexavalent Chromium	02/29/16 4:00 PM	Reported
40	N018843-008AMS	MS	1	Hexavalent Chromium	02/29/16 4:10 PM	Reported
41	N018843-009A	SAMP	1	Hexavalent Chromium	02/29/16 4:19 PM	Reported
42	N018843-009AMS	MS	1	Hexavalent Chromium	02/29/16 4:29 PM	Reported

INJECTION LOG: 160229A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018843-010A	SAMP	1	Hexavalent Chromium	02/29/16 4:38 PM	Reported
44	N018843-010AMS	MS	1	Hexavalent Chromium	02/29/16 4:48 PM	Reported
45	N018844-001A	SAMP	1	Hexavalent Chromium	02/29/16 4:57 PM	Reported
46	N018844-001AMS	MS	1	Hexavalent Chromium	02/29/16 5:06 PM	Reported
47	N018844-005A	SAMP	1	Hexavalent Chromium	02/29/16 5:16 PM	Reported
48	N018844-005AMS	MS	1	Hexavalent Chromium	02/29/16 5:25 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	02/29/16 5:35 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	02/29/16 5:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160229A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 19:47:52**
No. of Injections:	**53**	*Updated By:*	**ics 5000**

Injection Details

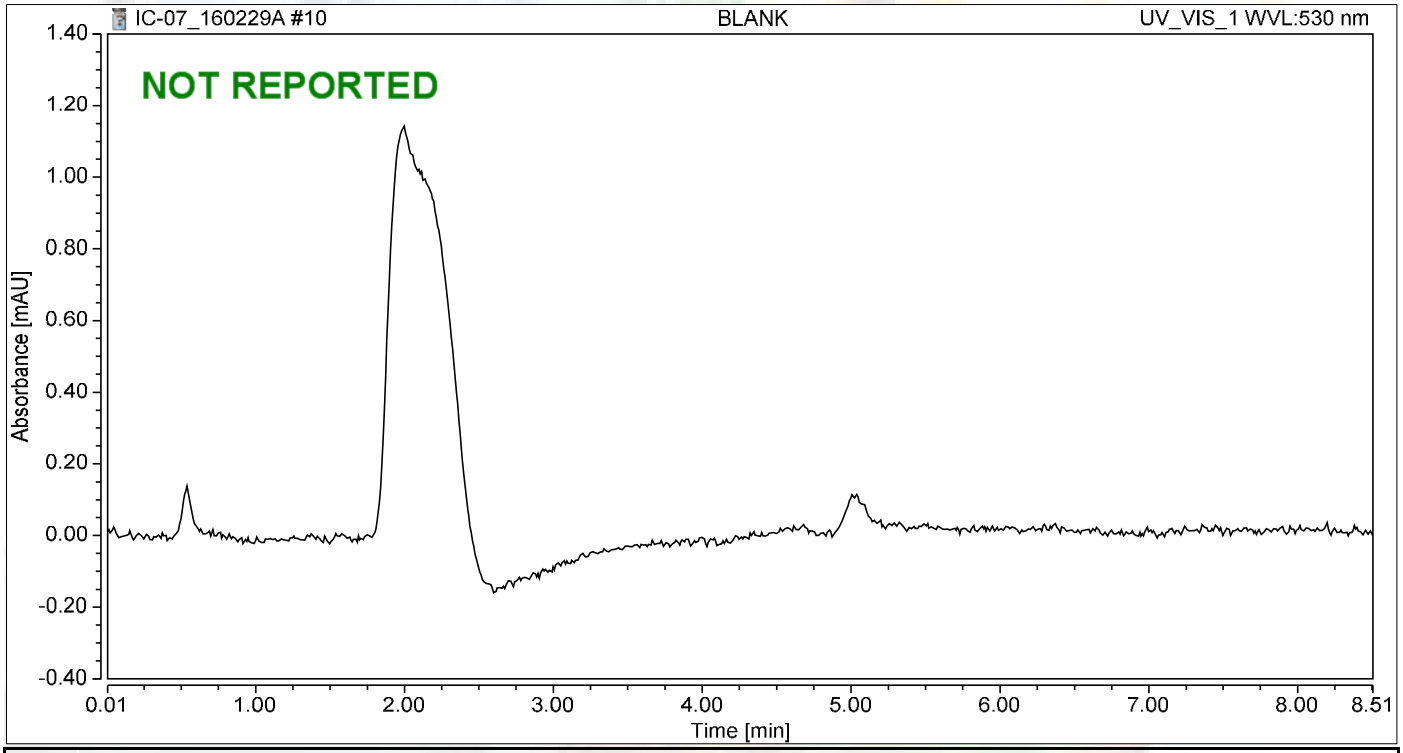
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		02/02/2016 11:48	Finished	BLANK
2	Blank	2	1000	Unknown		02/02/2016 11:58	Finished	BLANK
3	iBLANK	3	1000	Unknown		02/02/2016 12:08	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	02/02/2016 12:22	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	02/02/2016 12:33	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	02/02/2016 12:42	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	02/02/2016 12:52	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	02/02/2016 13:02	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	02/02/2016 13:11	Finished	20 ppb, IWST160202A
10	BLANK	1	1000	Unknown		02/29/2016 11:08	Finished	BLANK
11	CCV-1,CCV,1,	2	1000	Unknown		02/29/2016 11:19	Finished	CCV @ 5ppb, IWST 160202B
12	PQL@0.2ppb,CCV2,1	3	1000	Unknown		02/29/2016 11:29	Finished	PQL @ 0.2ppb
13	CCB-1,CCB,1	4	1000	Unknown		02/29/2016 11:38	Finished	CCB R160209C
14	CCB-1,CCB,1	5	1000	Unknown		02/29/2016 11:47	Finished	CCB R160209C
15	LCS-H2O,LCS,1	6	1000	Unknown		02/29/2016 11:57	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	7	1000	Unknown		02/29/2016 12:06	Finished	MB
17	N018861-004A,SAMP	8	1000	Unknown		02/29/2016 12:31	Finished	SAMP, 0.5 to 10mL
18	N018861-004ADUP,D	9	1000	Unknown		02/29/2016 12:41	Finished	DOP, 0.5 to 10mL
19	N018861-004AMS,MS	10	1000	Unknown		02/29/2016 12:51	Finished	MS(5ppb), IWST-160202B, 10r
20	N018861-004AMSD,M	11	1000	Unknown		02/29/2016 13:00	Finished	MSD(5ppb), IWST-160202B, 1
21	N018843-001A,SAMP	12	1000	Unknown		02/29/2016 13:10	Finished	SAMP, 10mL
22	N018843-001AMS,MS	13	1000	Unknown		02/29/2016 13:19	Finished	MS(1ppb), IWST-160202B, 10r
23	N018843-002A,SAMP	14	1000	Unknown		02/29/2016 13:29	Finished	SAMP, 10mL
24	N018843-002AMS,MS	15	1000	Unknown		02/29/2016 13:38	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	16	1000	Unknown		02/29/2016 13:48	Finished	CCV @ 10ppb, IWST 160202A
26	CCB-2,CCB,1	17	1000	Unknown		02/29/2016 13:57	Finished	CCB
27	N018843-003A,SAMP	18	1000	Unknown		02/29/2016 14:07	Finished	SAMP, 10mL
28	N018843-003AMS,MS	19	1000	Unknown		02/29/2016 14:16	Finished	MS(1ppb), IWST-160202B, 10r
29	N018843-004A,SAMP	20	1000	Unknown		02/29/2016 14:26	Finished	SAMP, 10mL
30	N018843-004AMS,MS	21	1000	Unknown		02/29/2016 14:35	Finished	MS(1ppb), IWST-160202B, 10r
31	N018843-005A,SAMP	22	1000	Unknown		02/29/2016 14:44	Finished	SAMP, 10mL
32	N018843-005AMS,MS	23	1000	Unknown		02/29/2016 14:54	Finished	MS(1ppb), IWST-160202B, 10r
33	N018843-006A,SAMP	24	1000	Unknown		02/29/2016 15:03	Finished	SAMP, 10mL
34	N018843-006AMS,MS	25	1000	Unknown		02/29/2016 15:13	Finished	MS(1ppb), IWST-160202B, 10r
35	N018843-007A,SAMP	26	1000	Unknown		02/29/2016 15:22	Finished	SAMP, 10mL
36	N018843-007AMS,MS	27	1000	Unknown		02/29/2016 15:32	Finished	MS(1ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	28	1000	Unknown		02/29/2016 15:41	Finished	CCV @ 5ppb, IWST 160202A
38	CCB-3,CCB,1	29	1000	Unknown		02/29/2016 15:51	Finished	CCB
39	N018843-008A,SAMP	30	1000	Unknown		02/29/2016 16:00	Finished	SAMP, 10mL
40	N018843-008AMS,MS	31	1000	Unknown		02/29/2016 16:10	Finished	MS(1ppb), IWST-160202B, 10r
41	N018843-009A,SAMP	32	1000	Unknown		02/29/2016 16:19	Finished	SAMP, 10mL
42	N018843-009AMS,MS	33	1000	Unknown		02/29/2016 16:29	Finished	MS(1ppb), IWST-160202B, 10r
43	N018843-010A,SAMP	34	1000	Unknown		02/29/2016 16:38	Finished	SAMP, 10mL
44	N018843-010AMS,MS	35	1000	Unknown		02/29/2016 16:48	Finished	MS(1ppb), IWST-160202B, 10r
45	N018844-001A,SAMP	36	1000	Unknown		02/29/2016 16:57	Finished	SAMP, 10mL
46	N018844-001AMS,MS	37	1000	Unknown		02/29/2016 17:06	Finished	MS(1ppb), IWST-160202B, 10r
47	N018844-005A,SAMP	38	1000	Unknown		02/29/2016 17:16	Finished	SAMP, 10mL
48	N018844-005AMS,MS	39	1000	Unknown		02/29/2016 17:25	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	40	1000	Unknown		02/29/2016 17:35	Finished	CCV @ 10ppb, IWST 160202A
50	CCB-4,CCB,1	41	1000	Unknown		02/29/2016 17:44	Finished	CCB
51	SHUTDOWN	42	1000	Unknown		02/29/2016 17:54	Finished	BLANK
52	Eluent: R160224A	43	1000	Unknown		n.a.	Finished	Eluent
53	PCR: R160226A	44	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

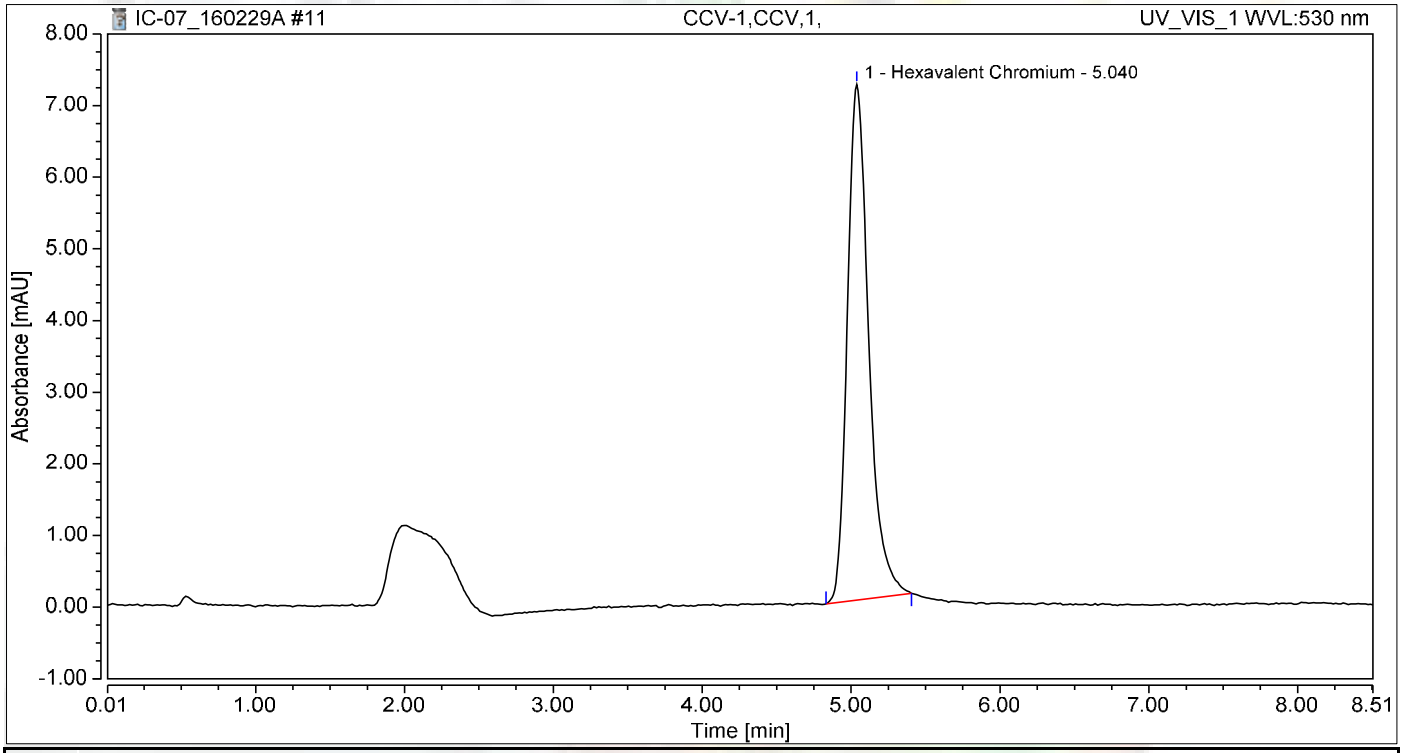
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

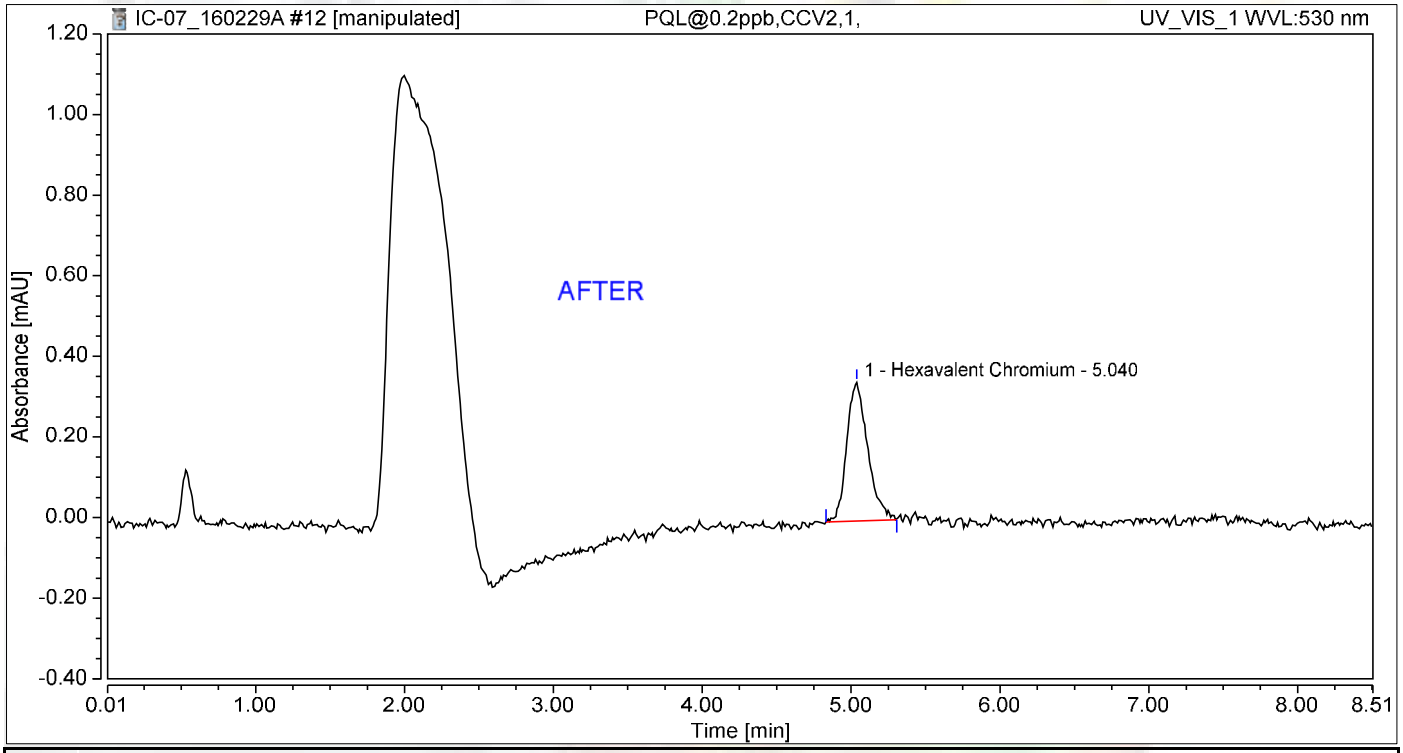
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.189	7.197	100.00	100.00	5.0246
Total:			**1.189**	**7.197**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.056	0.344	100.00	100.00	0.2368
Total:			**0.056**	**0.344**	**100.00**	**100.00**	

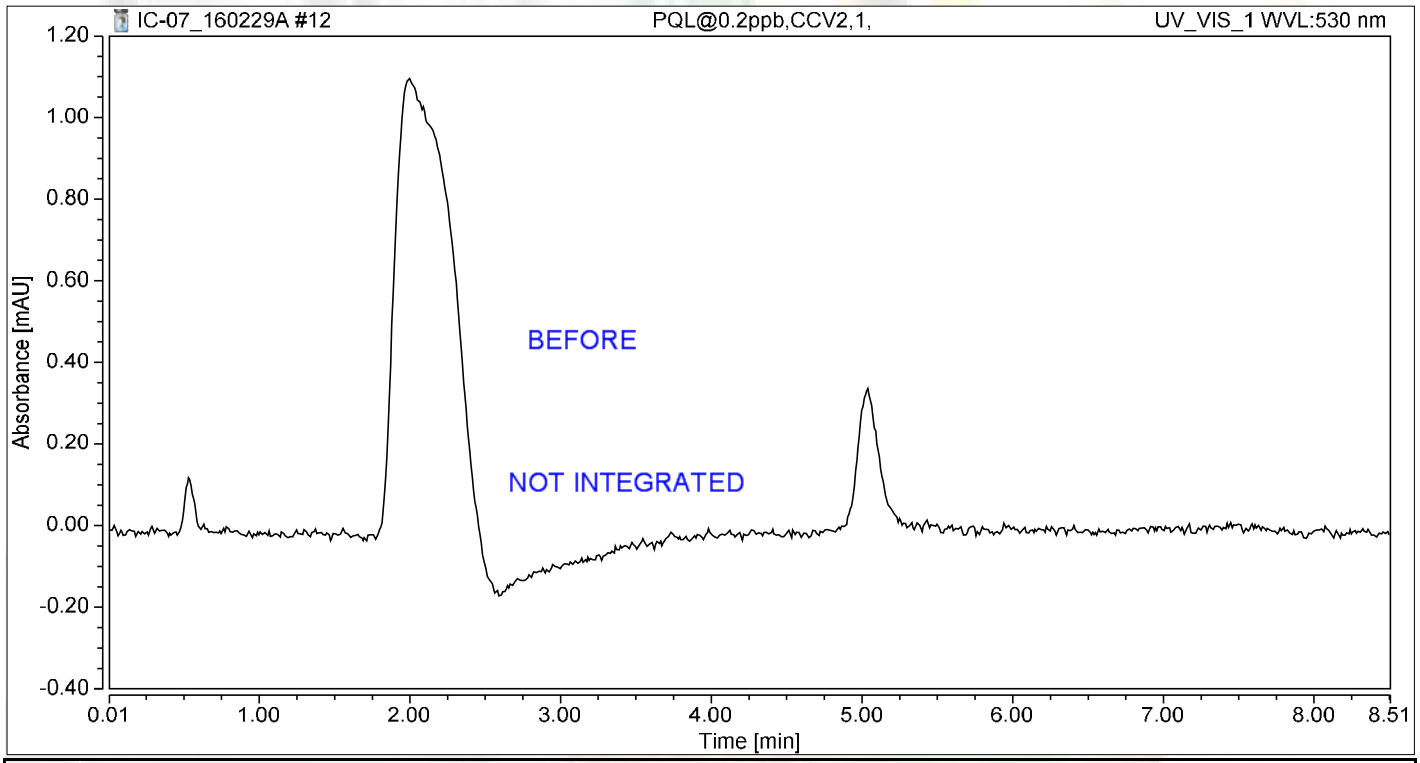
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

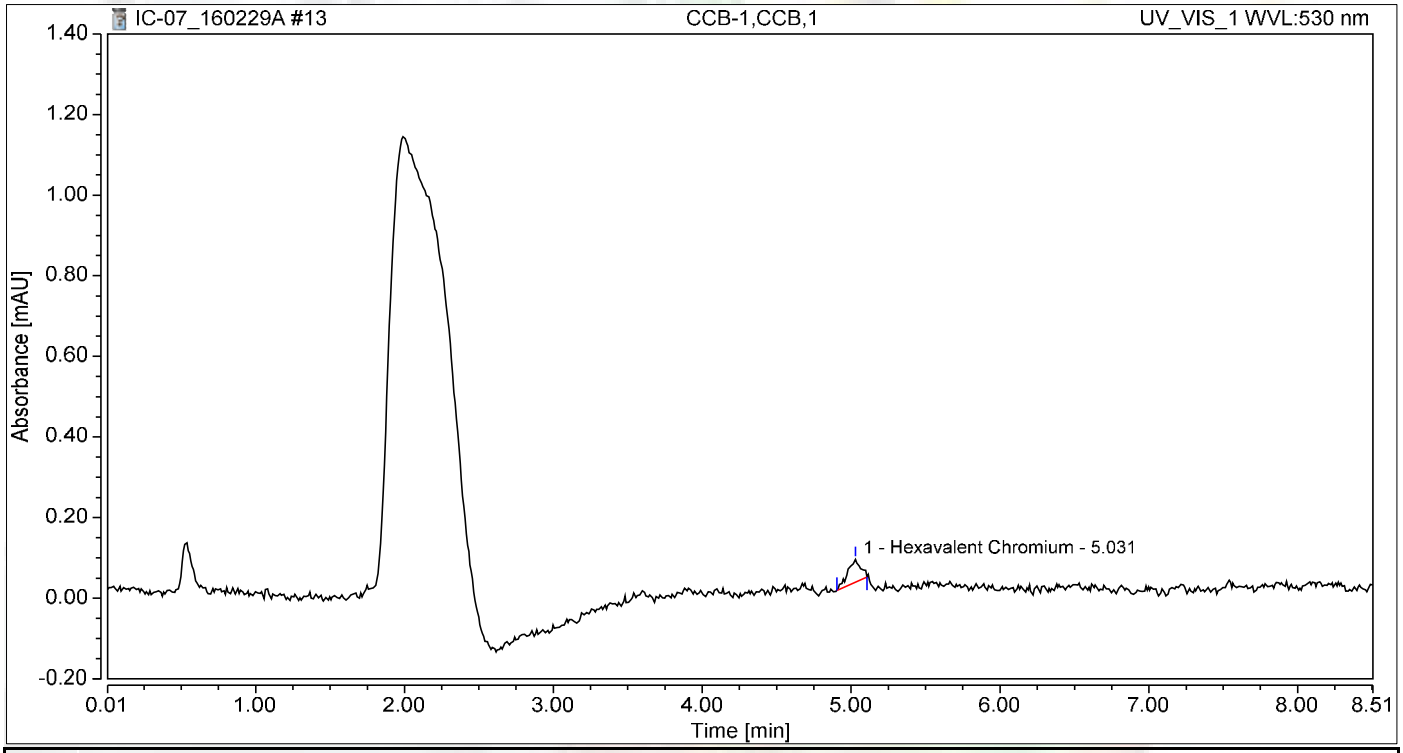
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.006	0.056	100.00	100.00	0.0240
Total:			**0.006**	**0.056**	**100.00**	**100.00**	

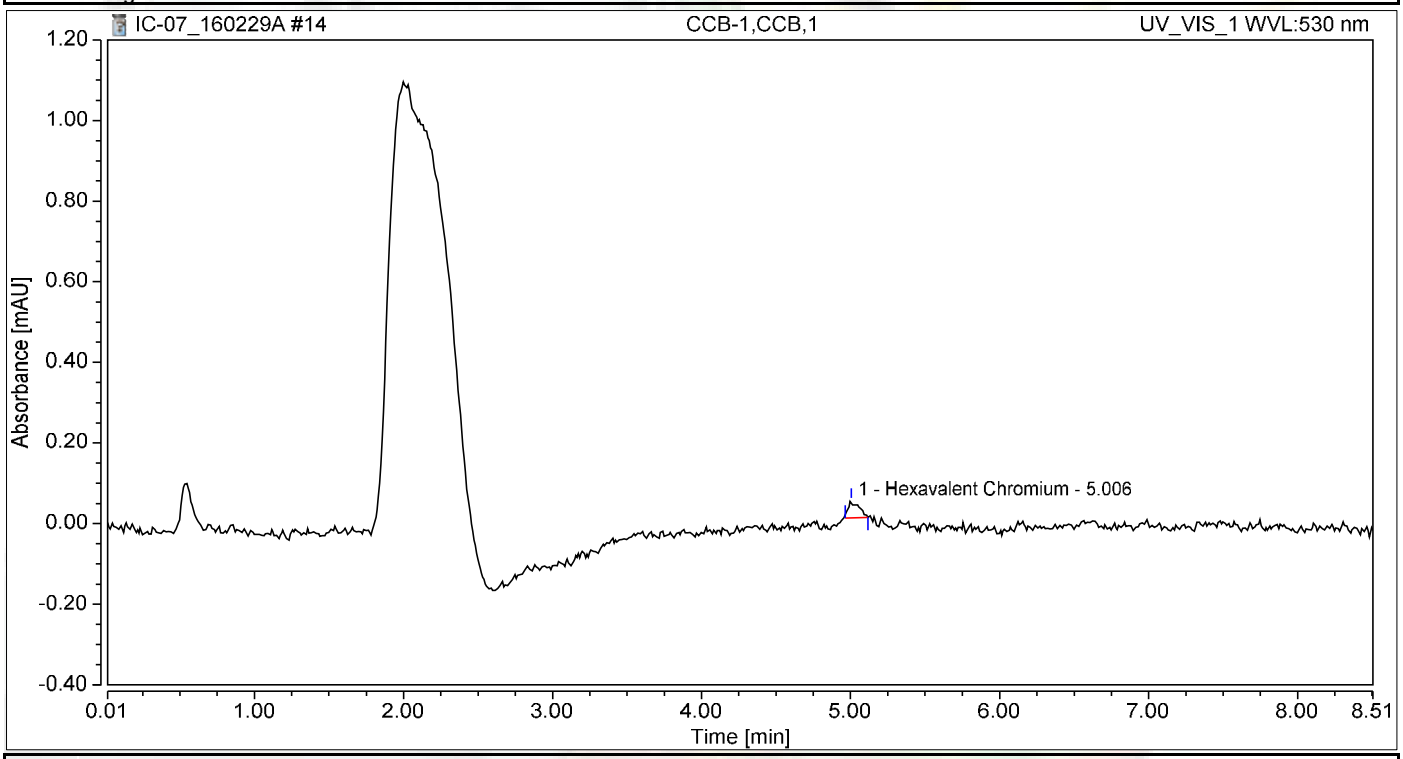
not reported

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

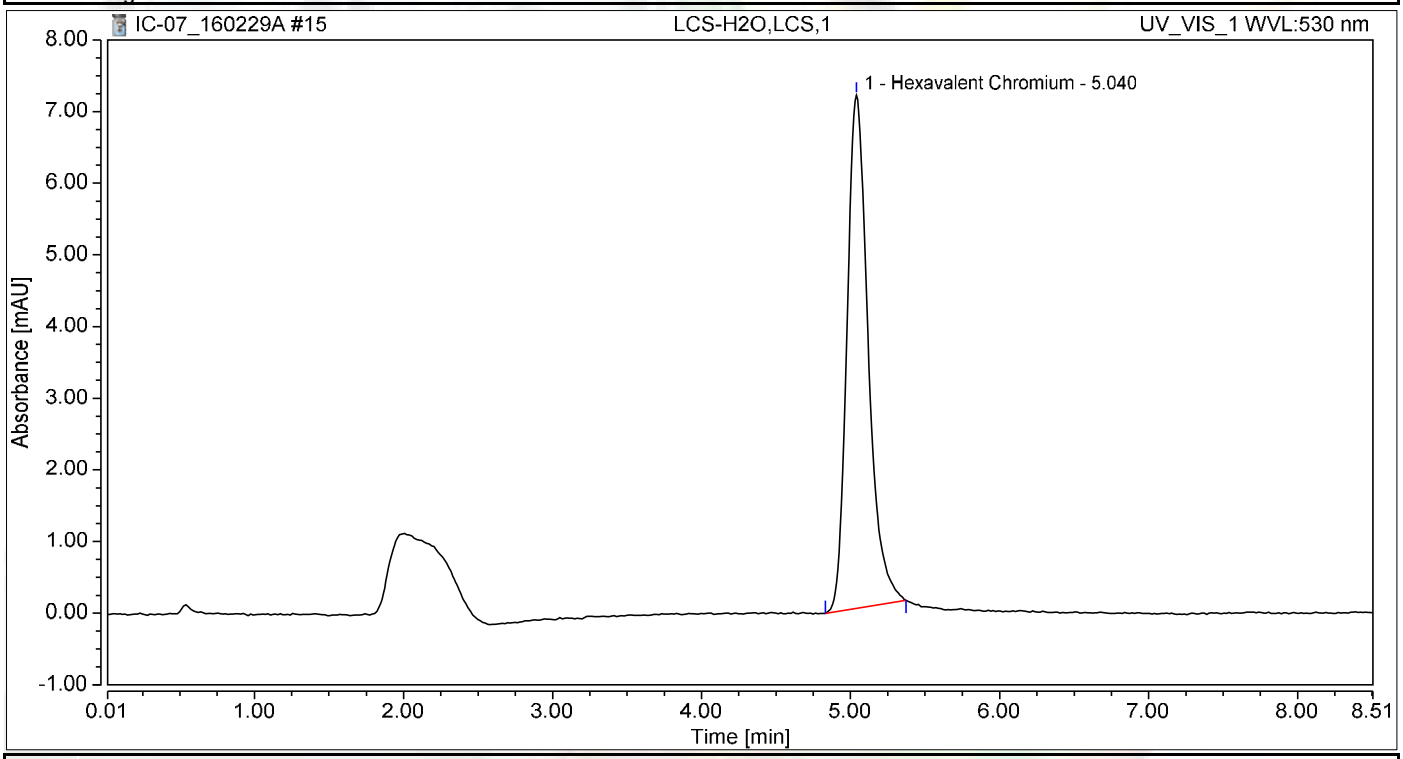
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.003	0.042	100.00	100.00	0.0142
Total:			**0.003**	**0.042**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 11:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

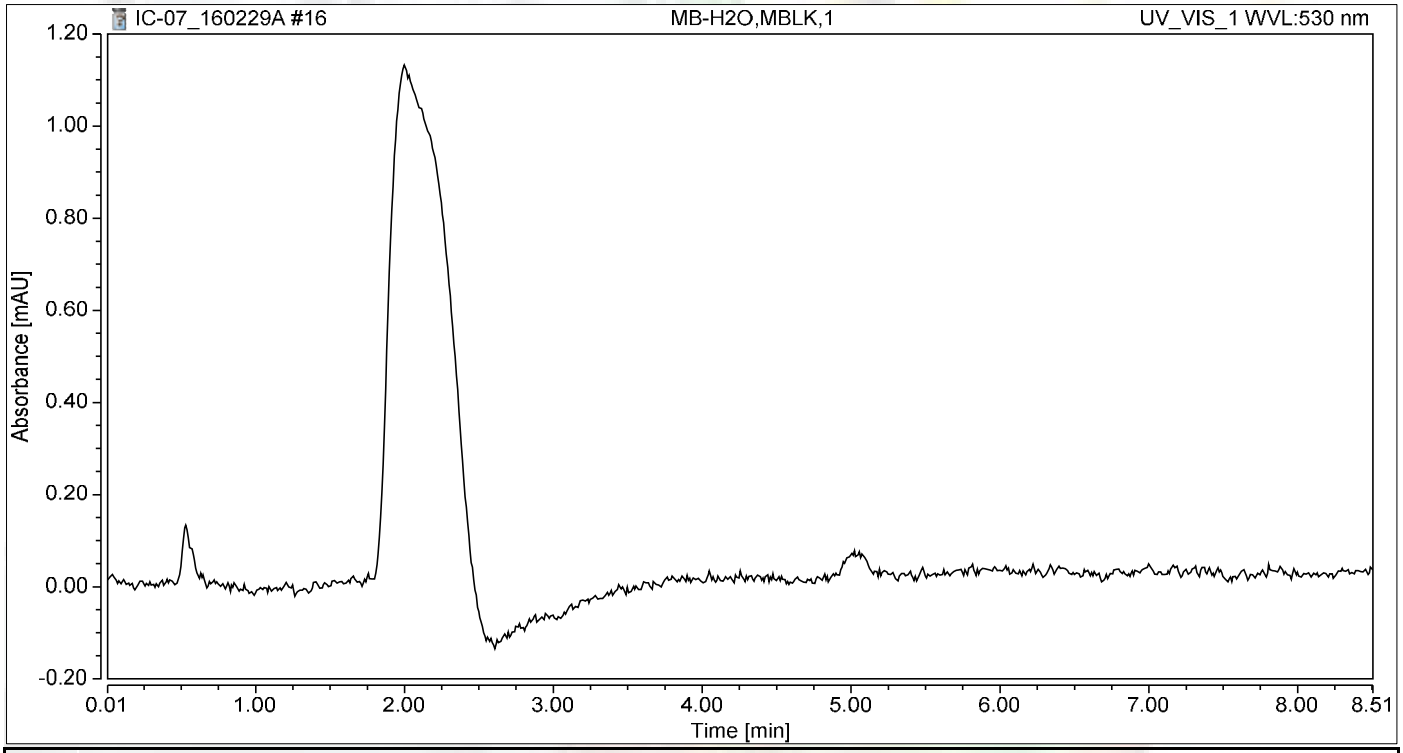
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.174	7.164	100.00	100.00	4.9610
Total:			**1.174**	**7.164**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

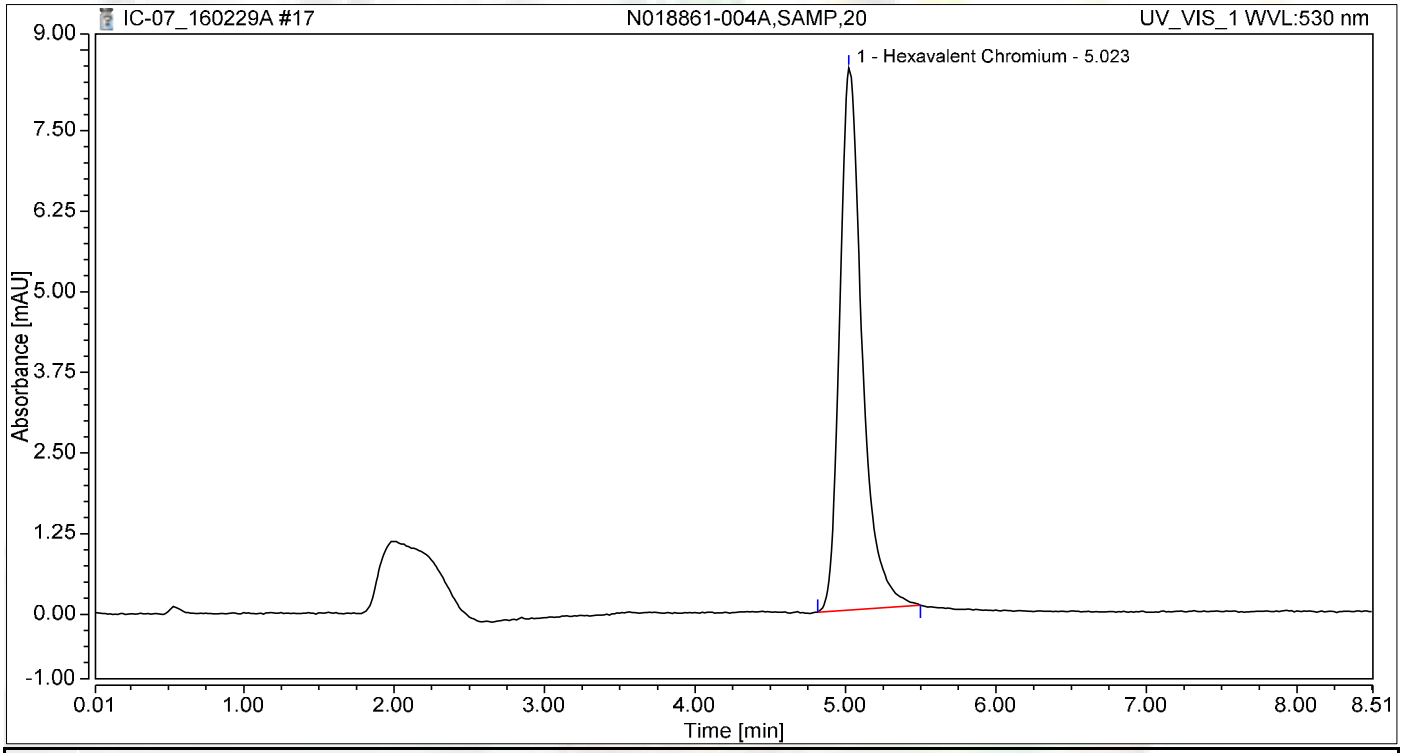
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004A,SAMP,20**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

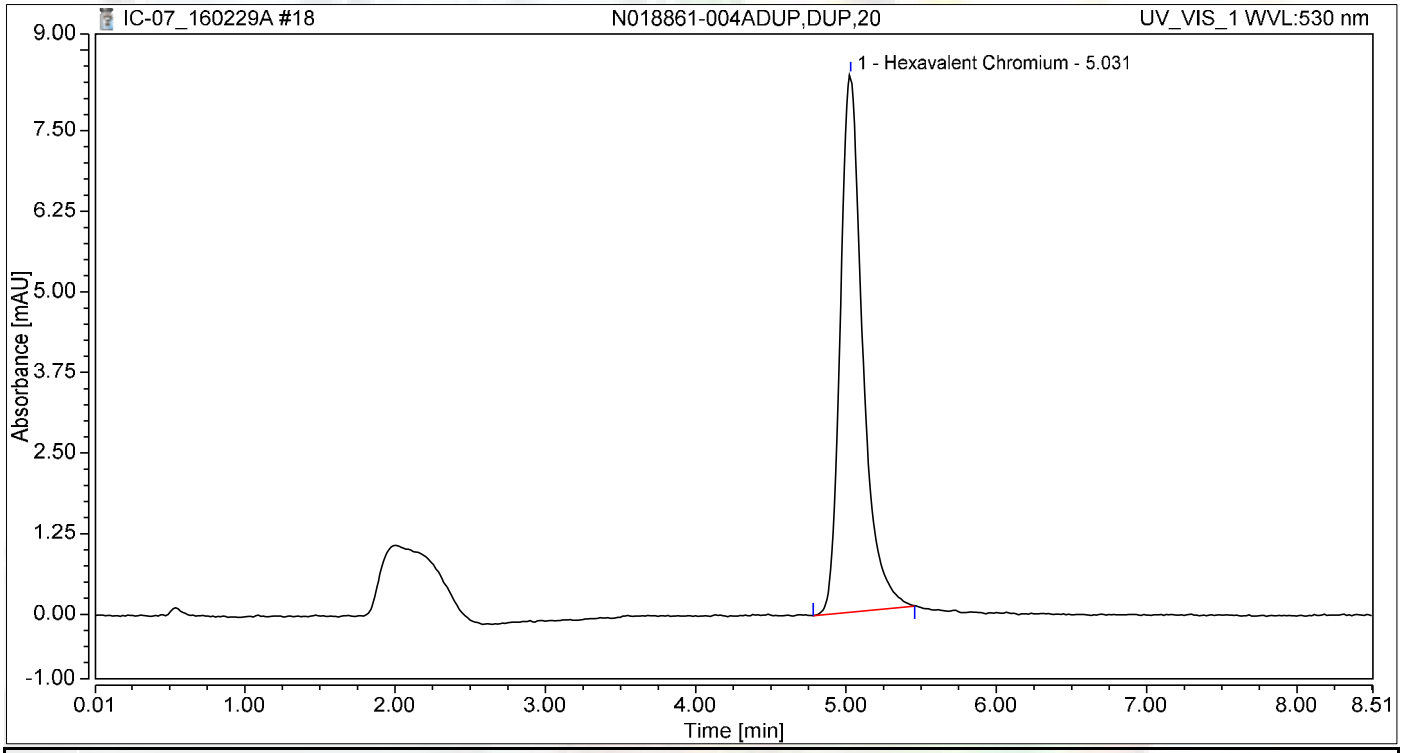
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	1.456	8.404	100.00	100.00	6.1533
Total:			**1.456**	**8.404**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004ADUP,DUP,20**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

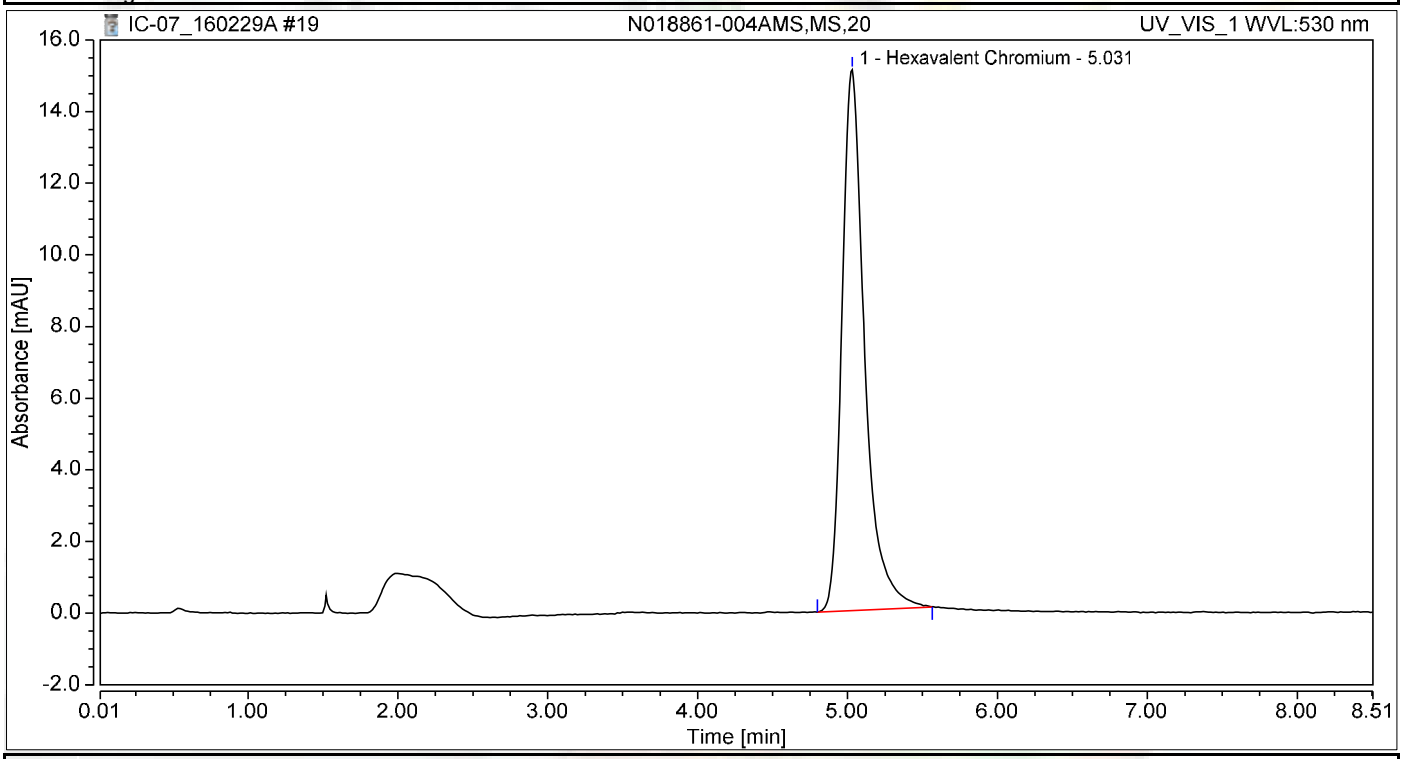
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.443	8.332	100.00	100.00	6.0978
Total:			**1.443**	**8.332**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMS,MS,20**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 12:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

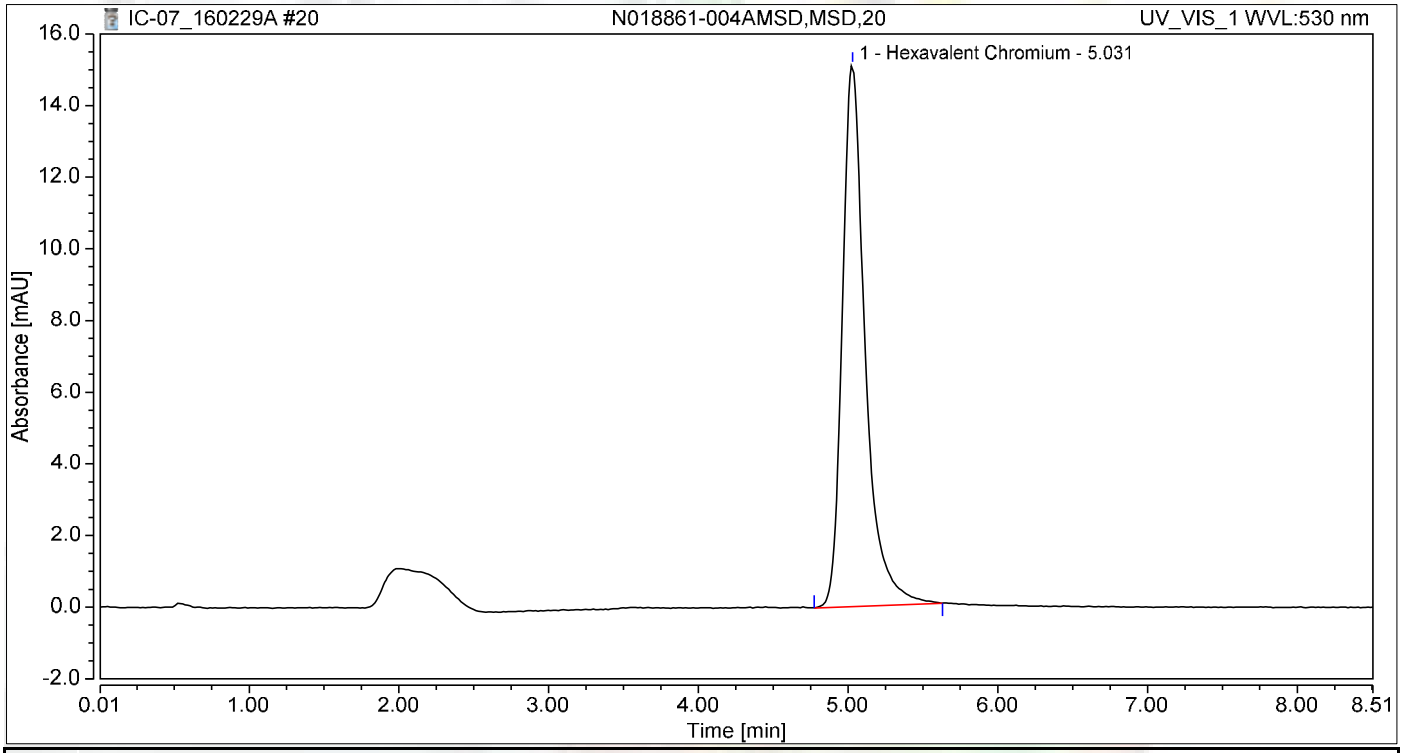
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.644	15.087	100.00	100.00	11.1709
Total:			**2.644**	**15.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-004AMSD,MSD,20**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

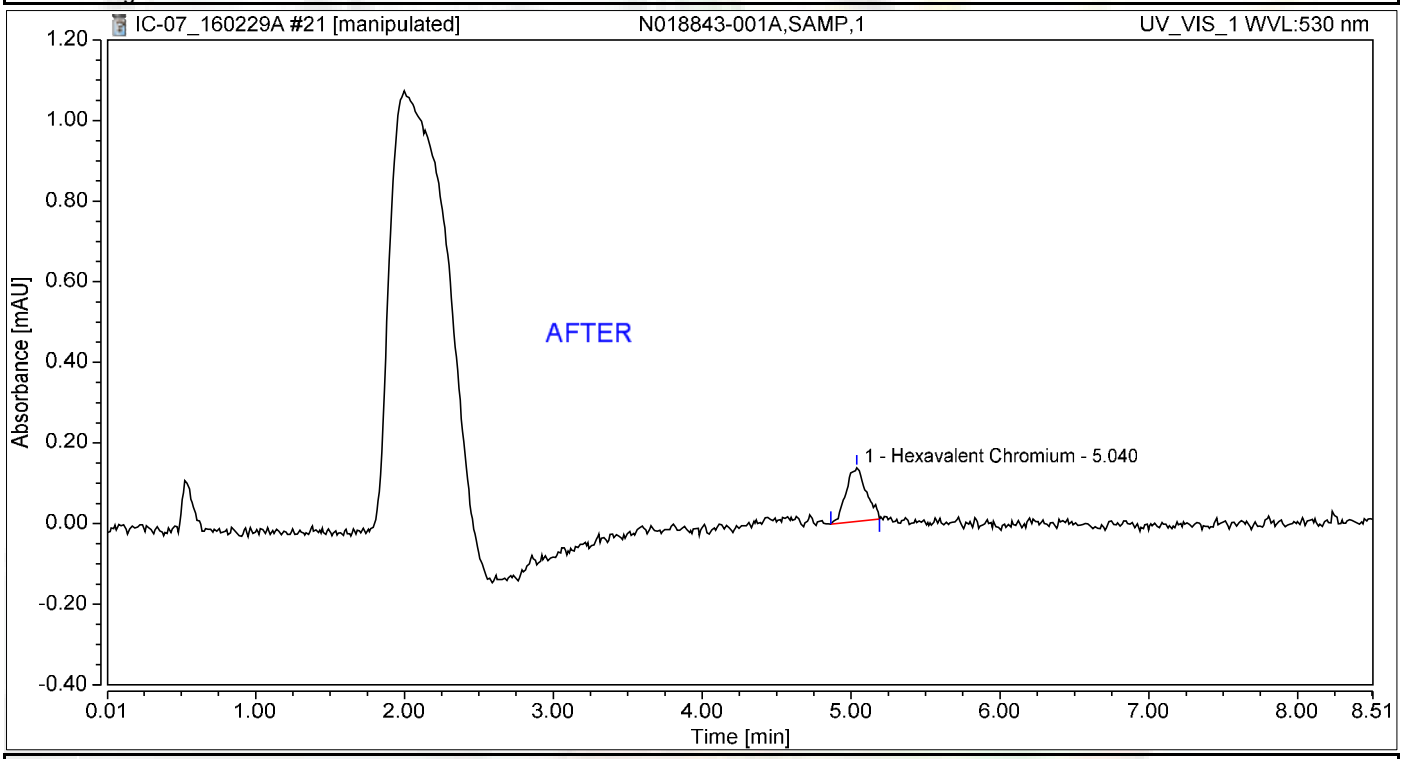
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.672	15.117	100.00	100.00	11.2884
Total:			**2.672**	**15.117**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.021	0.133	100.00	100.00	0.0879
Total:			**0.021**	**0.133**	**100.00**	**100.00**	

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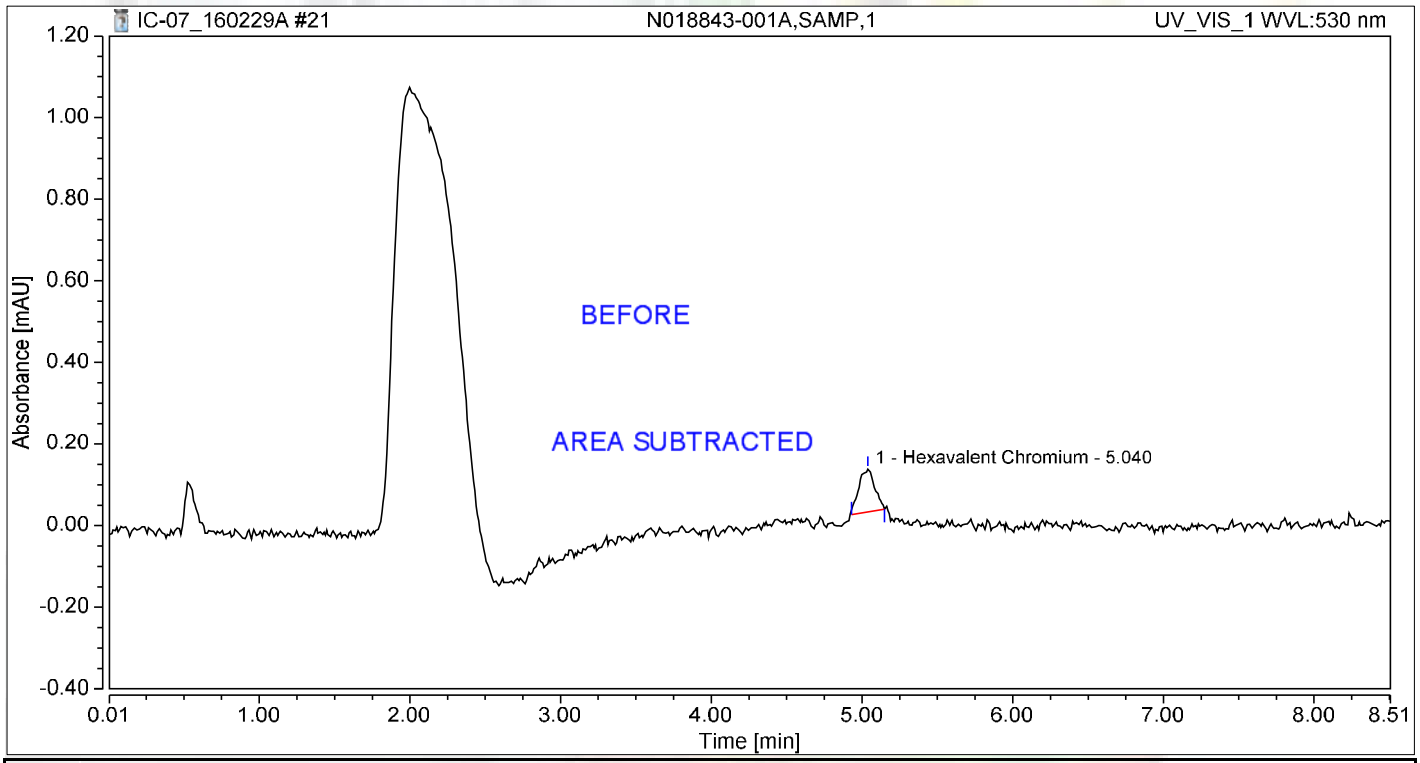
Chromatogram and Results

Injection Details

Injection Name:	**N018843-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

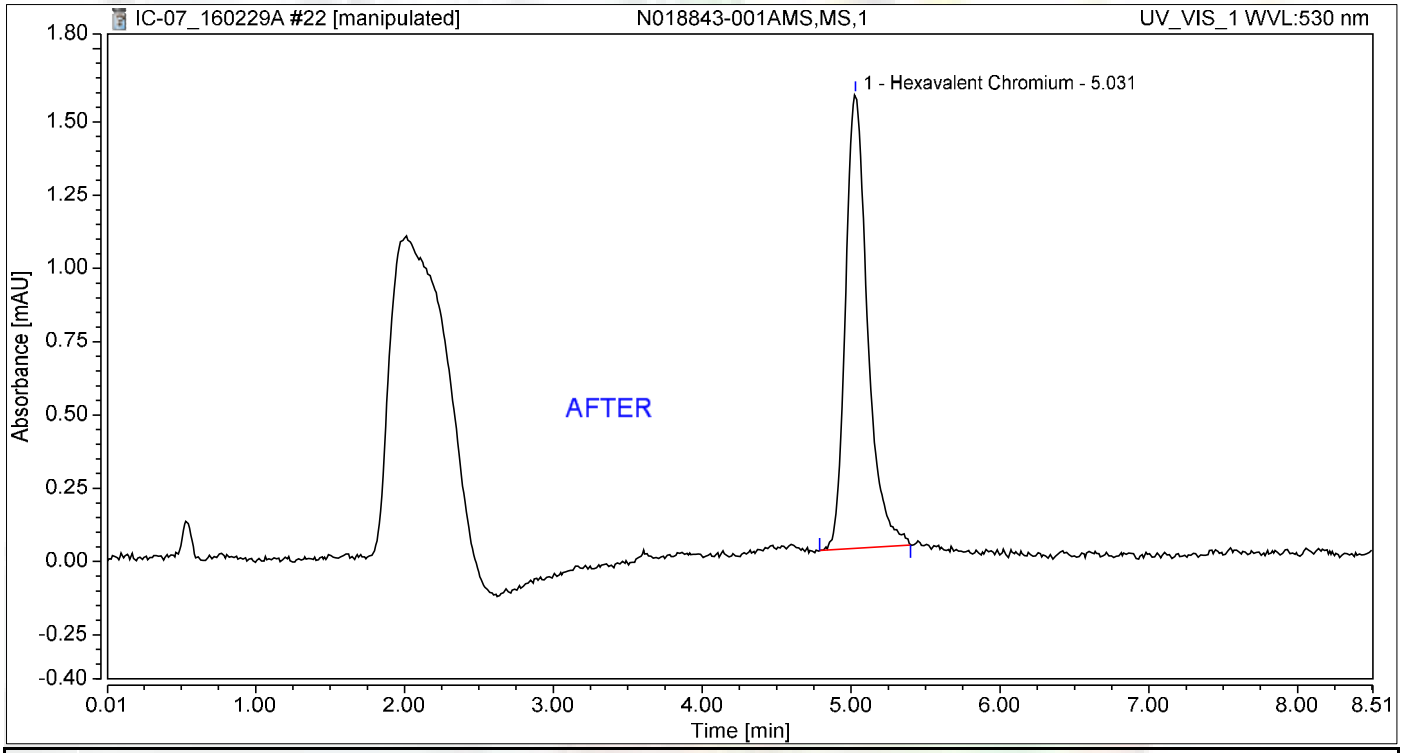
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.013	0.104	100.00	100.00	0.0543
Total:			**0.013**	**0.104**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.549	100.00	100.00	1.1206
Total:			**0.265**	**1.549**	**100.00**	**100.00**	

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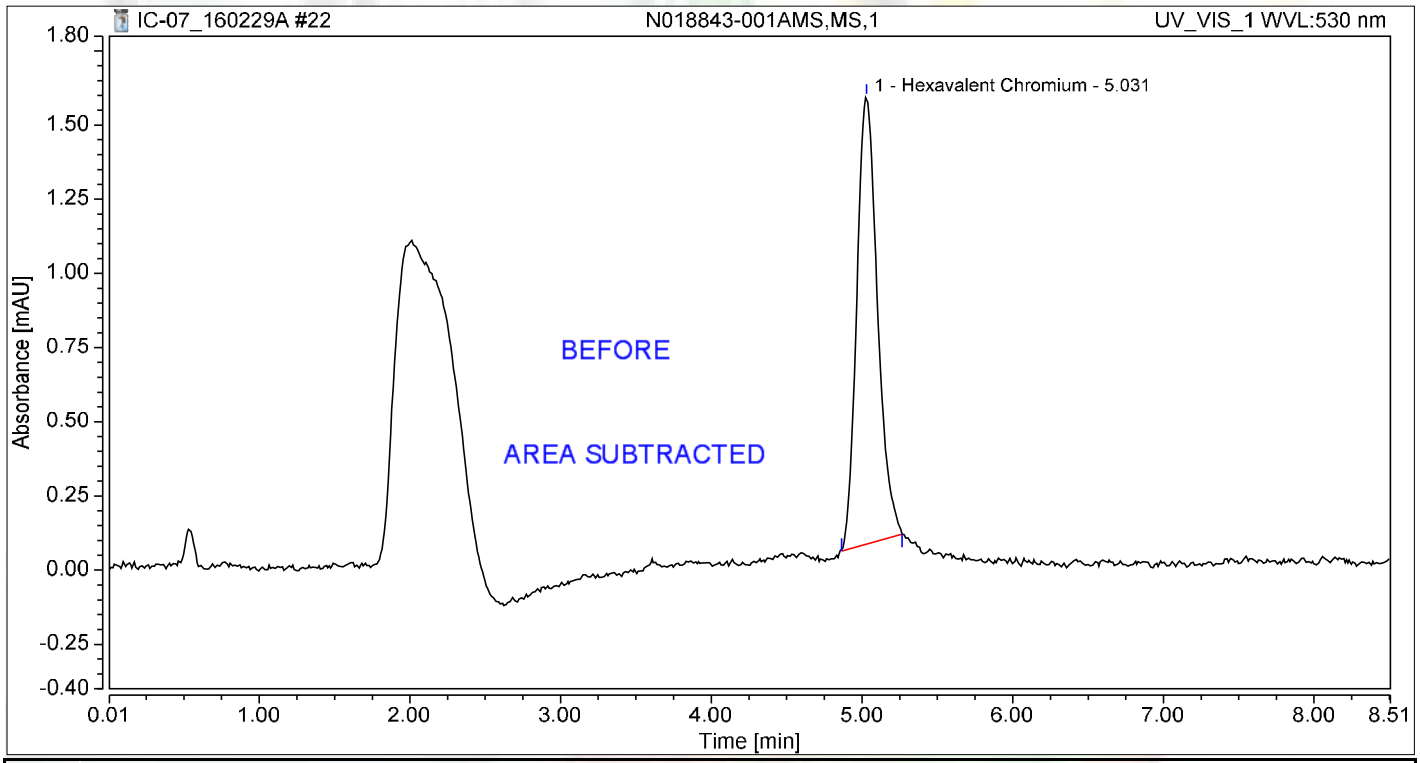
Chromatogram and Results

Injection Details

Injection Name:	**N018843-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

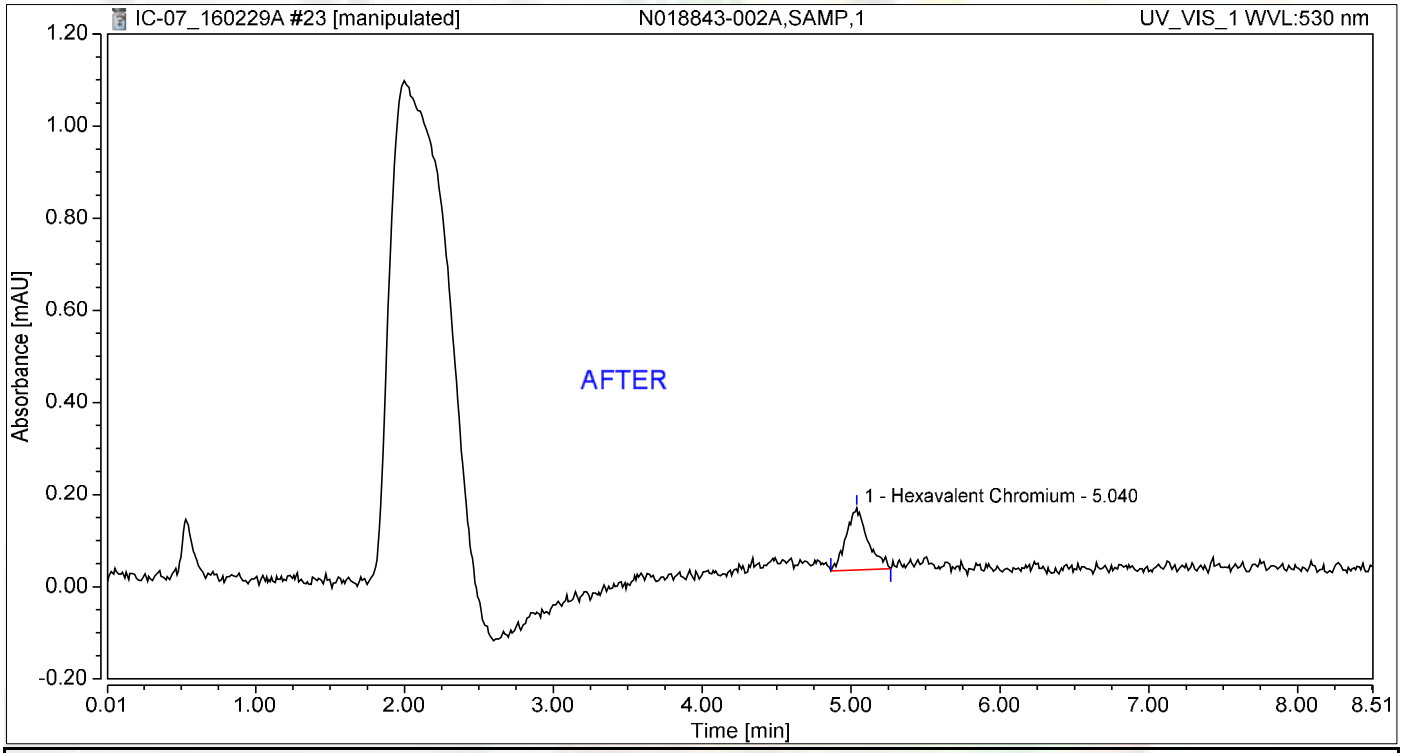
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.240	1.507	100.00	100.00	1.0160
Total:			**0.240**	**1.507**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.023	0.136	100.00	100.00	0.0960
Total:			**0.023**	**0.136**	**100.00**	**100.00**	

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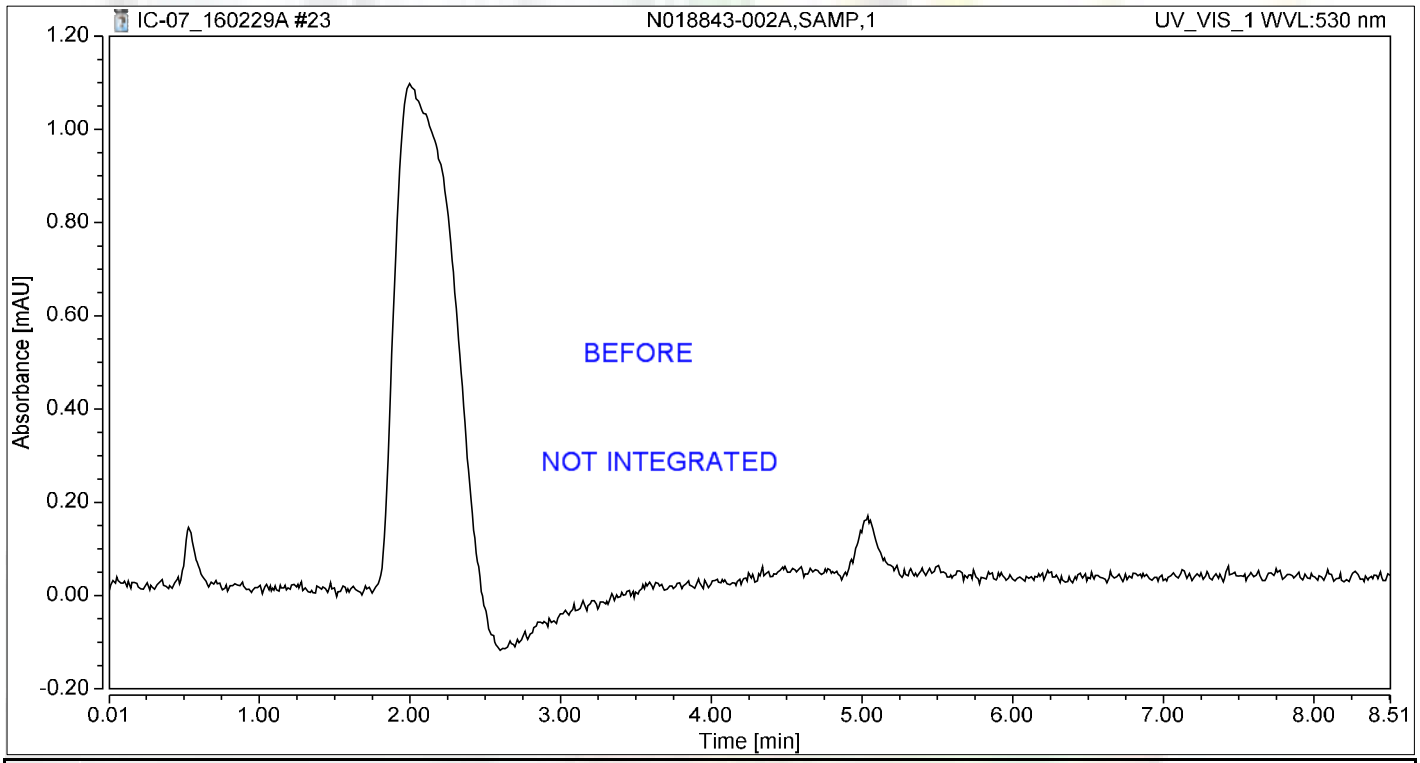
Chromatogram and Results

Injection Details

Injection Name:	**N018843-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

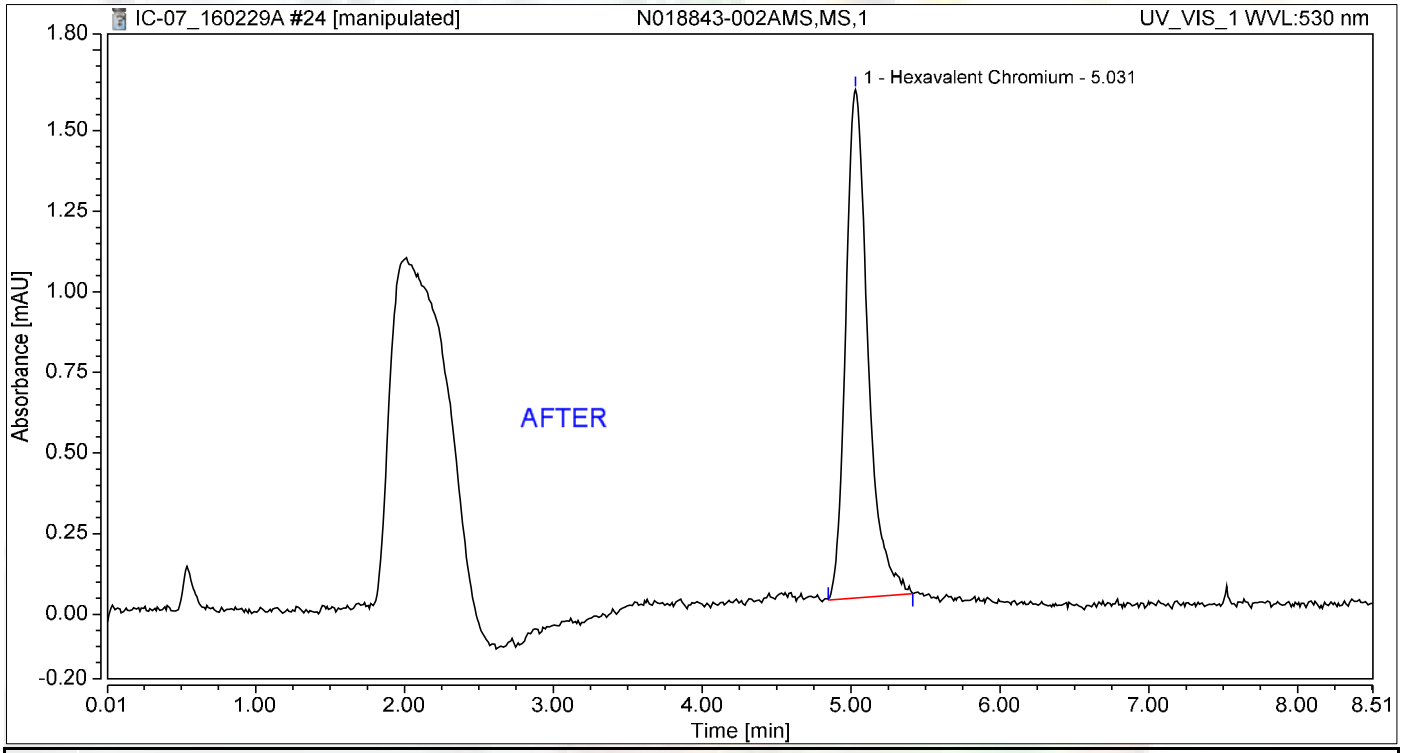
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.270	1.577	100.00	100.00	1.1416
Total:			**0.270**	**1.577**	**100.00**	**100.00**	

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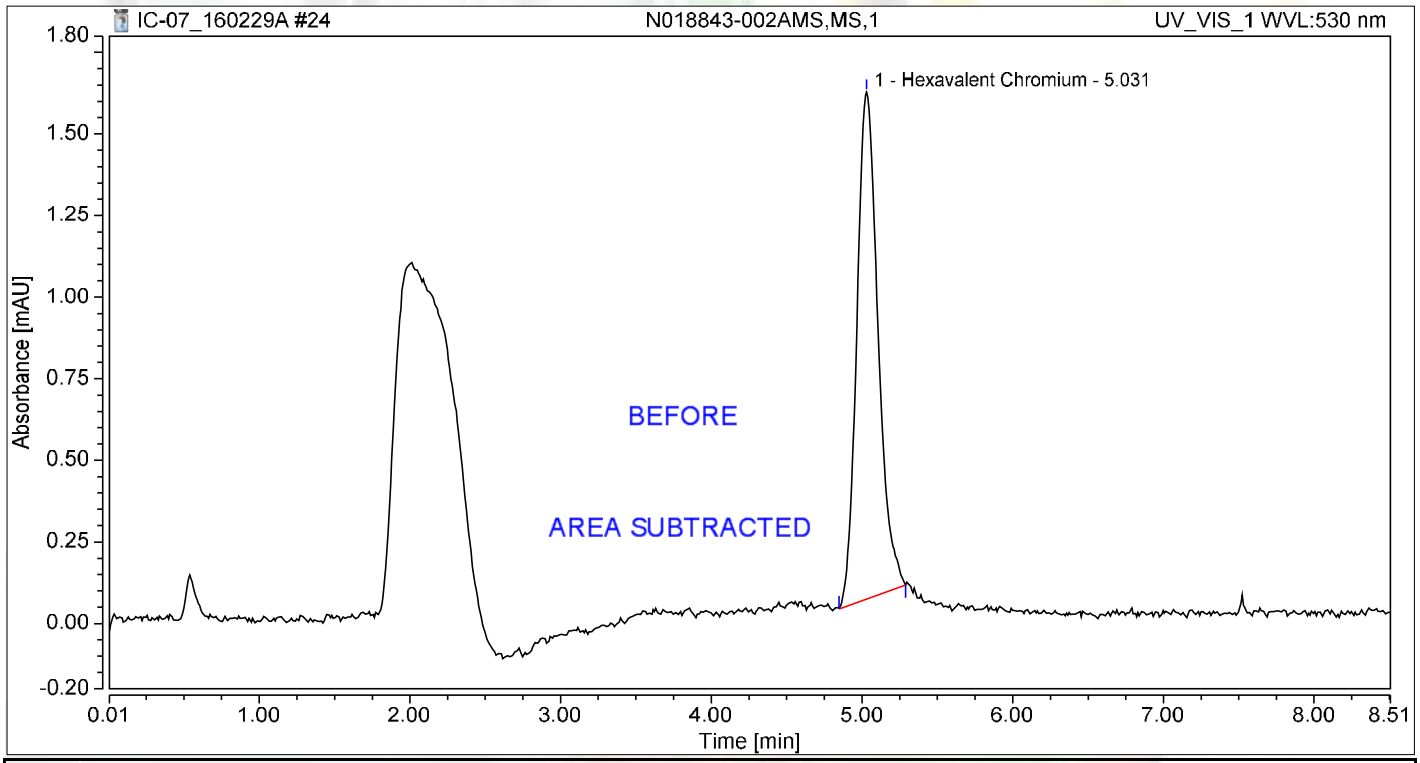
Chromatogram and Results

Injection Details

Injection Name:	**N018843-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

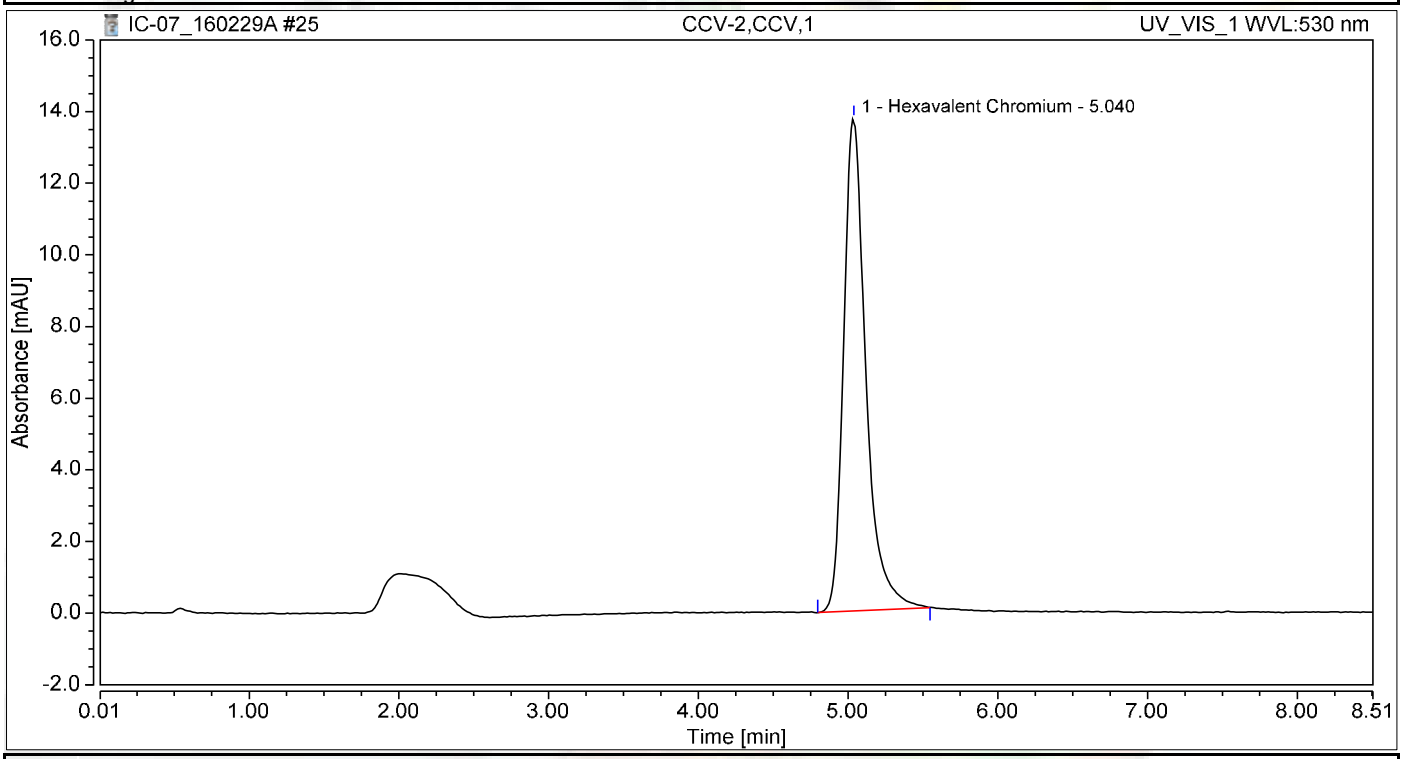
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.253	1.553	100.00	100.00	1.0687
Total:			**0.253**	**1.553**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

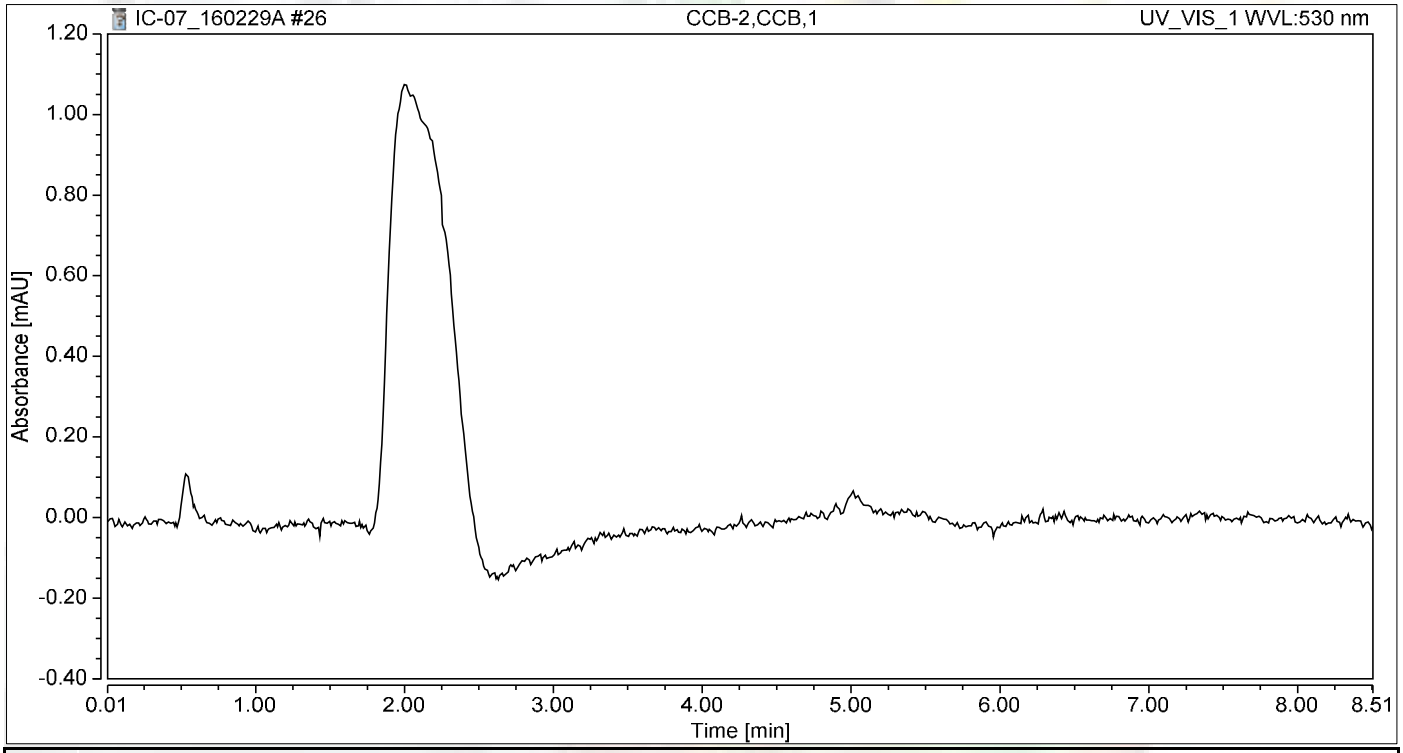
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.354	13.748	100.00	100.00	9.9462
Total:			**2.354**	**13.748**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 13:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

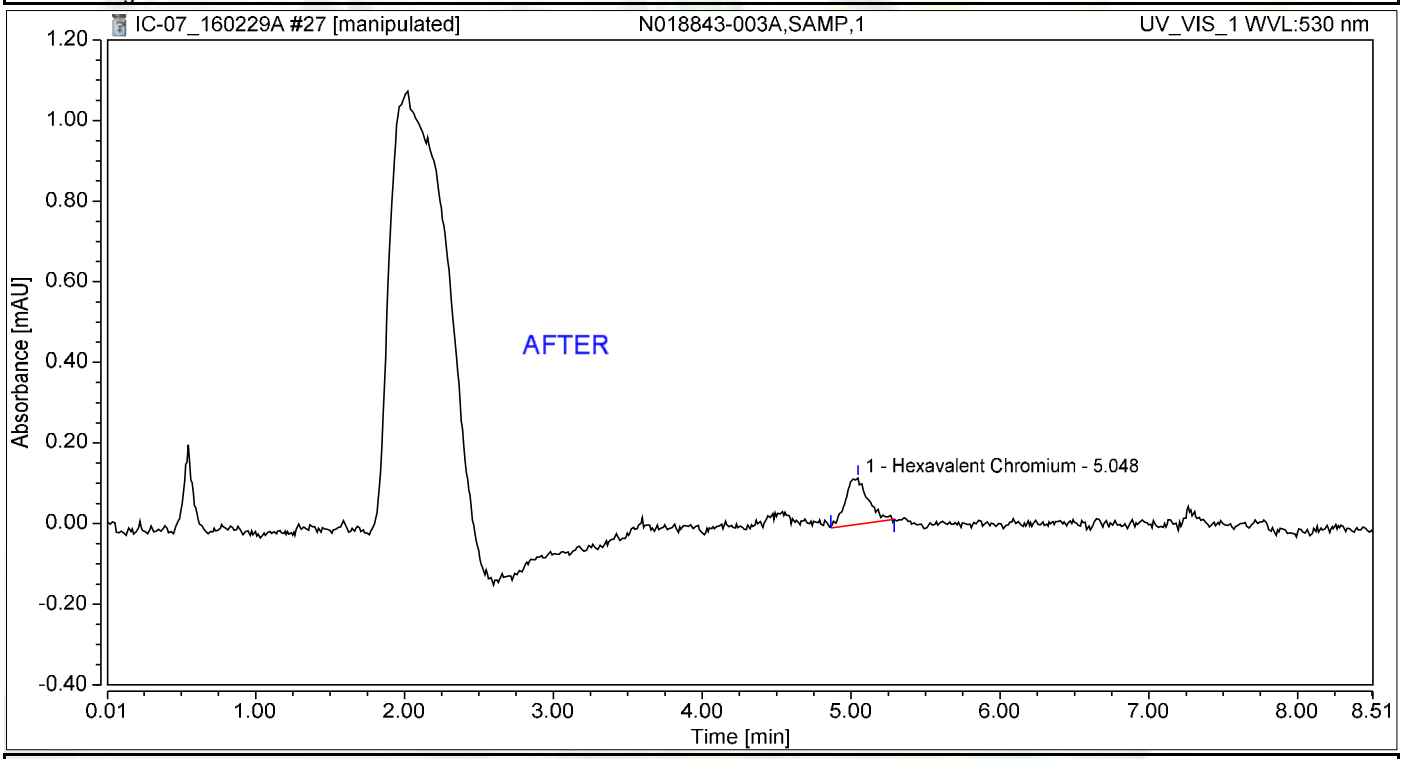
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.021	0.114	100.00	100.00	0.0867
Total:			**0.021**	**0.114**	**100.00**	**100.00**	

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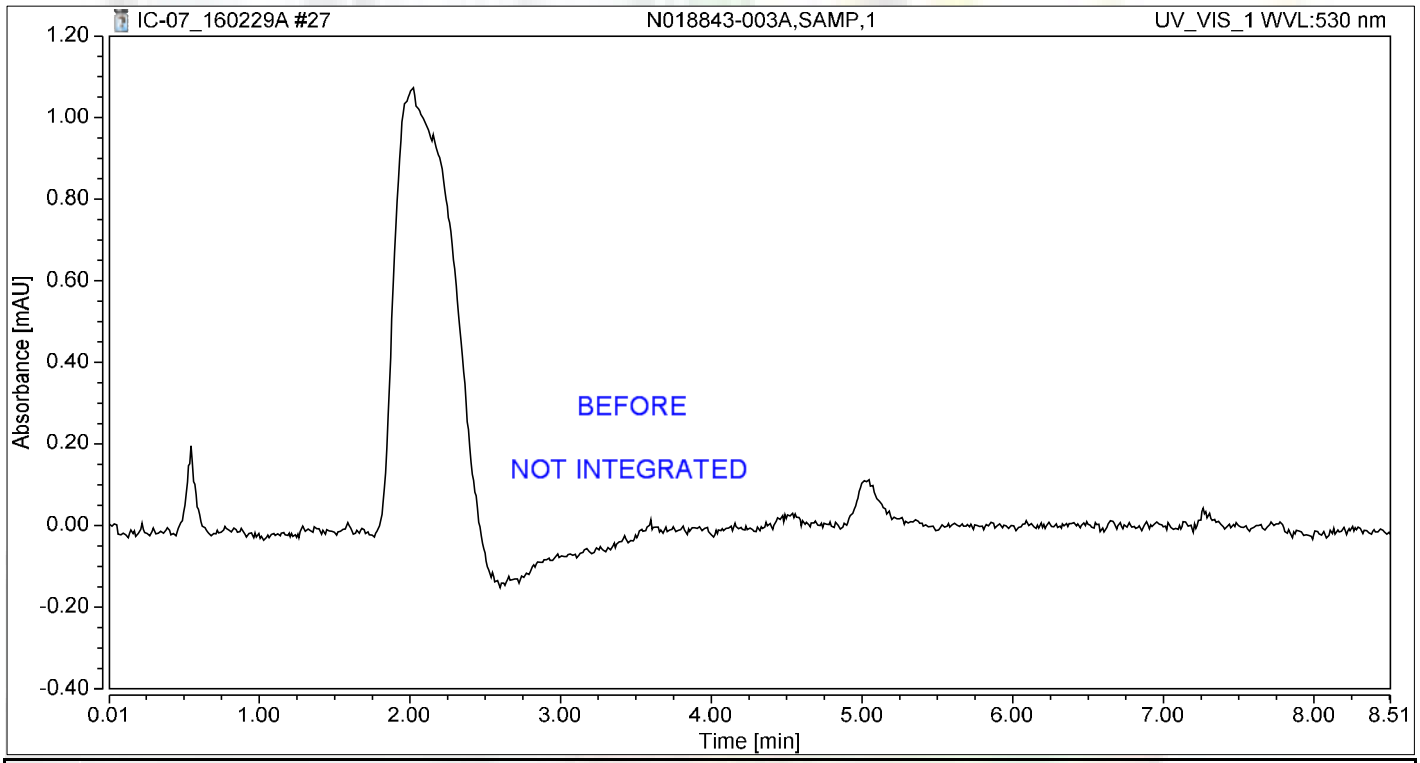
Chromatogram and Results

Injection Details

Injection Name:	**N018843-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

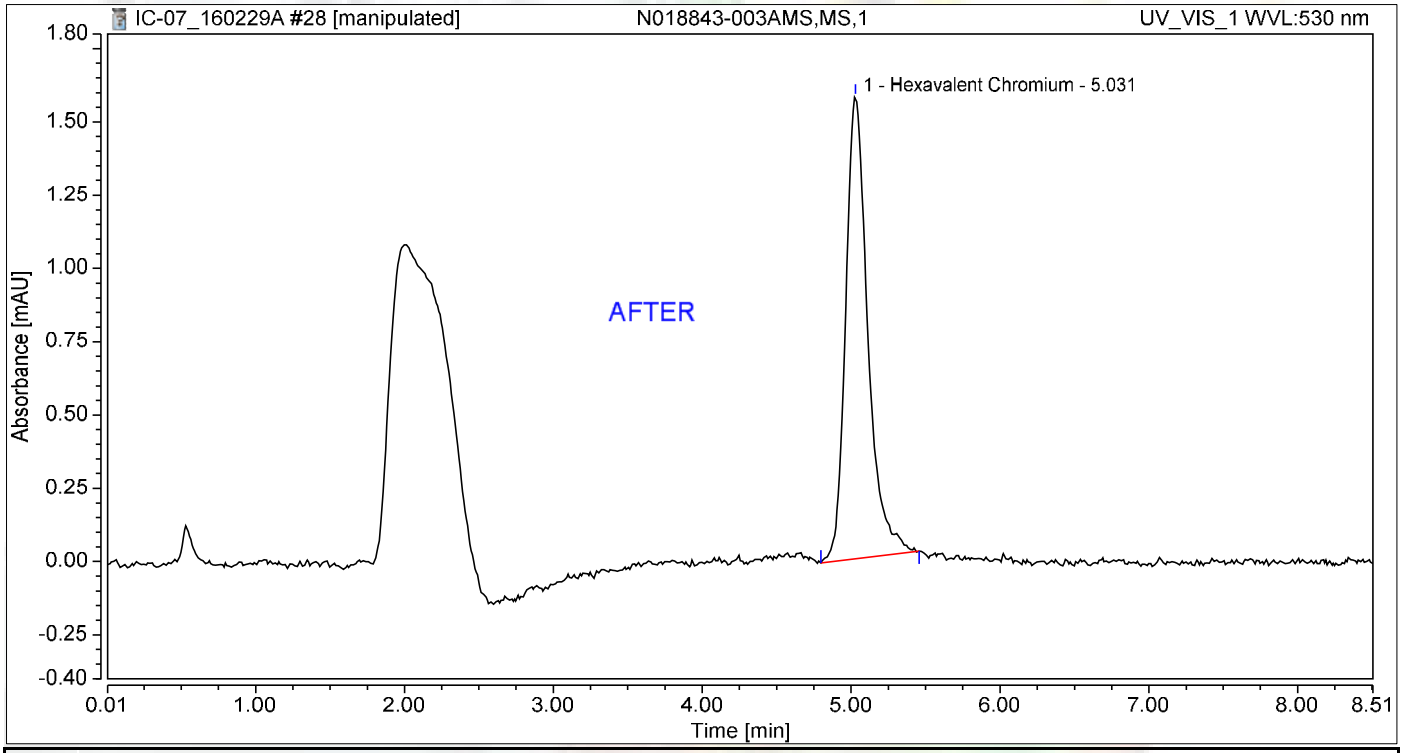
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.271	1.576	100.00	100.00	1.1437
Total:			**0.271**	**1.576**	**100.00**	**100.00**	

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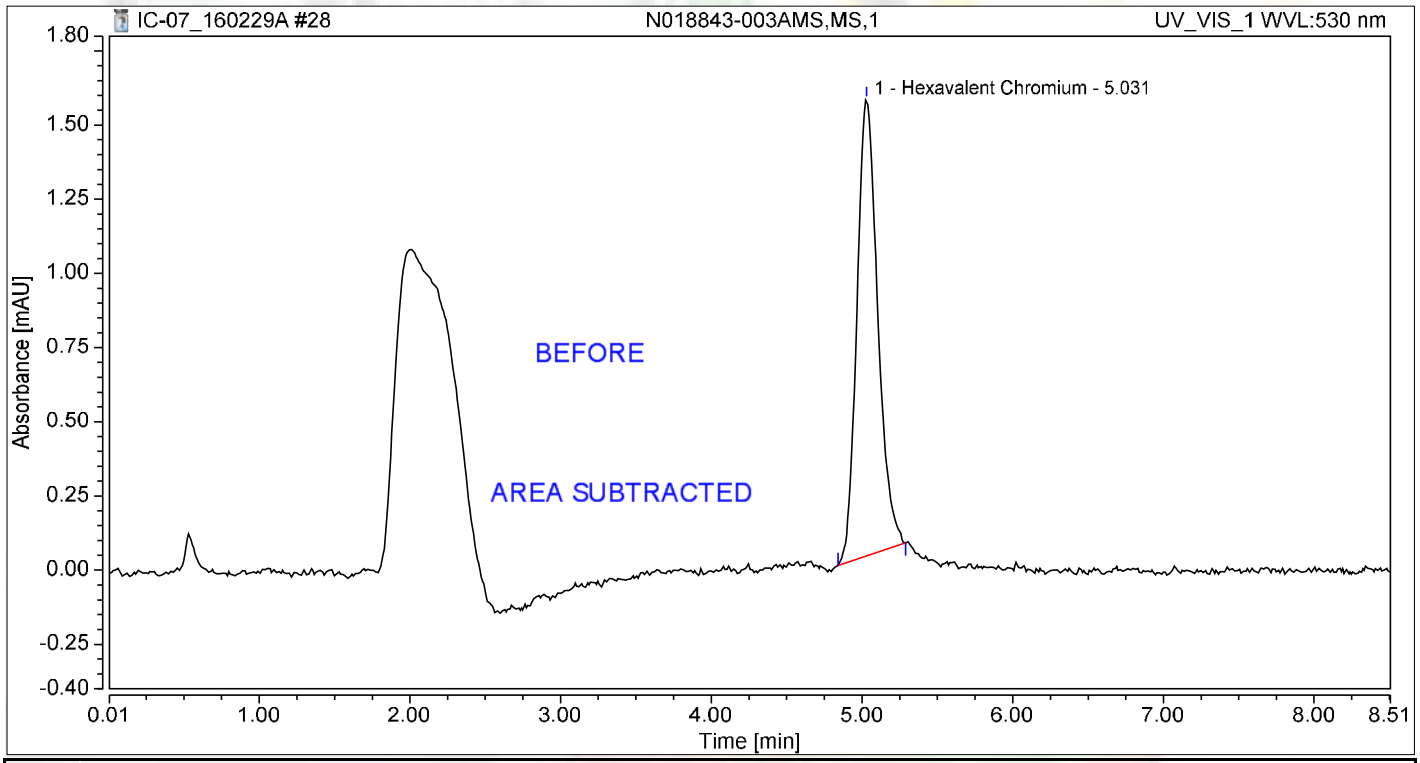
Chromatogram and Results

Injection Details

Injection Name:	**N018843-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

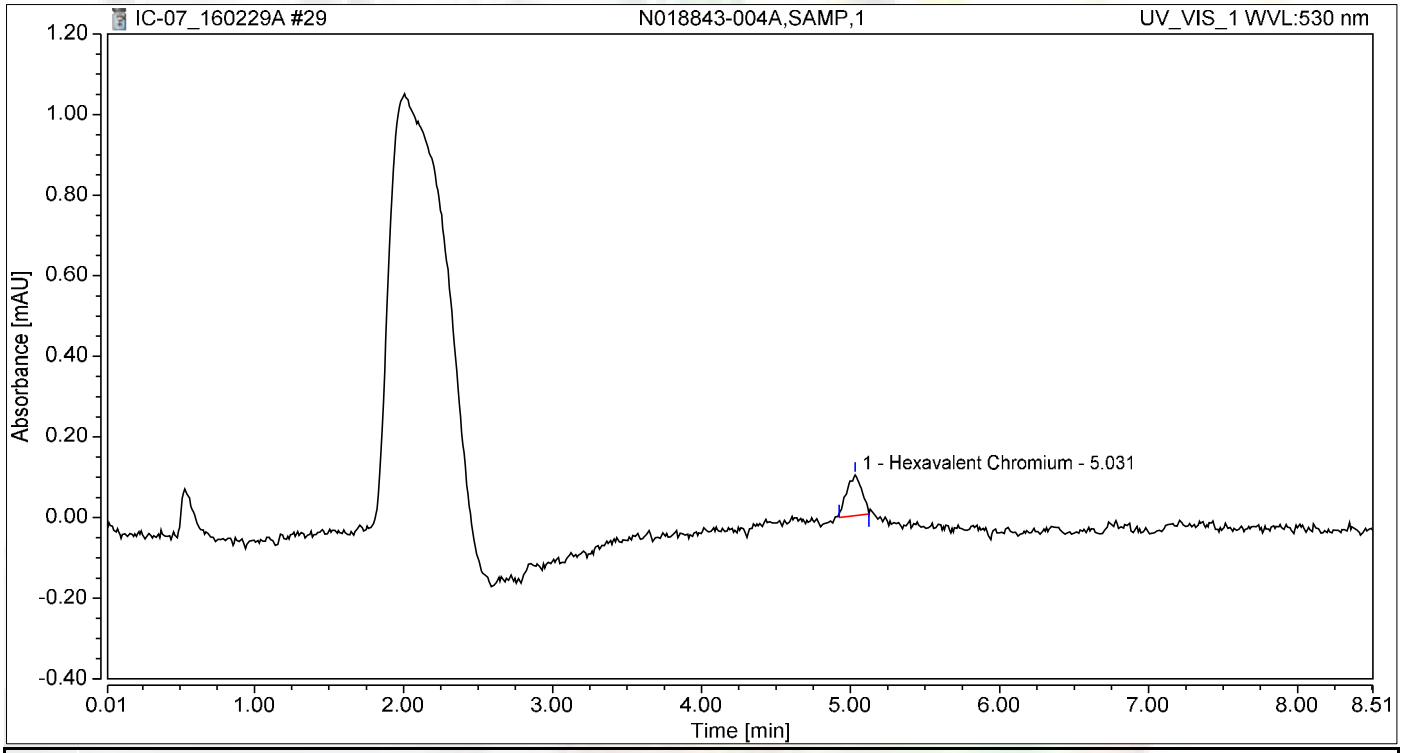
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.247	1.537	100.00	100.00	1.0417
Total:			**0.247**	**1.537**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

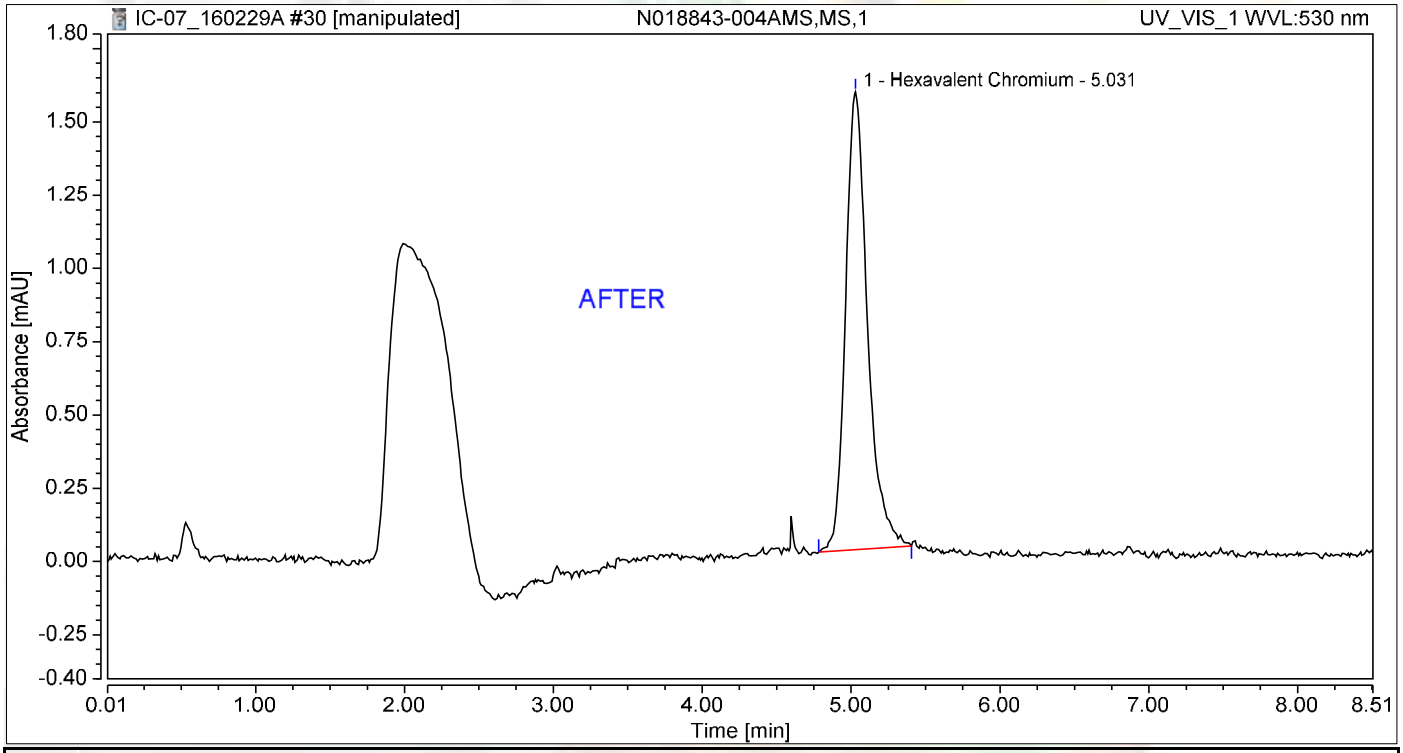
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.012	0.101	100.00	100.00	0.0494
Total:			**0.012**	**0.101**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.265	1.563	100.00	100.00	1.1212
Total:			**0.265**	**1.563**	**100.00**	**100.00**	

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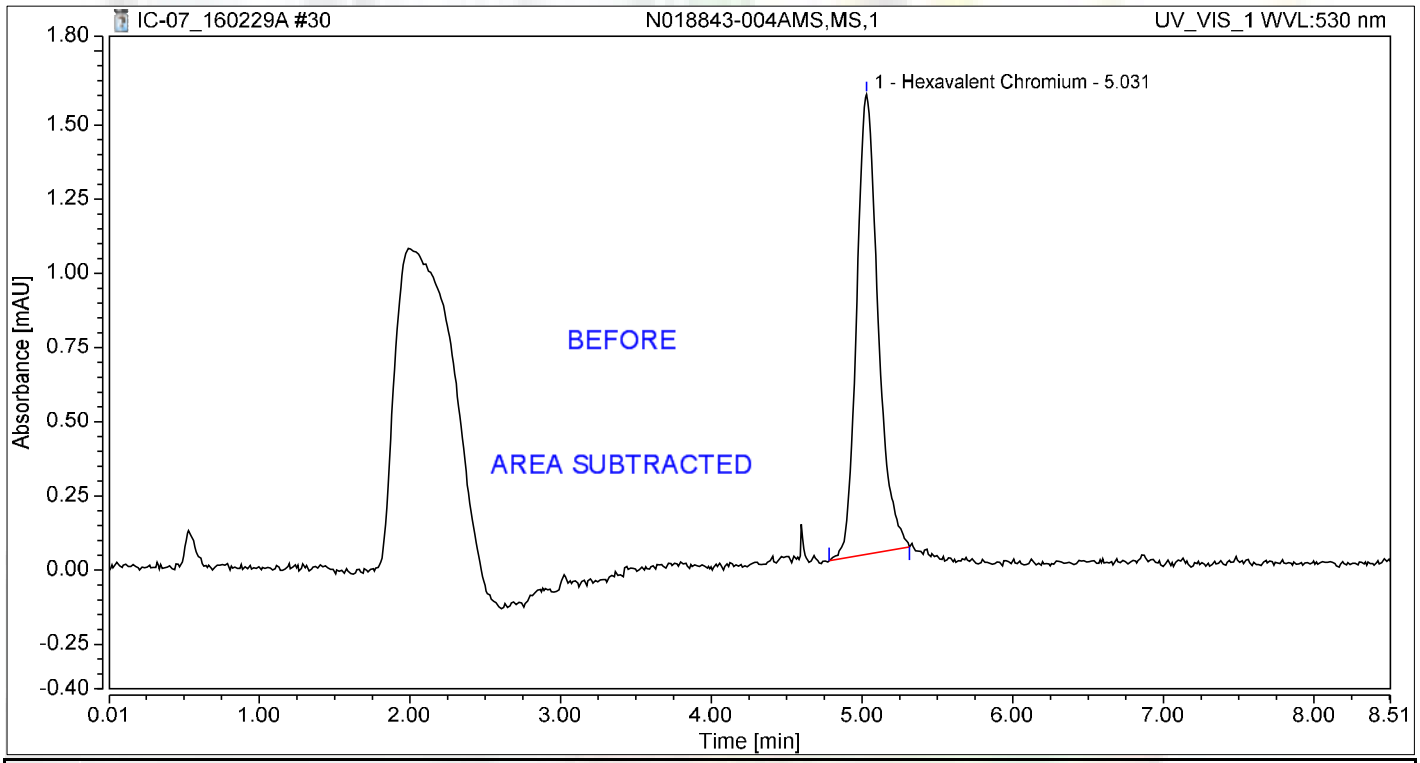
Chromatogram and Results

Injection Details

Injection Name:	**N018843-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

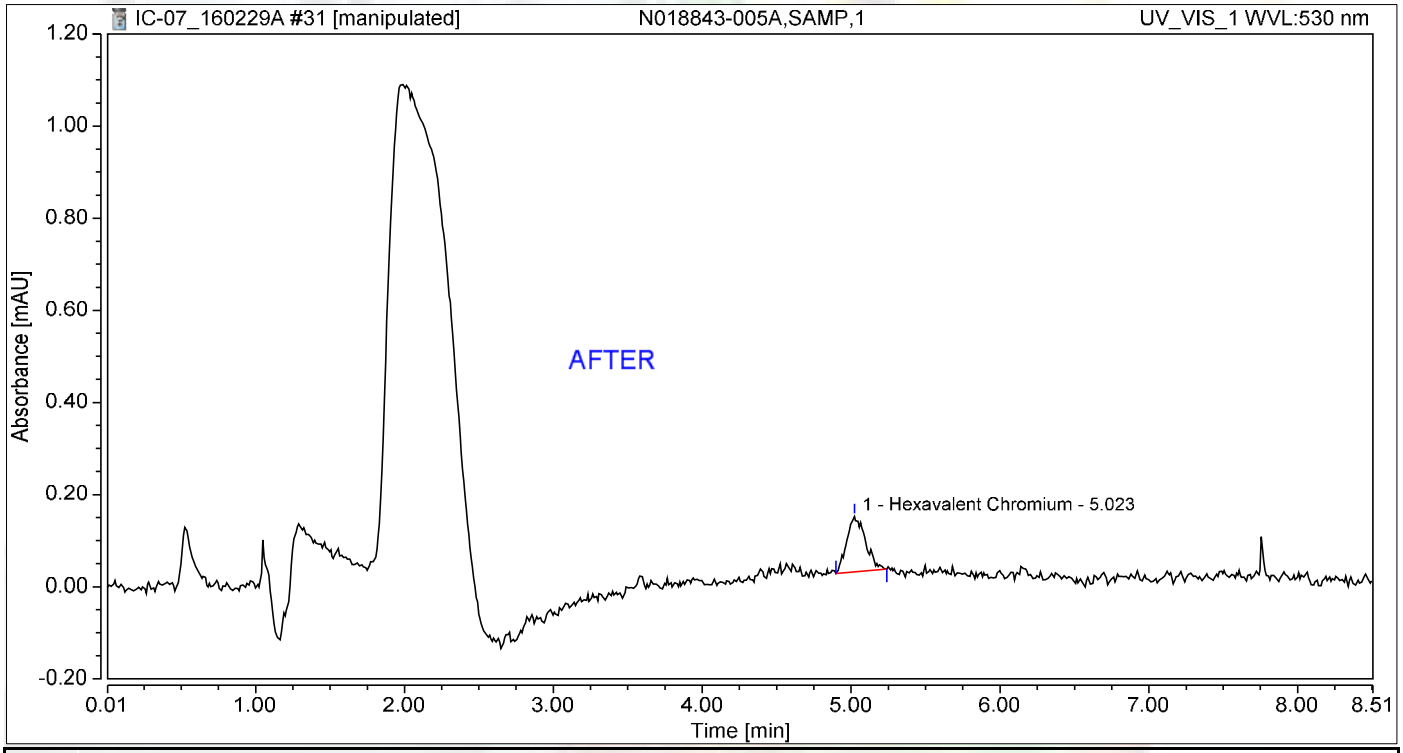
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.256	1.549	100.00	100.00	1.0811
Total:			**0.256**	**1.549**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.017	0.121	100.00	100.00	0.0734
Total:			**0.017**	**0.121**	**100.00**	**100.00**	

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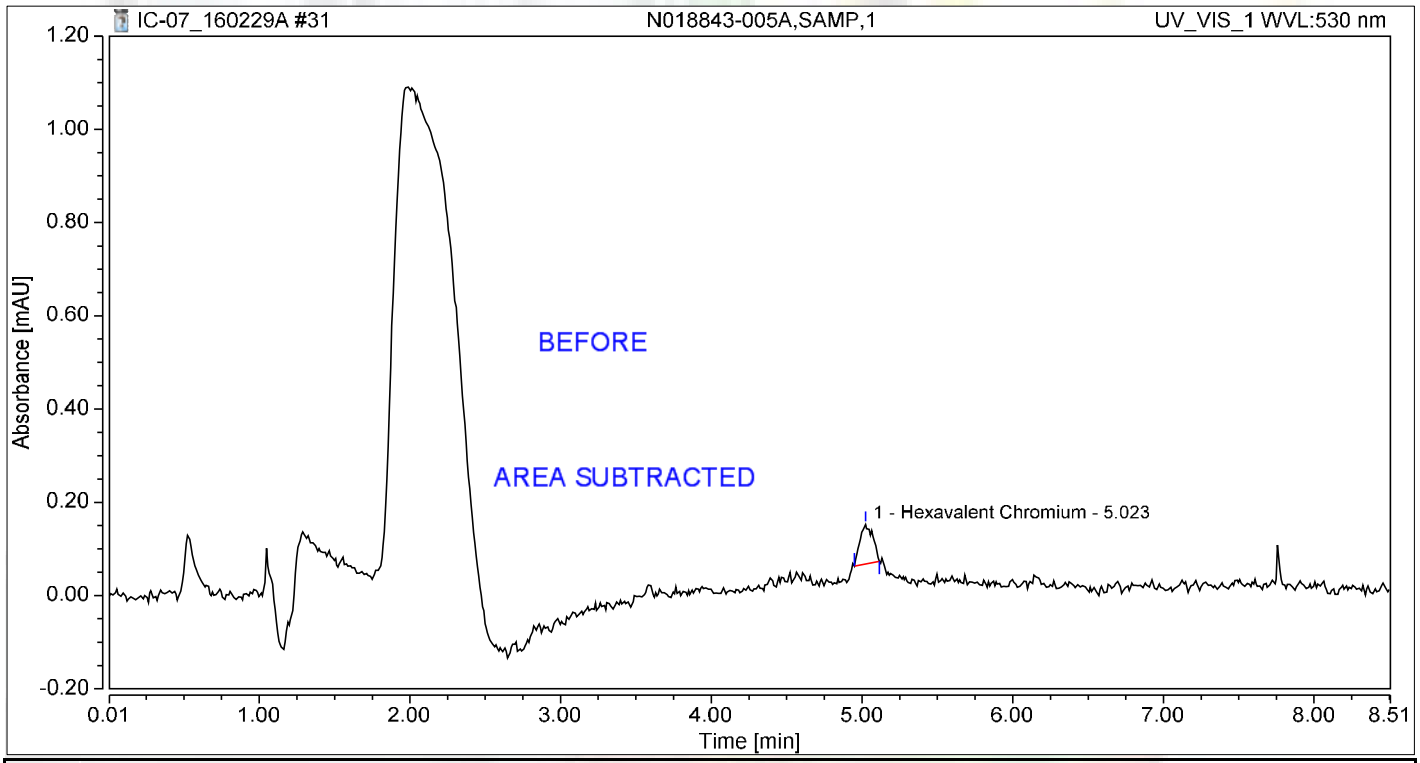
Chromatogram and Results

Injection Details

Injection Name:	**N018843-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

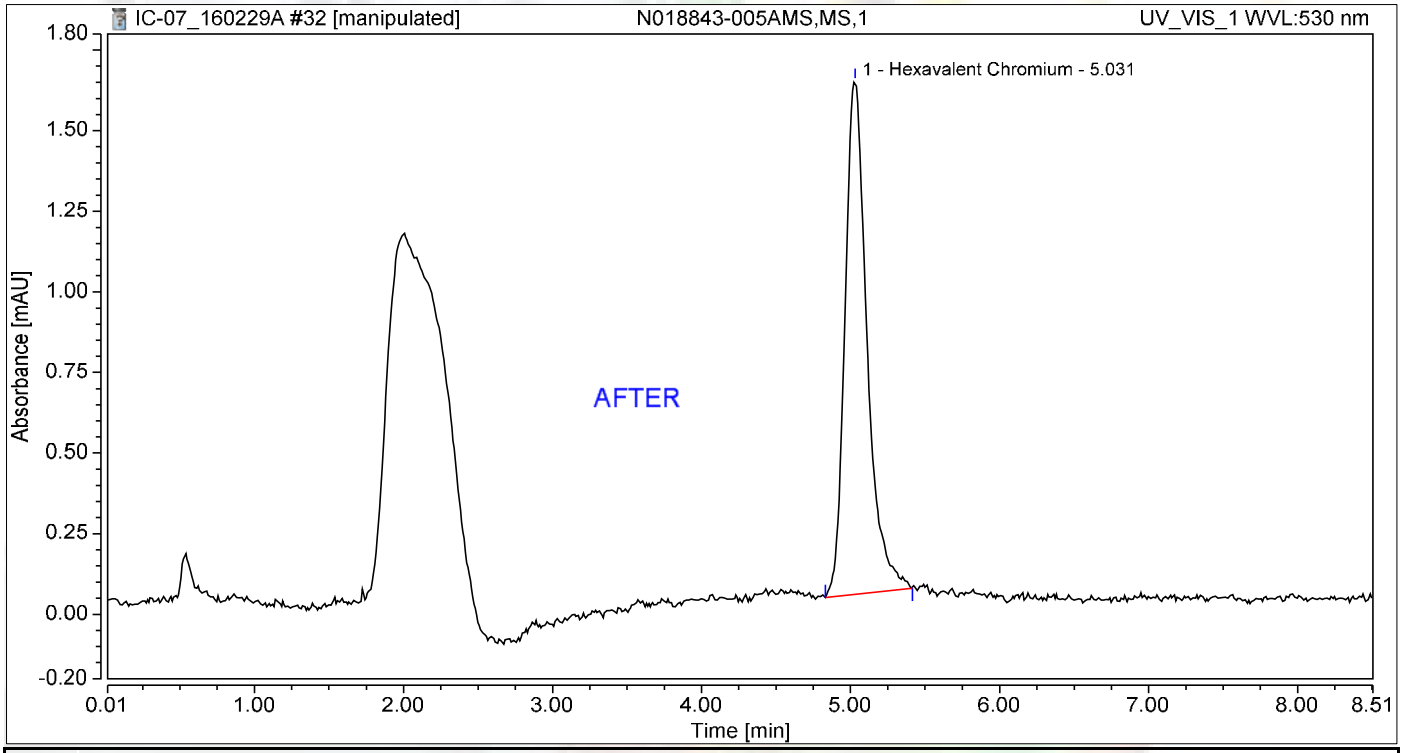
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.008	0.085	100.00	100.00	0.0356
Total:			**0.008**	**0.085**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.272	1.590	100.00	100.00	1.1503
Total:			**0.272**	**1.590**	**100.00**	**100.00**	

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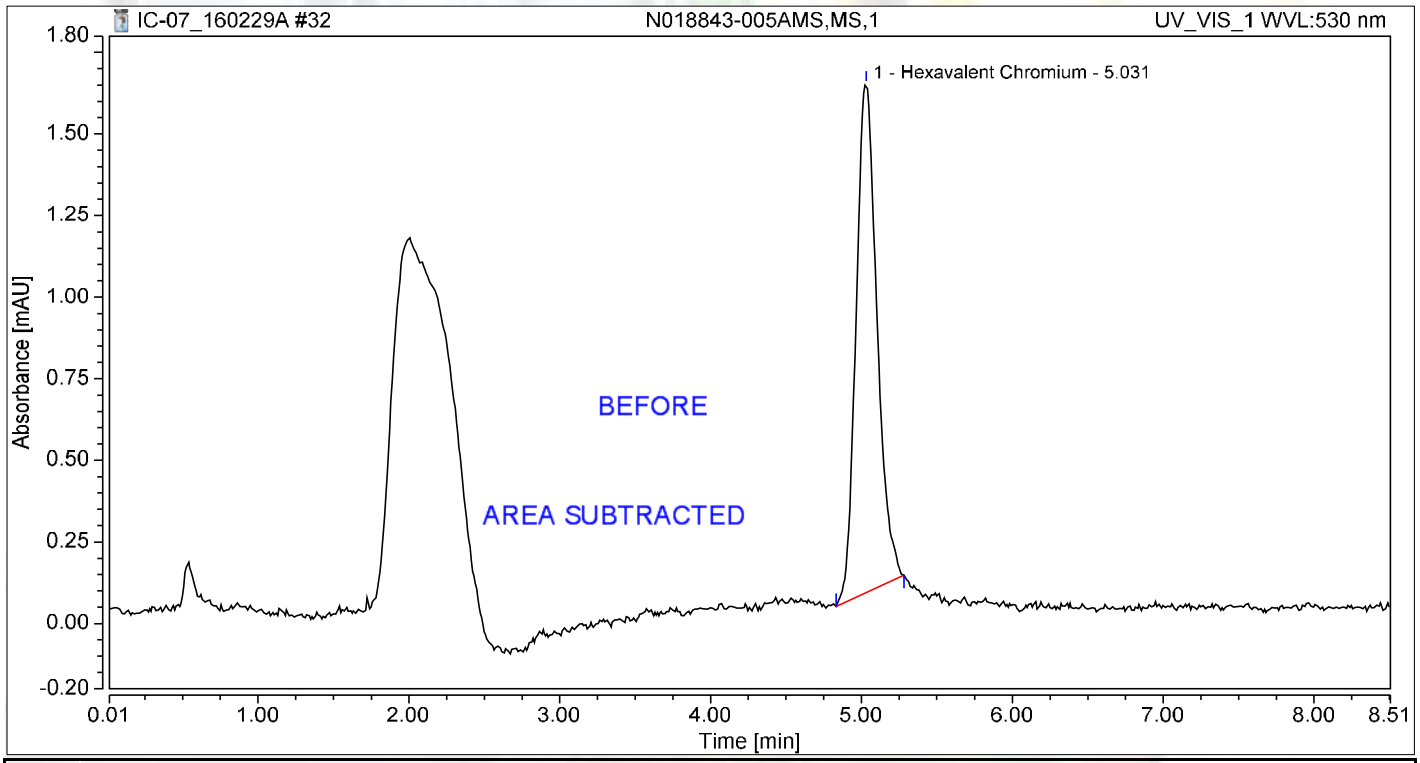
Chromatogram and Results

Injection Details

Injection Name:	**N018843-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 14:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

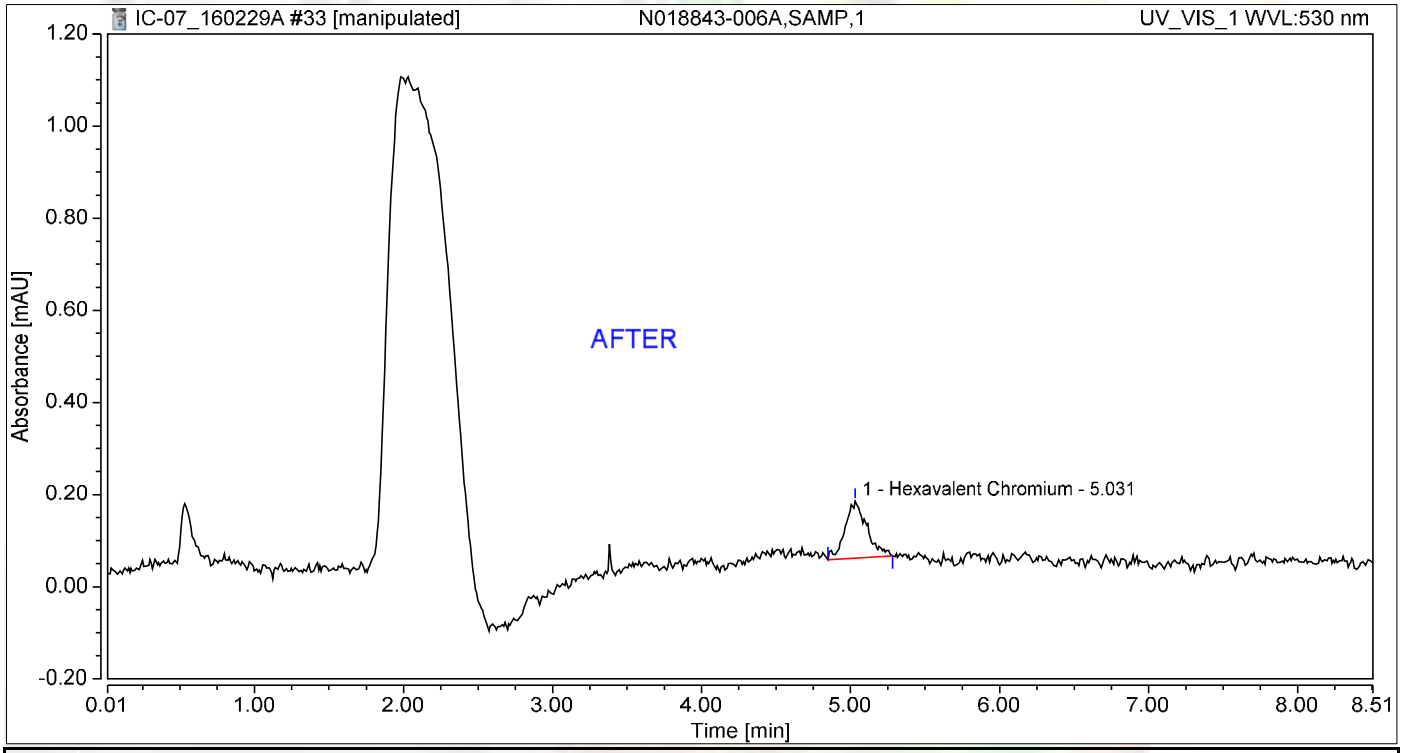
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.251	1.557	100.00	100.00	1.0608
Total:			**0.251**	**1.557**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.021	0.124	100.00	100.00	0.0887
Total:			**0.021**	**0.124**	**100.00**	**100.00**	

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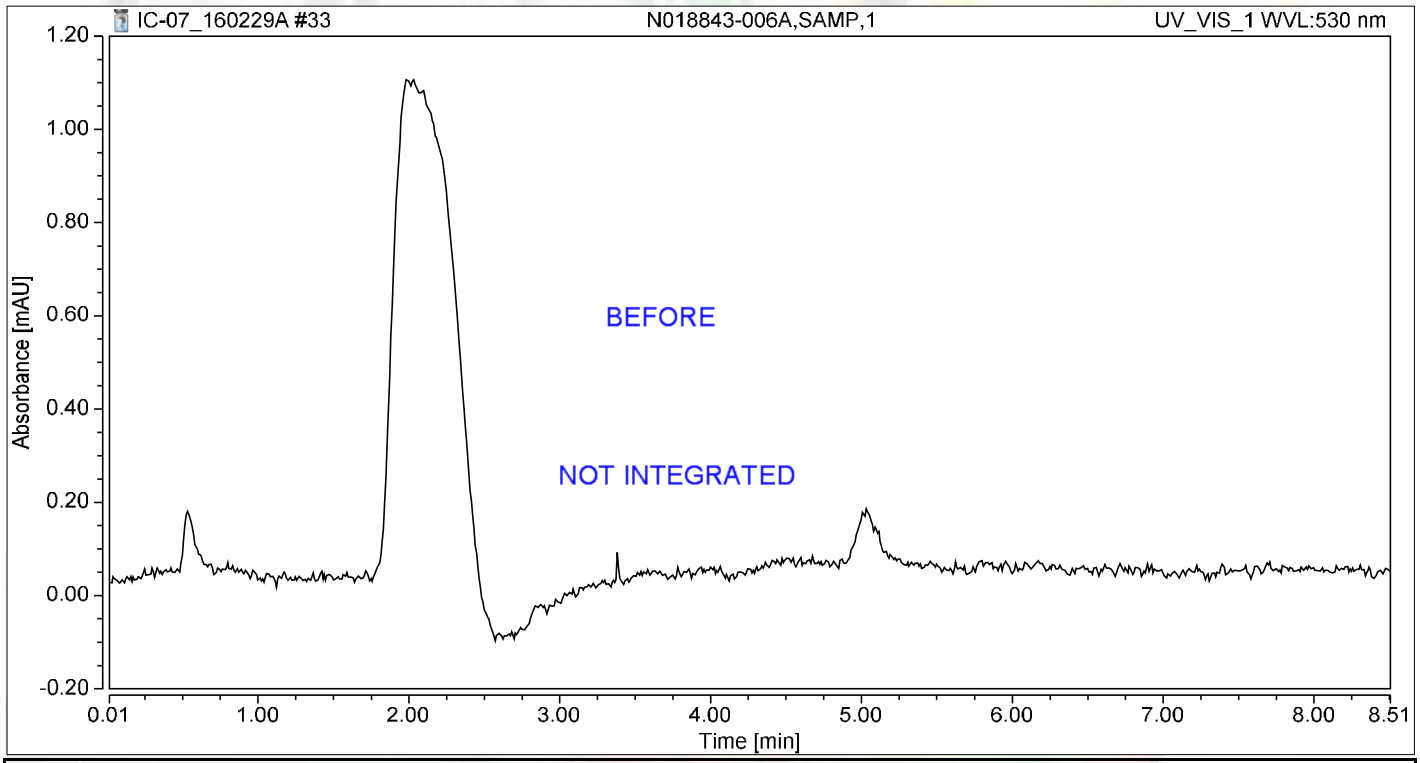
Chromatogram and Results

Injection Details

Injection Name:	**N018843-006A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

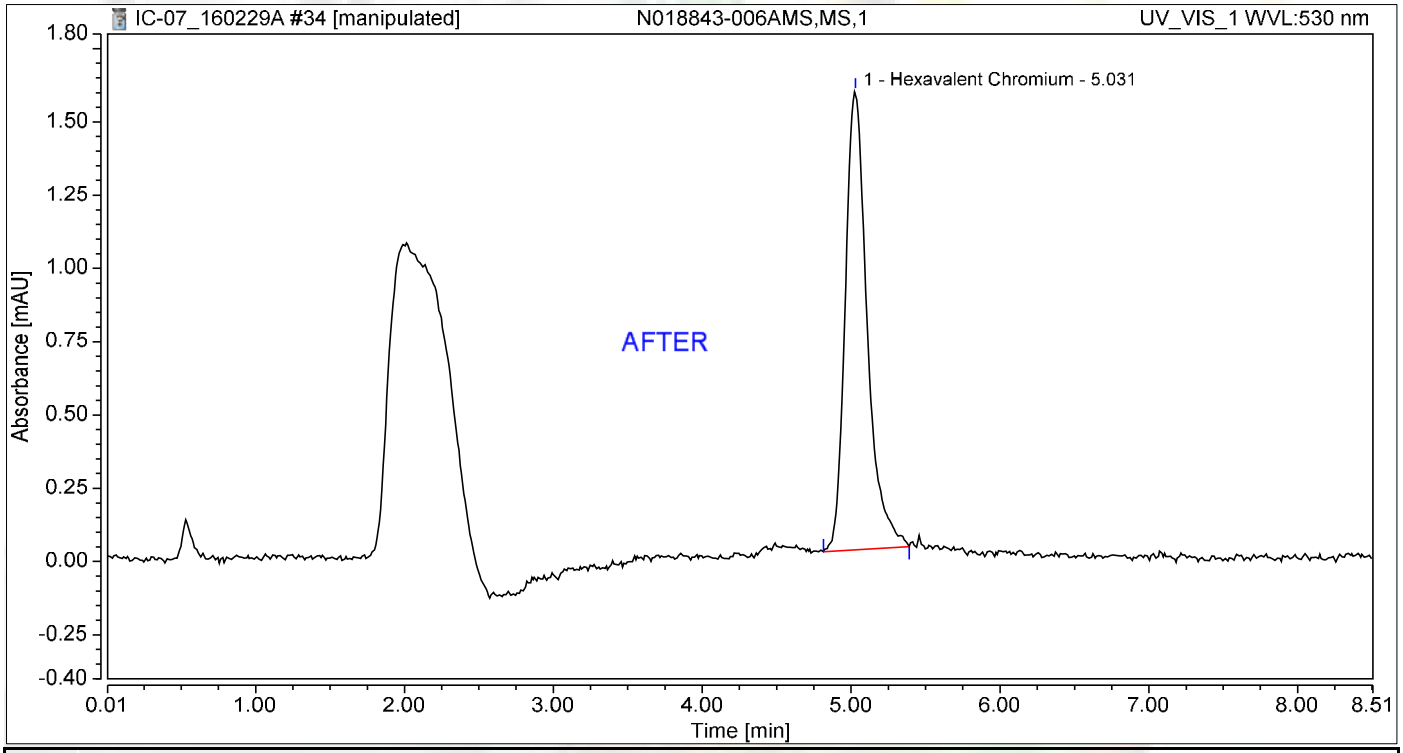
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.266	1.565	100.00	100.00	1.1251
Total:			**0.266**	**1.565**	**100.00**	**100.00**	

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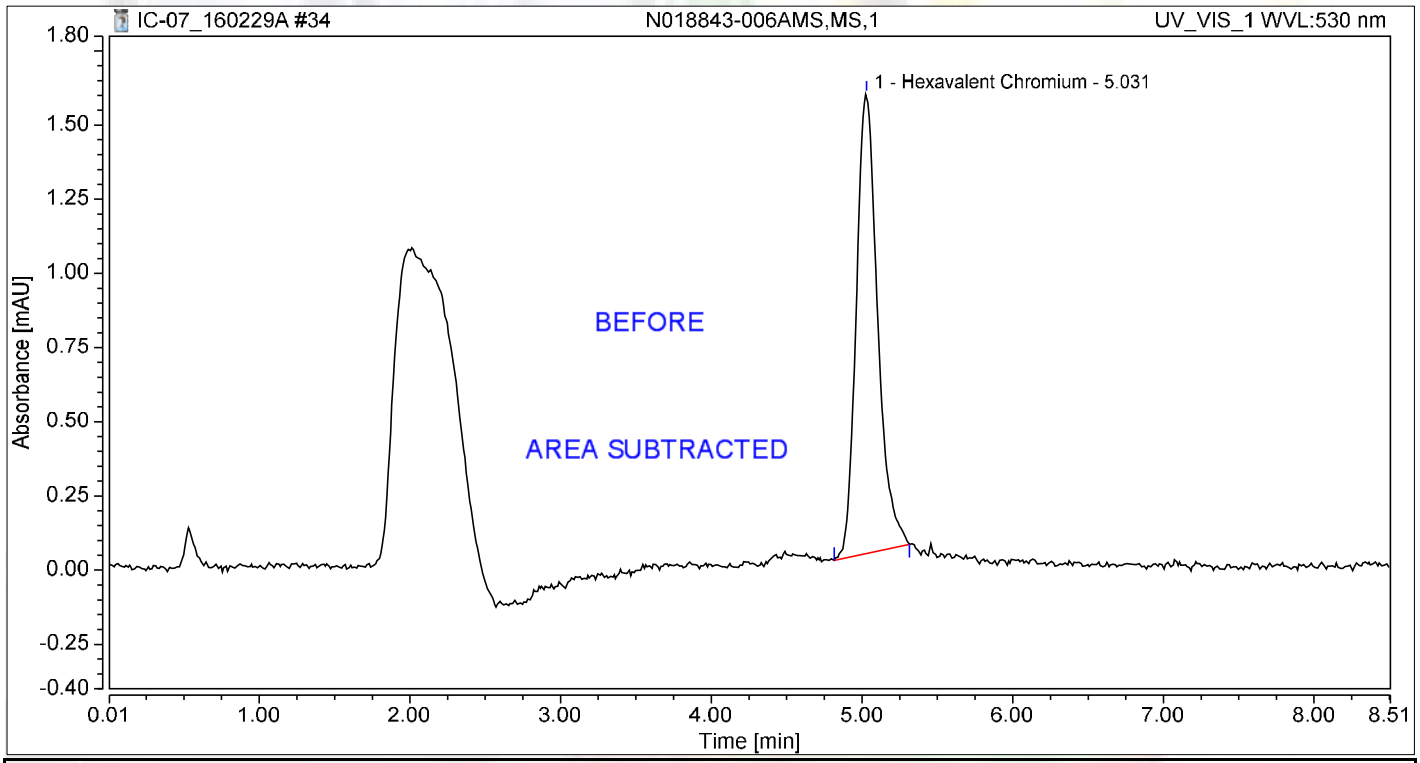
Chromatogram and Results

Injection Details

Injection Name:	**N018843-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

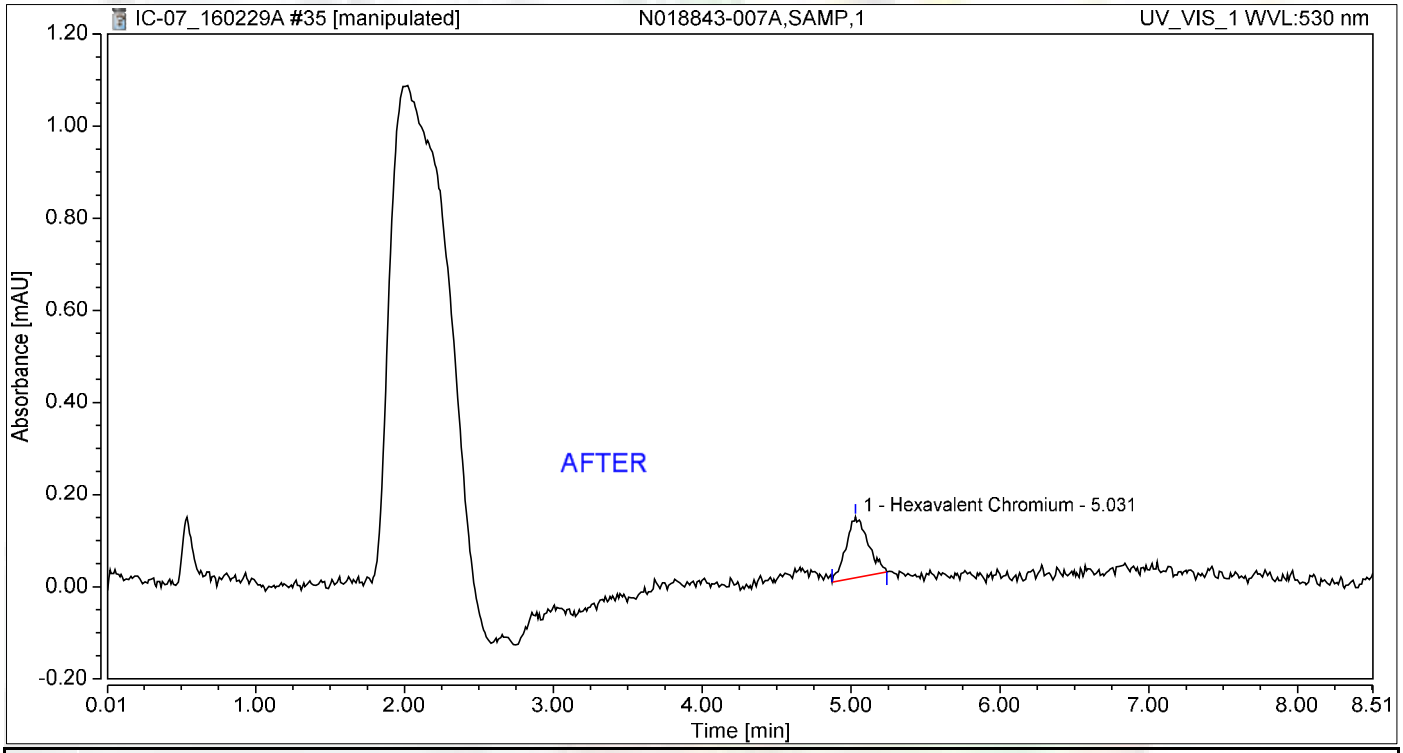
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.254	1.548	100.00	100.00	1.0750
Total:			**0.254**	**1.548**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.022	0.132	100.00	100.00	0.0938
Total:			**0.022**	**0.132**	**100.00**	**100.00**	

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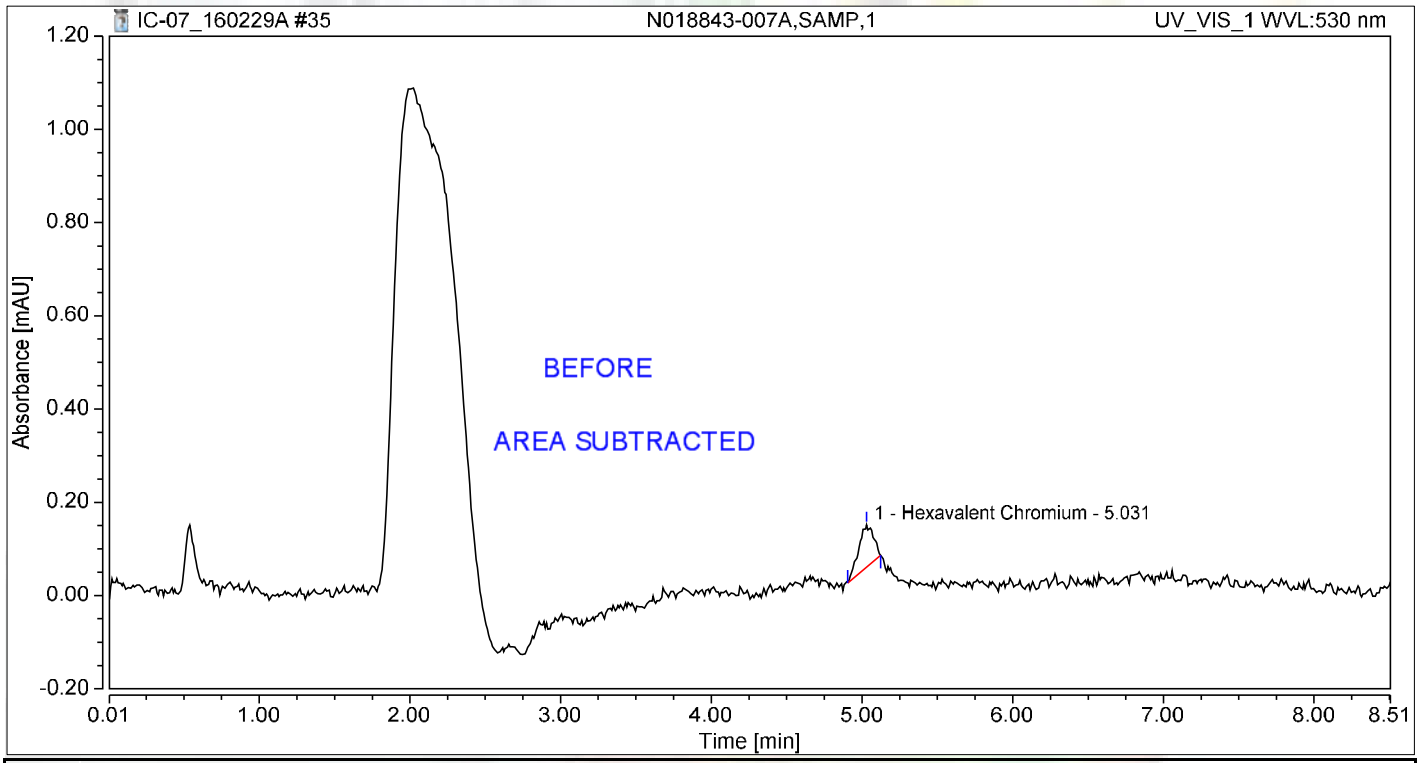
Chromatogram and Results

Injection Details

Injection Name:	**N018843-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

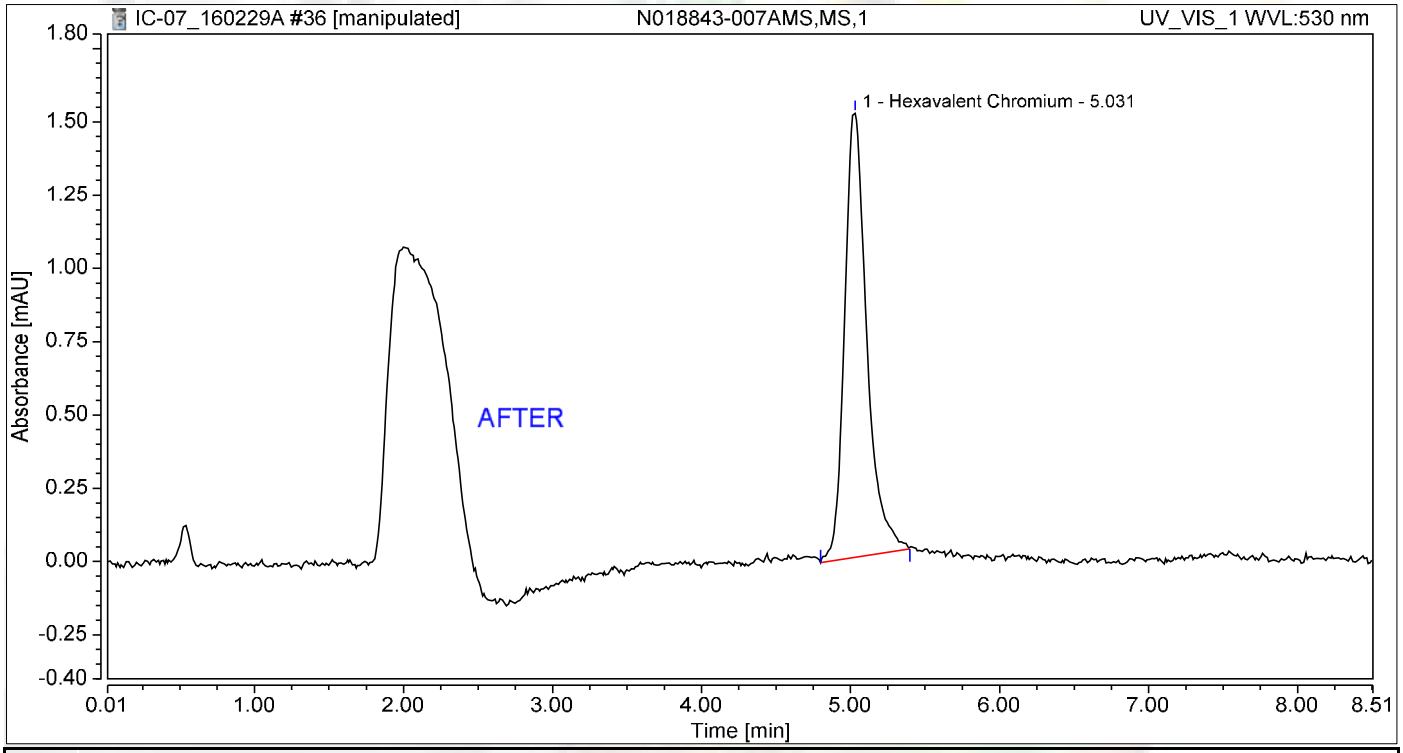
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.010	0.091	100.00	100.00	0.0434
Total:			**0.010**	**0.091**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-007AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.261	1.515	100.00	100.00	1.1038
Total:			**0.261**	**1.515**	**100.00**	**100.00**	

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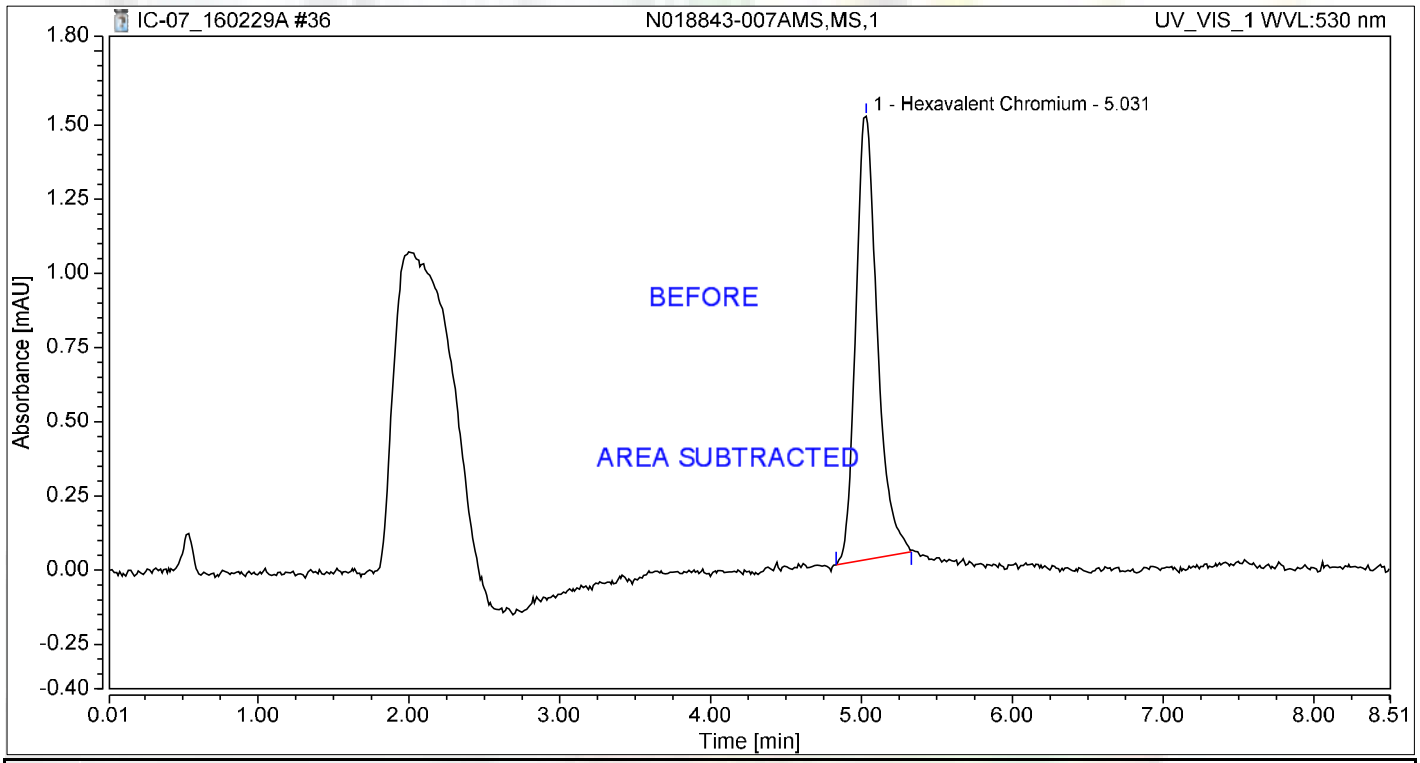
Chromatogram and Results

Injection Details

Injection Name:	**N018843-007AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

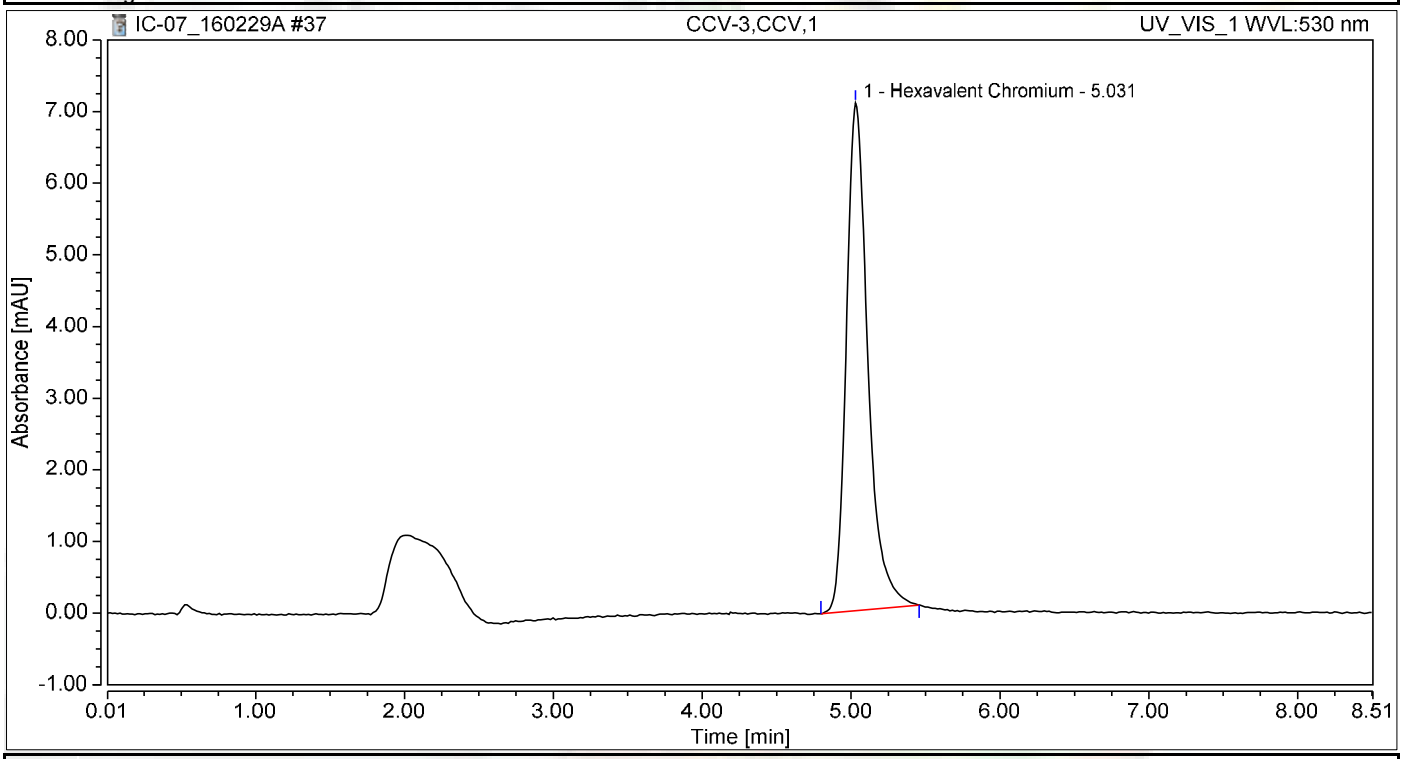
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.249	1.495	100.00	100.00	1.0514
Total:			**0.249**	**1.495**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

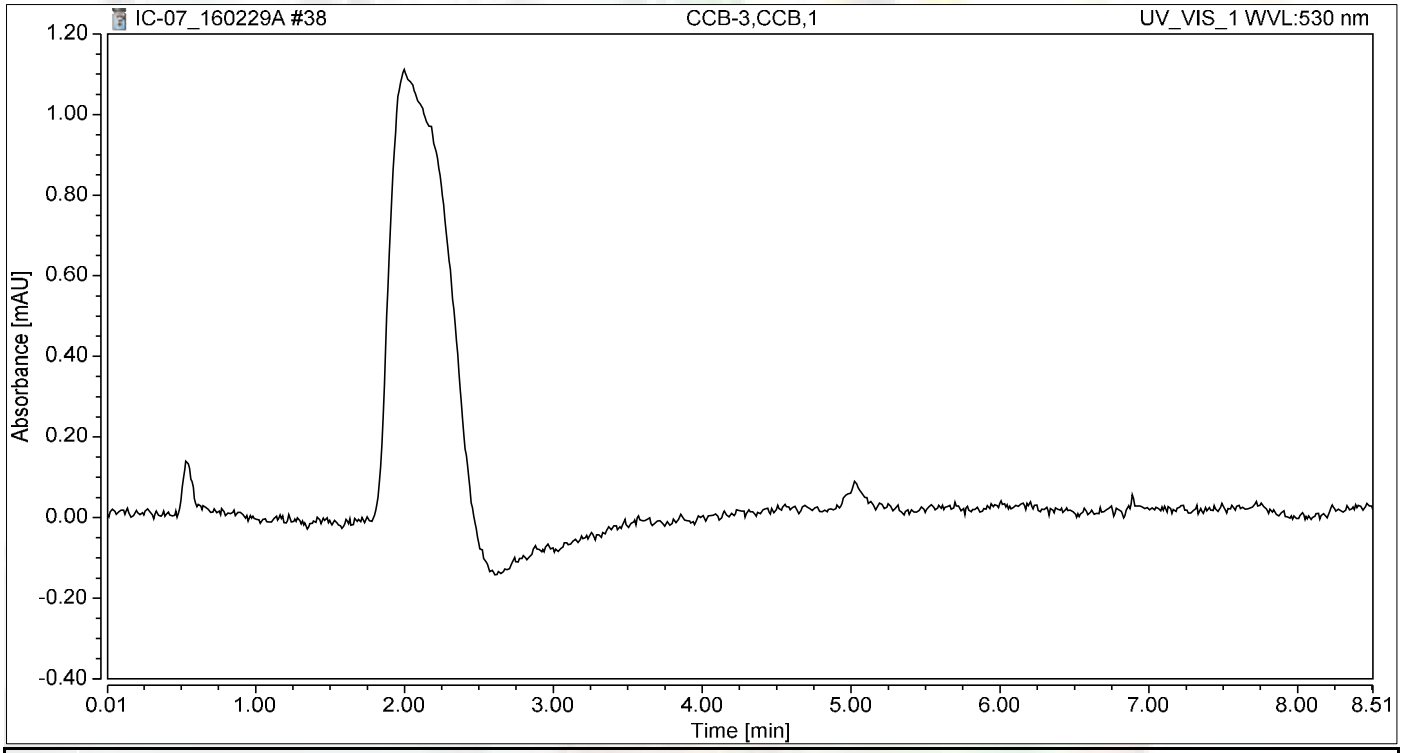
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.181	7.086	100.00	100.00	4.9896
Total:			**1.181**	**7.086**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 15:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

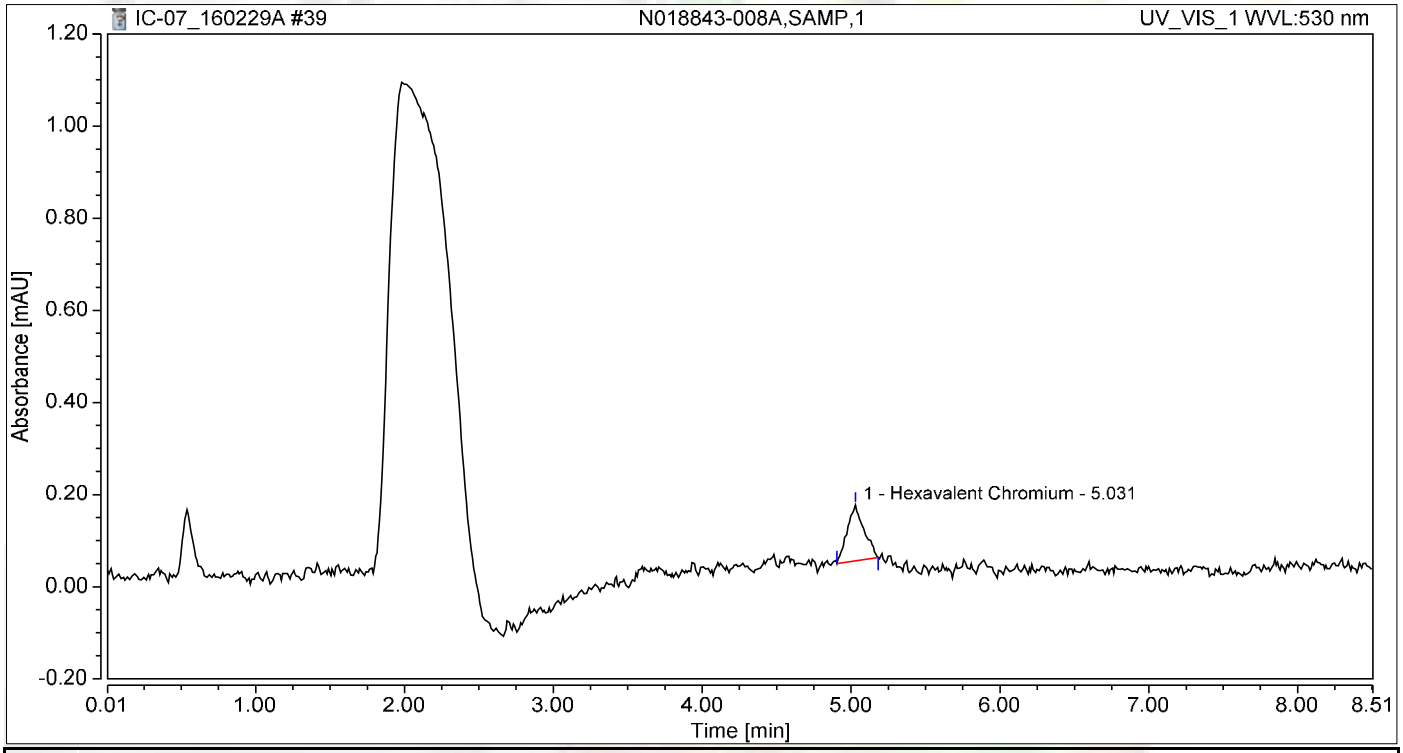
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

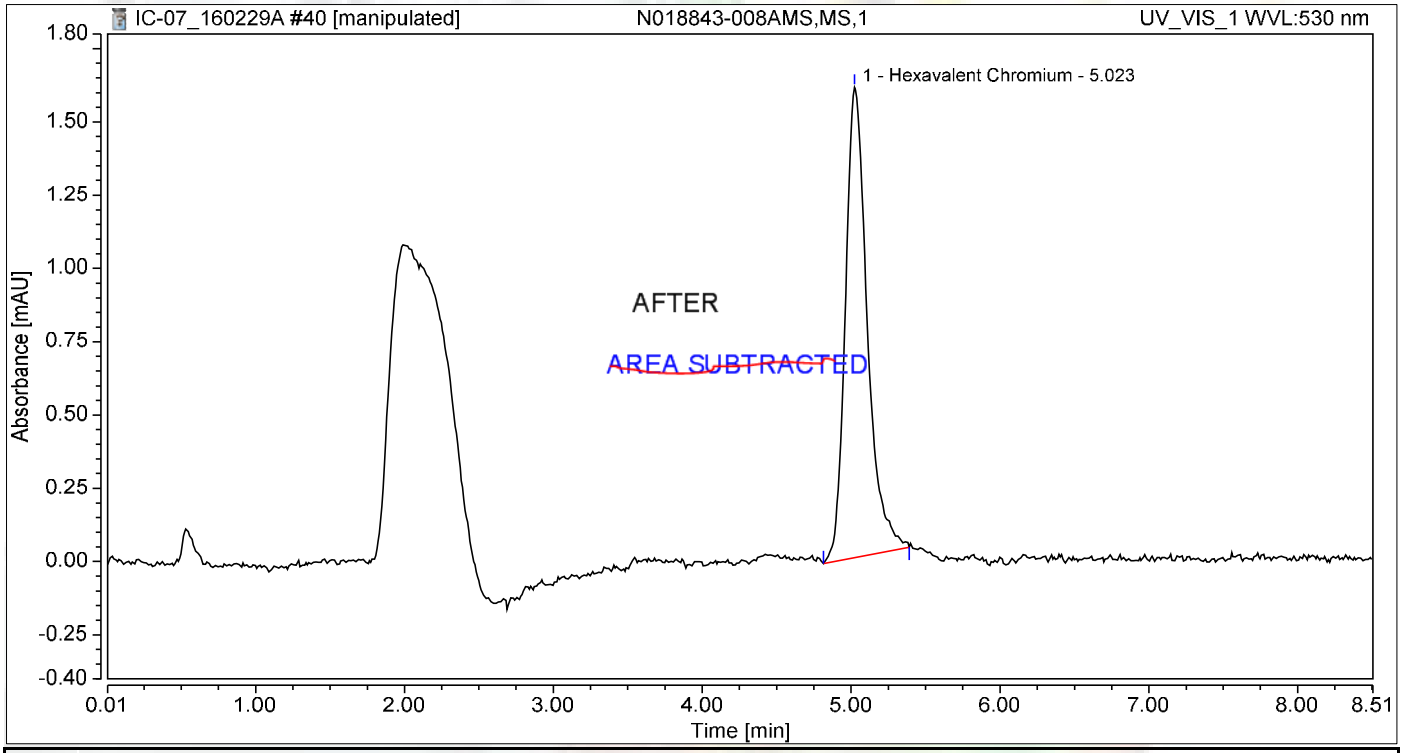
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.121	100.00	100.00	0.0666
Total:			**0.016**	**0.121**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.272	1.605	100.00	100.00	1.1494
Total:			**0.272**	**1.605**	**100.00**	**100.00**	

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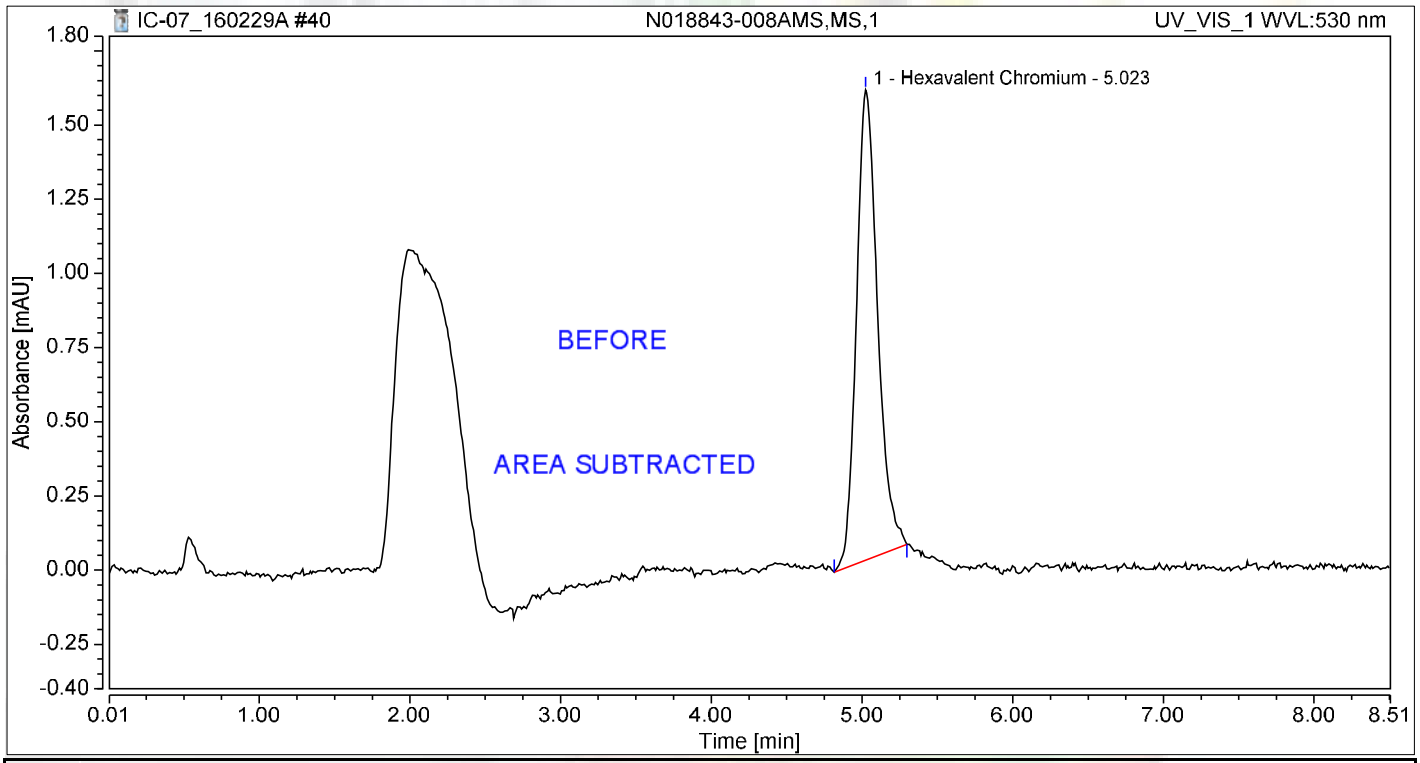
Chromatogram and Results

Injection Details

Injection Name:	**N018843-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

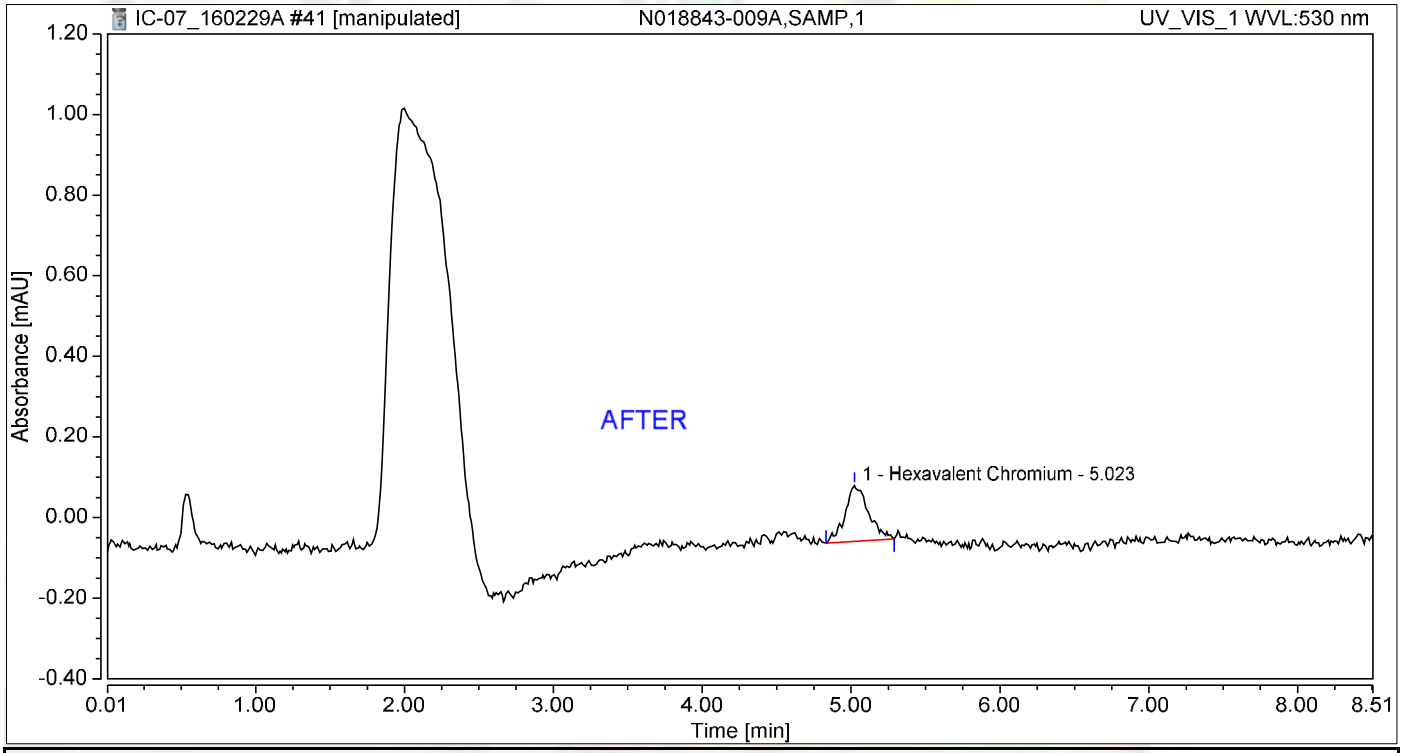
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.258	1.584	100.00	100.00	1.0901
Total:			**0.258**	**1.584**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.025	0.139	100.00	100.00	0.1076
Total:			**0.025**	**0.139**	**100.00**	**100.00**	

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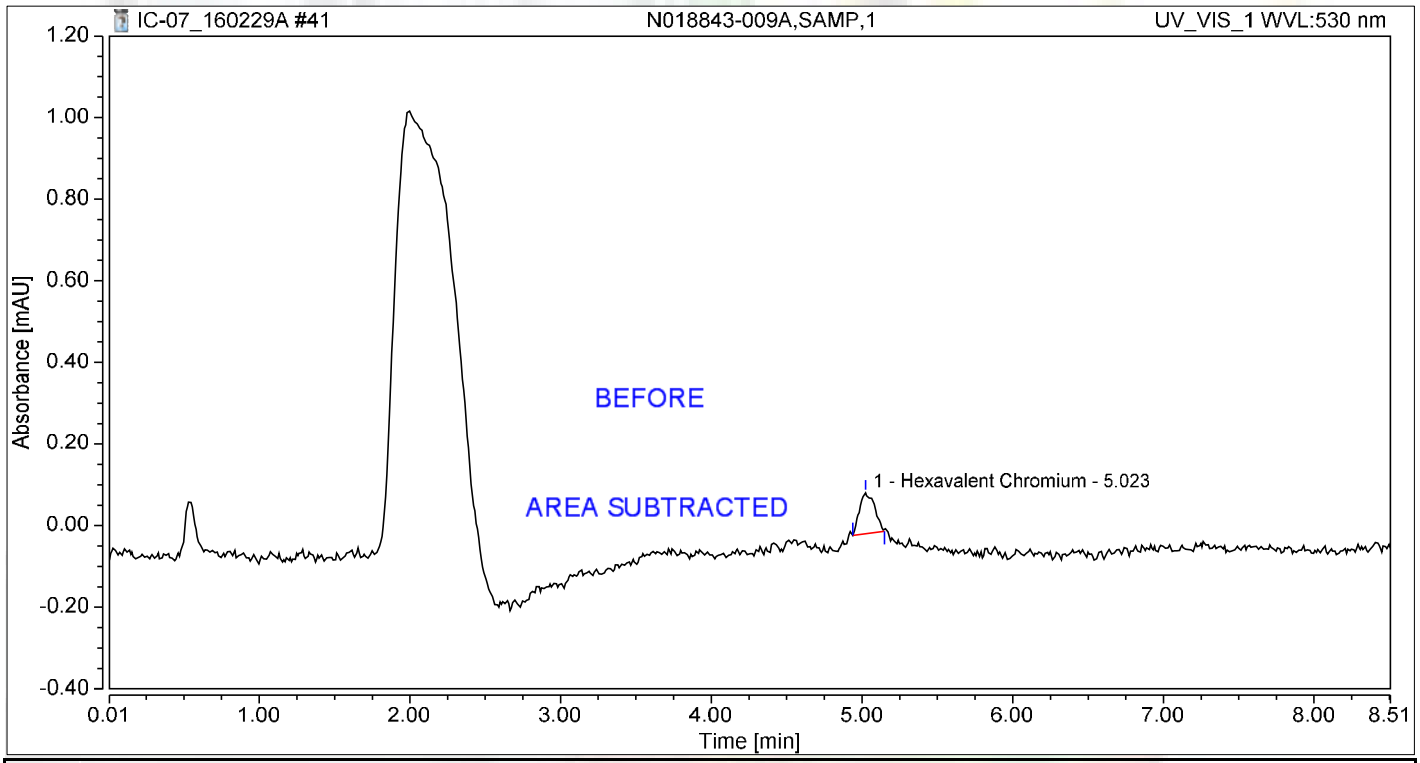
Chromatogram and Results

Injection Details

Injection Name:	**N018843-009A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

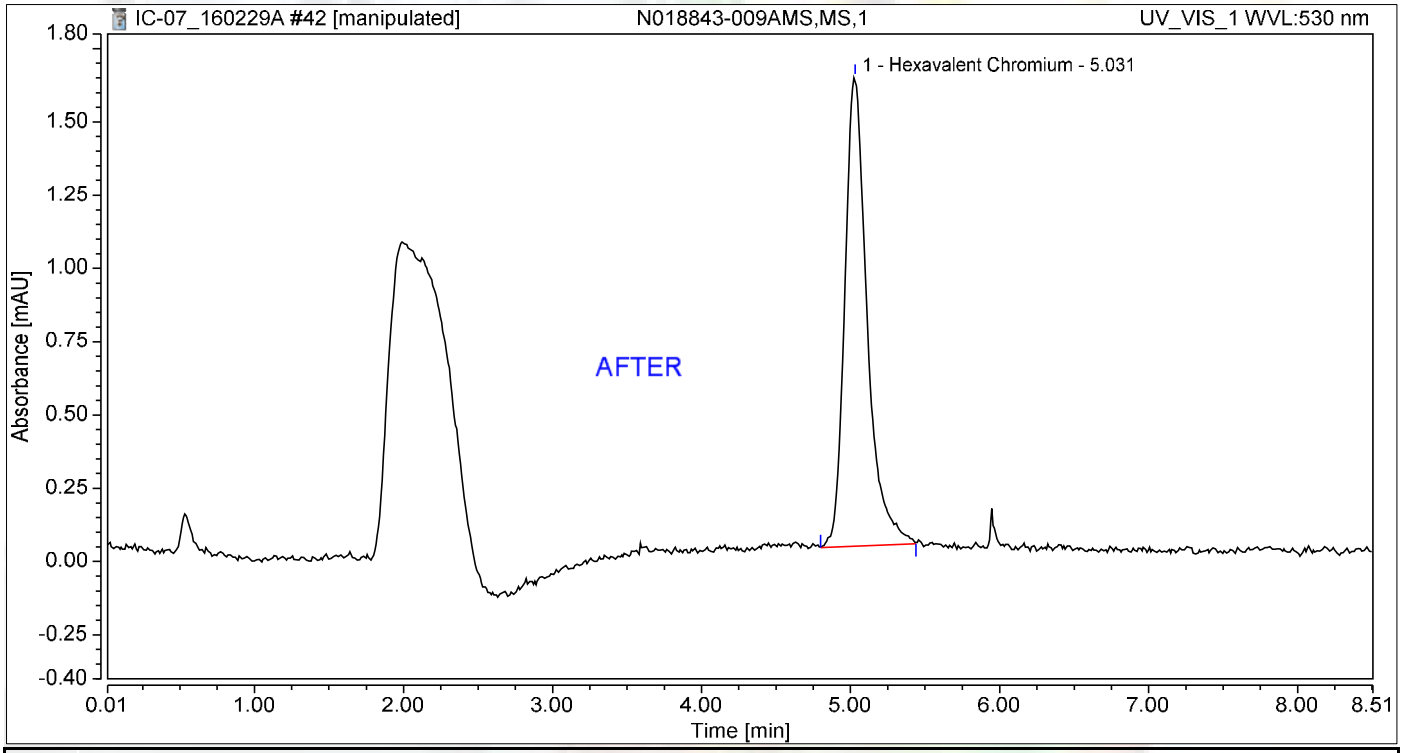
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.012	0.100	100.00	100.00	0.0497
Total:			**0.012**	**0.100**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-009AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.277	1.600	100.00	100.00	1.1710
Total:			**0.277**	**1.600**	**100.00**	**100.00**	

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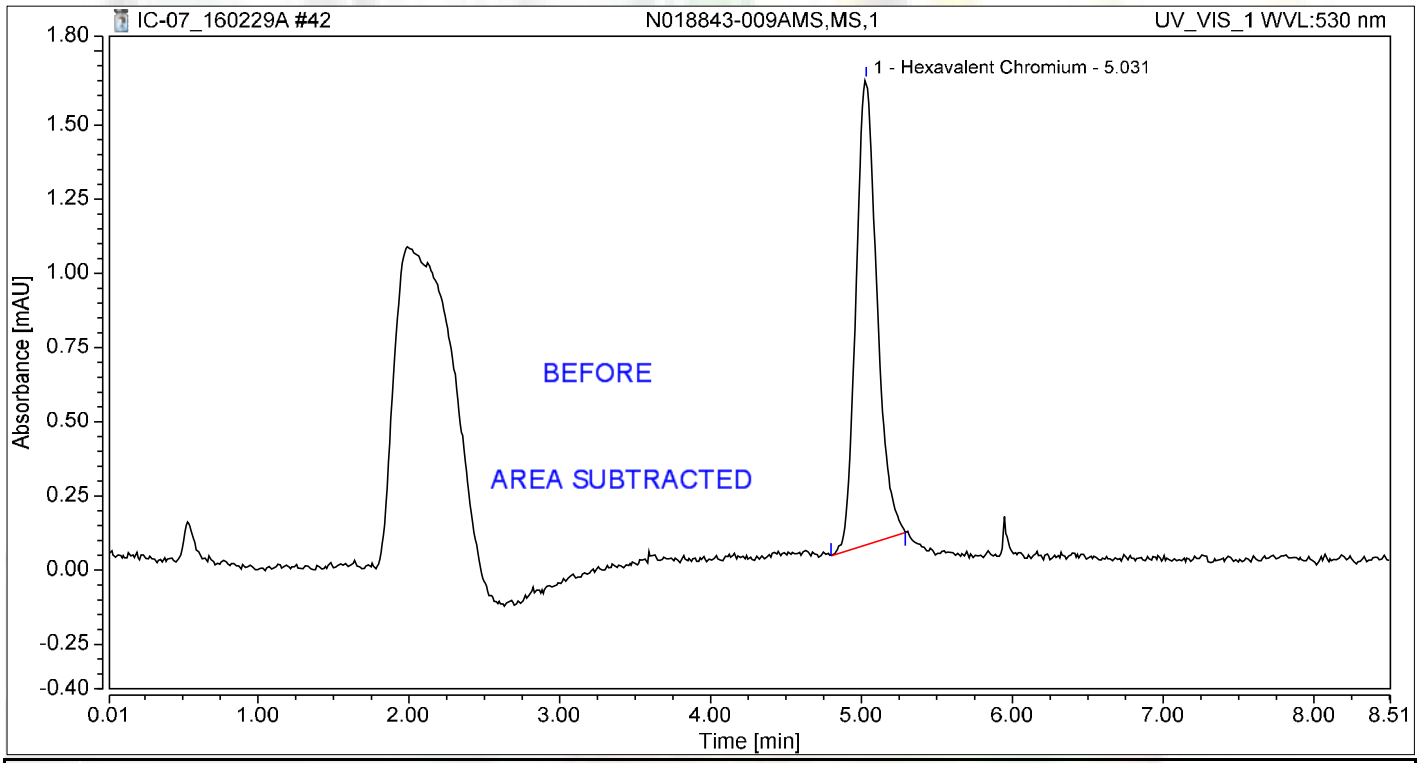
Chromatogram and Results

Injection Details

Injection Name:	**N018843-009AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

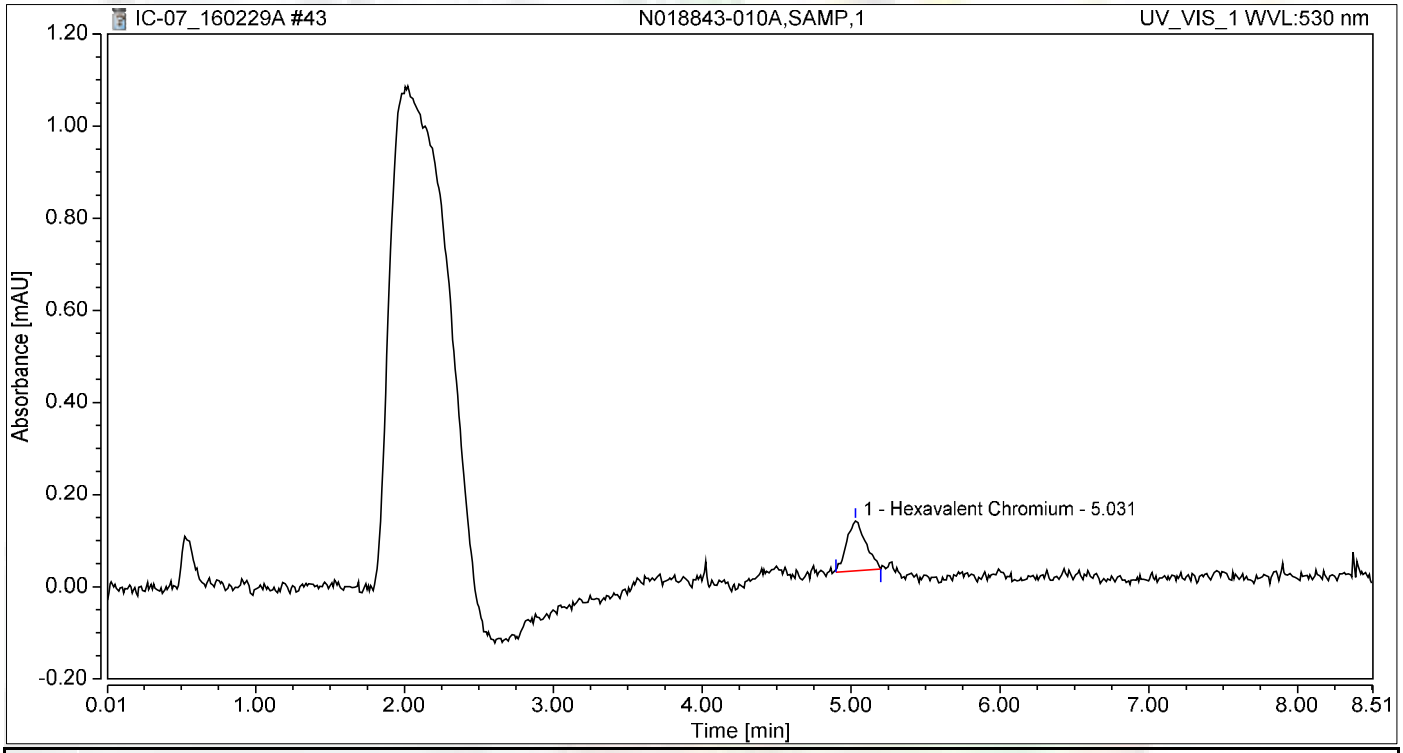
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.255	1.567	100.00	100.00	1.0769
Total:			**0.255**	**1.567**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

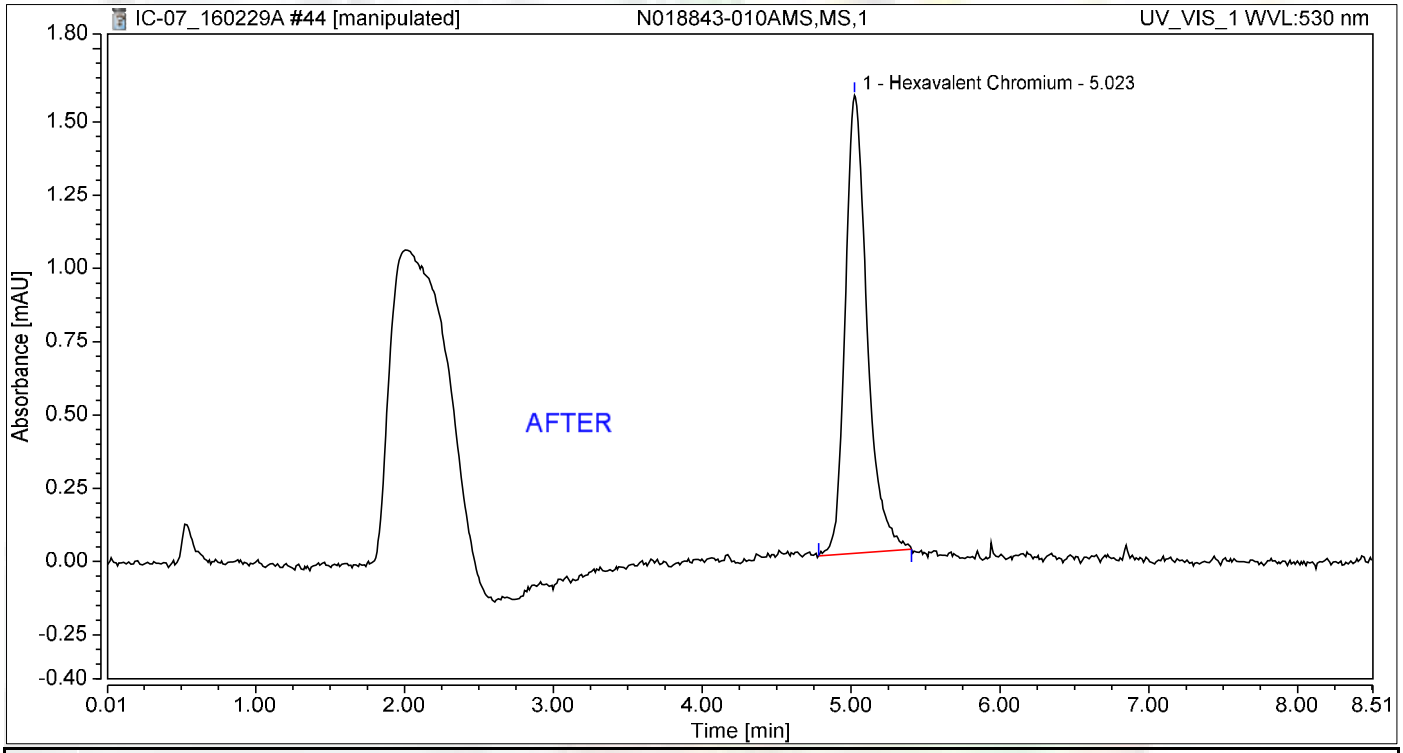
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.016	0.109	100.00	100.00	0.0682
Total:			**0.016**	**0.109**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018843-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.265	1.563	100.00	100.00	1.1194
Total:			**0.265**	**1.563**	**100.00**	**100.00**	

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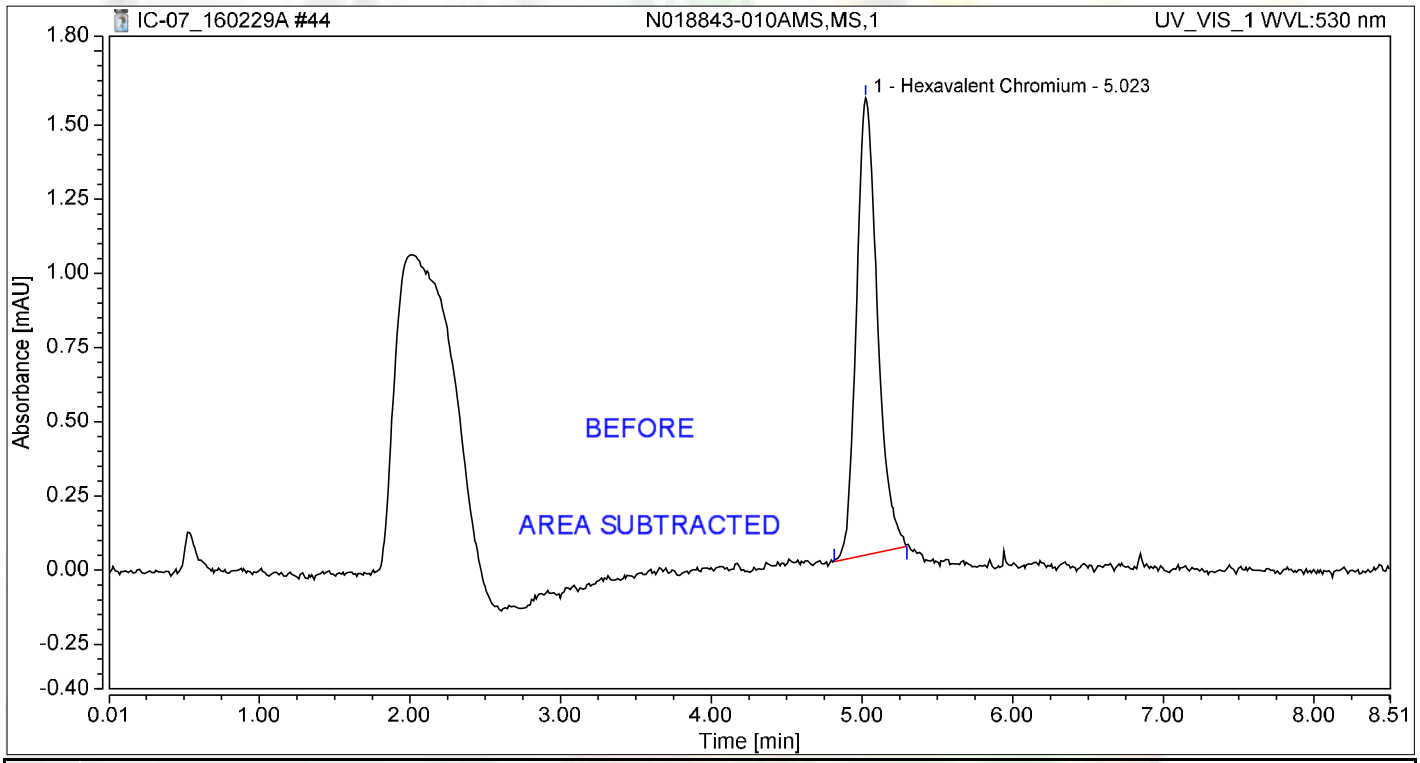
Chromatogram and Results

Injection Details

Injection Name:	**N018843-010AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

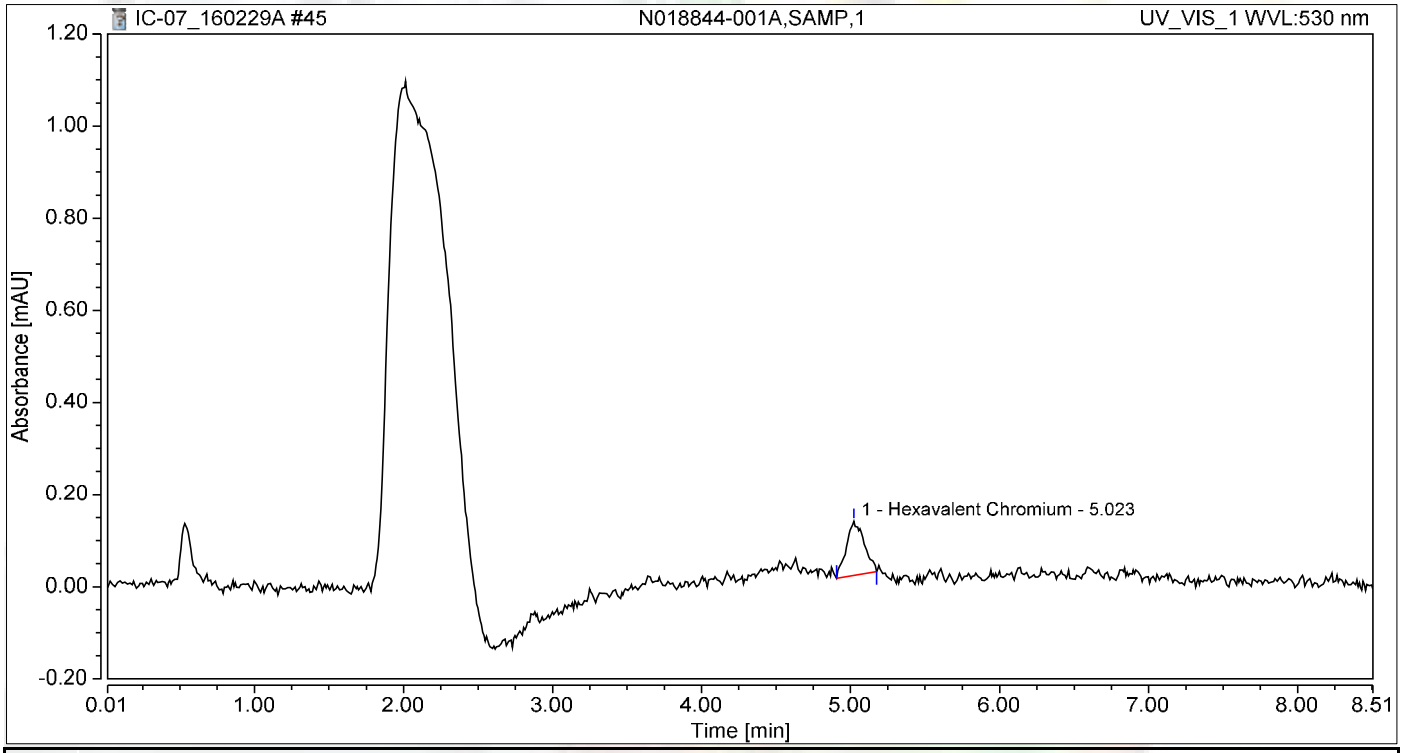
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.250	1.540	100.00	100.00	1.0552
Total:			**0.250**	**1.540**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 16:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

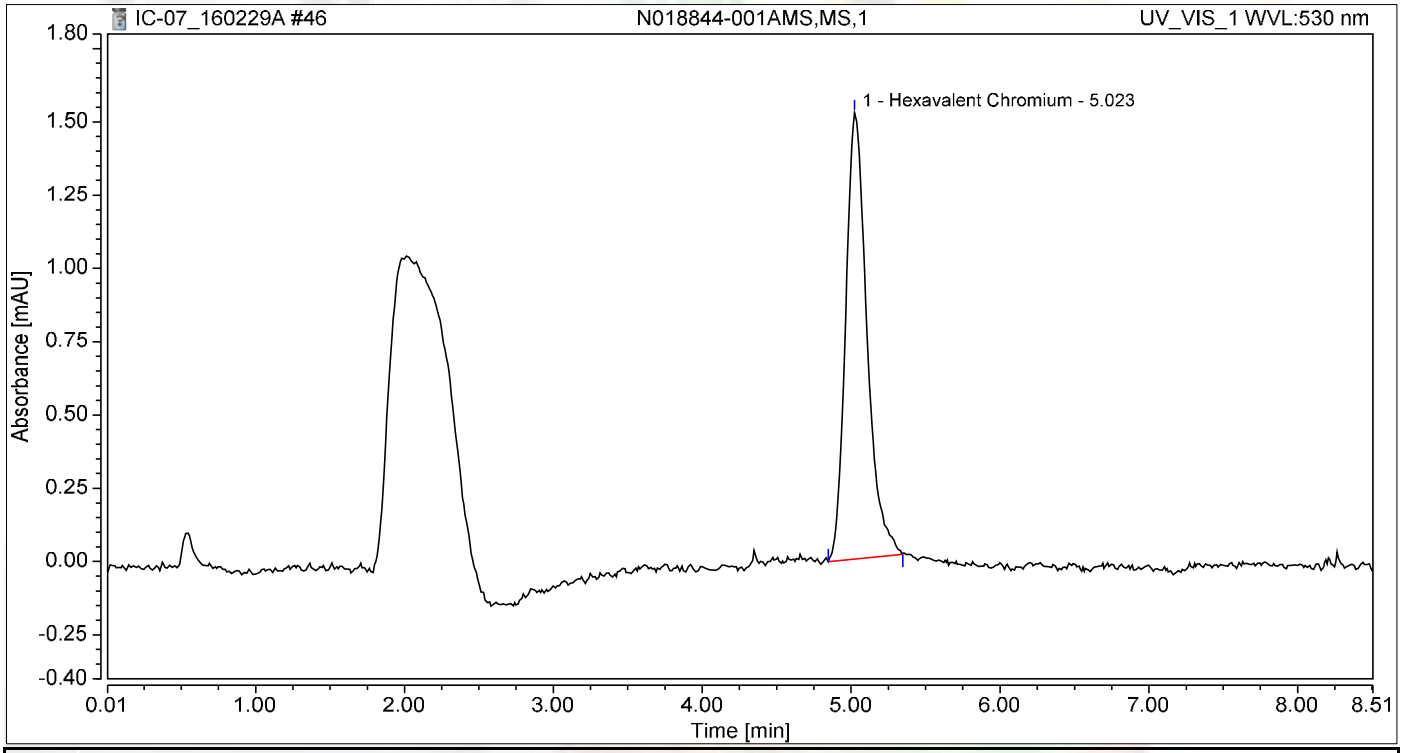
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.016	0.117	100.00	100.00	0.0675
Total:			**0.016**	**0.117**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

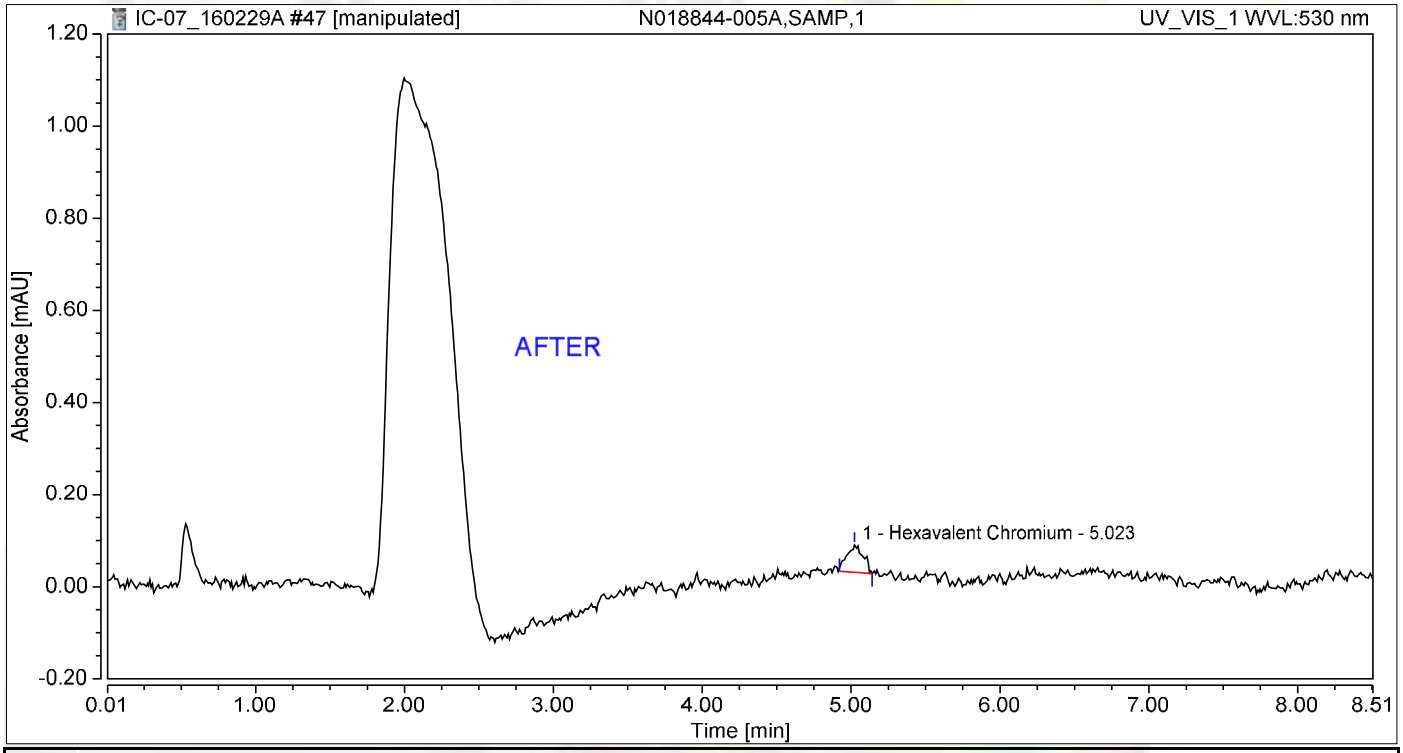
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.251	1.524	100.00	100.00	1.0623
Total:			**0.251**	**1.524**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	0.007	0.059	100.00	100.00	0.0312
Total:			**0.007**	**0.059**	**100.00**	**100.00**	

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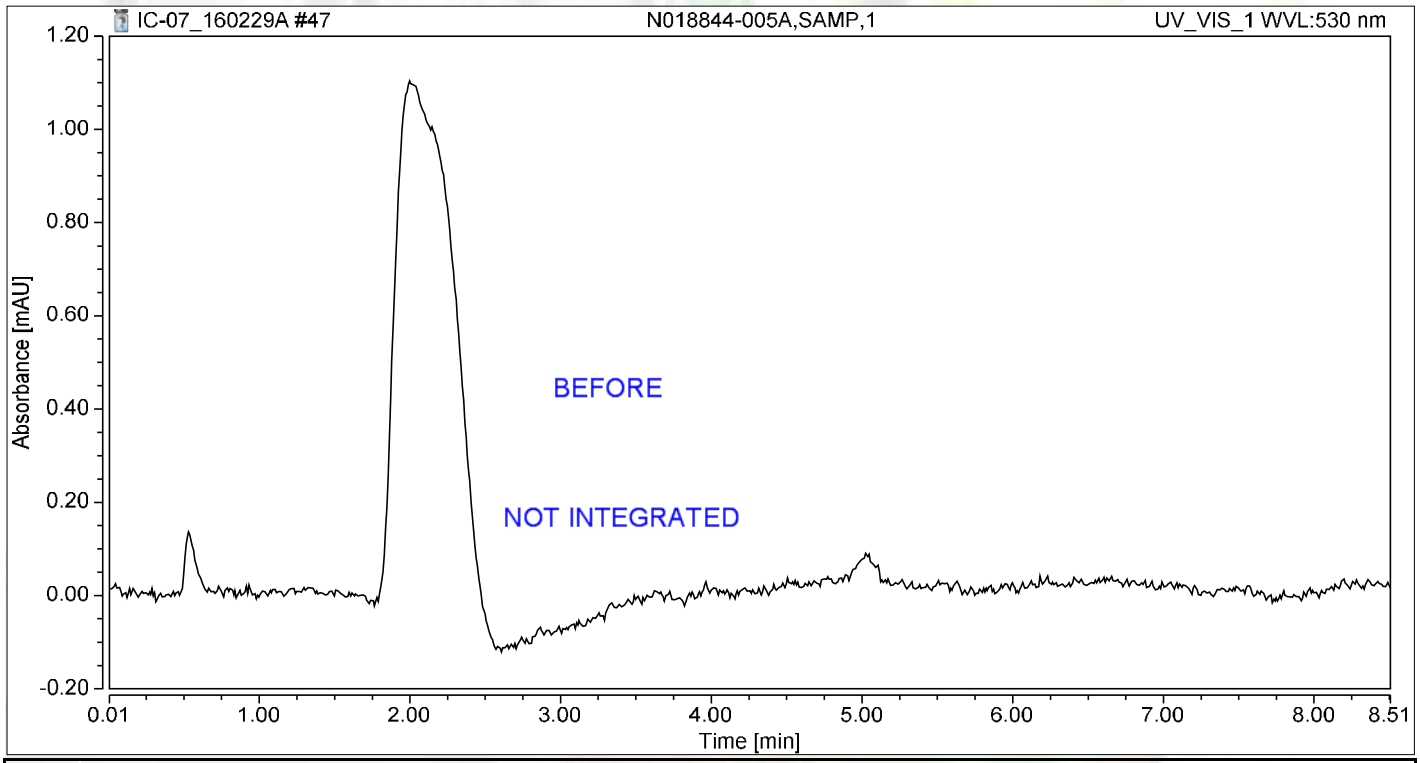
Chromatogram and Results

Injection Details

Injection Name:	**N018844-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

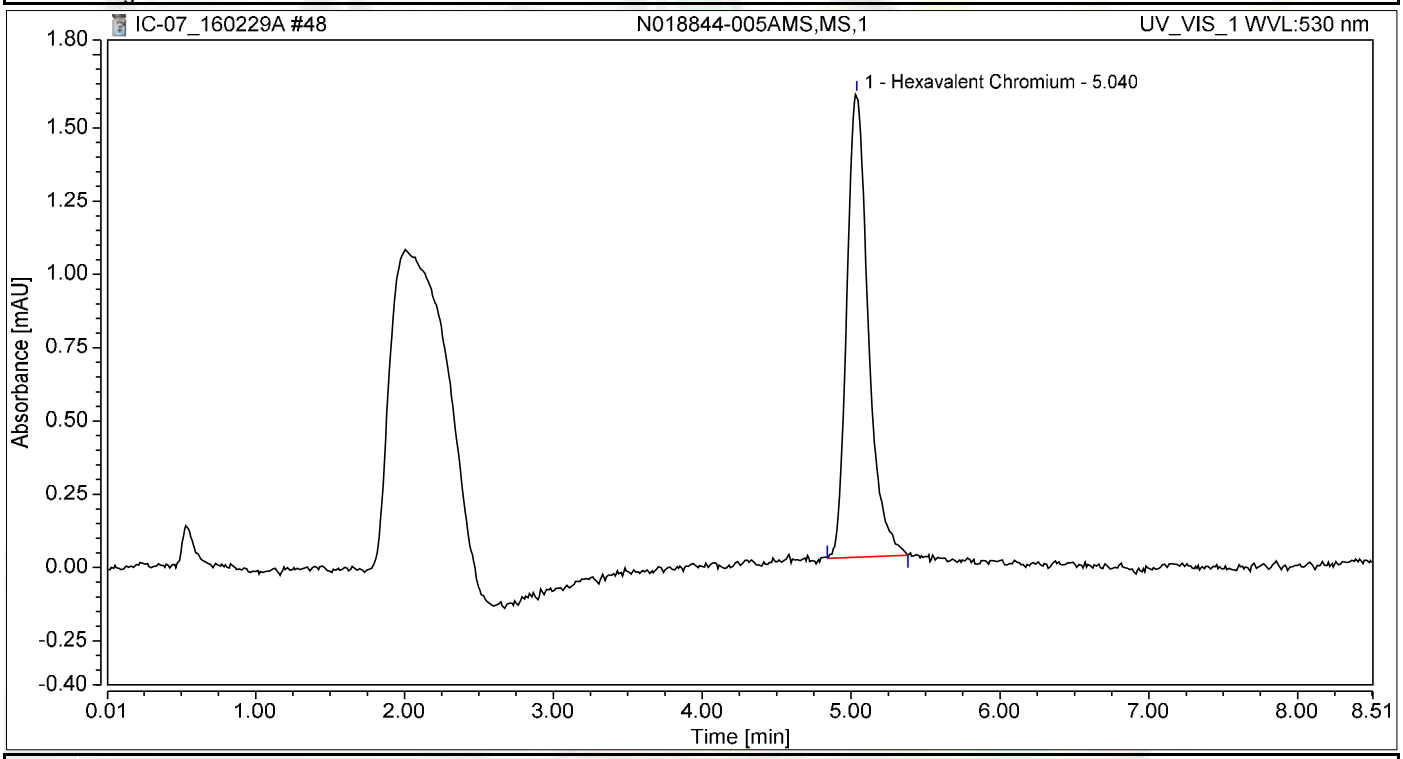
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018844-005AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

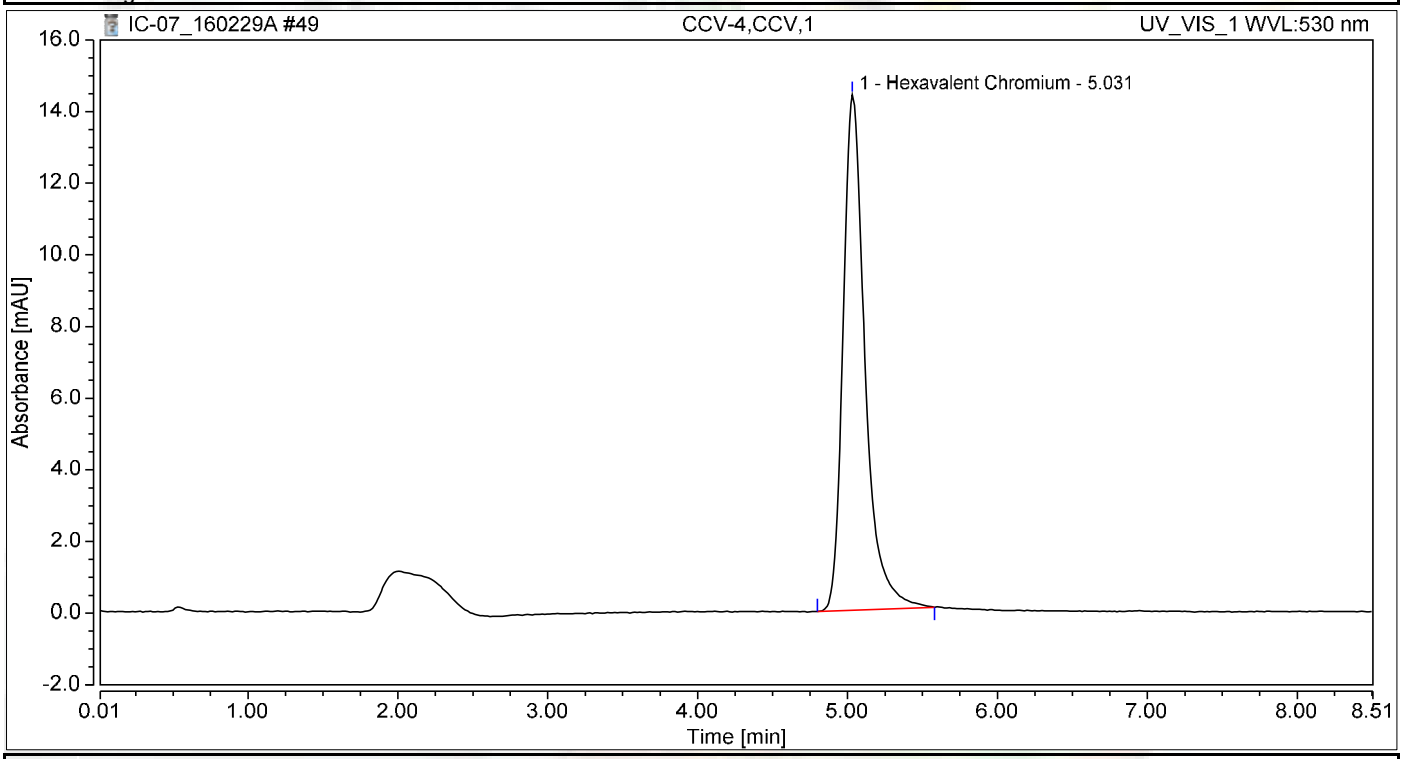
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.262	1.581	100.00	100.00	1.1073
Total:			**0.262**	**1.581**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

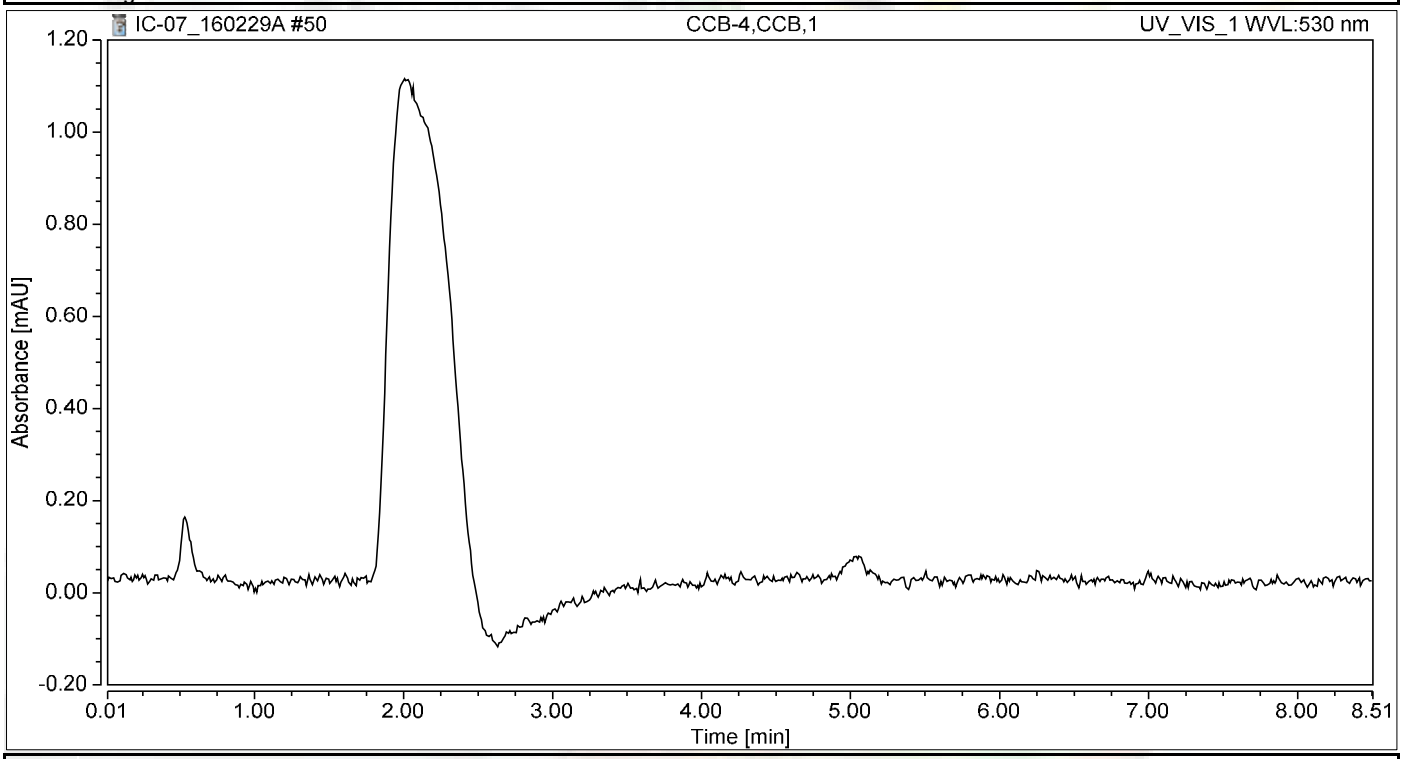
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	2.431	14.391	100.00	100.00	10.2704
Total:			**2.431**	**14.391**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.49**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Feb/16 17:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

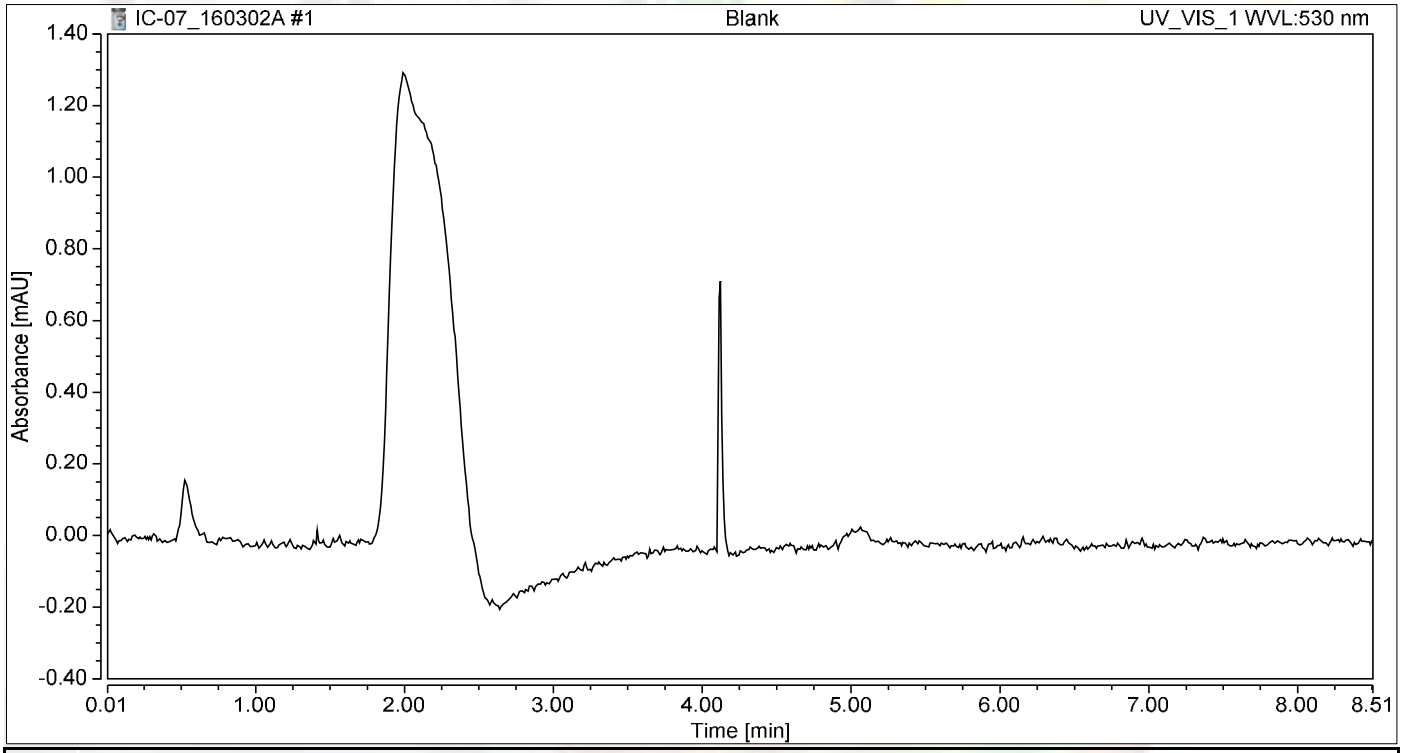
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

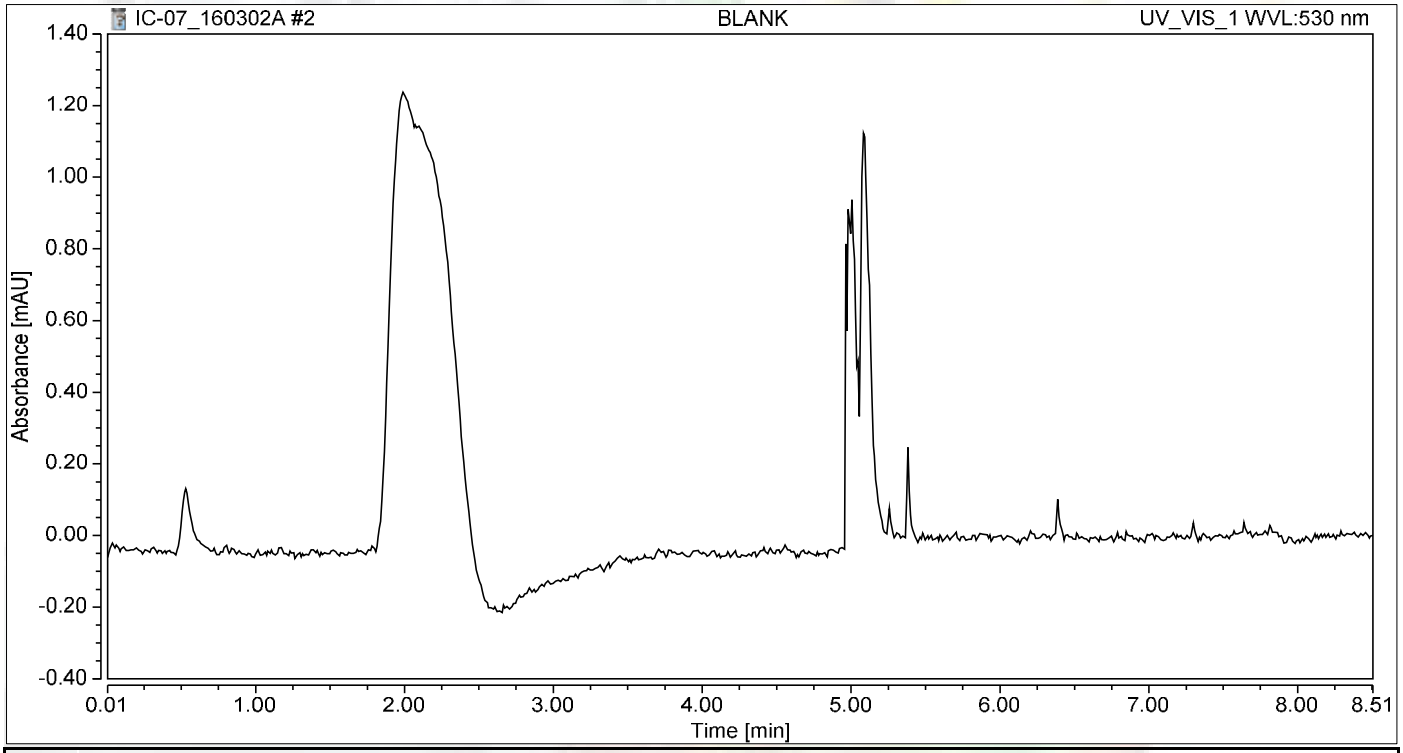
not reported

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

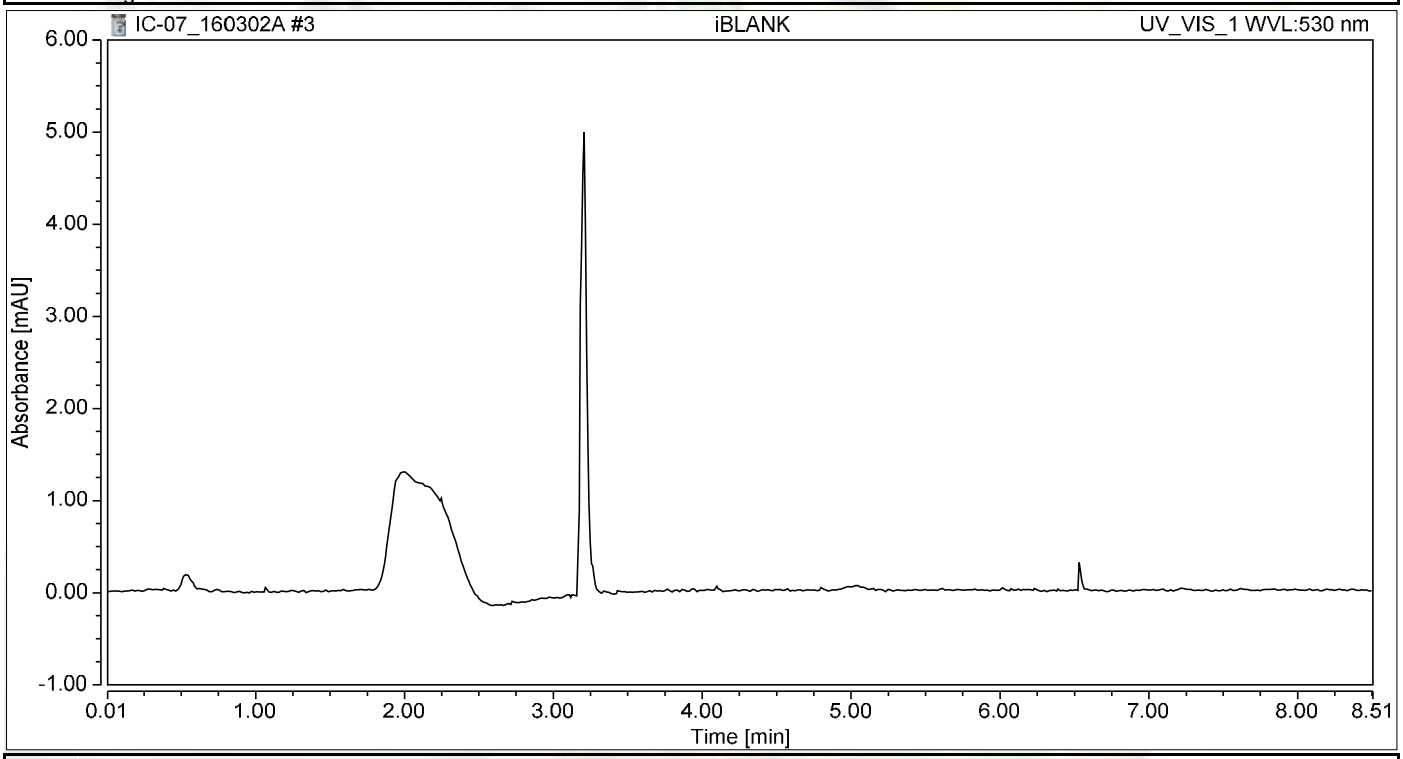
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

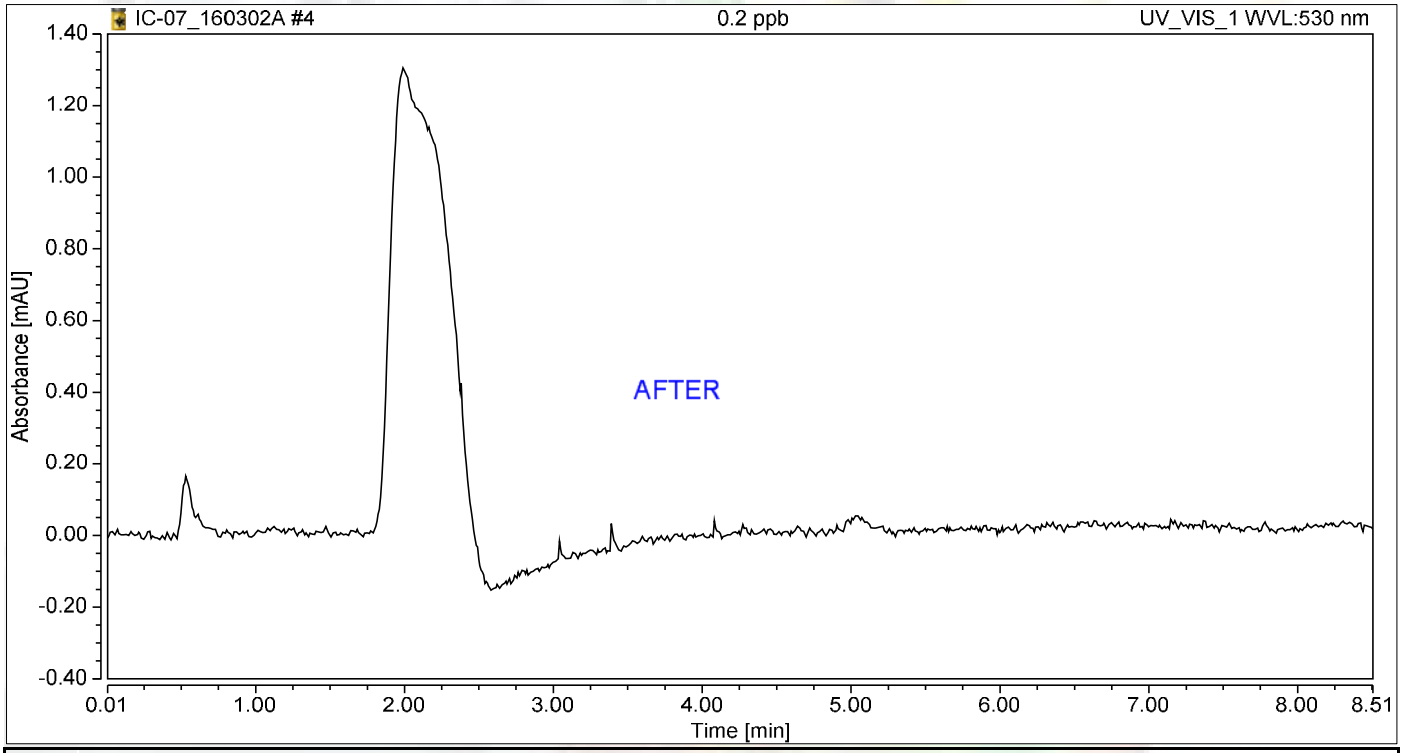
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

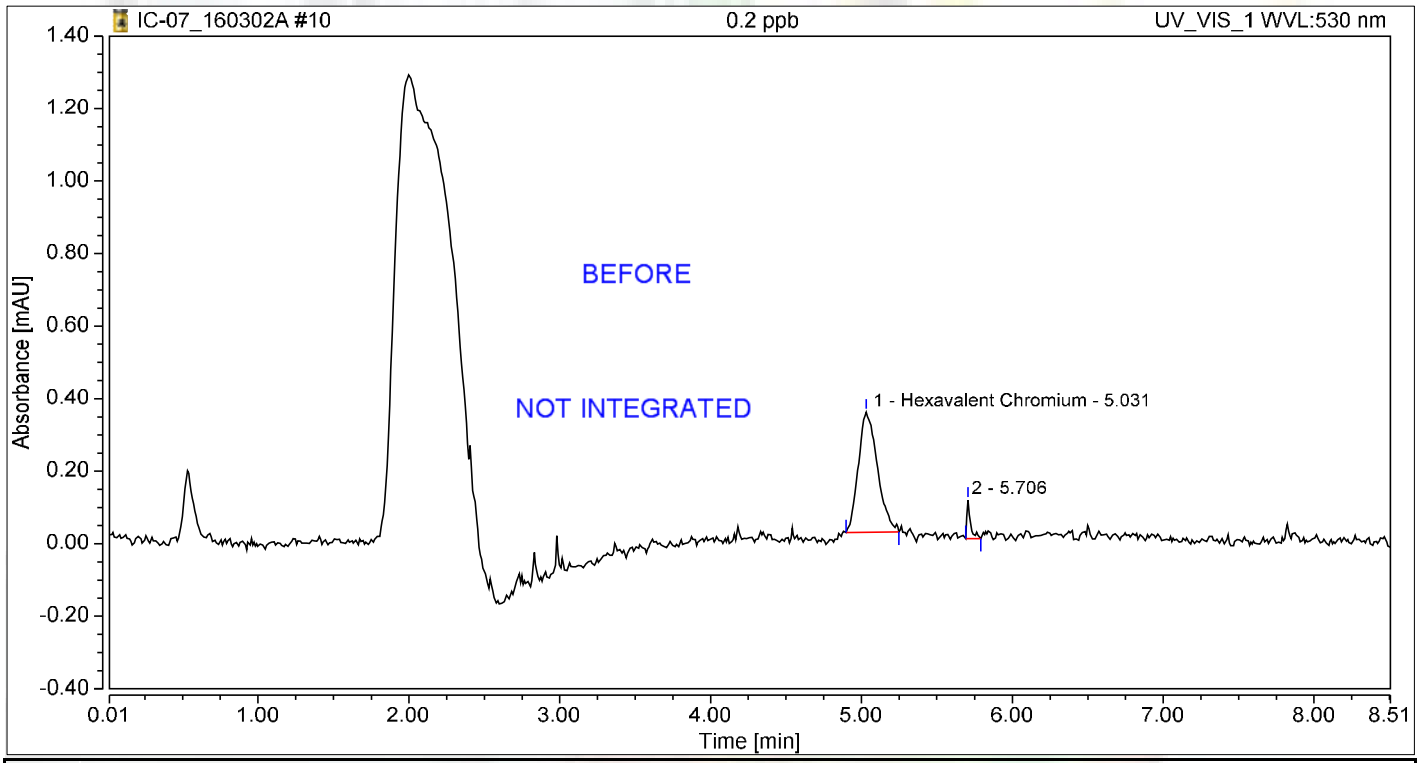
not reported

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.049	0.331	94.14	75.72	0.2023
2		5.706	0.003	0.106	5.86	24.28	n.a.
Total:			**0.052**	**0.437**	**100.00**	**100.00**	

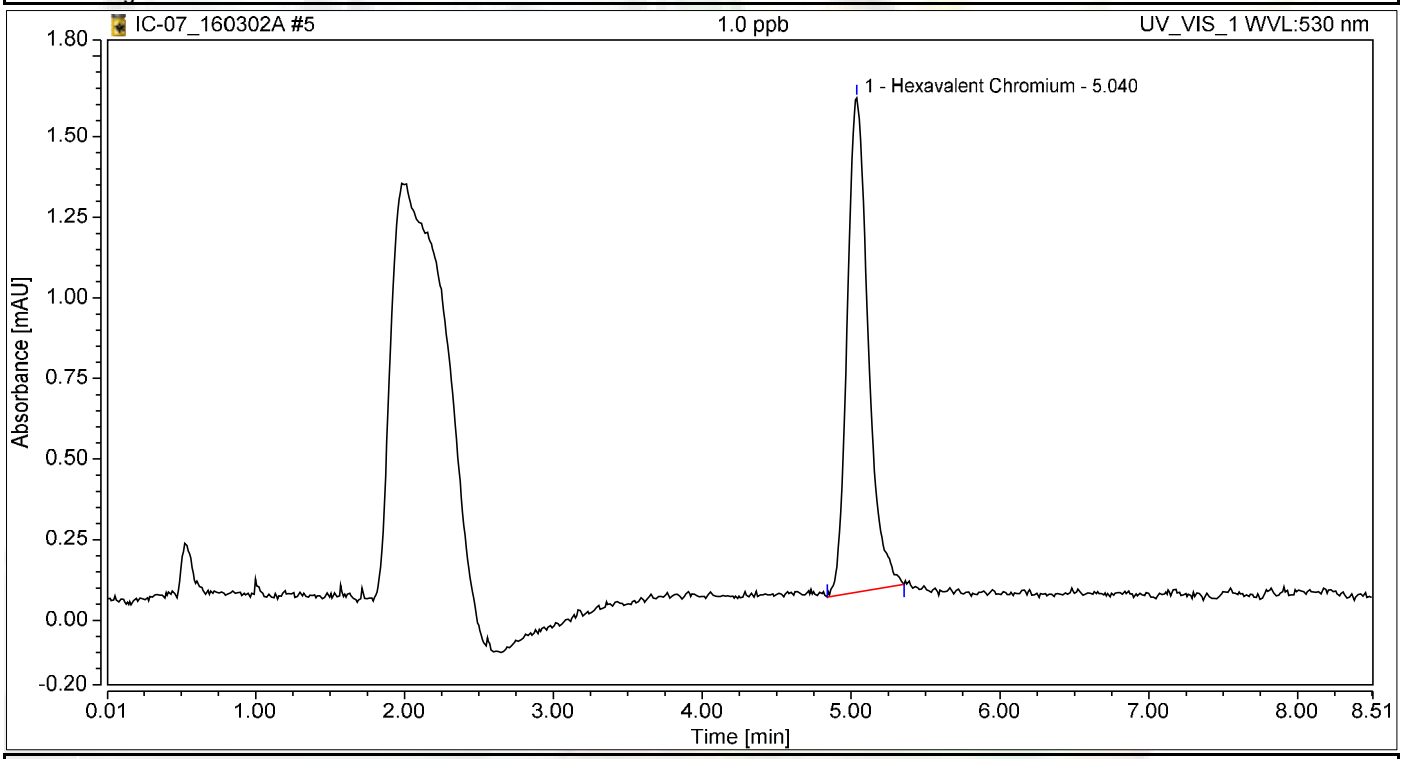
not reported

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

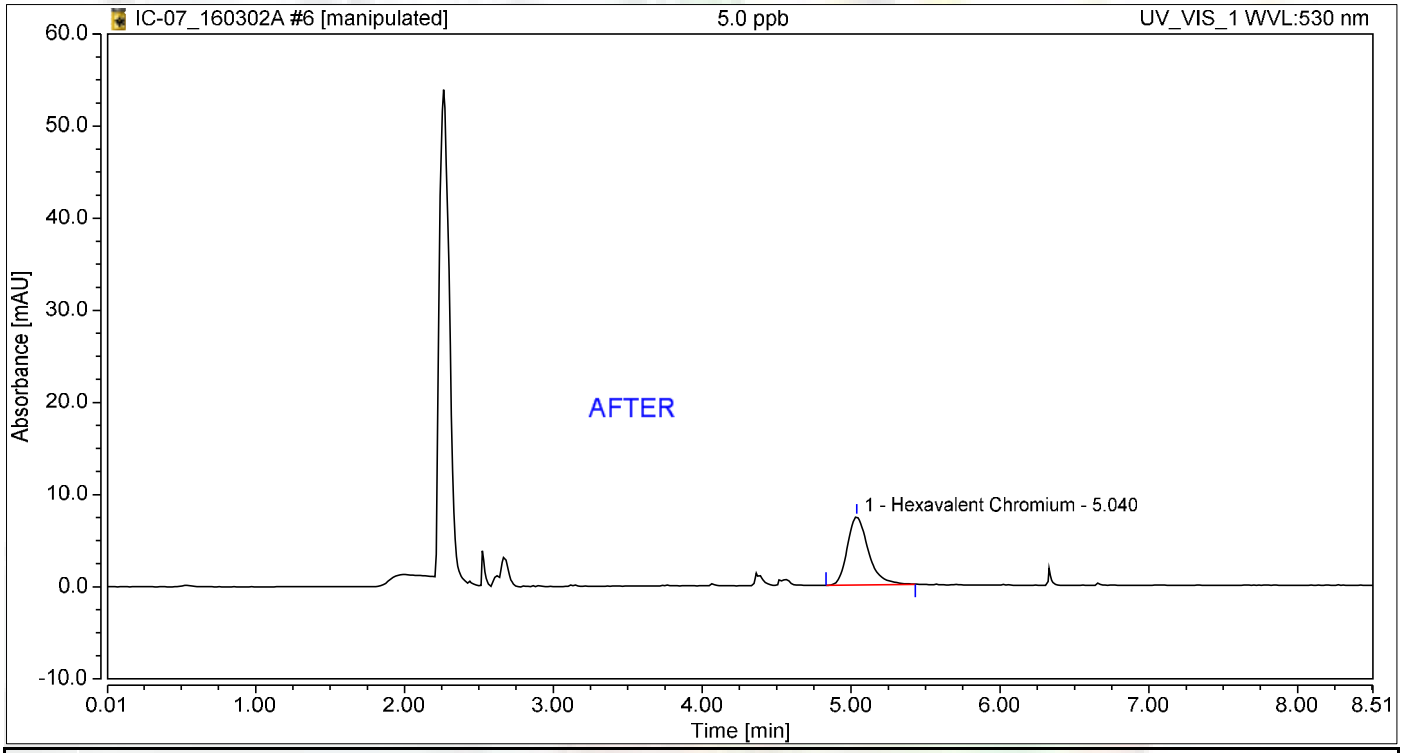
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.249	1.533	100.00	100.00	1.0323
Total:			**0.249**	**1.533**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.198	7.374	100.00	100.00	4.9678
Total:			**1.198**	**7.374**	**100.00**	**100.00**	

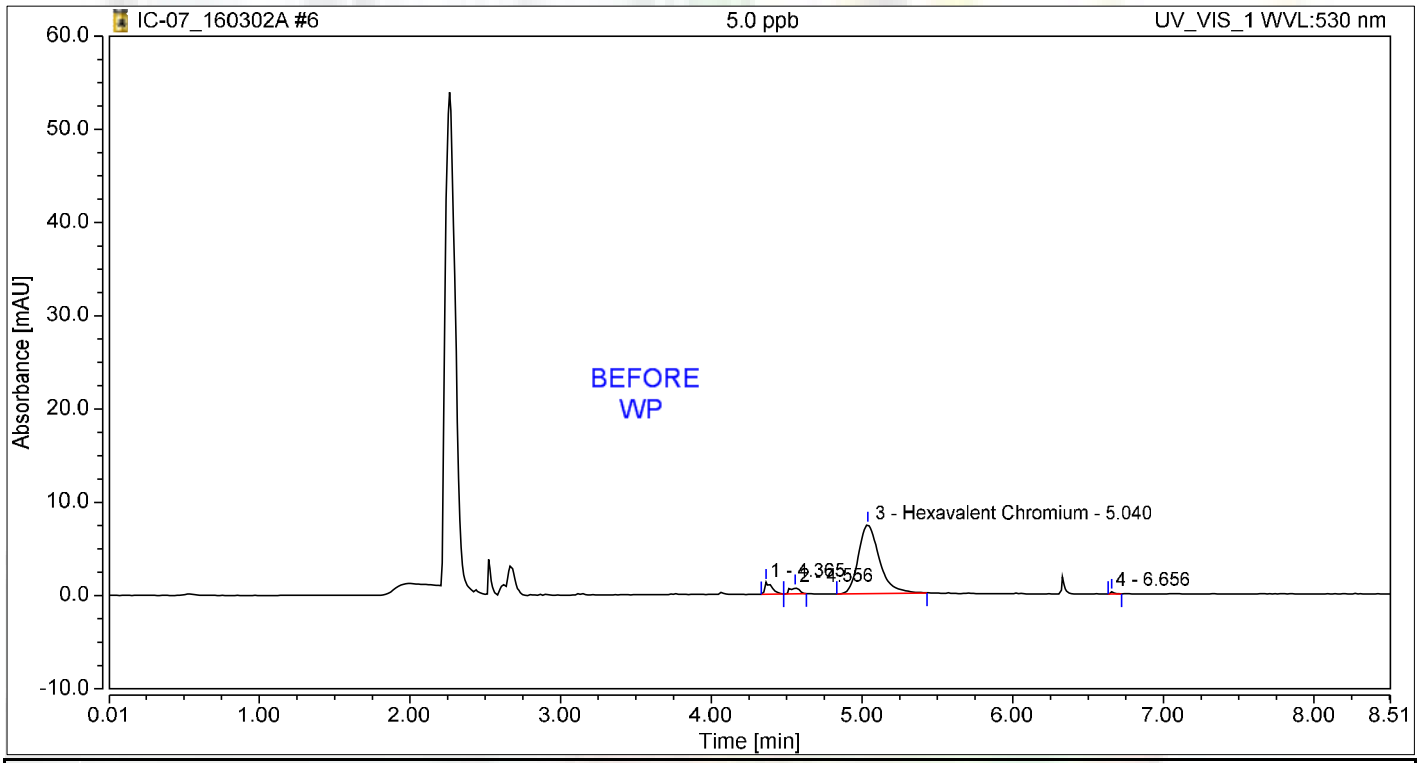
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

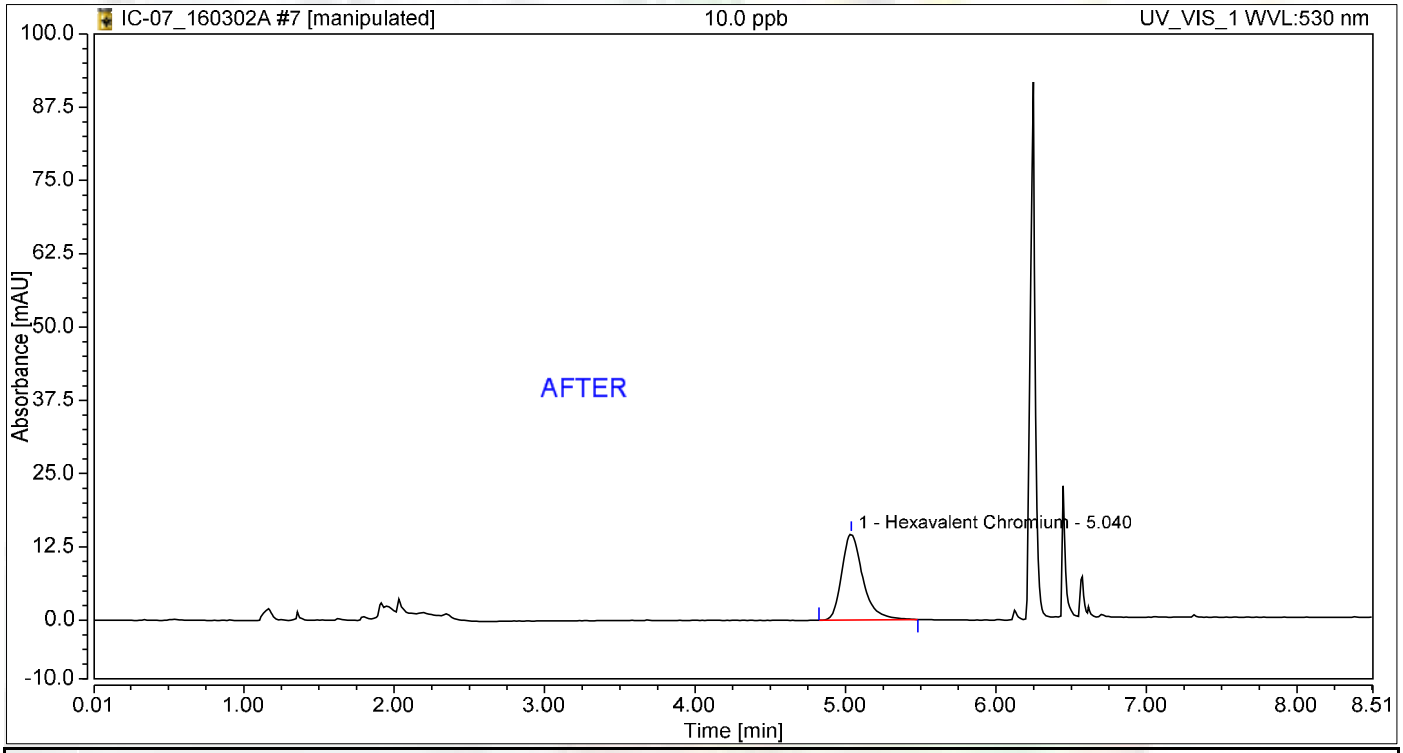
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.365	0.067	1.305	5.11	13.54	n.a.
2		4.556	0.047	0.689	3.58	7.15	n.a.
3	Hexavalent Chromium	5.040	1.198	7.374	90.83	76.51	4.9678
4		6.656	0.006	0.270	0.48	2.80	n.a.
Total:			**1.319**	**9.638**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	100.00	100.00	9.8485
Total:			**2.376**	**14.635**	**100.00**	**100.00**	

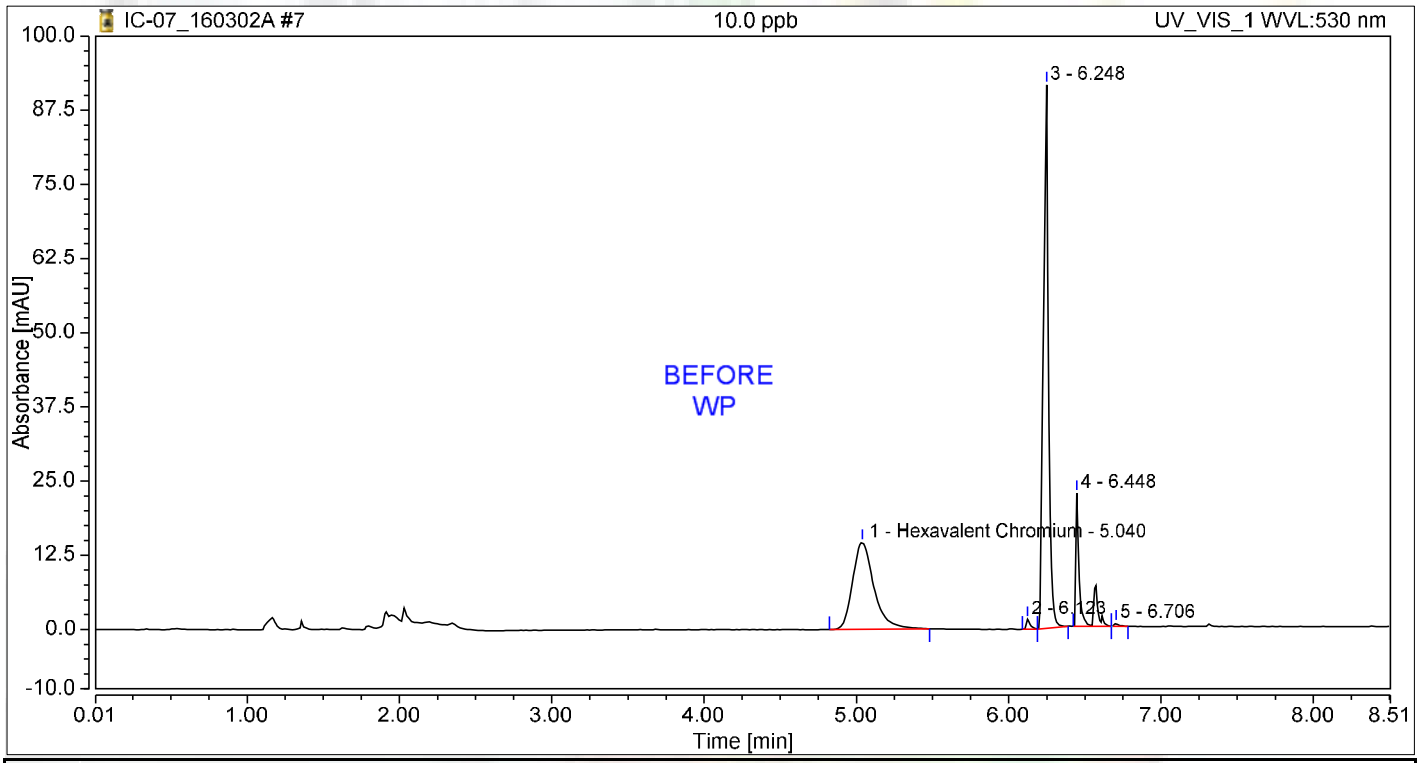
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

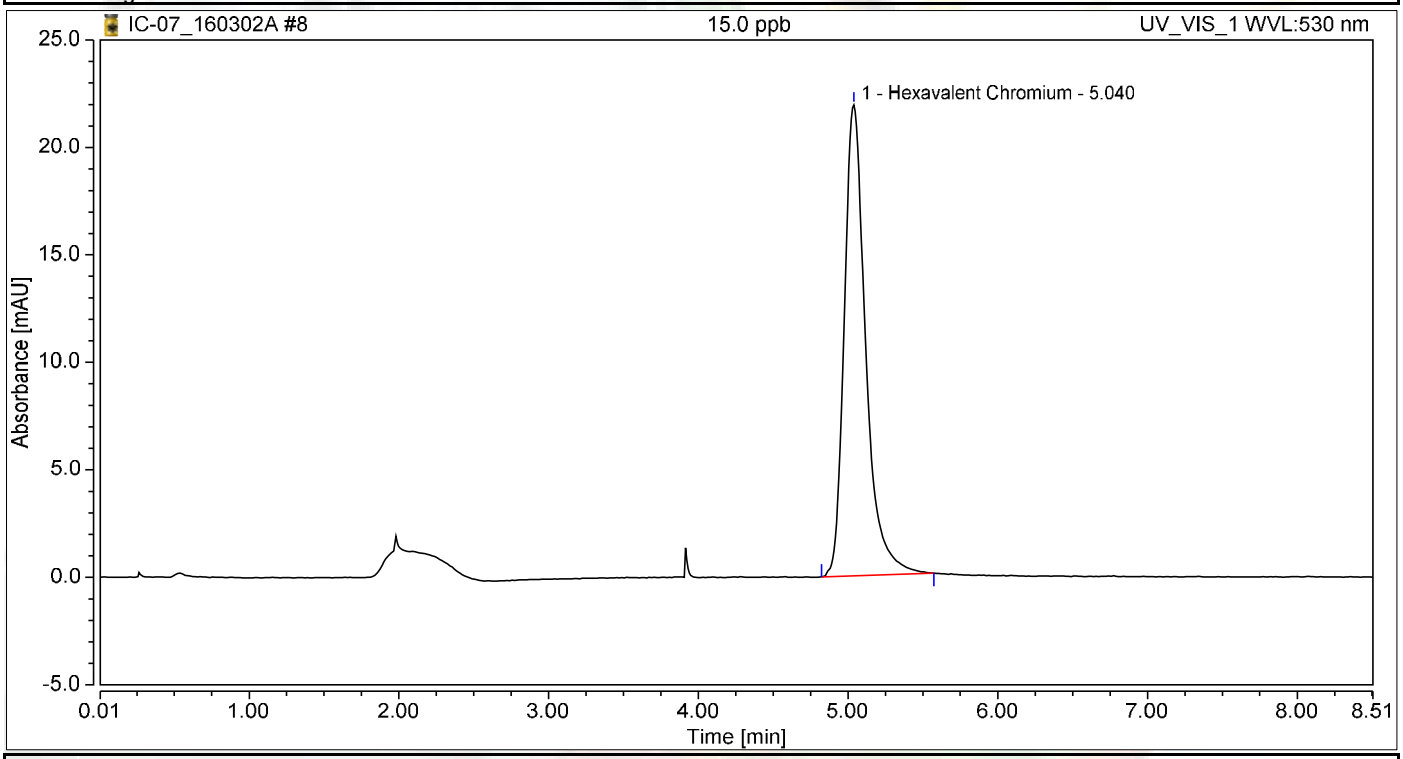
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	35.13	11.19	9.8486
2		6.123	0.044	1.639	0.65	1.25	n.a.
3		6.248	3.570	91.547	52.80	69.99	n.a.
4		6.448	0.753	22.451	11.14	17.16	n.a.
5		6.706	0.019	0.535	0.28	0.41	n.a.
Total:			**6.762**	**130.808**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

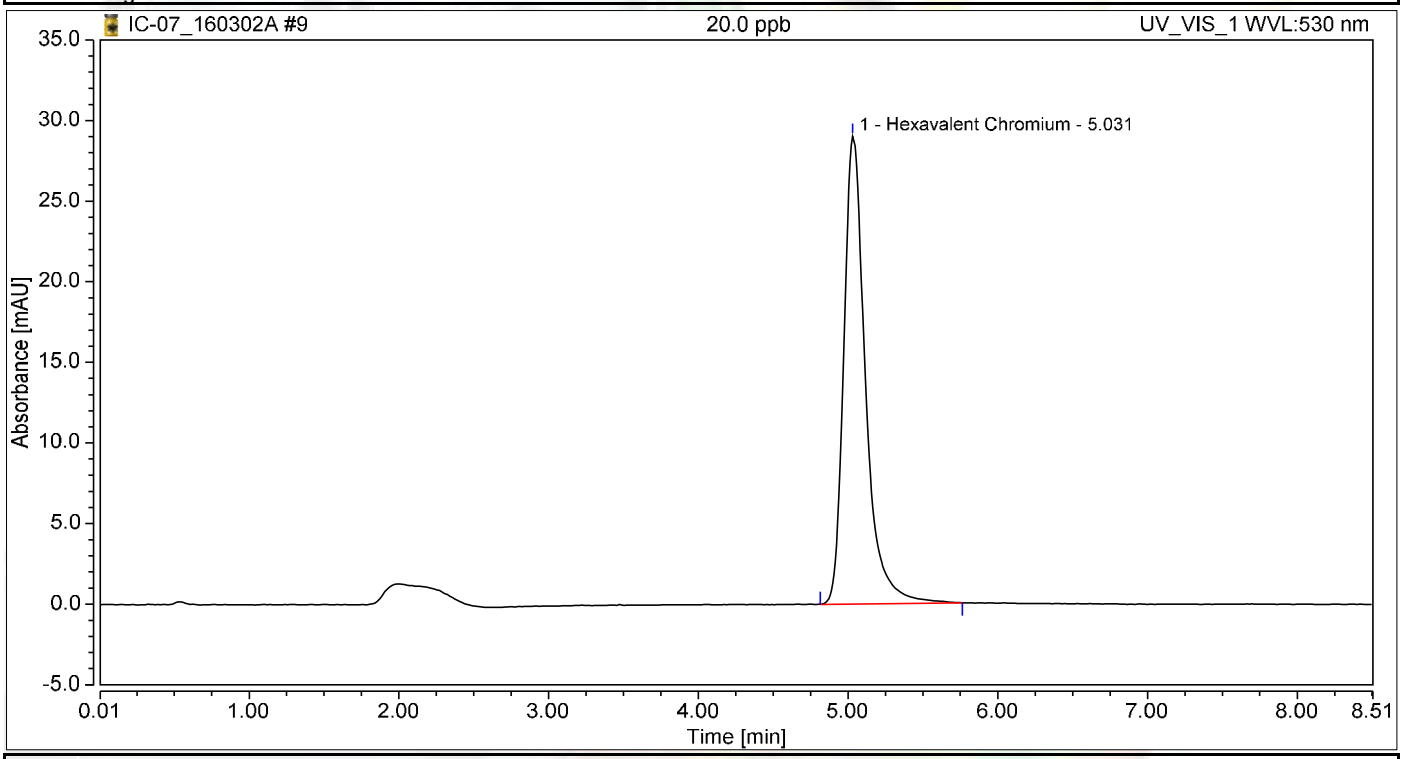
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.621	21.921	100.00	100.00	15.0105
Total:			**3.621**	**21.921**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

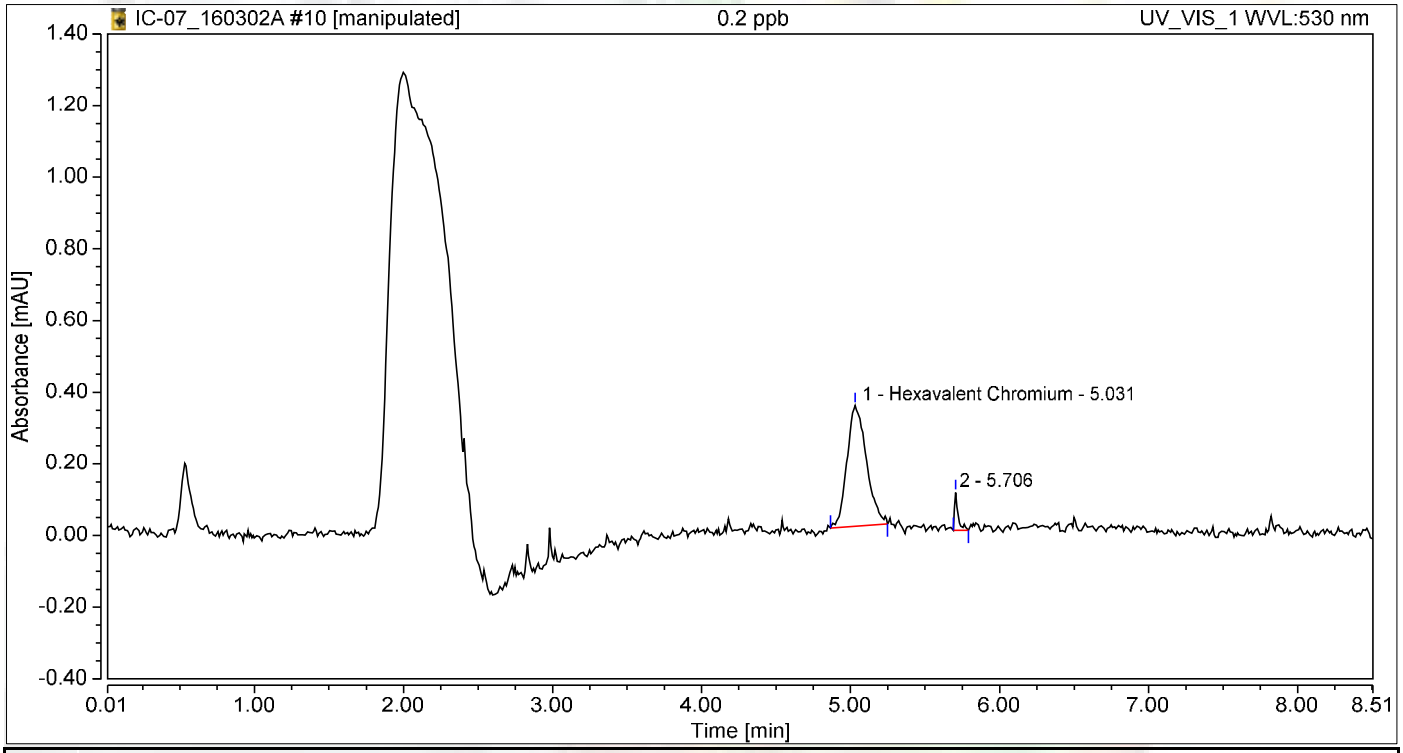
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	4.842	29.016	100.00	100.00	20.0742
Total:			**4.842**	**29.016**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



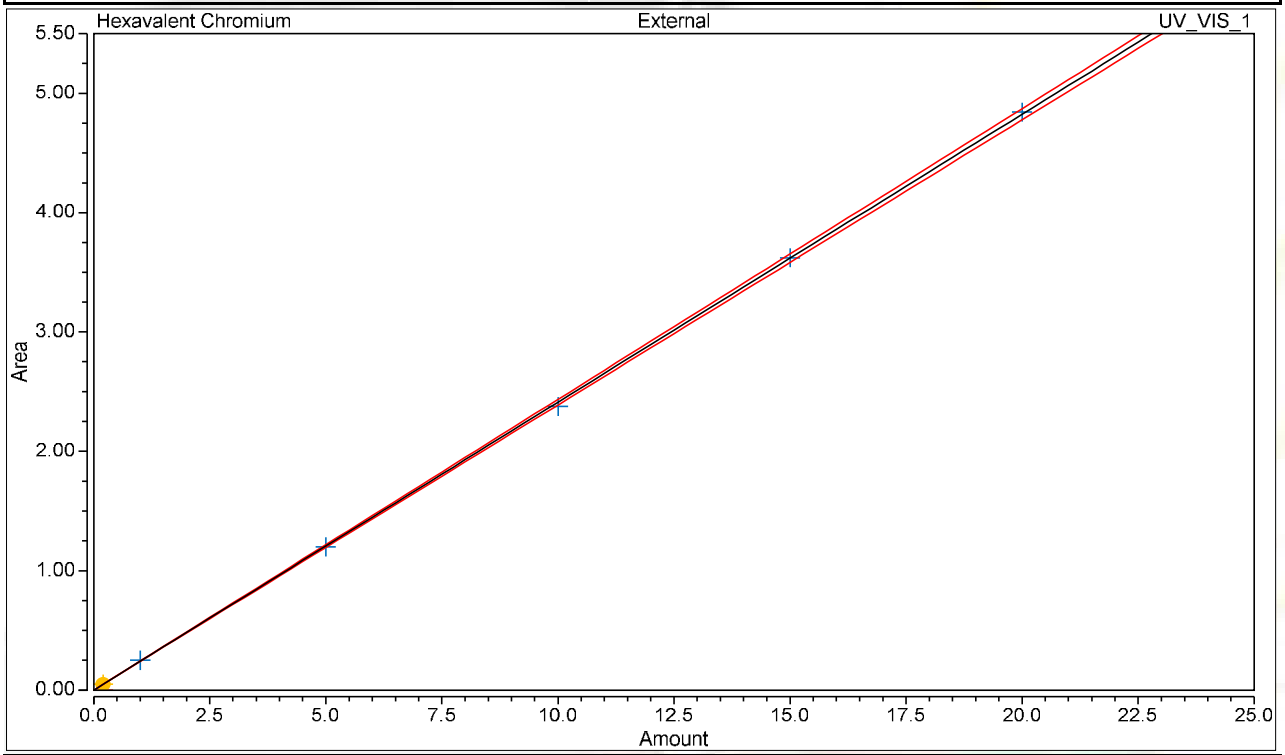
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.051	0.337	94.34	76.03	0.2102
2		5.706	0.003	0.106	5.66	23.97	n.a.
Total:			**0.054**	**0.443**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	1	*R-Square*	0.99990

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

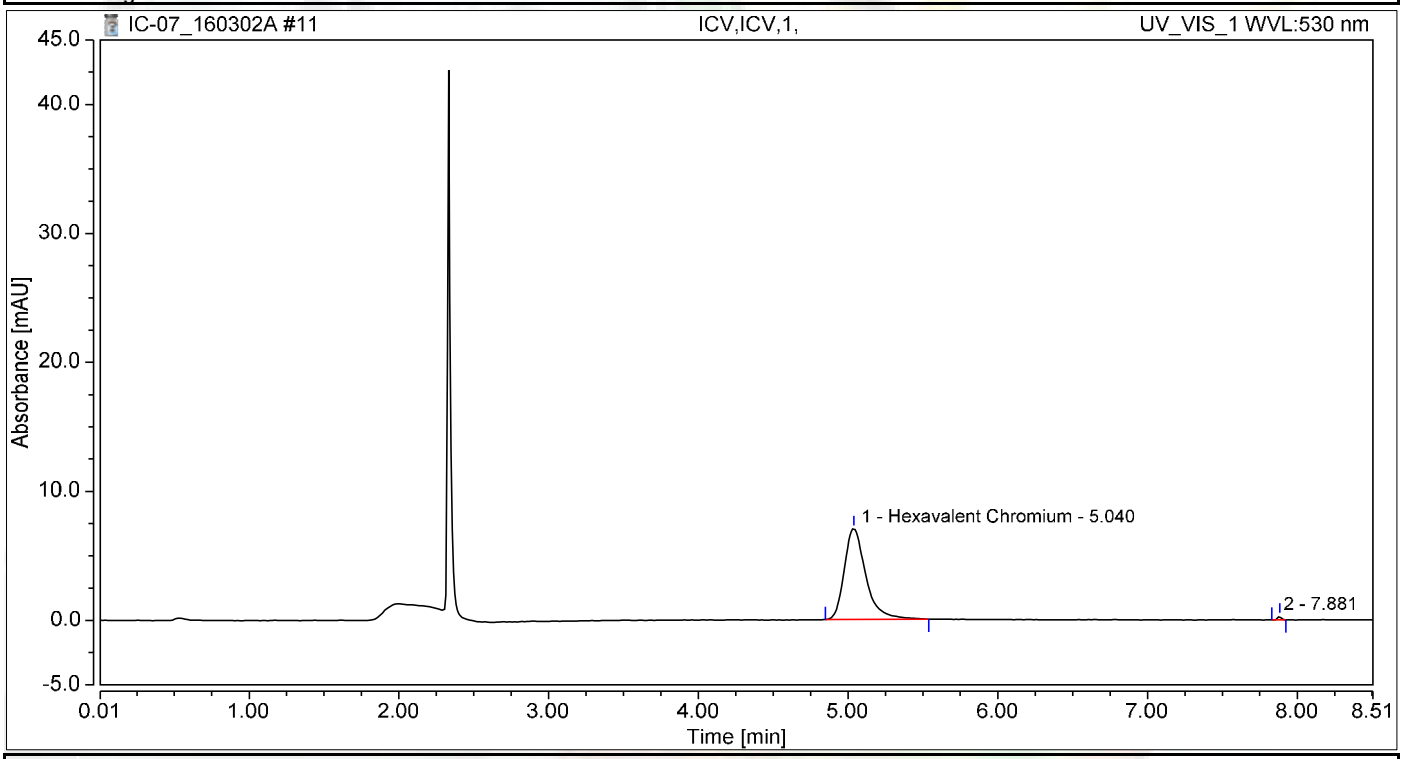
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	n.a.	n.a.	n.a.
5	1.0 ppb	02	1.0000	0.2490	0.249	1.533
6	5.0 ppb	03	5.0000	1.1983	1.198	7.374
7	10.0 ppb	04	10.0000	2.3757	2.376	14.635
8	15.0 ppb	05	15.0000	3.6209	3.621	21.921
9	20.0 ppb	06	20.0000	4.8423	4.842	29.016
10	0.2 ppb	01	0.2000	0.0507	0.051	0.337

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

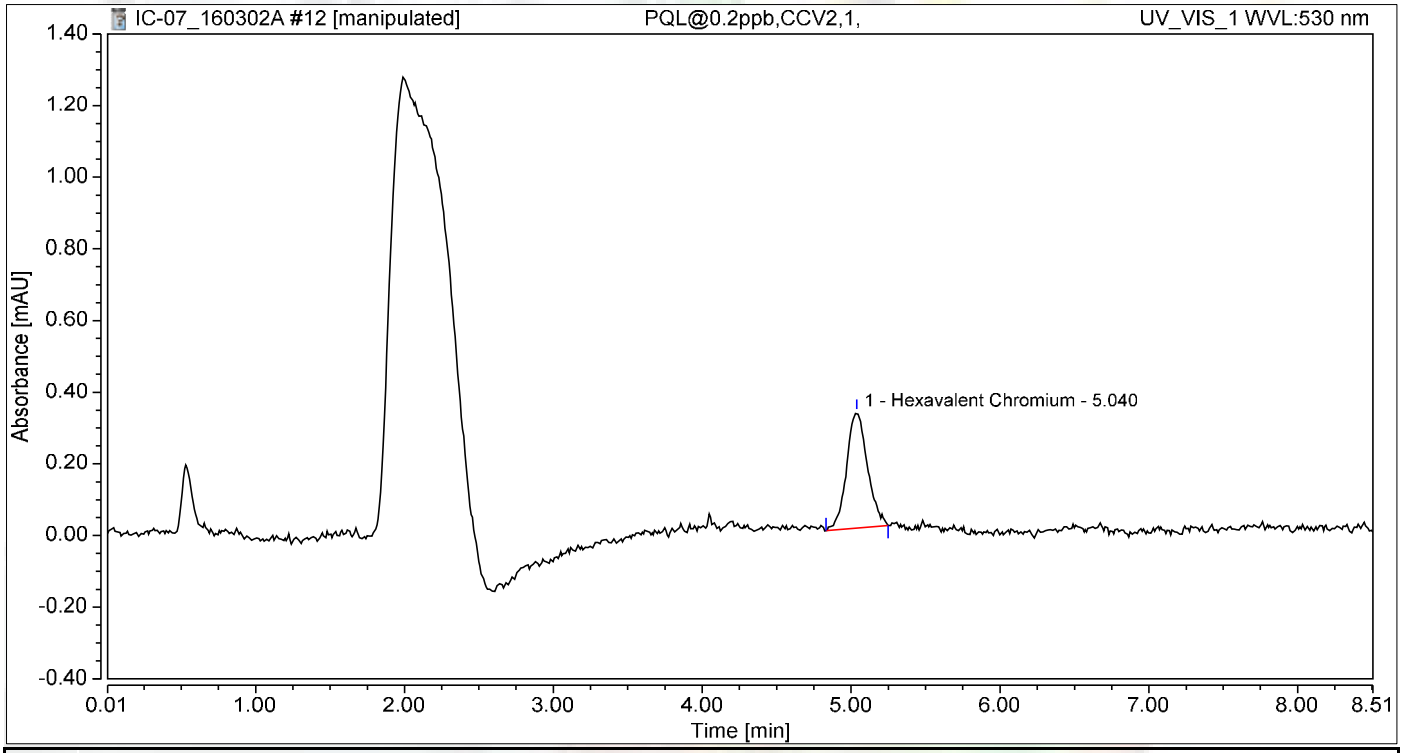
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.170	7.047	99.36	95.77	4.8510
2		7.881	0.008	0.311	0.64	4.23	n.a.
Total:			**1.178**	**7.359**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

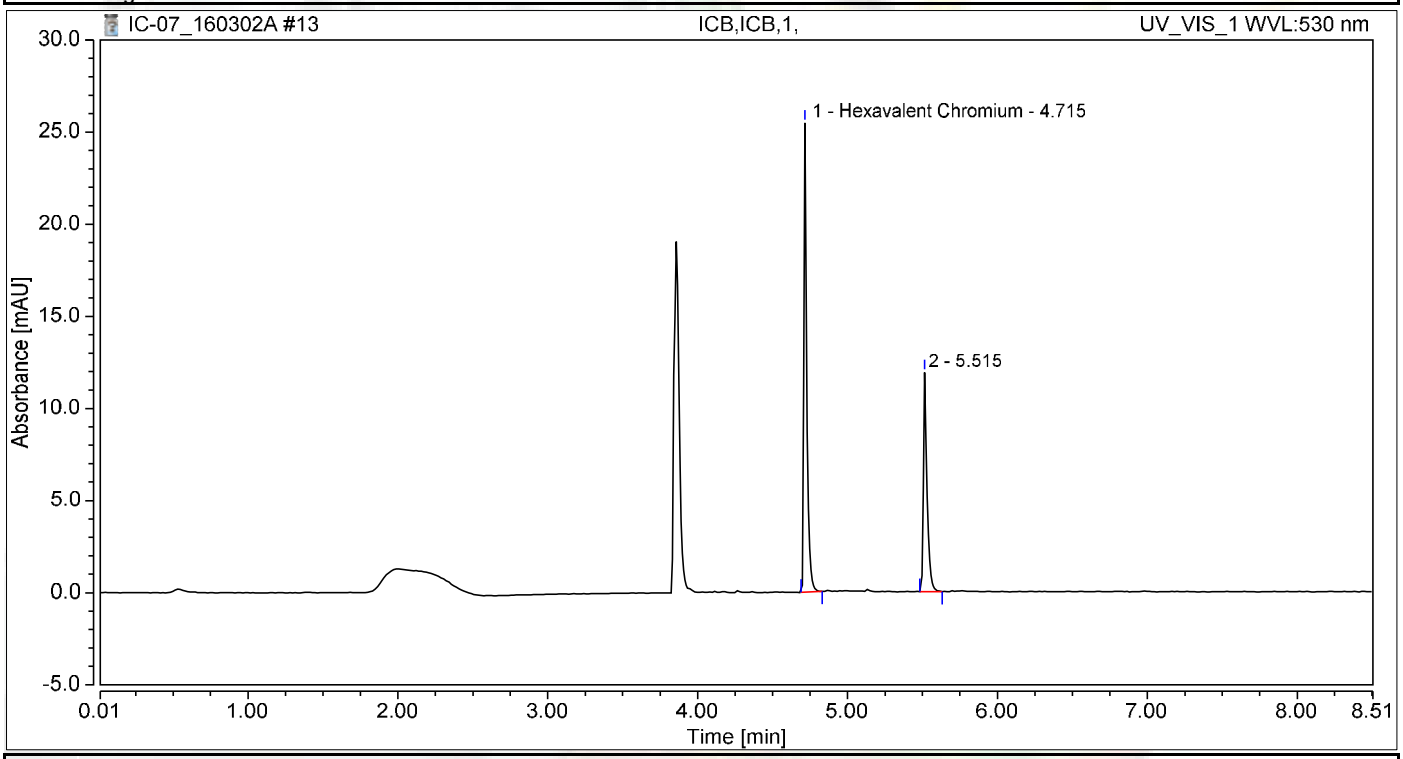
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.052	0.323	100.00	100.00	0.2155
Total:			**0.052**	**0.323**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.715	0.593	25.475	64.78	68.20	2.4601
2		5.515	0.323	11.876	35.22	31.80	n.a.
Total:			**0.916**	**37.350**	**100.00**	**100.00**	

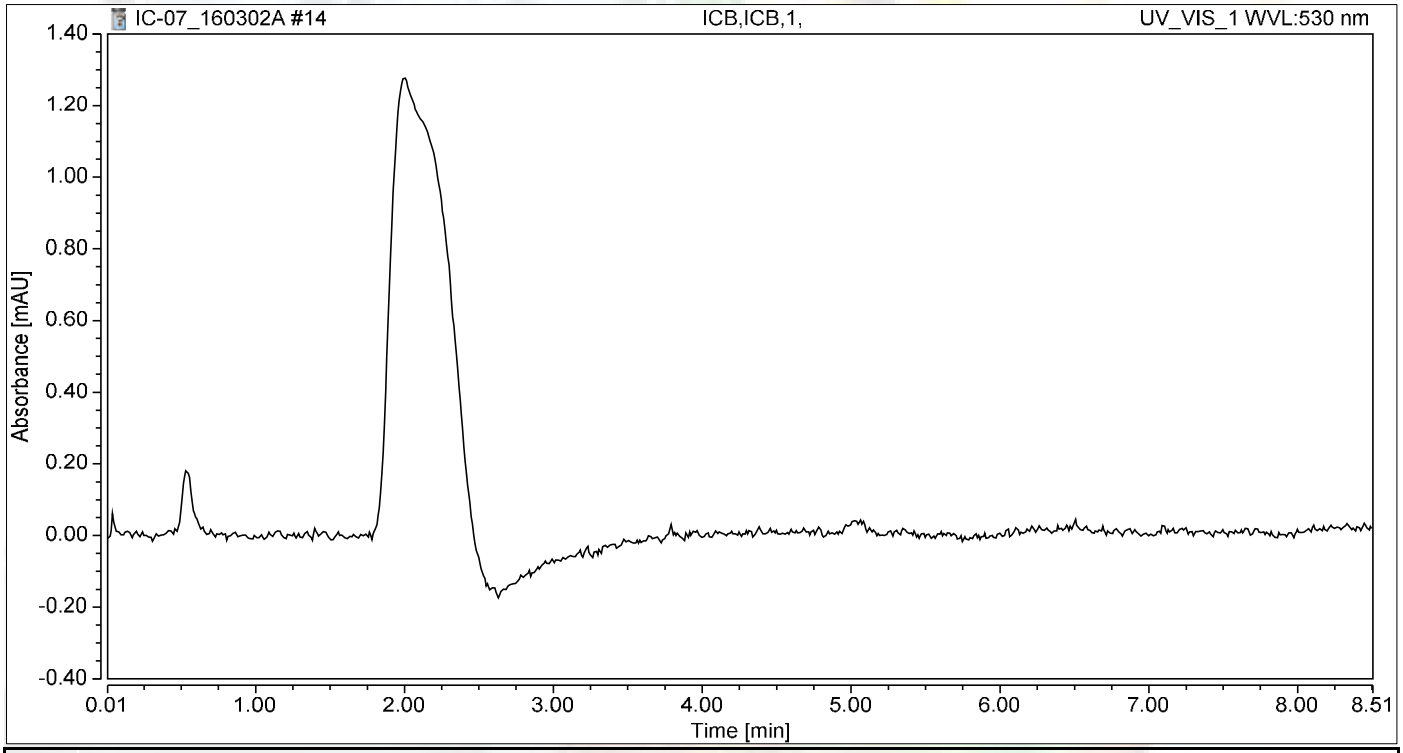
not reported

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	BLANK	BLANK	1	Hexavalent Chromium	03/04/16 12:16 PM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	03/04/16 12:27 PM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/04/16 12:36 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	03/04/16 12:46 PM	Reported
15	MB-R106264	ICAL	1	Hexavalent Chromium	03/04/16 12:55 PM	Reported
16	LCS-R106264	ICAL	1	Hexavalent Chromium	03/04/16 1:05 PM	Reported
17	N018918-001B	SAMP	50	Hexavalent Chromium	03/04/16 1:14 PM	Reported
18	N018918-001BDUP	DUP	50	Hexavalent Chromium	03/04/16 1:24 PM	Reported
19	N018918-001BMS	MS	50	Hexavalent Chromium	03/04/16 1:33 PM	Reported
20	N018918-001BMSD	MSD	50	Hexavalent Chromium	03/04/16 1:43 PM	Reported
21	N018918-002C	SAMP	1	Hexavalent Chromium	03/04/16 1:52 PM	Reported
22	N018918-002CMS	MS	1	Hexavalent Chromium	03/04/16 2:02 PM	Reported
23	N018918-003B	SAMP	1	Hexavalent Chromium	03/04/16 2:11 PM	Not Reported
24	N018918-003BMS	MS	1	Hexavalent Chromium	03/04/16 2:20 PM	Not Reported
25	CCV-2	CCV	1	Hexavalent Chromium	03/04/16 2:30 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	03/04/16 2:39 PM	Reported
27	N018918-003B	SAMP	5	Hexavalent Chromium	03/04/16 2:49 PM	Reported
28	N018918-003BMS	MS	5	Hexavalent Chromium	03/04/16 2:58 PM	Reported
29	N018918-003B	SAMP	10	Hexavalent Chromium	03/04/16 3:26 PM	Not Reported
30	N018918-003BMS	MS	10	Hexavalent Chromium	03/04/16 3:37 PM	Not Reported
31	N018861-001A	SAMP	100	Hexavalent Chromium	03/04/16 3:54 PM	Reported
32	N018861-001AMS	MS	100	Hexavalent Chromium	03/04/16 4:05 PM	Reported
33	N018861-003A	SAMP	1	Hexavalent Chromium	03/04/16 4:14 PM	Not Reported
34	N018861-003AMS	MS	1	Hexavalent Chromium	03/04/16 4:24 PM	Not Reported
35	N018861-005A	SAMP	10	Hexavalent Chromium	03/04/16 4:33 PM	~~Not~~ Reported
36	N018861-005AMS	MS	10	Hexavalent Chromium	03/04/16 4:43 PM	~~Not~~ Reported
37	CCV-3	CCV	1	Hexavalent Chromium	03/04/16 4:52 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	03/04/16 5:02 PM	Reported
39	N018861-006A	SAMP	1	Hexavalent Chromium	03/04/16 5:11 PM	Not Reported
40	N018861-006AMS	MS	1	Hexavalent Chromium	03/04/16 5:21 PM	Not Reported
41	N018861-007A	SAMP	1	Hexavalent Chromium	03/04/16 5:30 PM	Not Reported
42	N018861-007AMS	MS	1	Hexavalent Chromium	03/04/16 5:40 PM	Not Reported
43	N018861-008A	SAMP	1	Hexavalent Chromium	03/04/16 5:49 PM	Reported

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
44	N018861-008AMS	MS	1	Hexavalent Chromium	03/04/16 5:59 PM	Reported
45	N018861-003A	SAMP	5	Hexavalent Chromium	03/04/16 6:08 PM	Reported
46	N018861-003AMS	MS	5	Hexavalent Chromium	03/04/16 6:17 PM	Reported
47	N018861-006A	SAMP	5	Hexavalent Chromium	03/04/16 6:27 PM	Reported
48	N018861-006AMS	MS	5	Hexavalent Chromium	03/04/16 6:36 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	03/04/16 6:46 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	03/04/16 6:55 PM	Reported
51	N018861-007A	SAMP	5	Hexavalent Chromium	03/04/16 7:05 PM	Reported
52	N018861-007AMS	MS	5	Hexavalent Chromium	03/04/16 7:14 PM	Reported
53	N018936-002A	SAMP	100	Hexavalent Chromium	03/04/16 7:24 PM	Reported
54	N018936-002AMS	MS	100	Hexavalent Chromium	03/04/16 7:33 PM	Reported
55	N018936-001D	SAMP	1	Hexavalent Chromium	03/04/16 7:43 PM	Reported
56	N018936-001DMS	MS	1	Hexavalent Chromium	03/04/16 7:52 PM	Reported
57	CCV-5	CCV	1	Hexavalent Chromium	03/04/16 8:02 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	03/04/16 8:11 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160304A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Mar/16 17:38:28**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	BLANK	1	1000	Unknown		03/04/2016 12:16	Finished	BLANK
12	CCV-1,CCV,1,	2	1000	Unknown		03/04/2016 12:27	Finished	CCV, IWST-160202A
13	PQL@0.2ppb,CCV2,1	3	1000	Unknown		03/04/2016 12:36	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	4	1000	Unknown		03/04/2016 12:46	Finished	CCB R160219D
15	MB-H20,MBLK,1	5	1000	Unknown		03/04/2016 12:55	Finished	MB
16	LCS-H2O,LCS,1	6	1000	Unknown		03/04/2016 13:05	Finished	LCS @ 5ppb, IWST-160202B
17	N018918-001B,SAMP	7	1000	Unknown		03/04/2016 13:14	Finished	SAMP, 0.2 to 10mL
18	N018918-001BDUP,D	8	1000	Unknown		03/04/2016 13:24	Finished	DUP, 0.2 to 10mL
19	N018918-001BMS,MS	9	1000	Unknown		03/04/2016 13:33	Finished	MS(5ppb), IWST-160202B, 10r
20	N018918-001BMSD,M	10	1000	Unknown		03/04/2016 13:43	Finished	MS(5ppb), IWST-160202B, 10r
21	N018918-002C,SAMP	11	1000	Unknown		03/04/2016 13:52	Finished	SAMP, 10mL
22	N018918-002CMS,MS	12	1000	Unknown		03/04/2016 14:02	Finished	MS(1ppb), IWST-160202B, 10r
23	N018918-003B,SAMP	13	1000	Unknown		03/04/2016 14:11	Finished	SAMP, 10mL
24	N018918-003BMS,MS	14	1000	Unknown		03/04/2016 14:20	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	15	1000	Unknown		03/04/2016 14:30	Finished	CCV 10ppb, IWST-1605202A
26	CCB-2,CCB,1	16	1000	Unknown		03/04/2016 14:39	Finished	CCB
27	N018918-003B,SAMP	17	1000	Unknown		03/04/2016 14:49	Finished	SAMP, 2 to 10mL
28	N018918-003BMS,MS	18	1000	Unknown		03/04/2016 14:58	Finished	MS(1ppb), IWST-160202B, 10r
29	N018918-003B,SAMP	19	1000	Unknown		03/04/2016 15:26	Finished	SAMP, 1 to 10mL
30	N018918-003BMS,MS	20	1000	Unknown		03/04/2016 15:37	Finished	MS(1ppb), IWST-160202B, 10r
31	N018861-001A,SAMP	21	1000	Unknown		03/04/2016 15:54	Finished	SAMP,0.1 to 10mL
32	N018861-001AMS,MS	22	1000	Unknown		03/04/2016 16:05	Finished	MS(5ppb), IWST-160202B, 10r
33	N018861-003A,SAMP	23	1000	Unknown		03/04/2016 16:14	Finished	SAMP, 10mL
34	N018861-003AMS,MS	24	1000	Unknown		03/04/2016 16:24	Finished	MS(1ppb), IWST-160202B, 10r
35	N018861-005A,SAMP	25	1000	Unknown		03/04/2016 16:33	Finished	SAMP, 1 to 10mL
36	N018861-005AMS,MS	26	1000	Unknown		03/04/2016 16:43	Finished	MS(5ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	27	1000	Unknown		03/04/2016 16:52	Finished	CCV 5ppb, IWST-1605202A
38	CCB-3,CCB,1	28	1000	Unknown		03/04/2016 17:02	Finished	CCB
39	N018861-006A,SAMP	29	1000	Unknown		03/04/2016 17:11	Finished	SAMP, 10mL
40	N018861-006AMS,MS	30	1000	Unknown		03/04/2016 17:21	Finished	MS(1ppb), IWST-160202B, 10r
41	N018861-007A,SAMP	31	1000	Unknown		03/04/2016 17:30	Finished	SAMP, 10mL
42	N018861-007AMS,MS	32	1000	Unknown		03/04/2016 17:40	Finished	MS(5ppb), IWST-160202B, 10r
43	N018861-008A,SAMP	33	1000	Unknown		03/04/2016 17:49	Finished	SAMP, 10mL
44	N018861-008AMS,MS	34	1000	Unknown		03/04/2016 17:59	Finished	MS(1ppb), IWST-160202B, 10r
45	N018861-003A,SAMP	35	1000	Unknown		03/04/2016 18:08	Finished	SAMP, 2 to 10mL
46	N018861-003AMS,MS	36	1000	Unknown		03/04/2016 18:17	Finished	MS(1ppb), IWST-160202B, 10r
47	N018861-006A,SAMP	37	1000	Unknown		03/04/2016 18:27	Finished	SAMP, 2 to 10mL
48	N018861-006AMS,MS	38	1000	Unknown		03/04/2016 18:36	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	39	1000	Unknown		03/04/2016 18:46	Finished	CCV 10ppb, IWST-1605202A
50	CCB-4,CCB,1	40	1000	Unknown		03/04/2016 18:55	Finished	CCB
51	N018861-007A,SAMP	41	1000	Unknown		03/04/2016 19:05	Finished	SAMP, 2 to 10mL
52	N018861-007AMS,MS	42	1000	Unknown		03/04/2016 19:14	Finished	MS(5ppb), IWST-160202B, 10r
53	N018936-002A,SAMP	43	1000	Unknown		03/04/2016 19:24	Finished	SAMP, 0.1 to 10mL
54	N018936-002AMS,MS	44	1000	Unknown		03/04/2016 19:33	Finished	MS(5ppb), IWST-160202B, 10r
55	N018936-001D,SAMP	45	1000	Unknown		03/04/2016 19:43	Finished	SAMP, 10mL
56	N018936-001DMS,MS	46	1000	Unknown		03/04/2016 19:52	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	47	1000	Unknown		03/04/2016 20:02	Finished	CCV 5ppb, IWST-1605202A
58	CCB-5,CCB,1	48	1000	Unknown		03/04/2016 20:11	Finished	CCB
59	SHUTDOWN	49	1000	Unknown		03/04/2016 20:20	Finished	BLANK
60	Eluent: R160302B	50	1000	Unknown		n.a.	Finished	Eluent

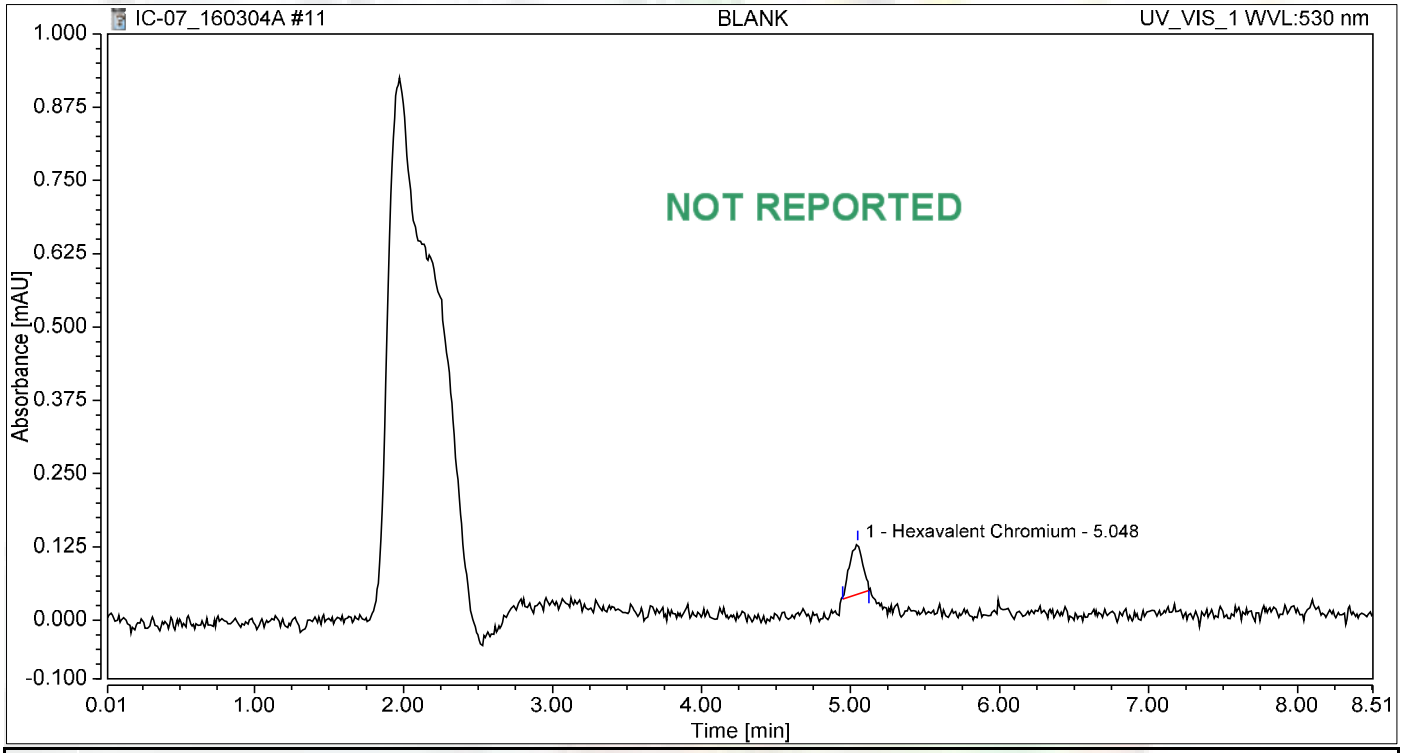
61	PCR: R160304A	51	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.49**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

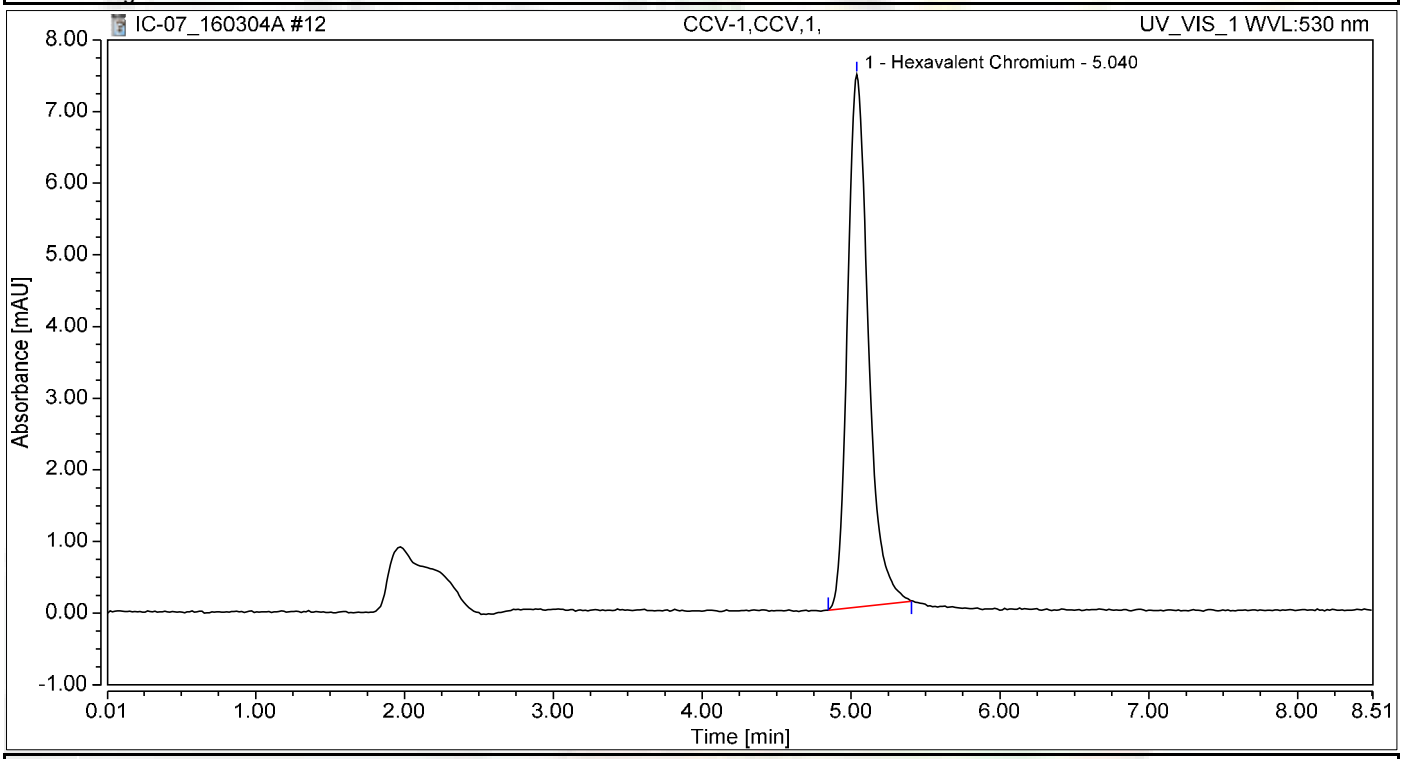
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.009	0.086	100.00	100.00	0.0362
Total:			**0.009**	**0.086**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

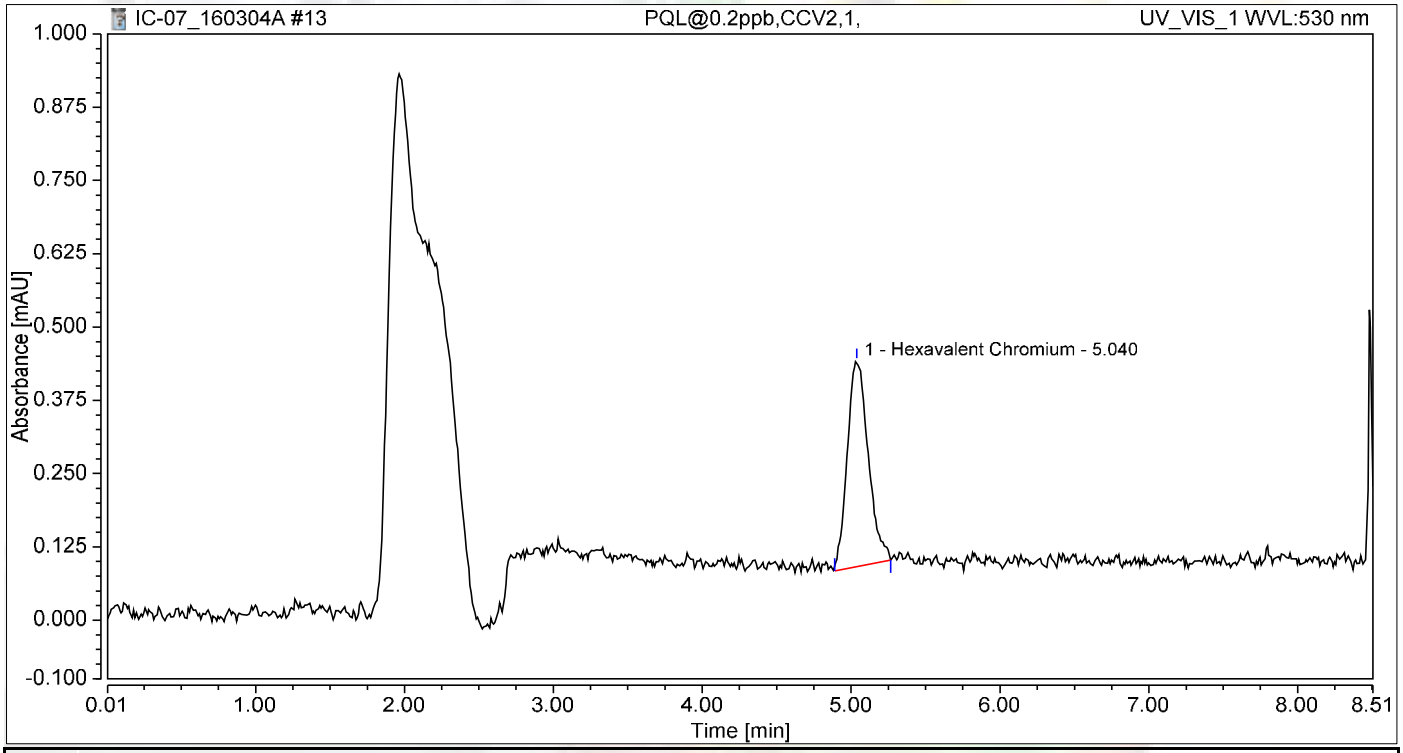
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.201	7.432	100.00	100.00	4.9788
Total:			**1.201**	**7.432**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

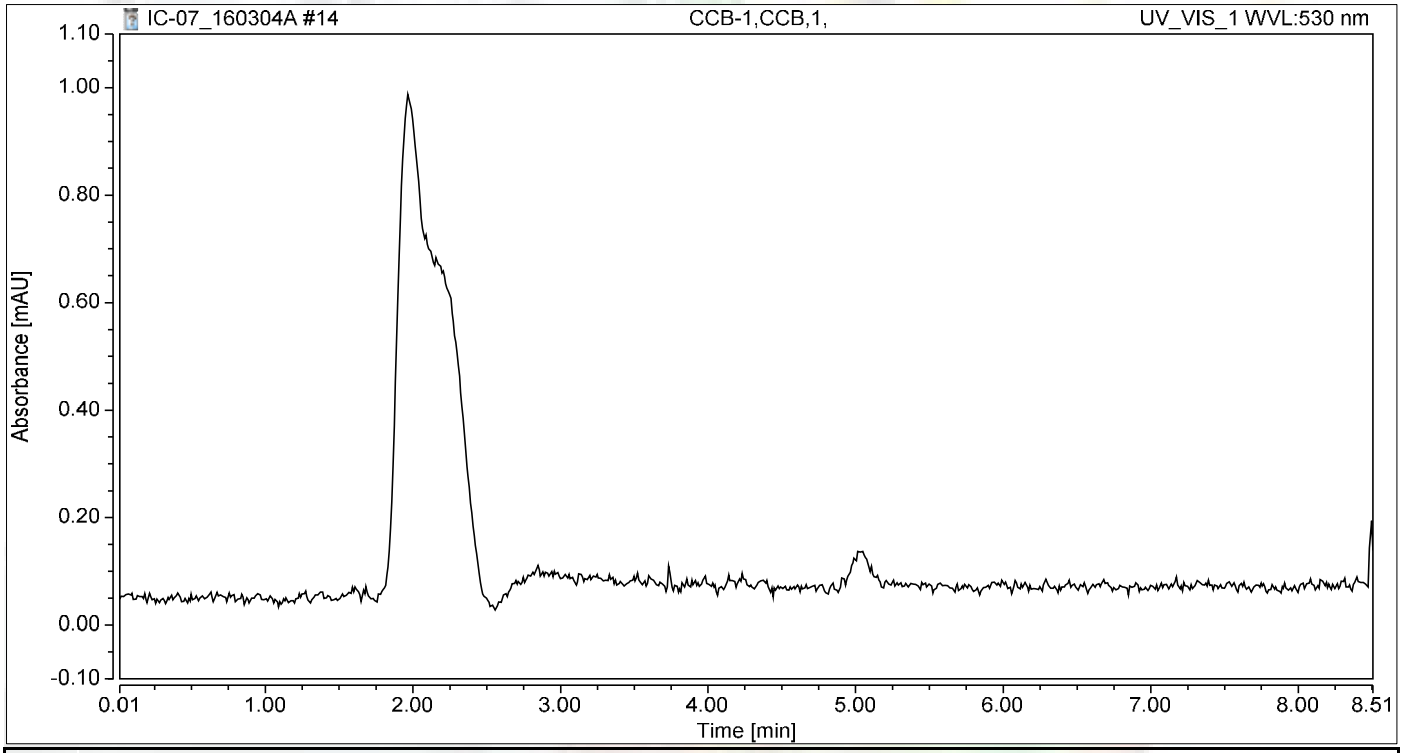
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.057	0.351	100.00	100.00	0.2360
Total:			**0.057**	**0.351**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

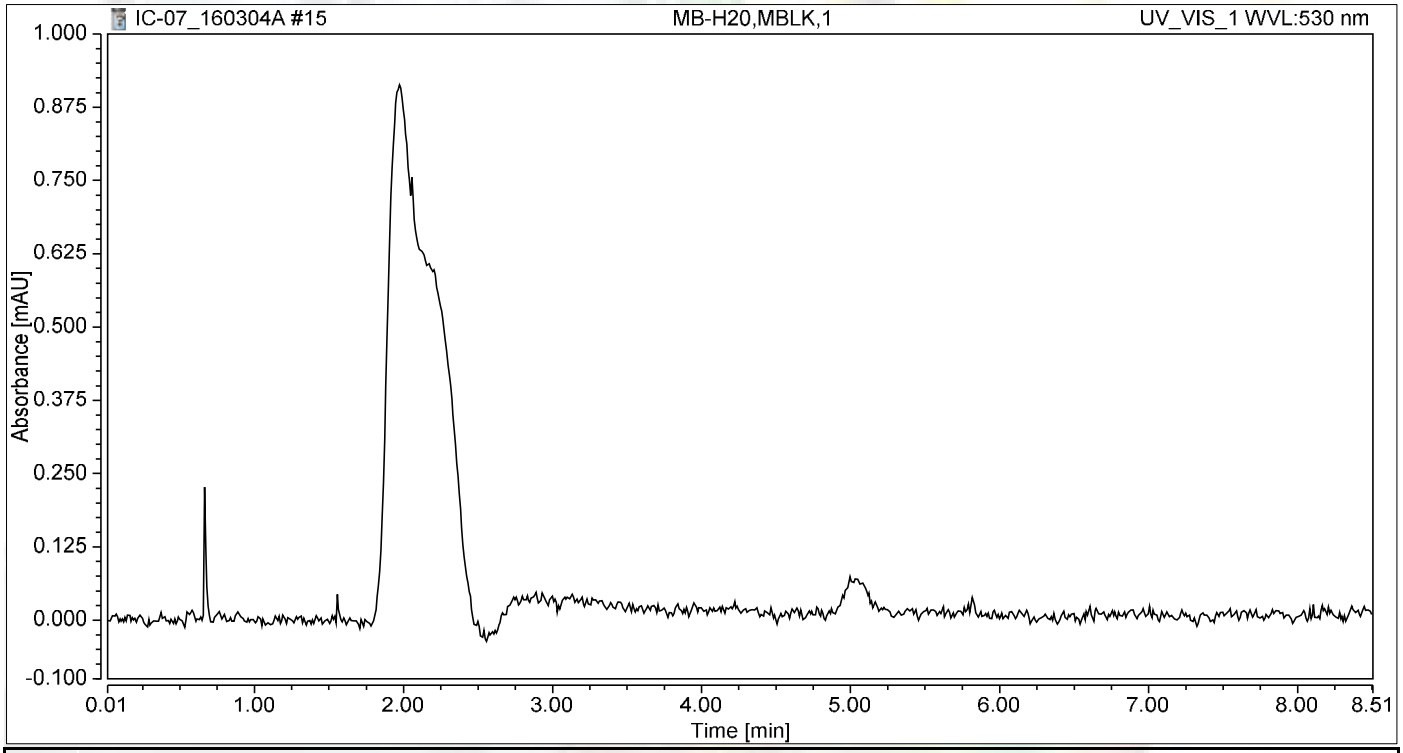
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H20,MBLK,1**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

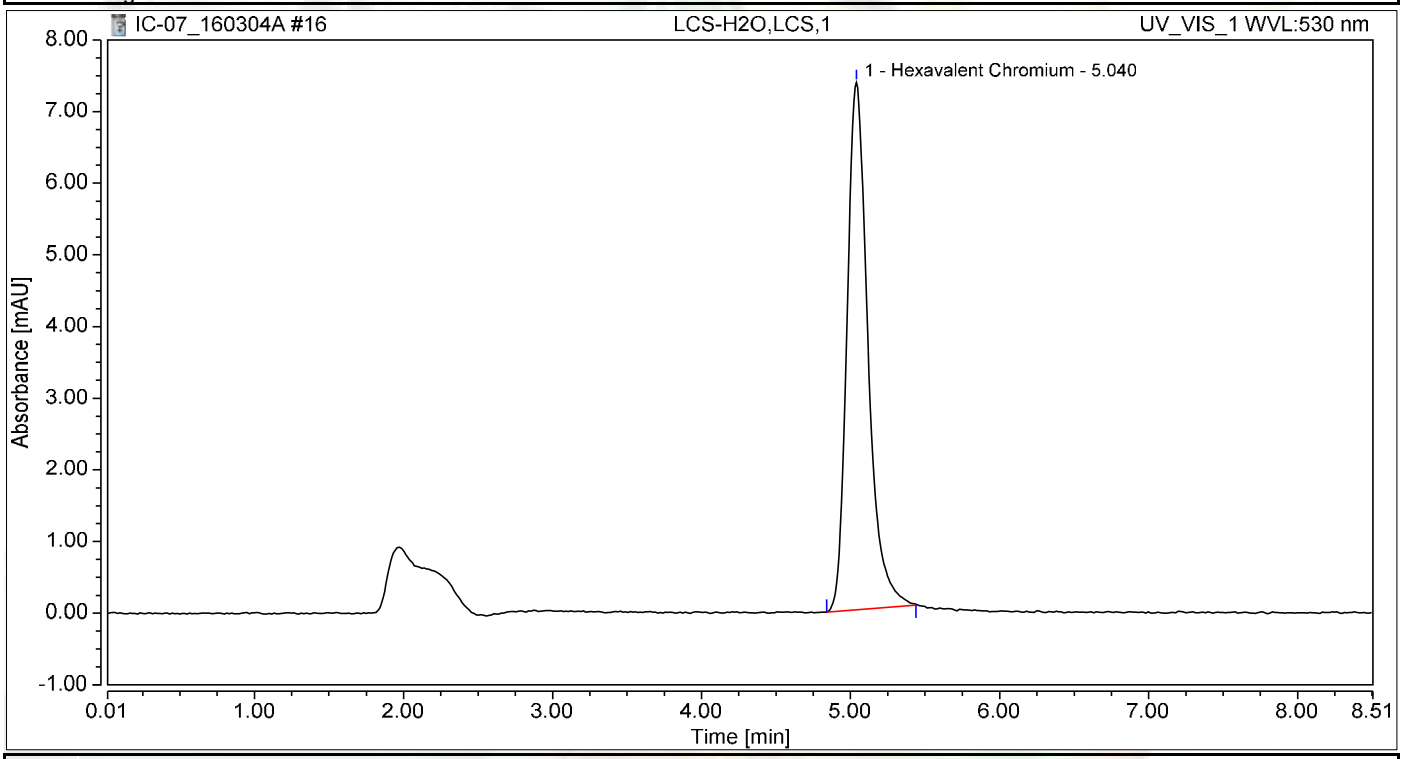
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

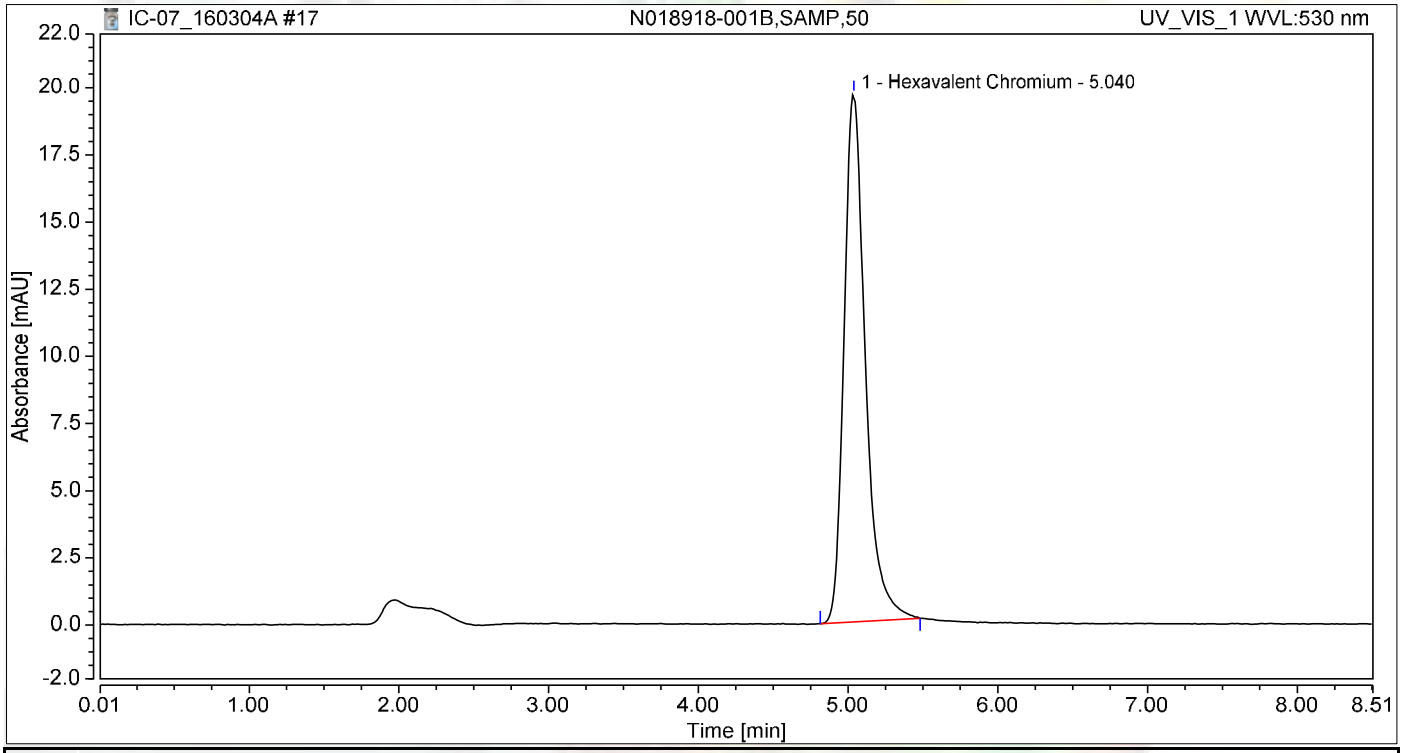
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.193	7.357	100.00	100.00	4.9451
Total:			**1.193**	**7.357**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001B,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

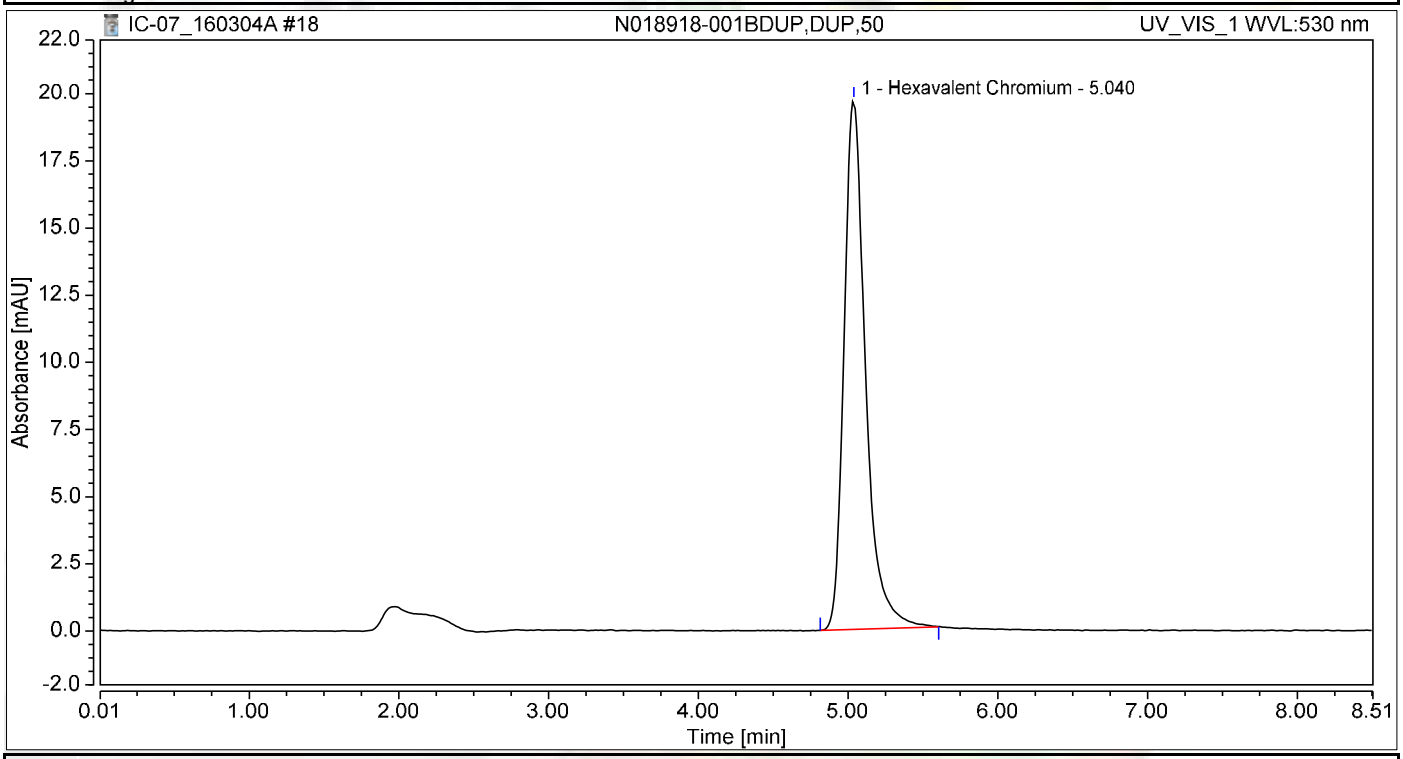
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.219	19.665	100.00	100.00	13.3449
Total:			**3.219**	**19.665**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001BDUP,DUP,50**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

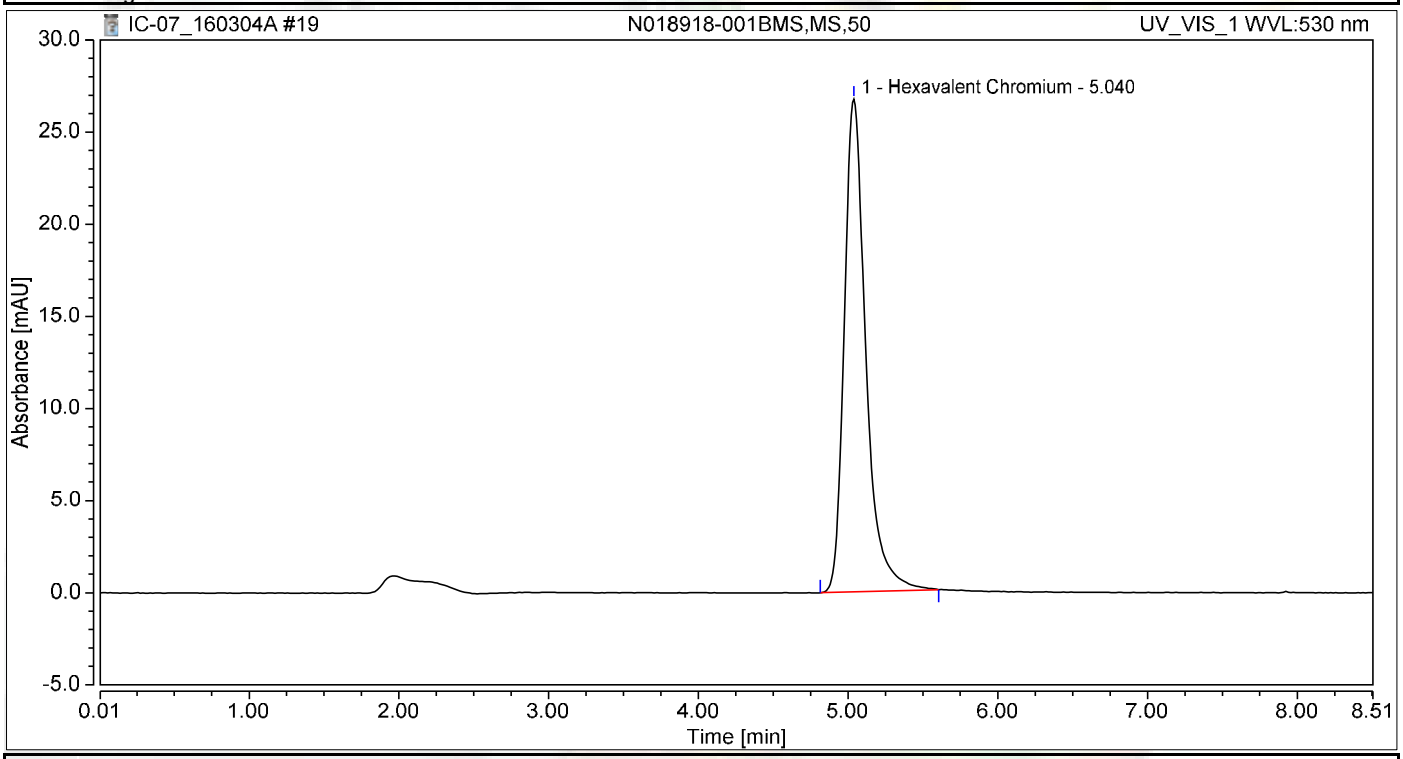
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.262	19.700	100.00	100.00	13.5248
Total:			**3.262**	**19.700**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001BMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

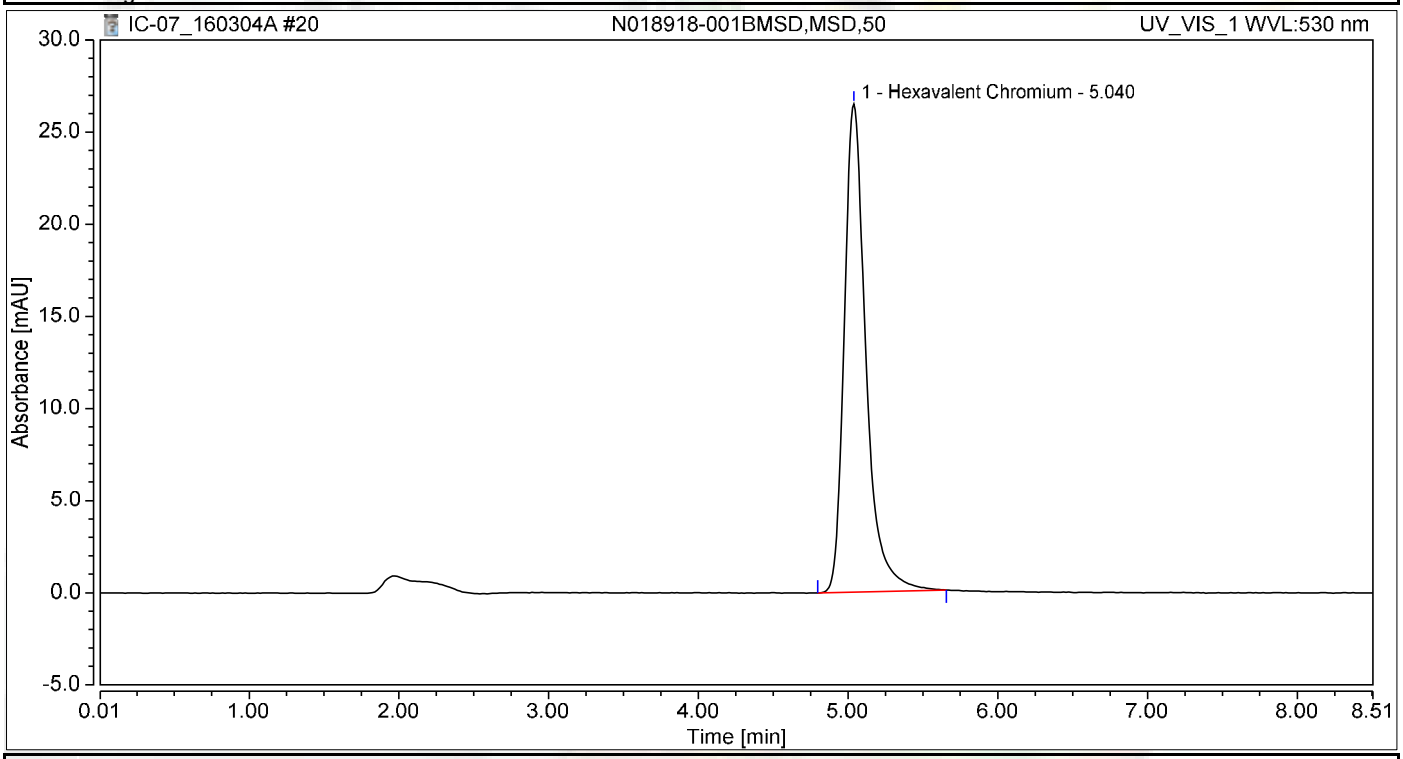
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.433	26.749	100.00	100.00	18.3781
Total:			**4.433**	**26.749**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001BMSD,MSD,50**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

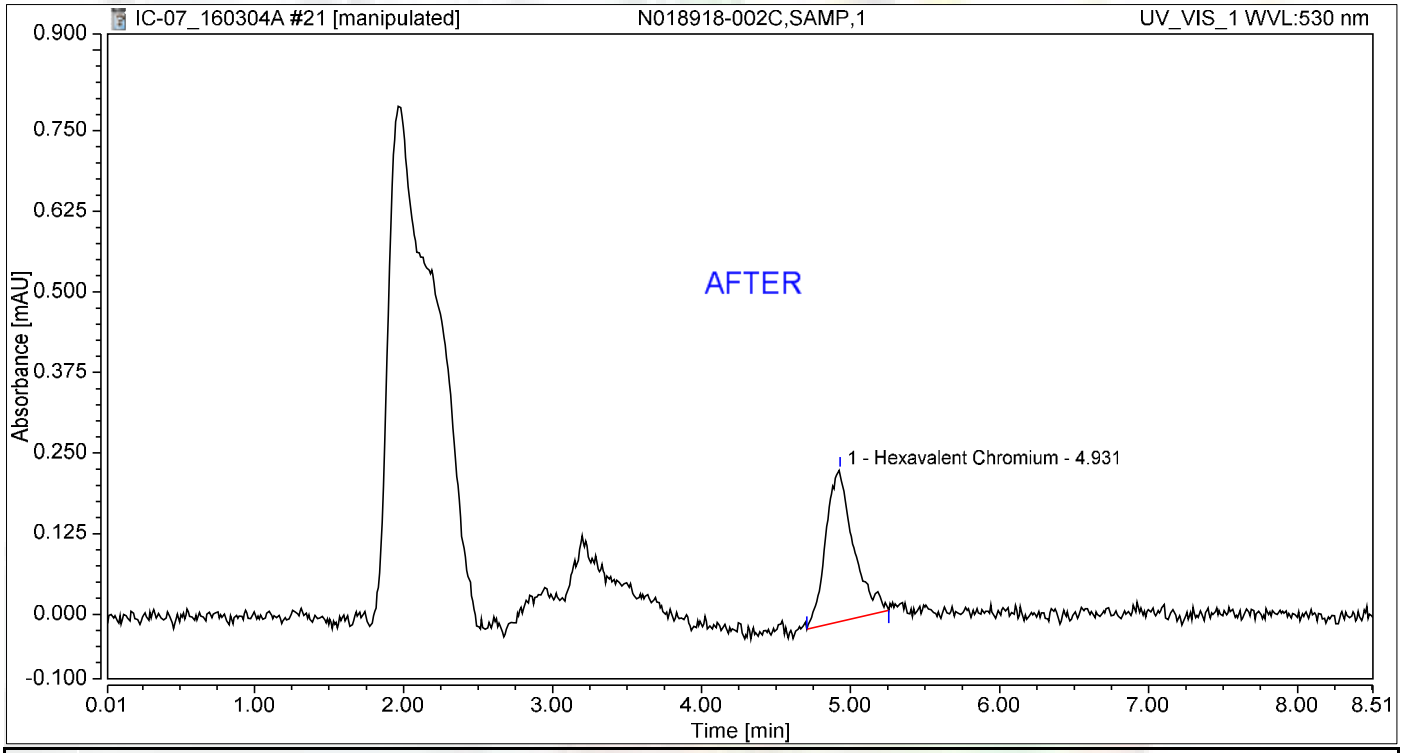
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.410	26.498	100.00	100.00	18.2816
Total:			**4.410**	**26.498**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002C,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

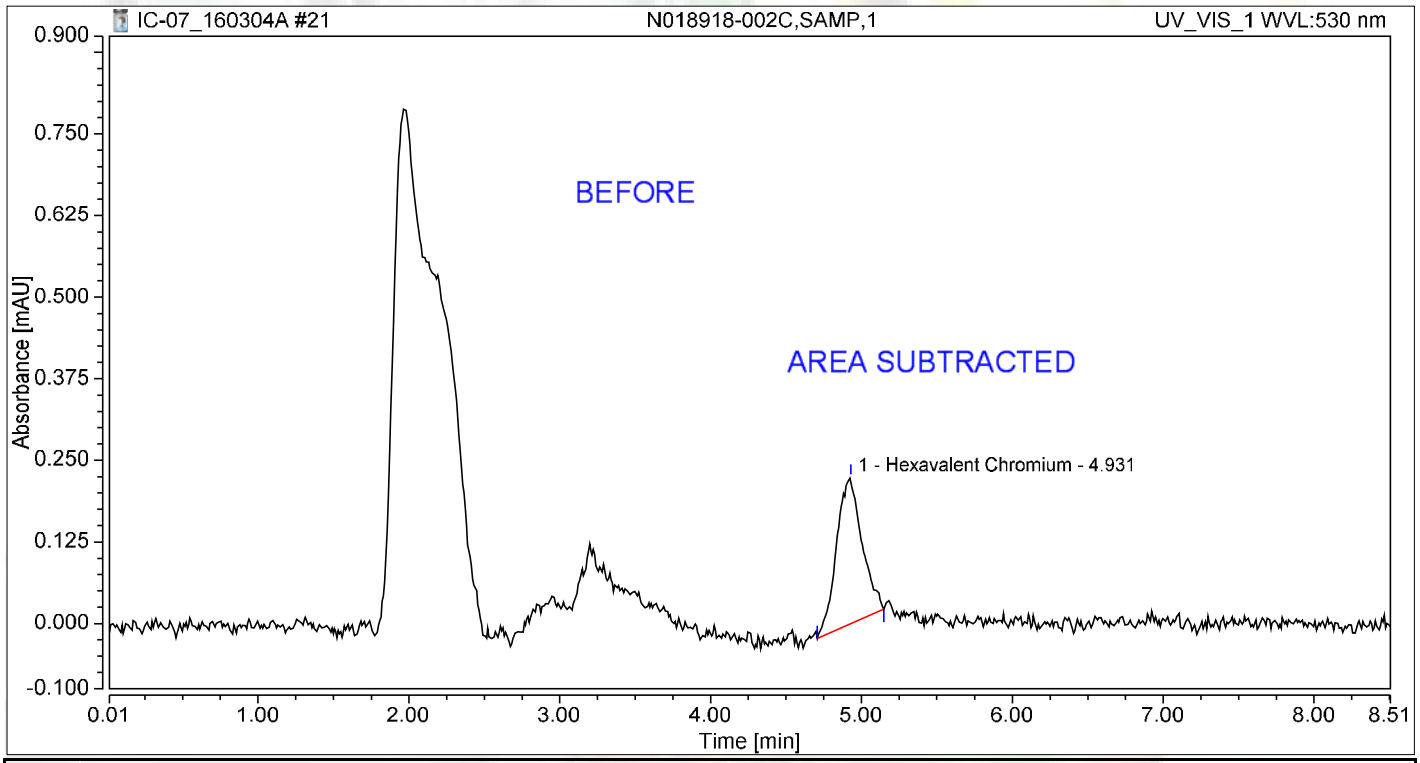
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.931	0.051	0.235	100.00	100.00	0.2119
Total:			**0.051**	**0.235**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002C,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

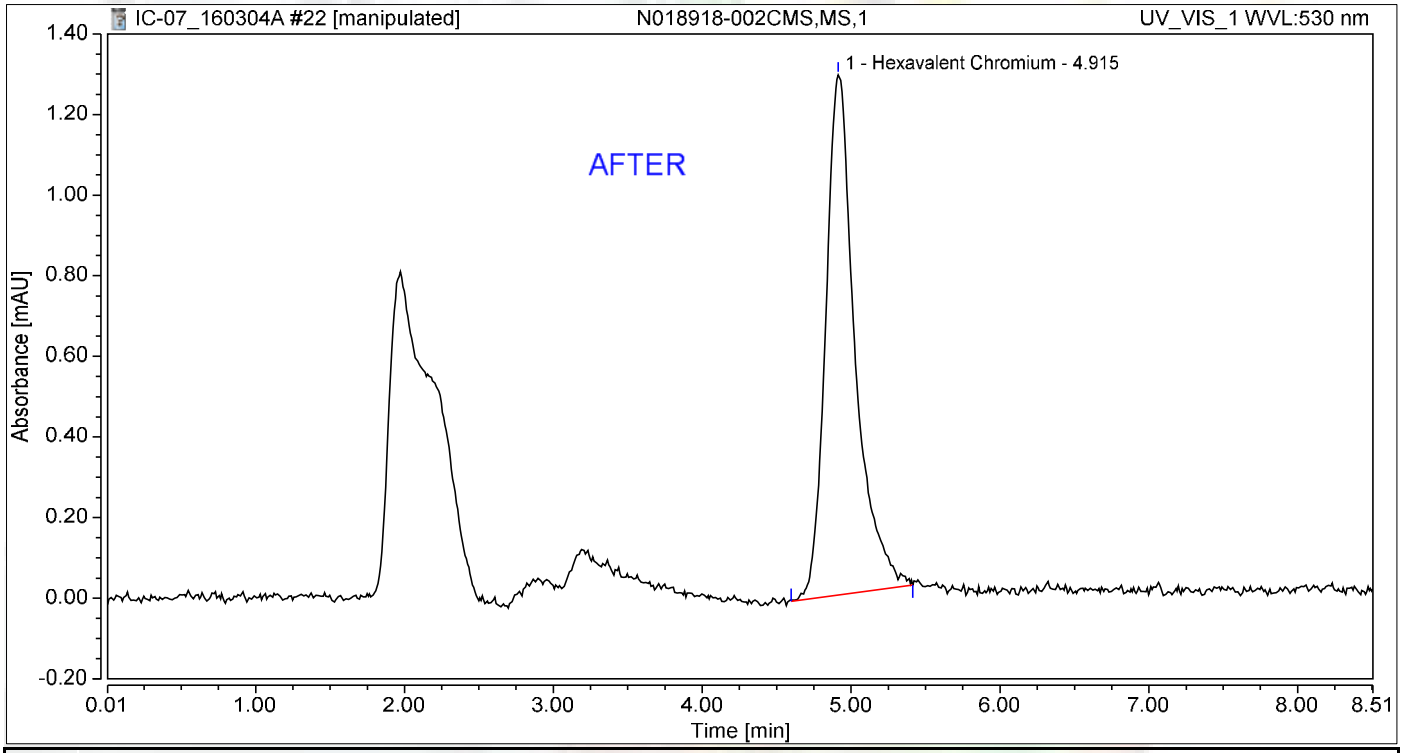
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.931	0.044	0.224	100.00	100.00	0.1829
Total:			**0.044**	**0.224**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002CMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

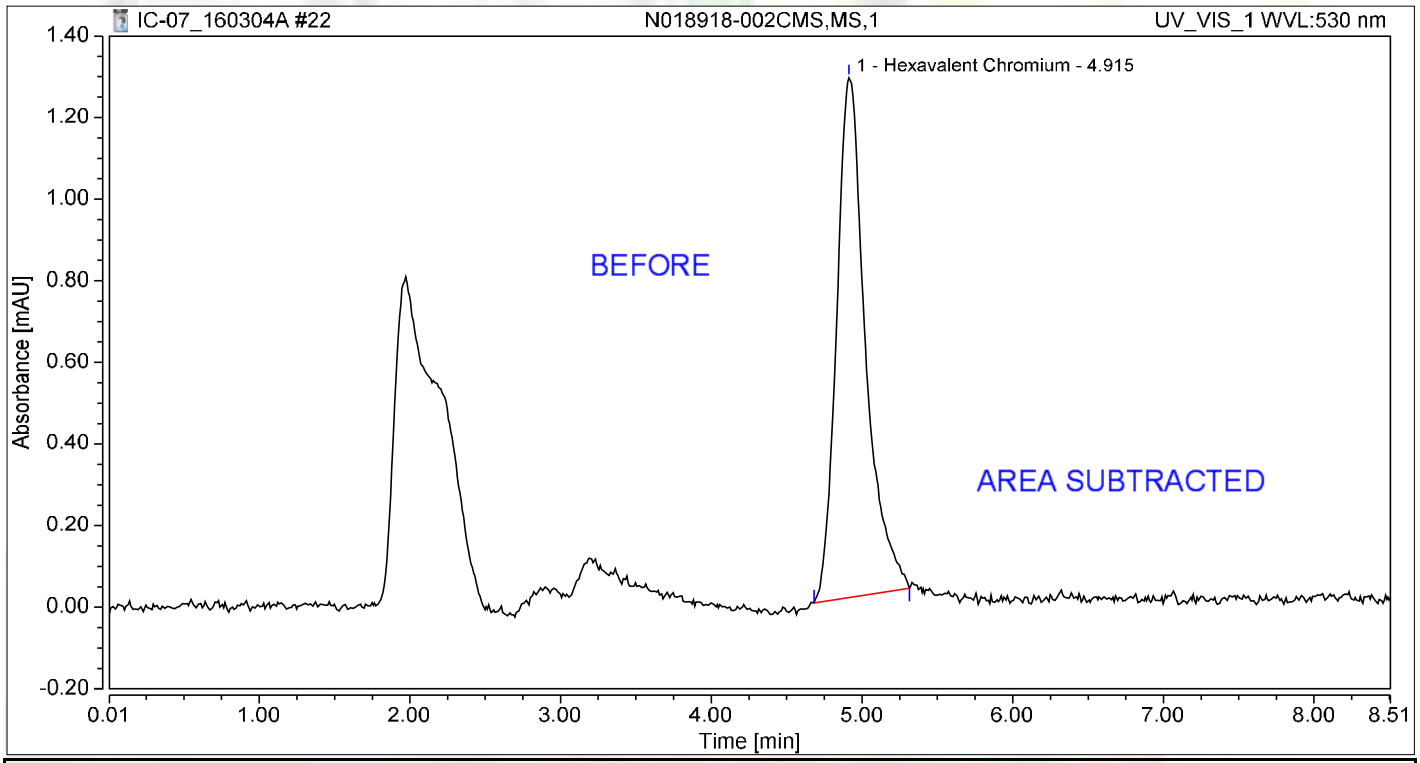
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.915	0.296	1.290	100.00	100.00	1.2256
Total:			**0.296**	**1.290**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002CMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

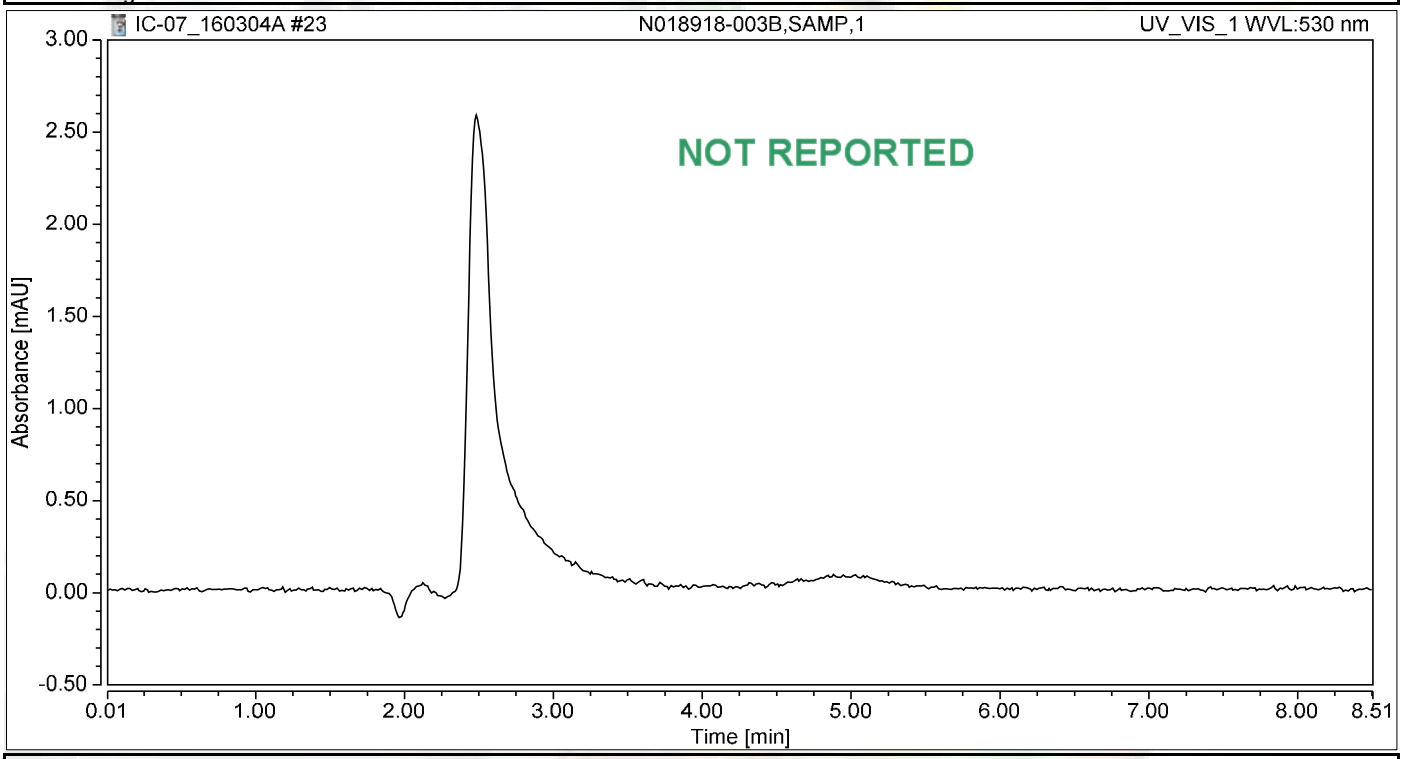
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.915	0.283	1.274	100.00	100.00	1.1725
Total:			**0.283**	**1.274**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

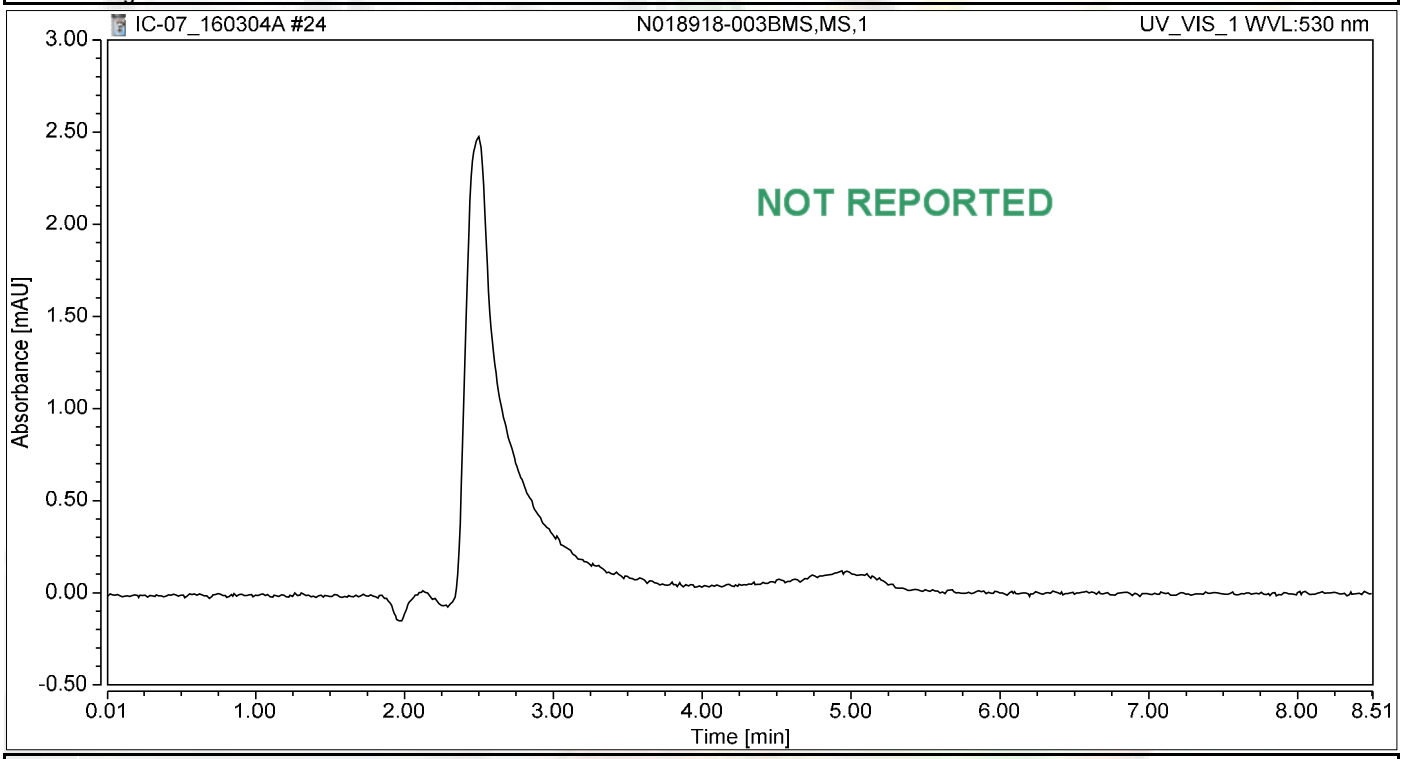
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

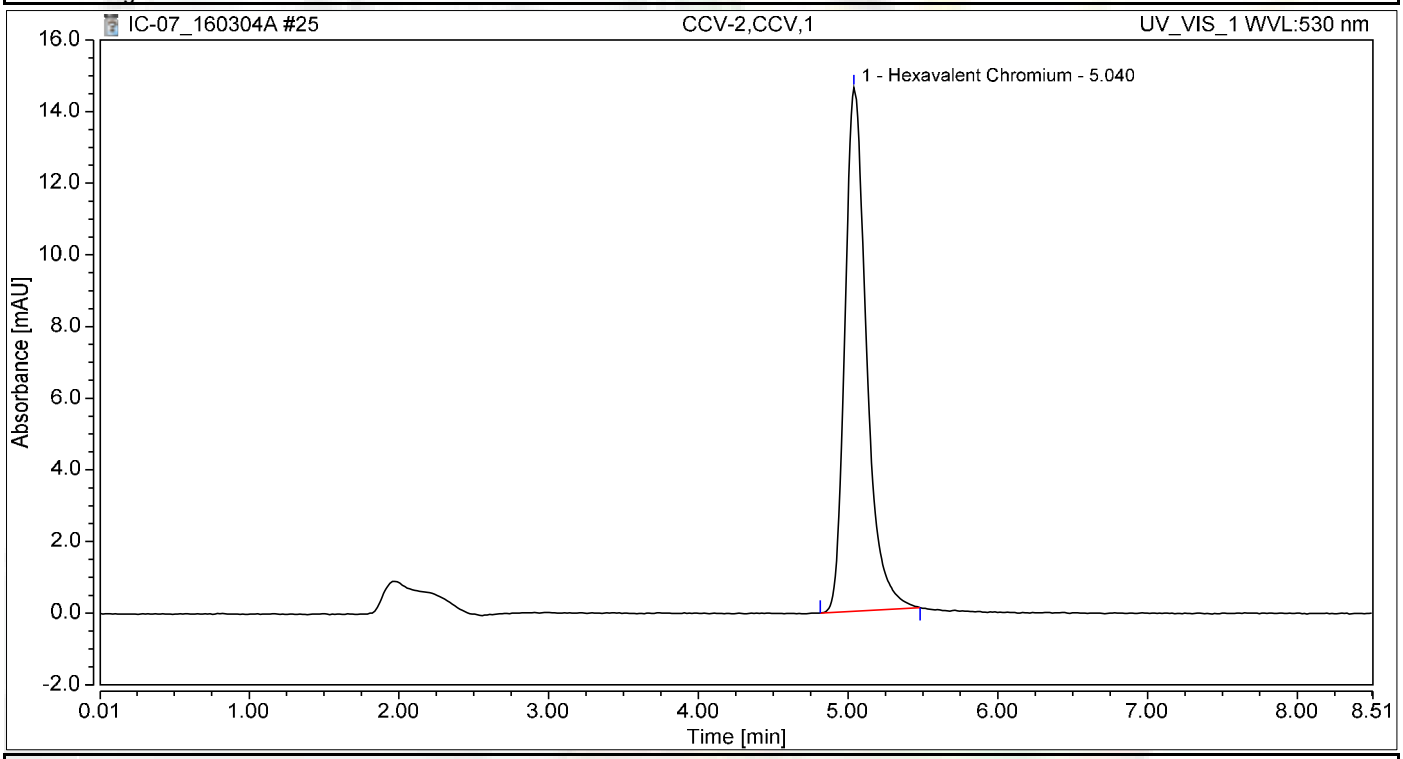
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

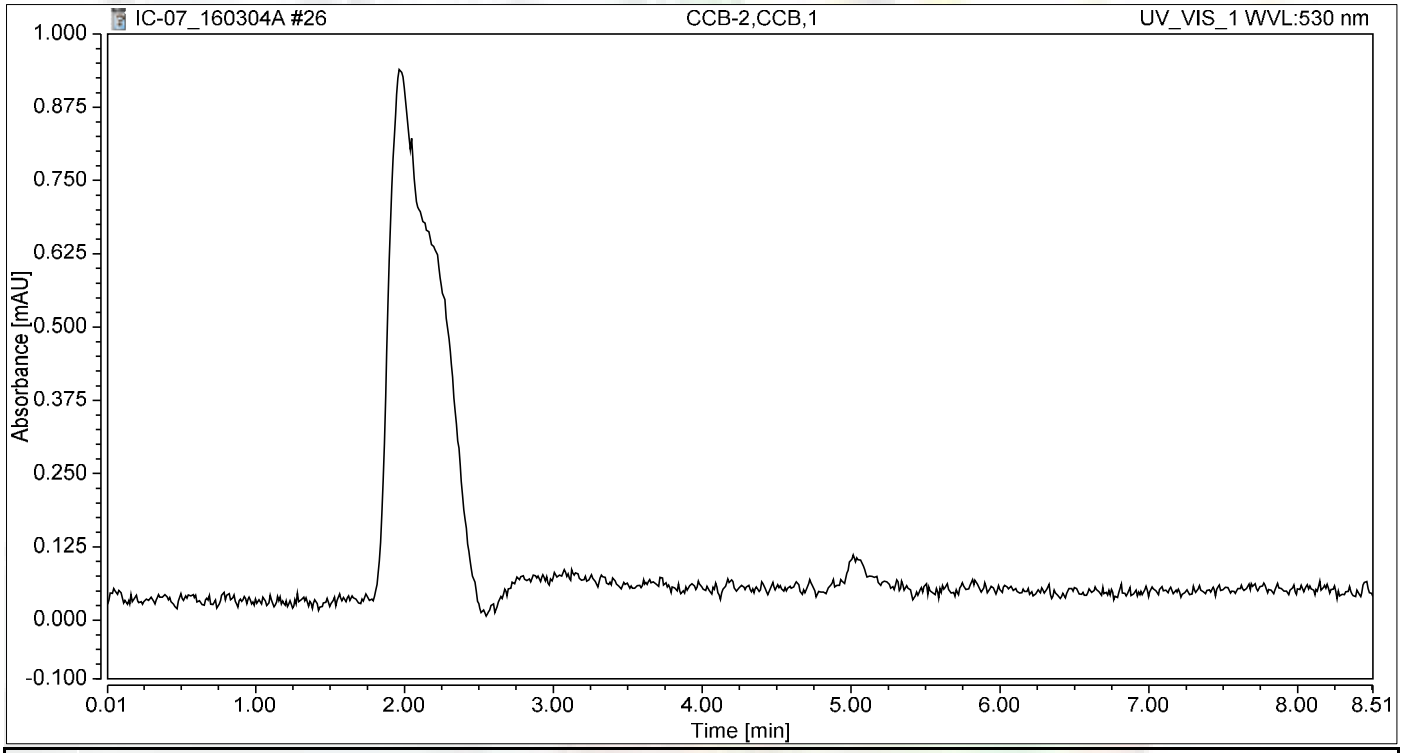
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.431	14.611	100.00	100.00	10.0792
Total:			**2.431**	**14.611**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

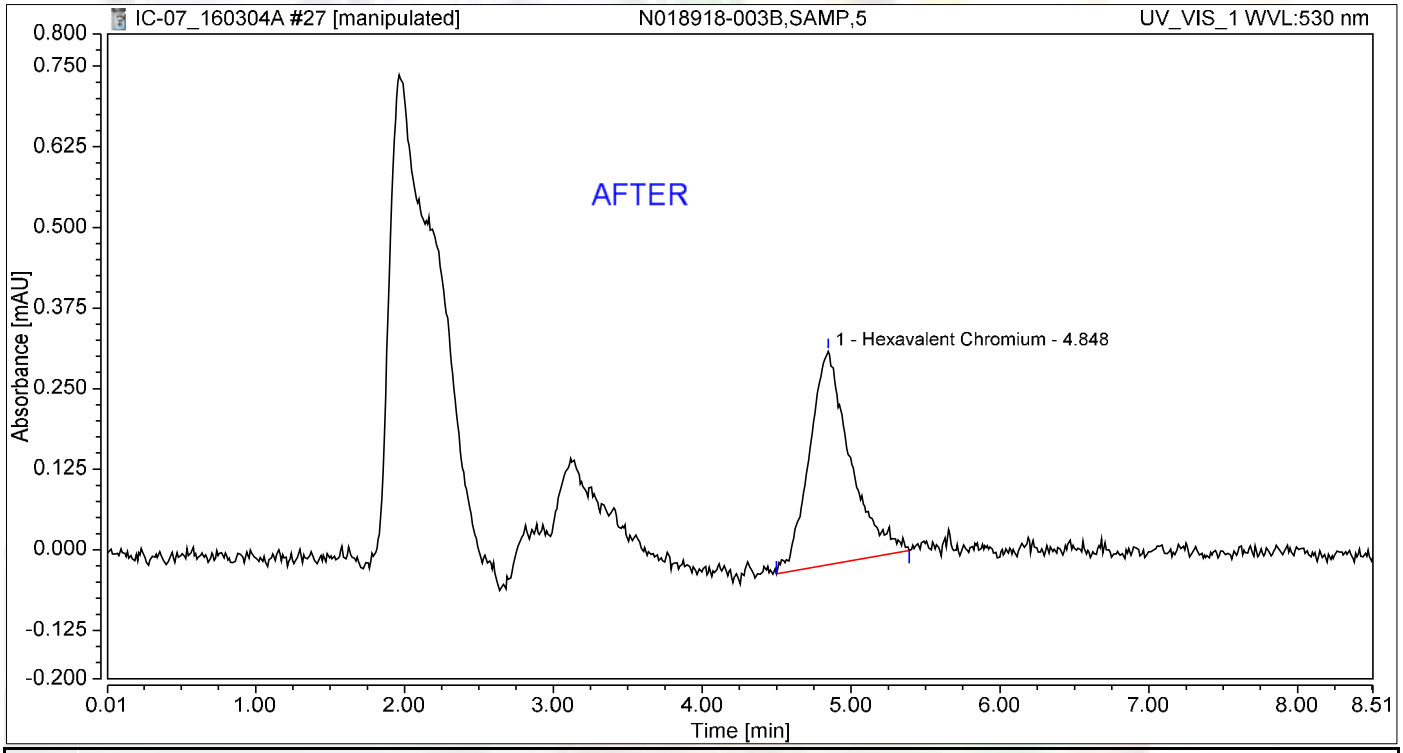
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

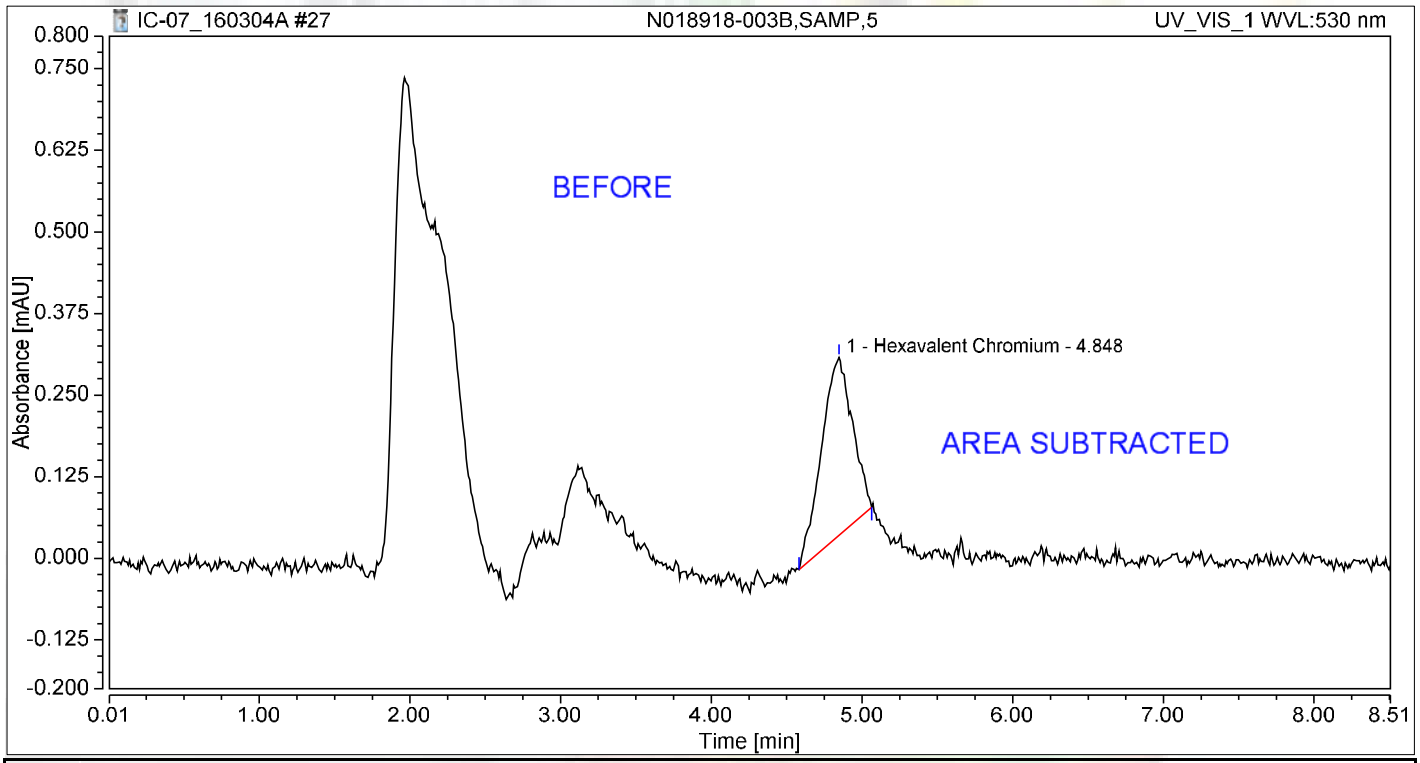
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.848	0.105	0.331	100.00	100.00	0.4361
Total:			**0.105**	**0.331**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

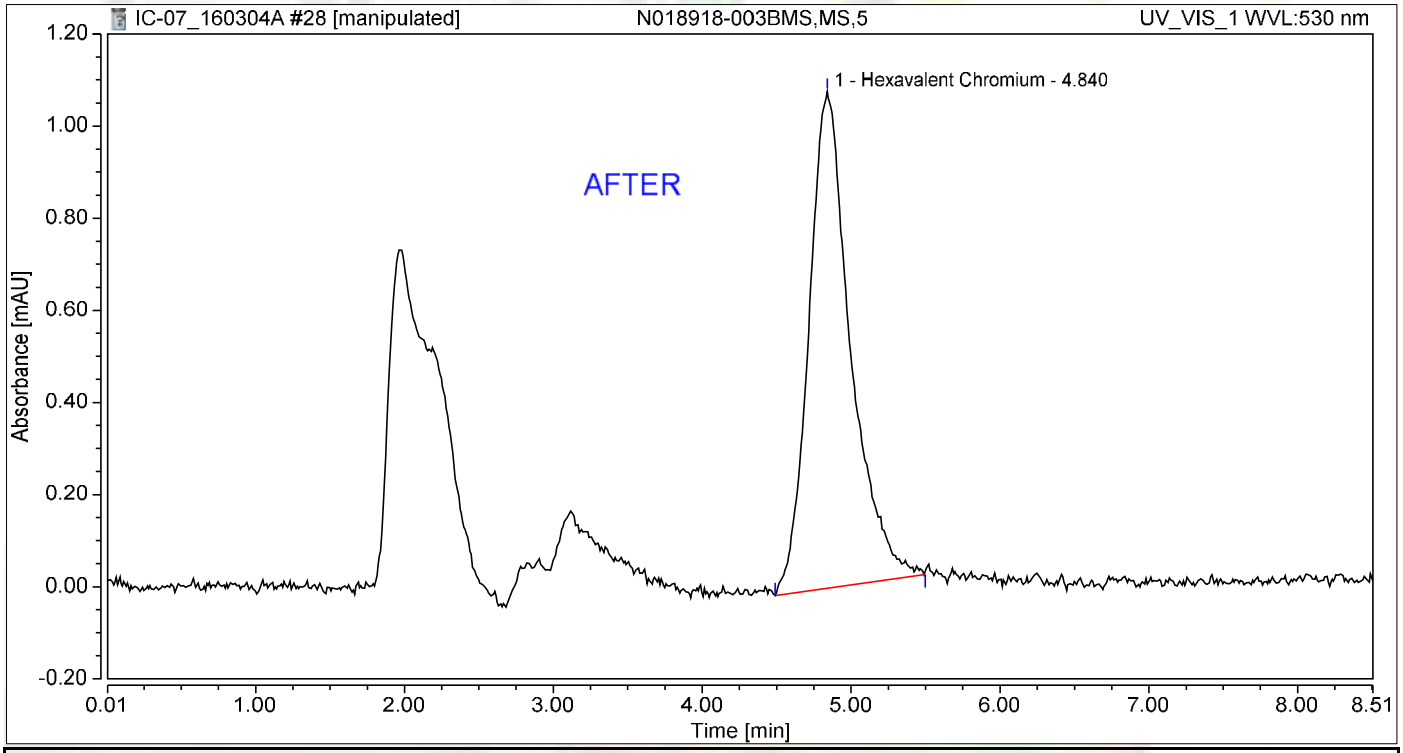
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.848	0.065	0.273	100.00	100.00	0.2705
Total:			**0.065**	**0.273**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

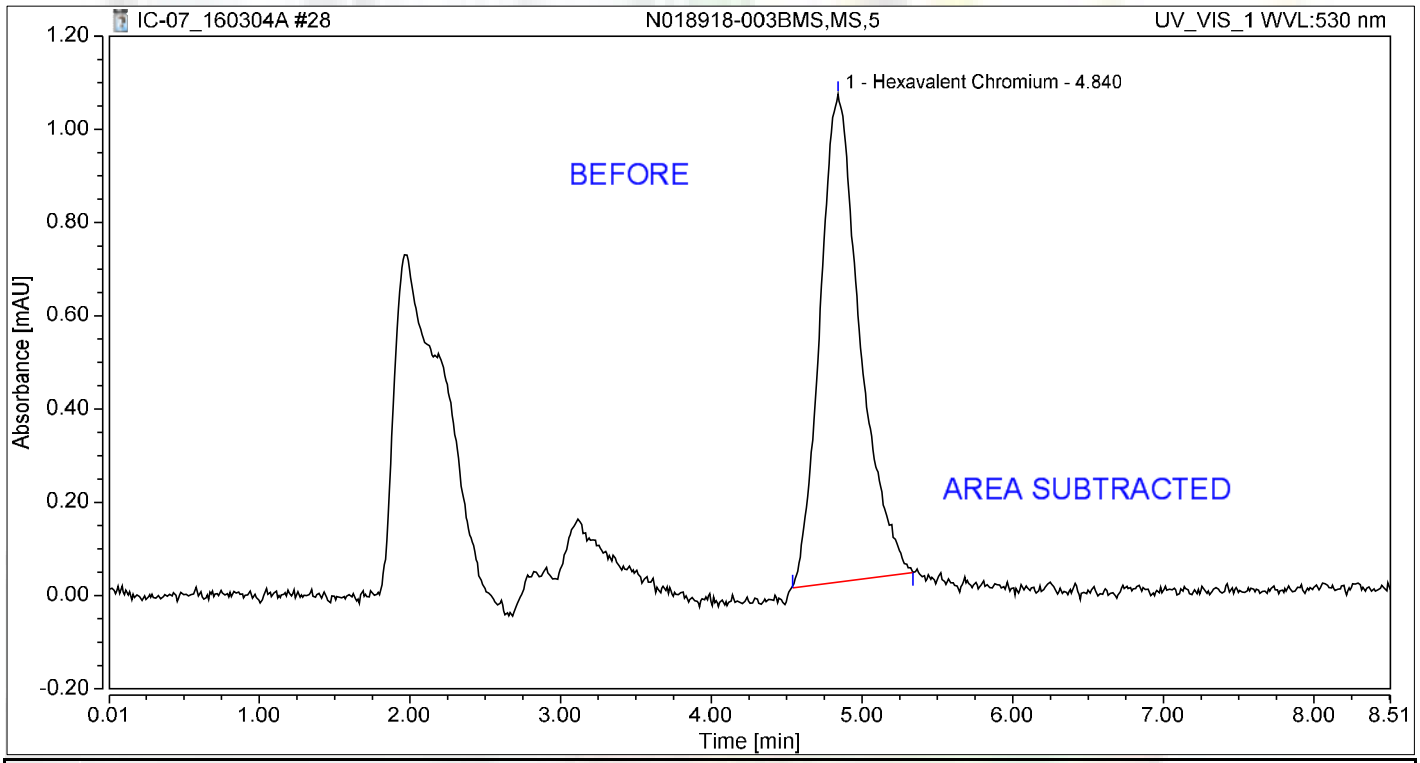
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.840	0.351	1.078	100.00	100.00	1.4537
Total:			**0.351**	**1.078**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

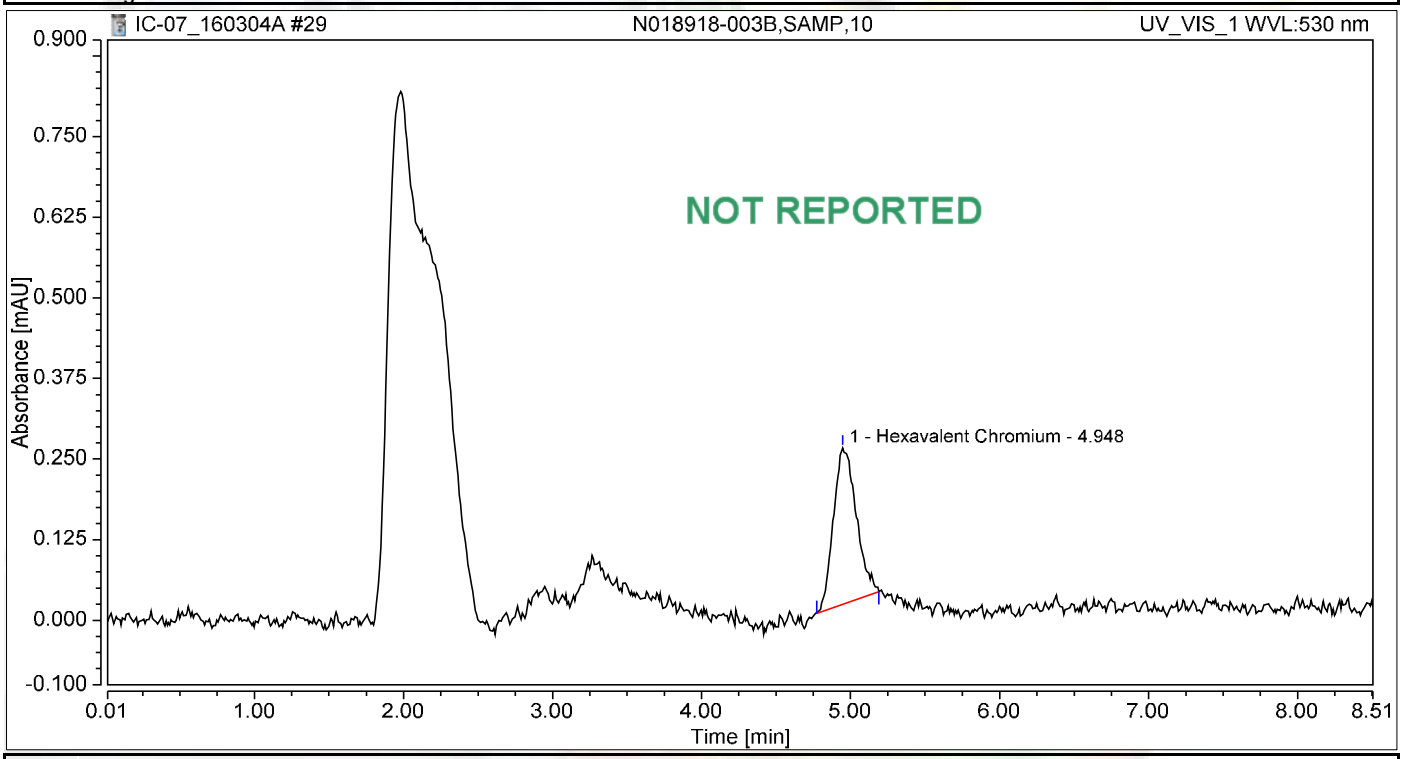
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.840	0.321	1.046	100.00	100.00	1.3314
Total:			**0.321**	**1.046**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,10**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 15:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

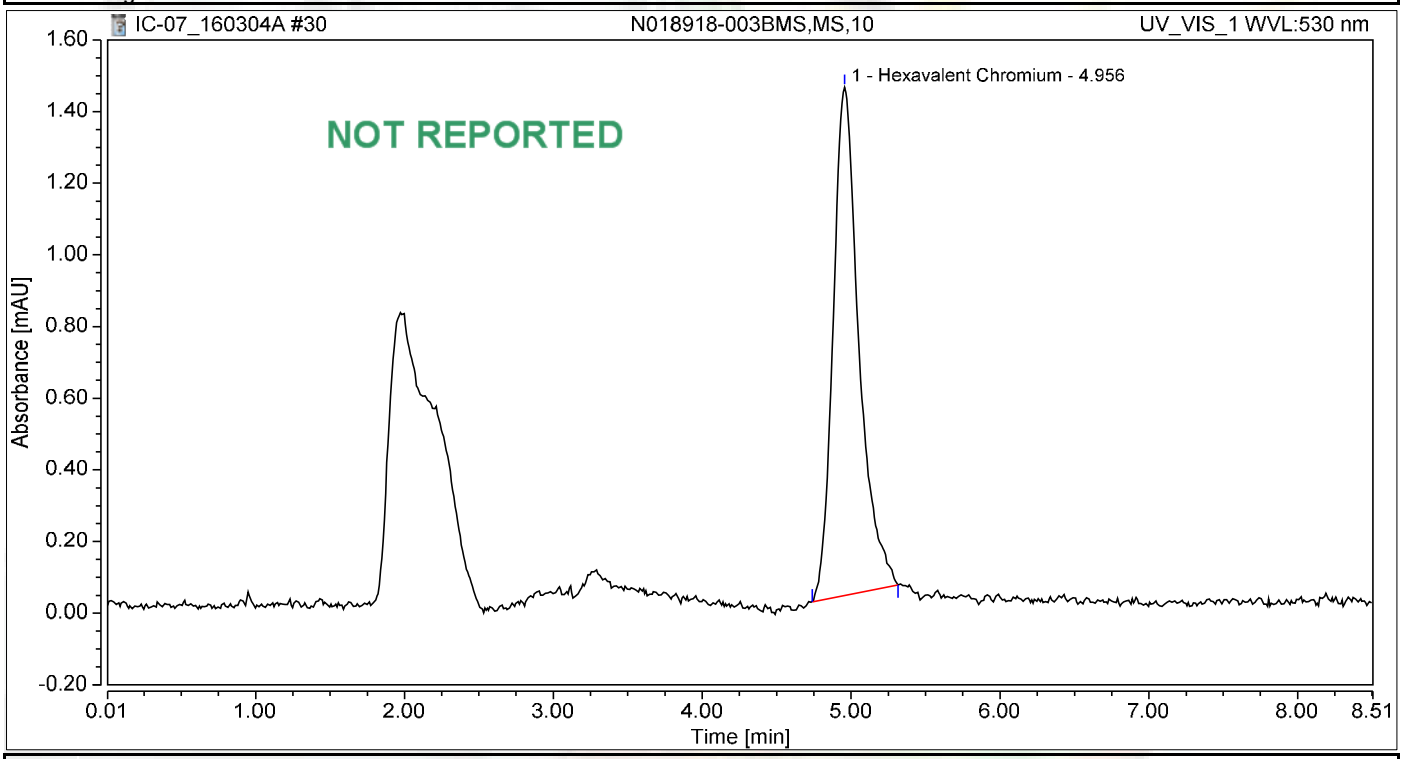
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.948	0.043	0.242	100.00	100.00	0.1784
Total:			**0.043**	**0.242**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 15:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

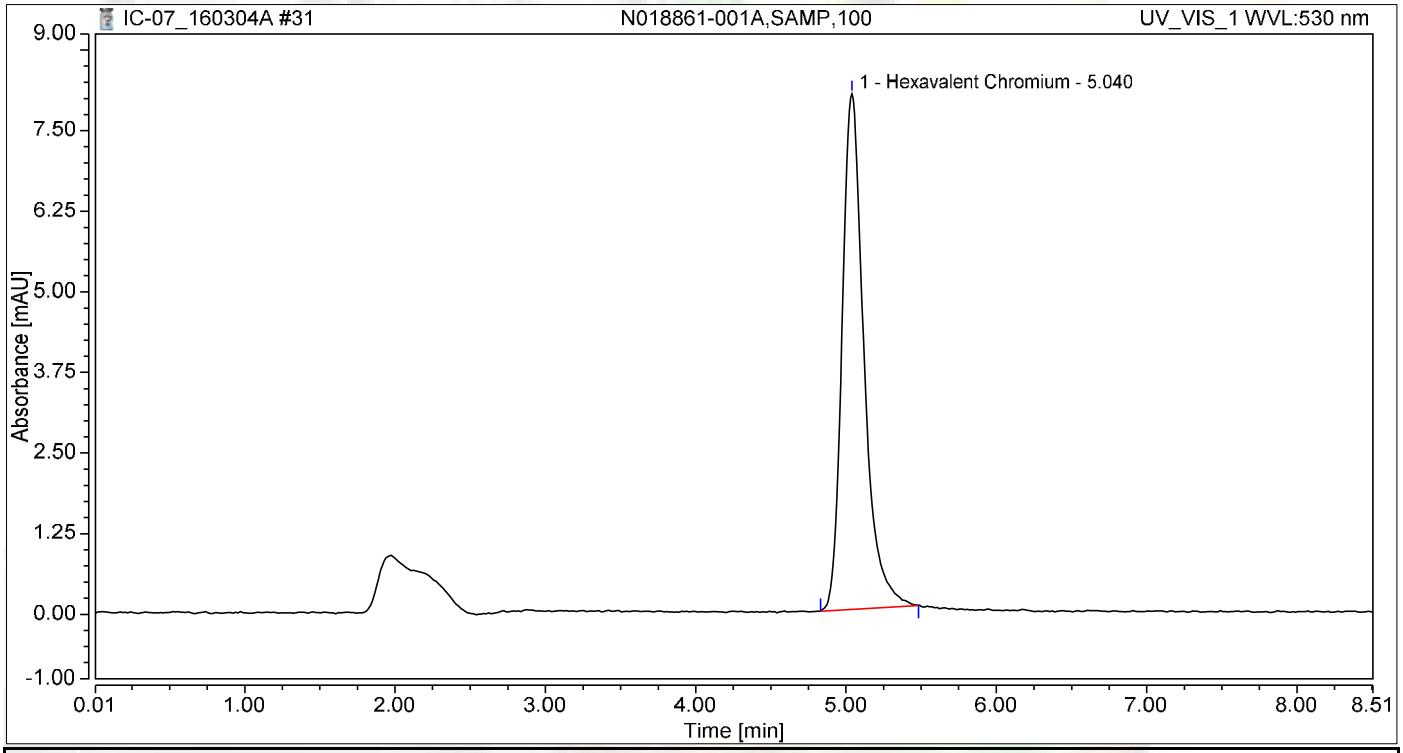
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.956	0.285	1.418	100.00	100.00	1.1801
Total:			**0.285**	**1.418**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-001A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 15:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

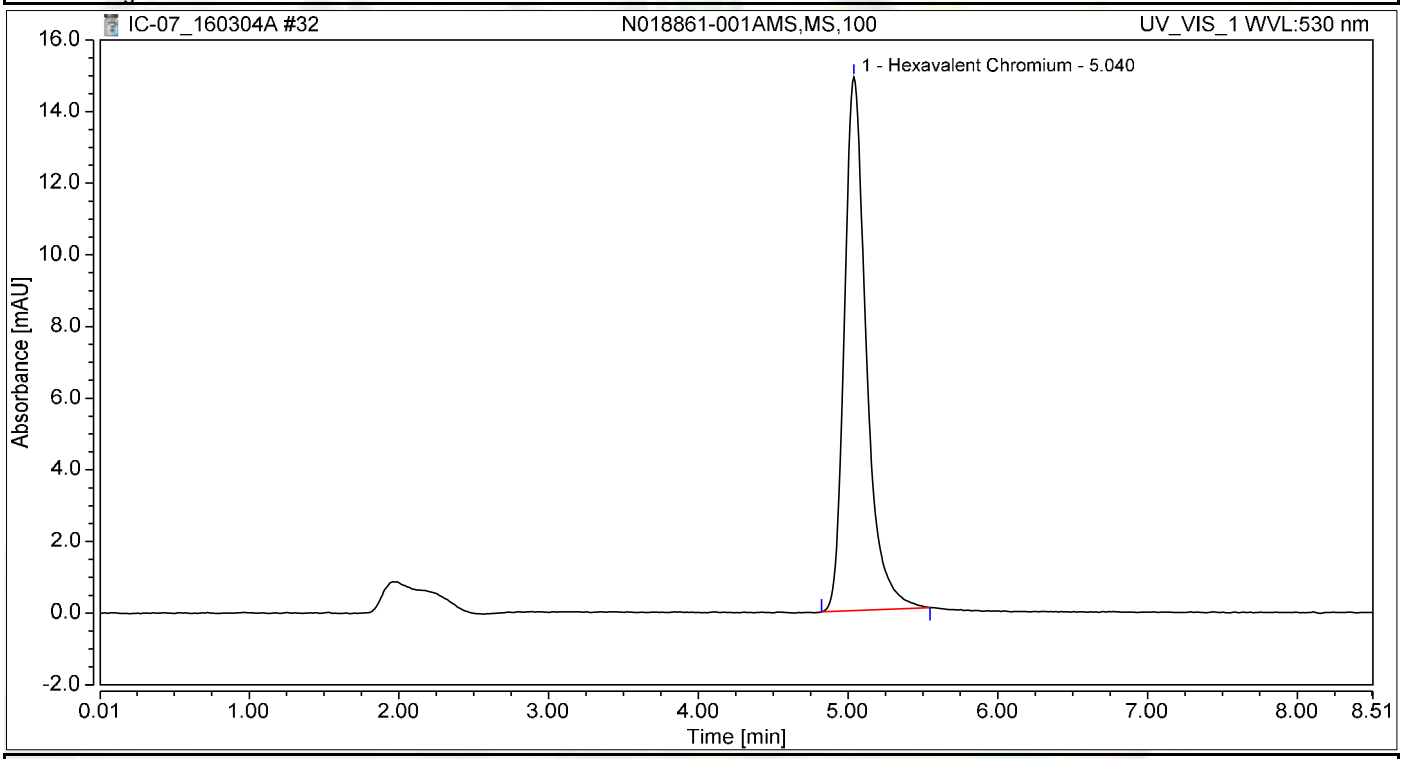
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.340	7.995	100.00	100.00	5.5555
Total:			**1.340**	**7.995**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-001AMS,MS,100**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

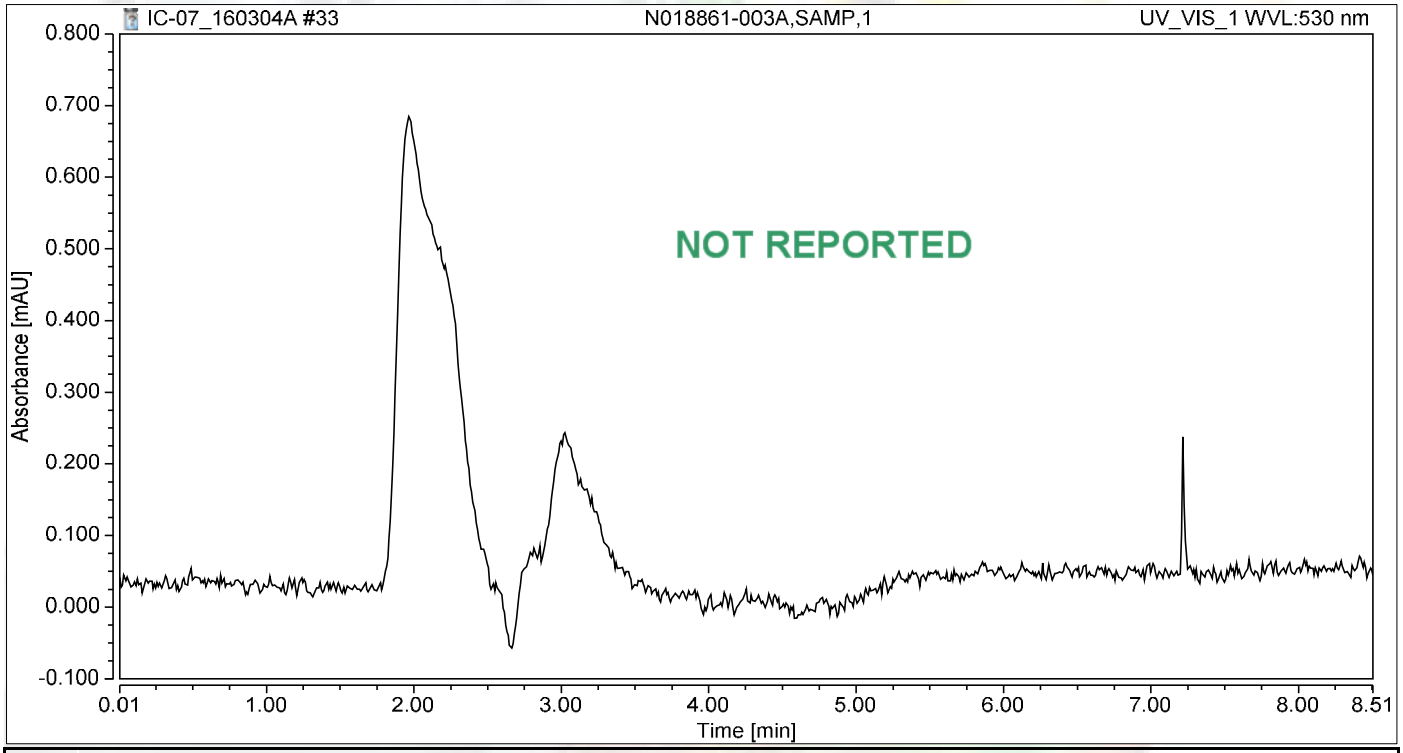
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.516	14.885	100.00	100.00	10.4289
Total:			**2.516**	**14.885**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

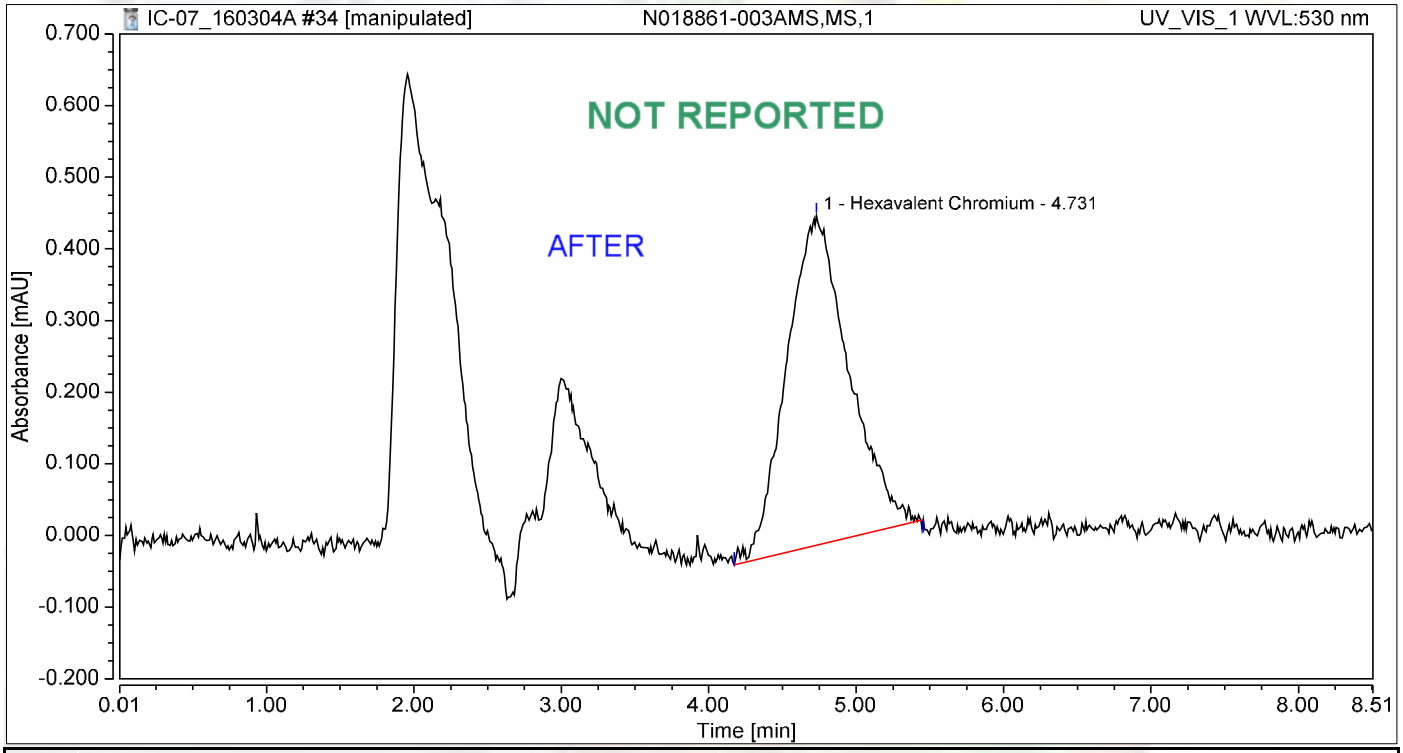
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

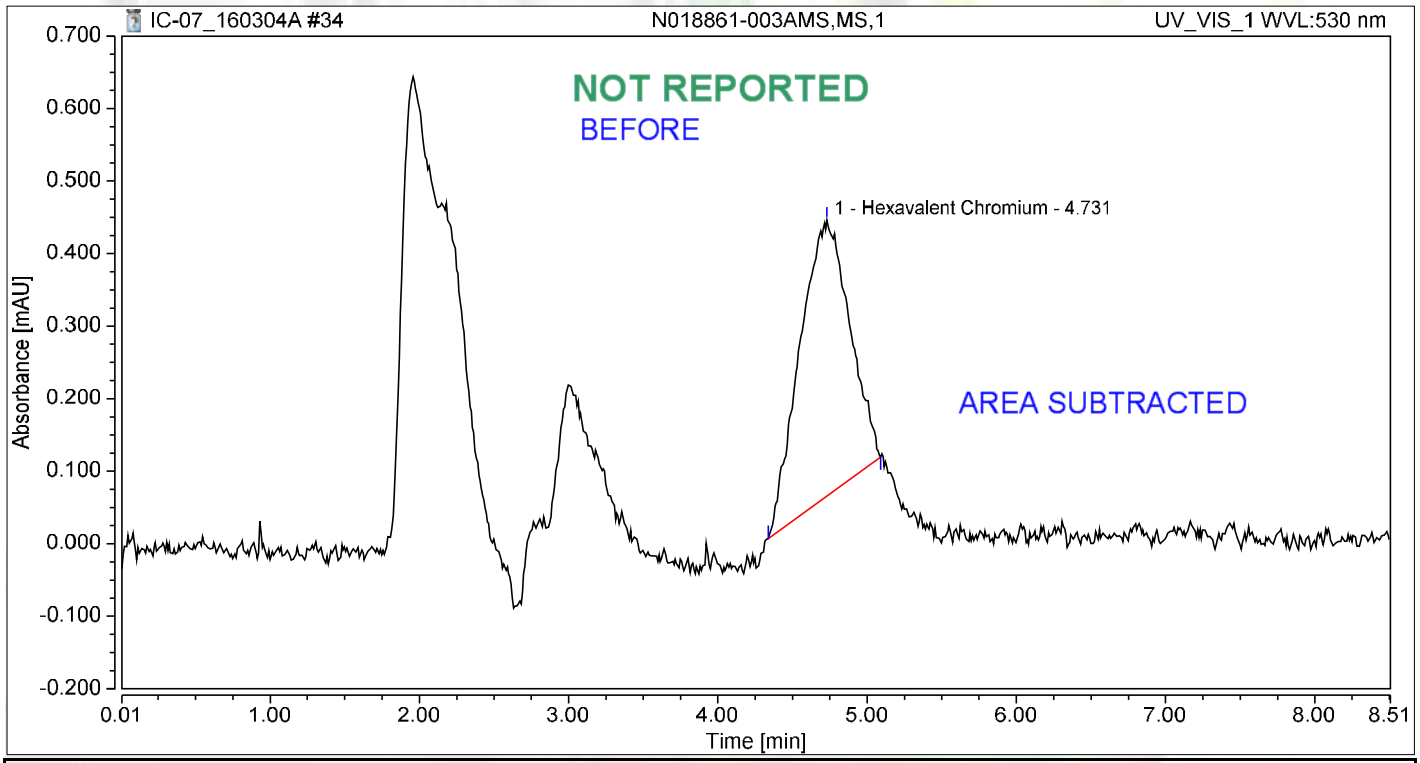
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.731	0.225	0.460	100.00	100.00	0.9323
Total:			**0.225**	**0.460**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

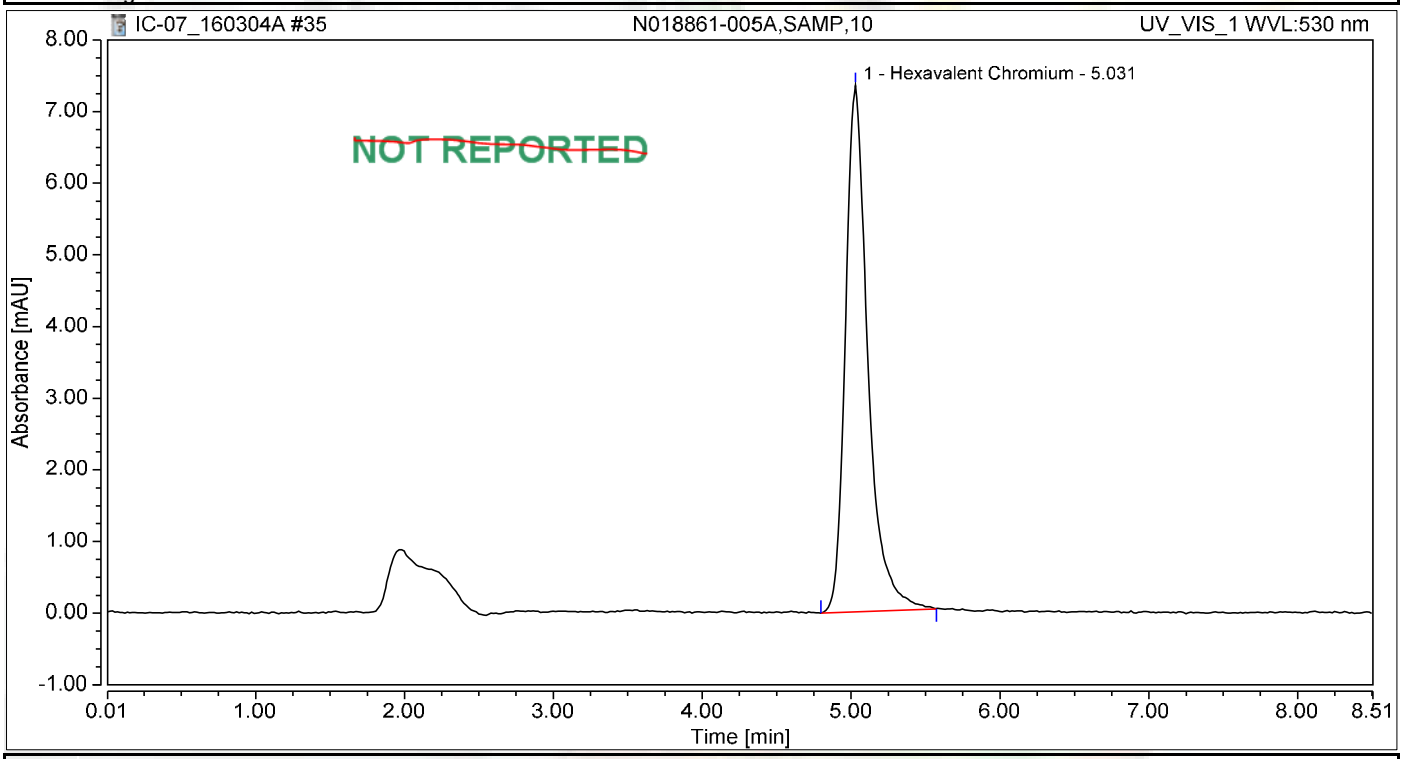
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.731	0.147	0.380	100.00	100.00	0.6114
Total:			**0.147**	**0.380**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-005A,SAMP,10**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.277	7.346	100.00	100.00	5.2956
Total:			**1.277**	**7.346**	**100.00**	**100.00**	

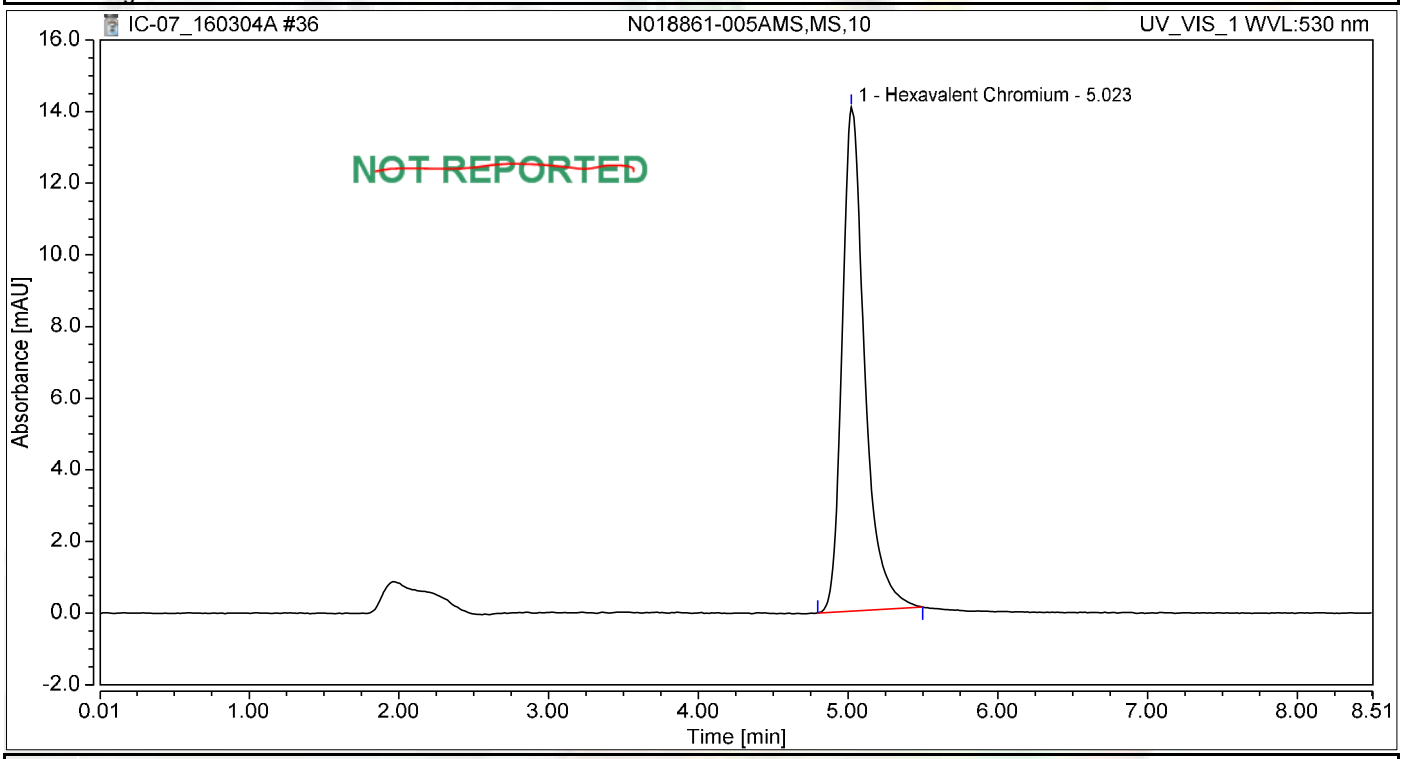
3/8/2016
for

Chromatogram and Results

Injection Details

Injection Name:	**N018861-005AMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	2.450	14.073	100.00	100.00	10.1584
Total:			**2.450**	**14.073**	**100.00**	**100.00**	

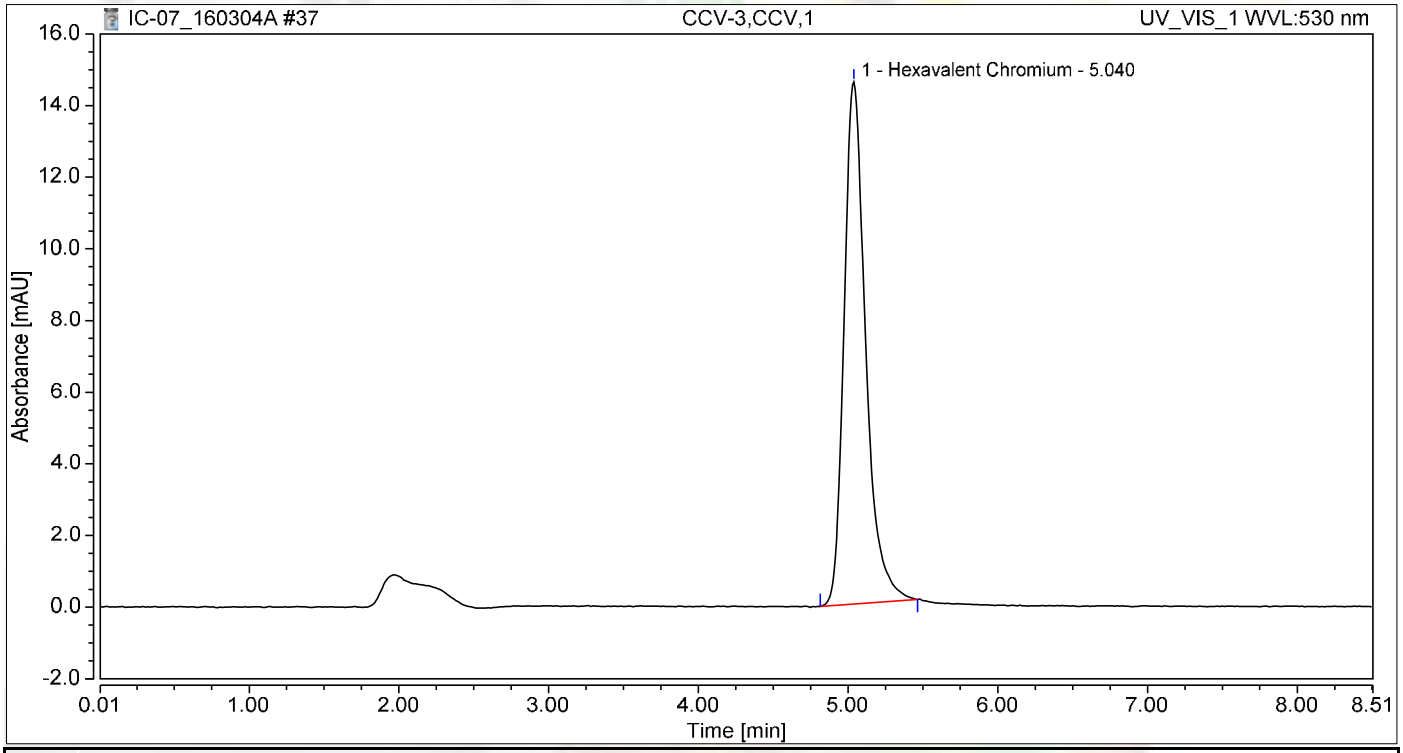
Nancy 3/8/2016
for

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

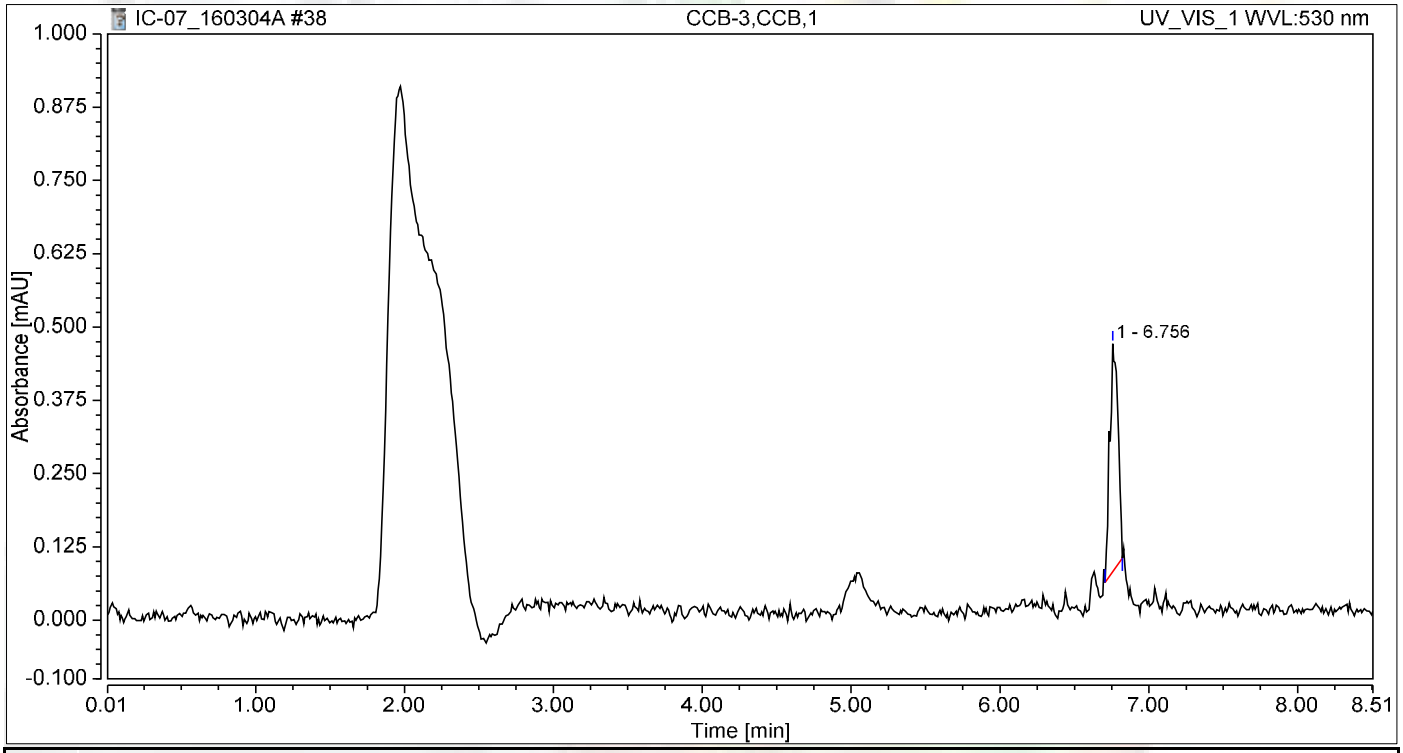
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.419	14.565	100.00	100.00	10.0282
Total:			**2.419**	**14.565**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

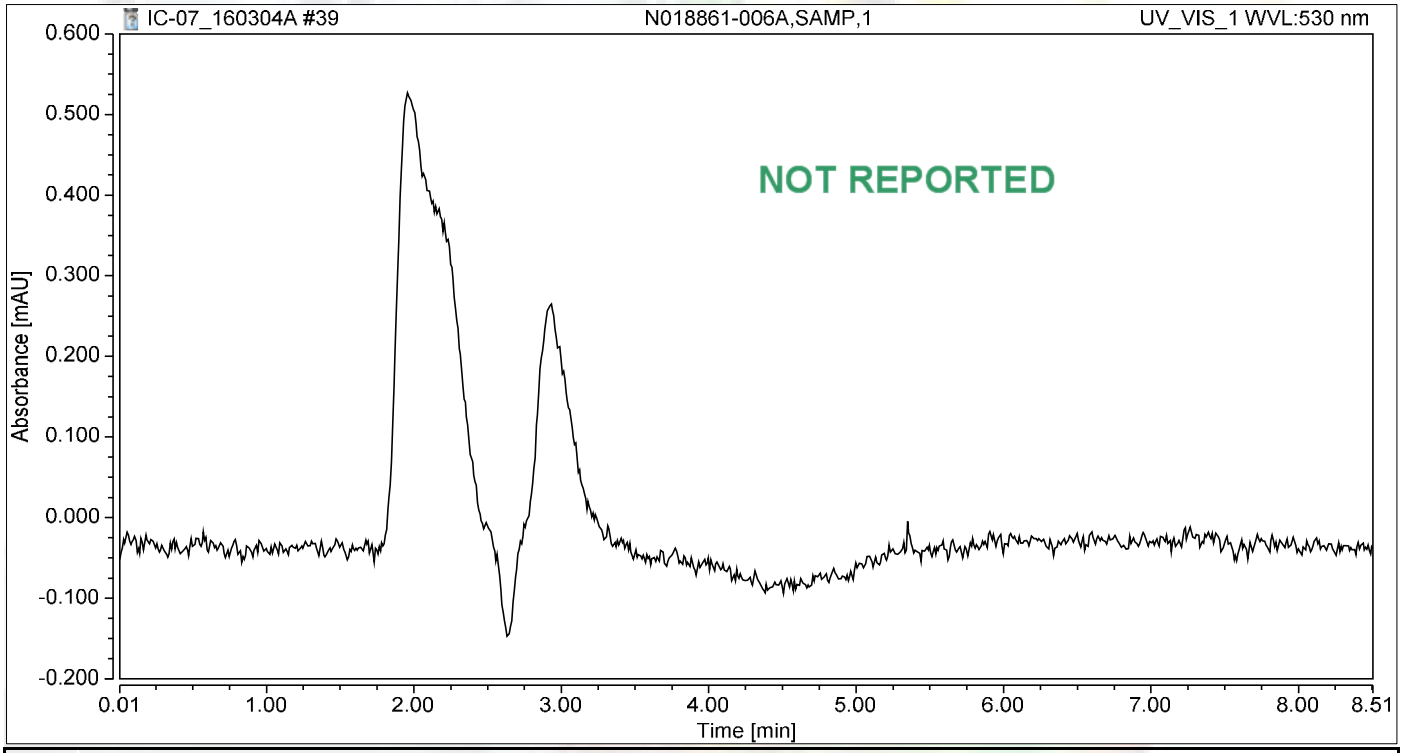
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		6.756	0.025	0.389	100.00	100.00	n.a.
Total:			**0.025**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

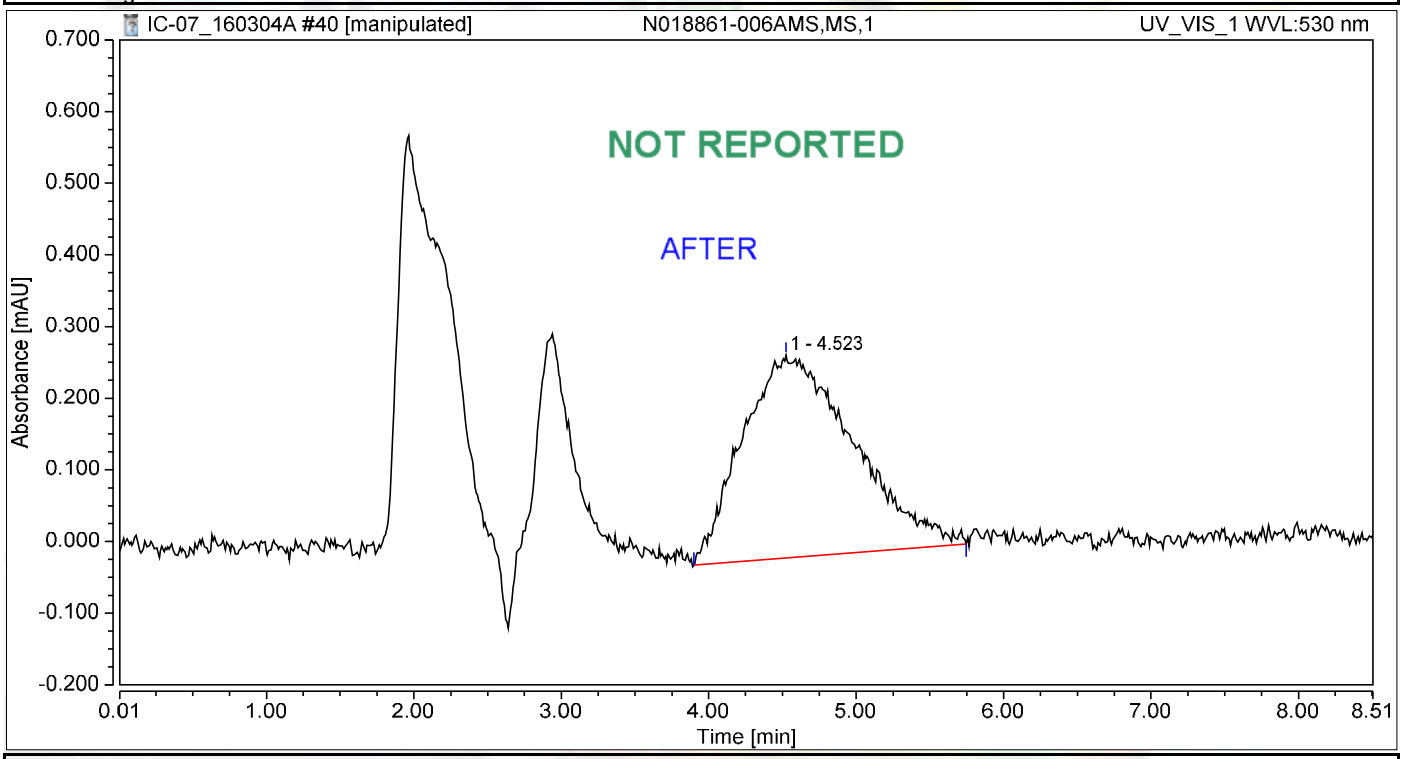
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

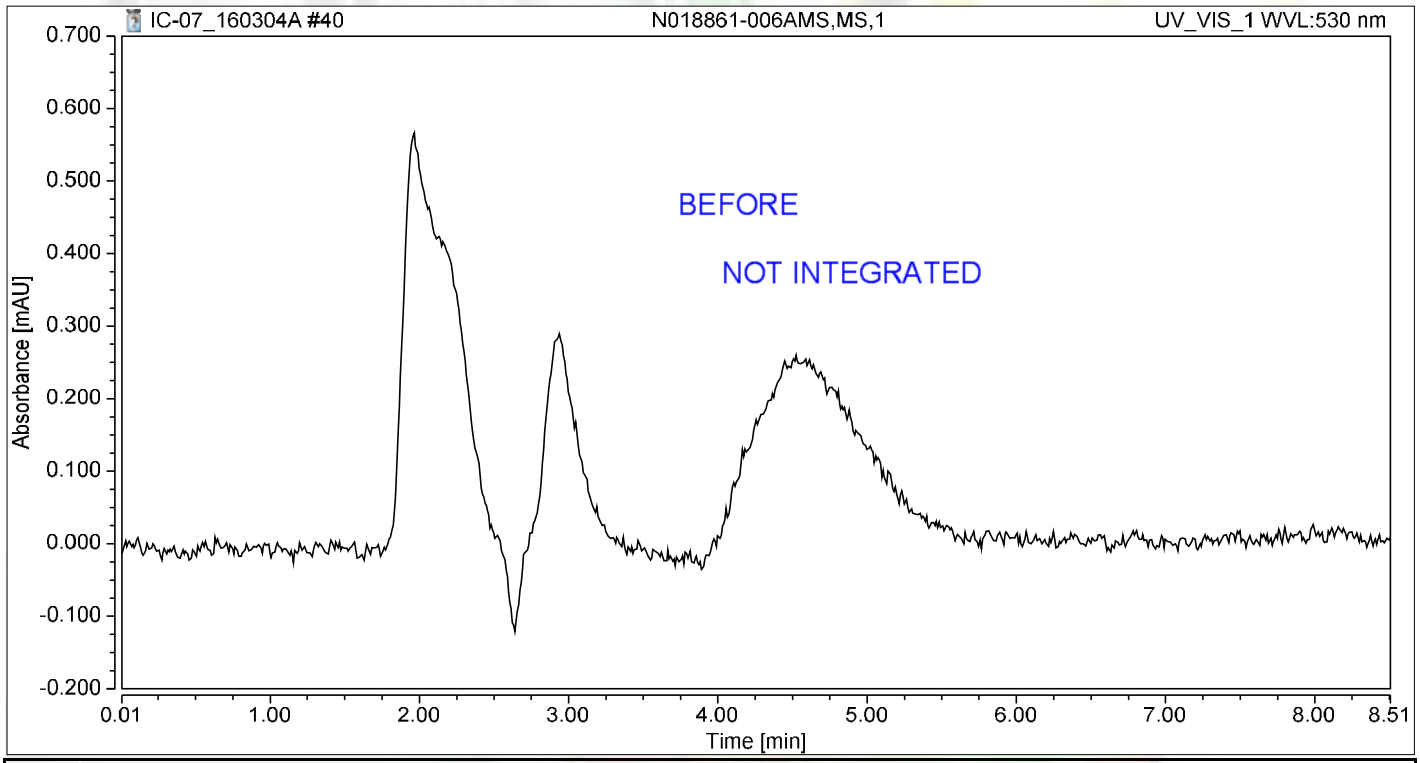
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.523	0.247	0.283	100.00	100.00	n.a.
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.247**	**0.283**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

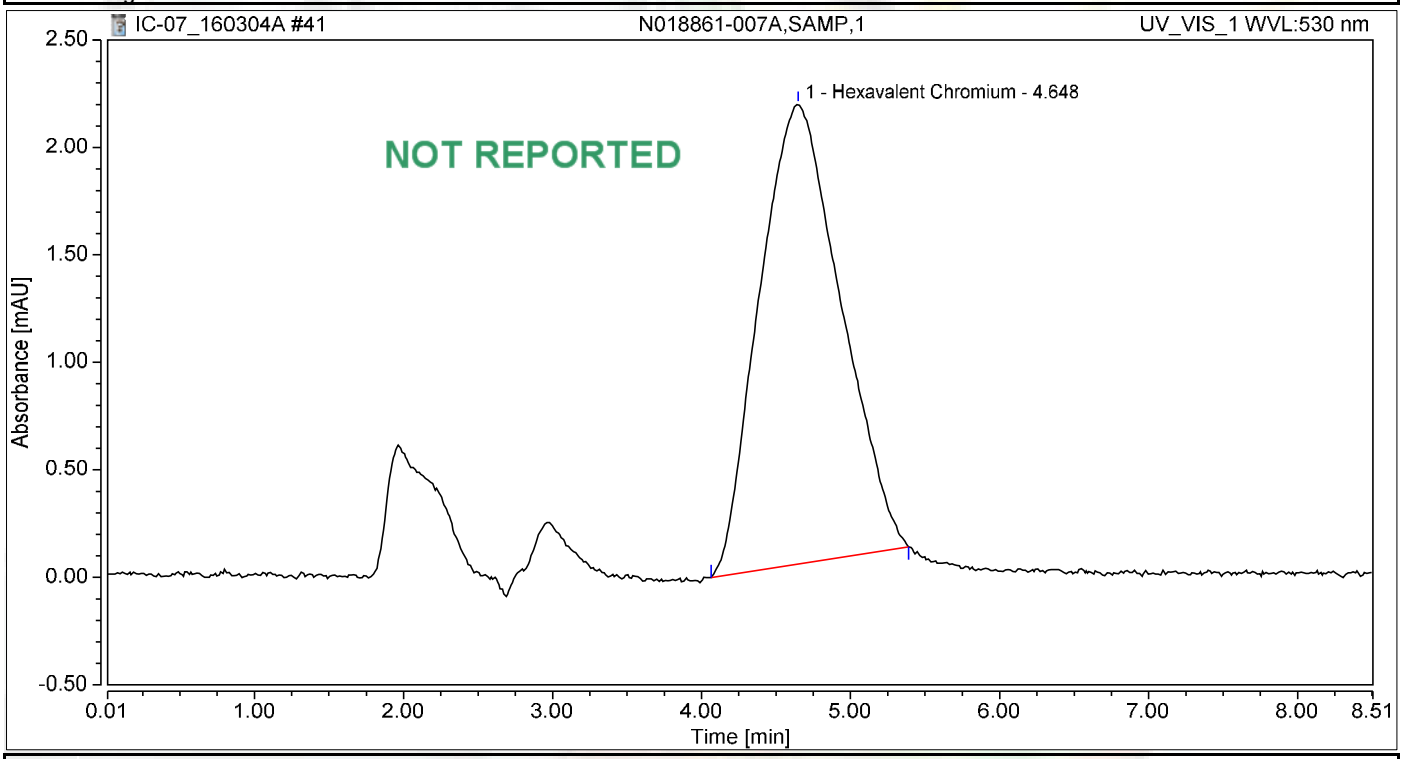
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

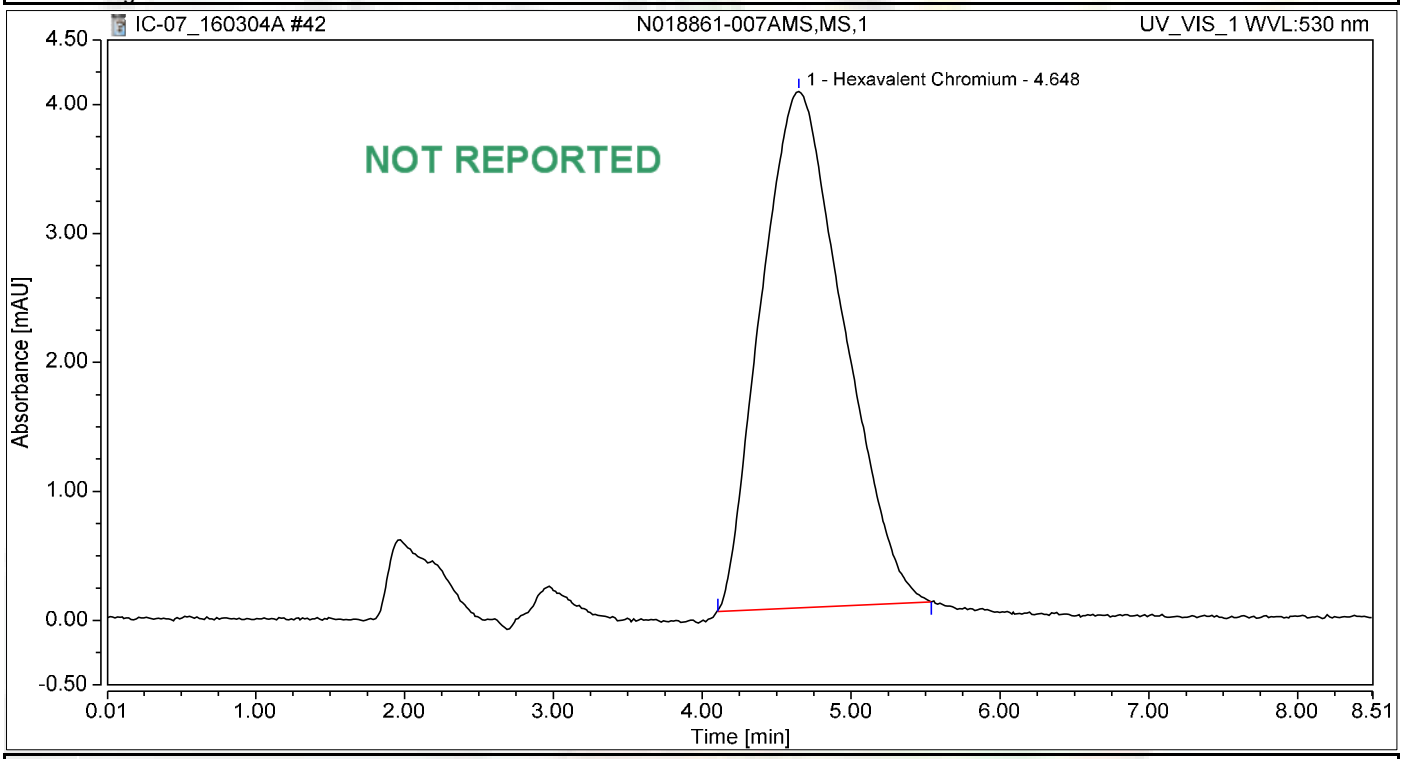
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.648	1.352	2.141	100.00	100.00	5.6040
Total:			**1.352**	**2.141**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

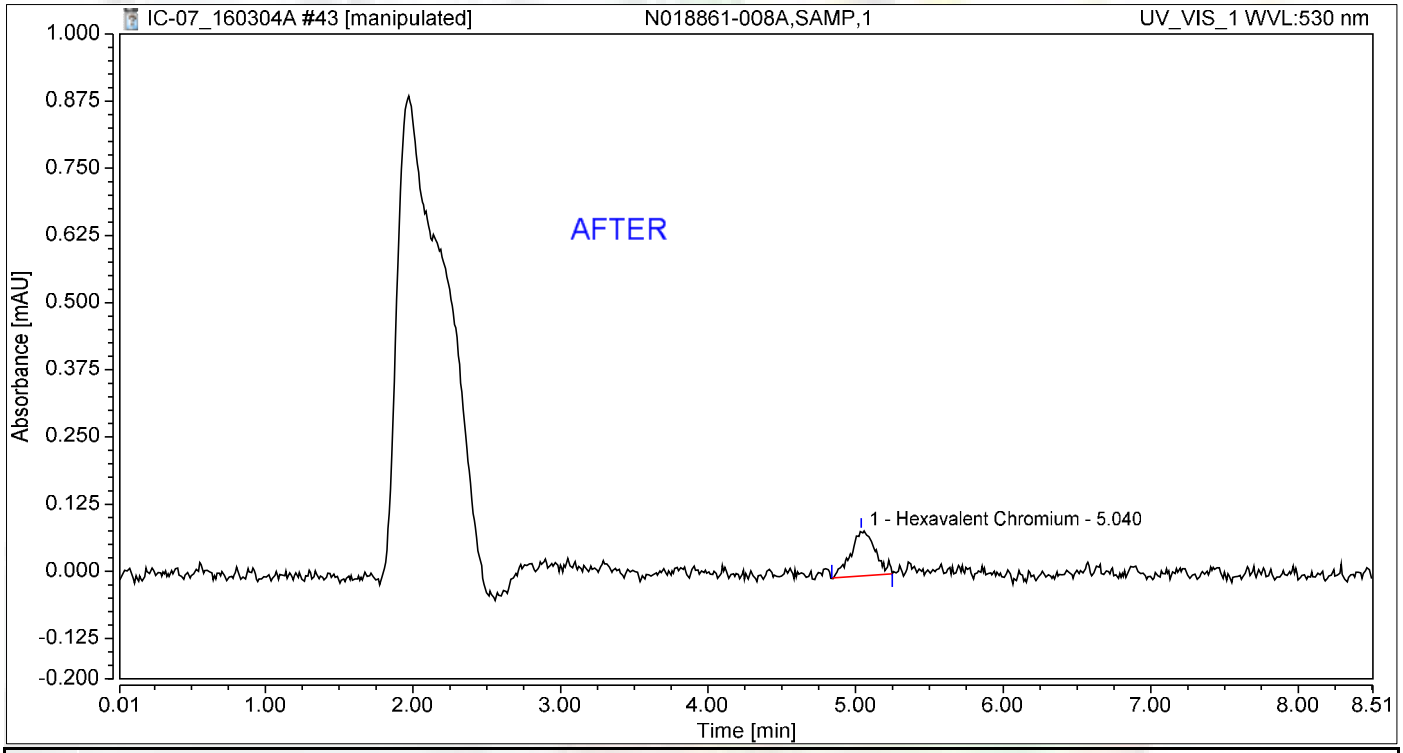
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.648	2.559	4.004	100.00	100.00	10.6083
Total:			**2.559**	**4.004**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.084	100.00	100.00	0.0665
Total:			**0.016**	**0.084**	**100.00**	**100.00**	

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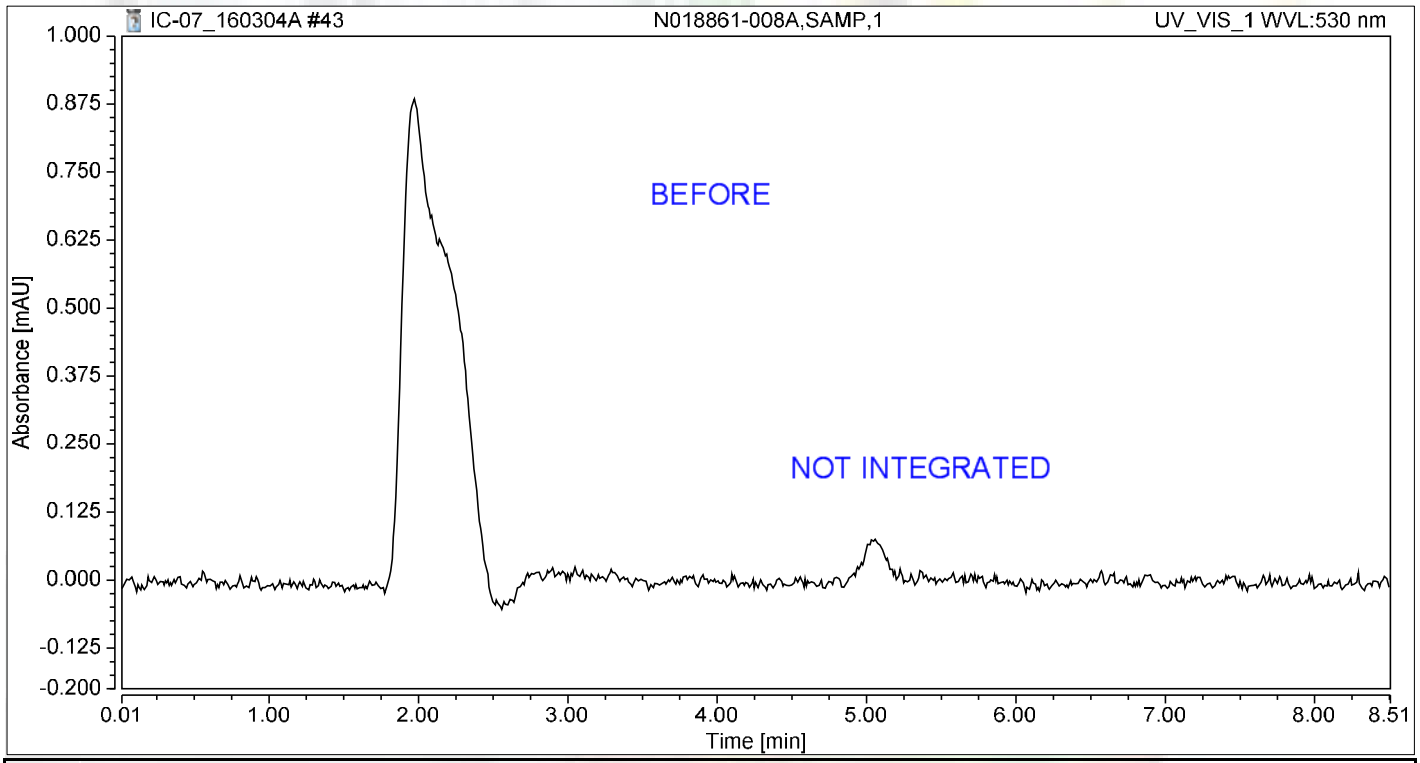
Chromatogram and Results

Injection Details

Injection Name:	**N018861-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

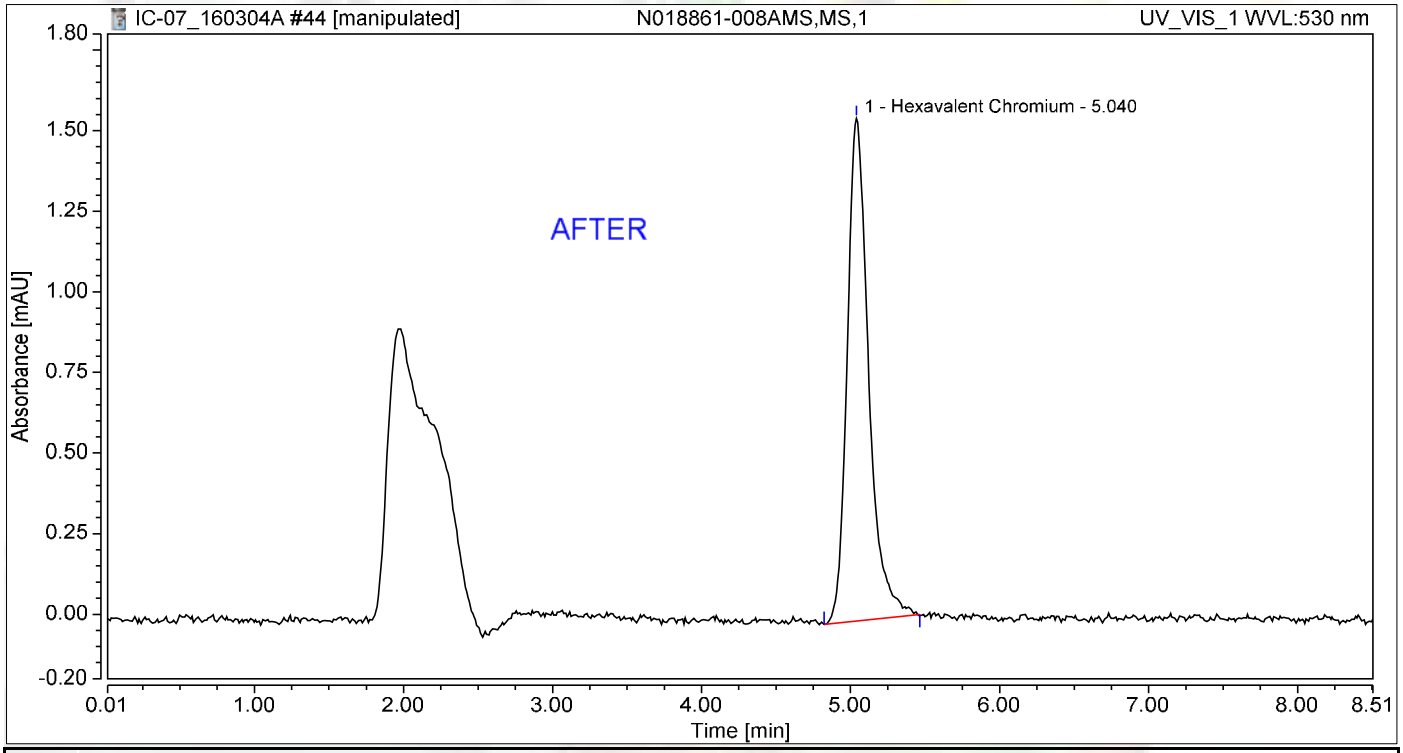
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.258	1.559	100.00	100.00	1.0694
Total:			**0.258**	**1.559**	**100.00**	**100.00**	

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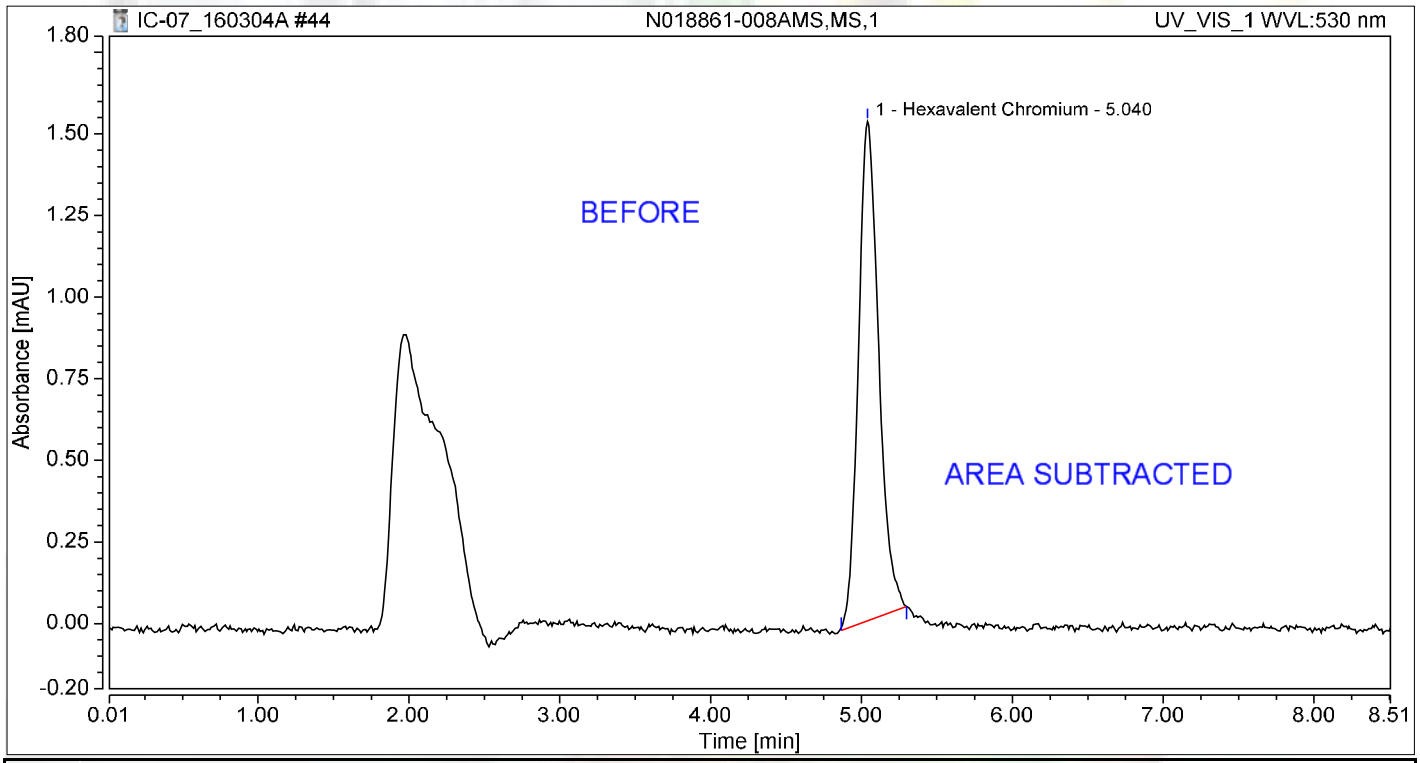
Chromatogram and Results

Injection Details

Injection Name:	**N018861-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

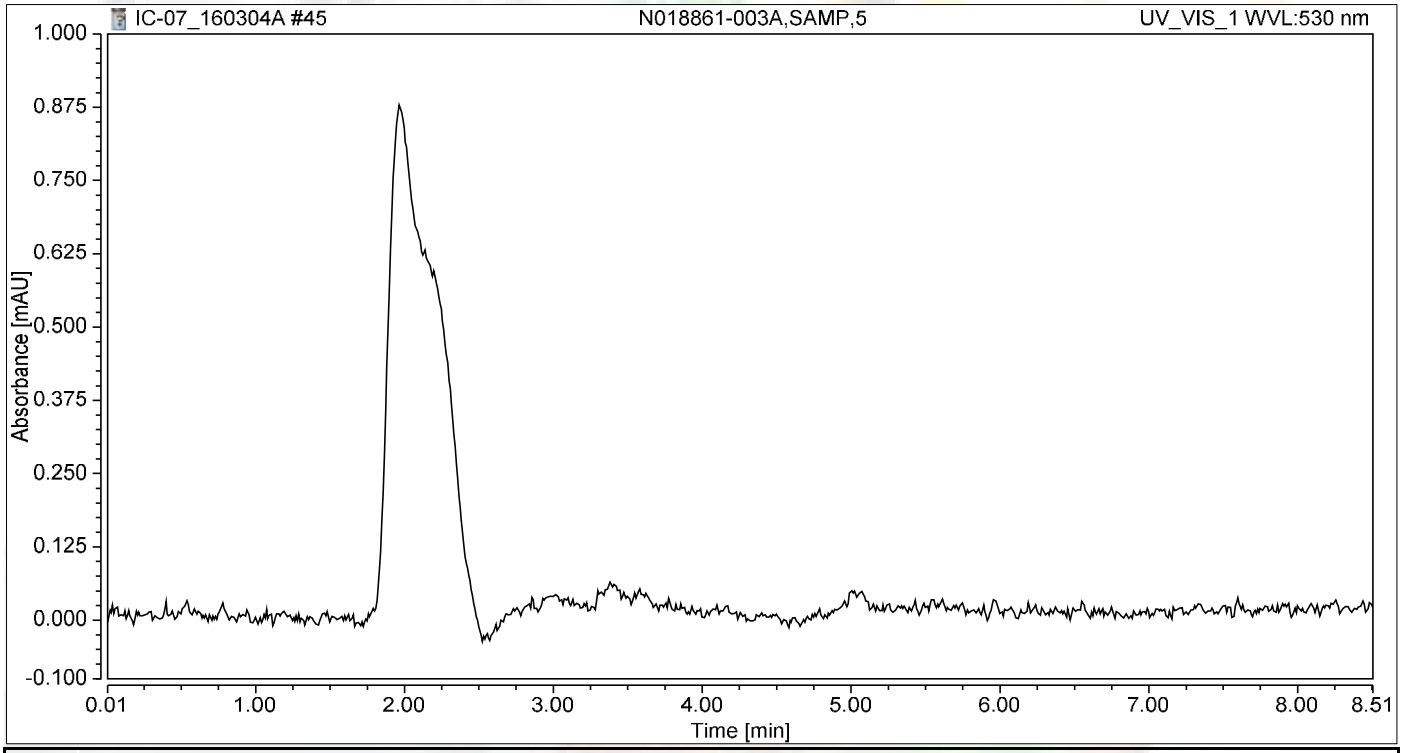
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.239	1.530	100.00	100.00	0.9901
Total:			**0.239**	**1.530**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

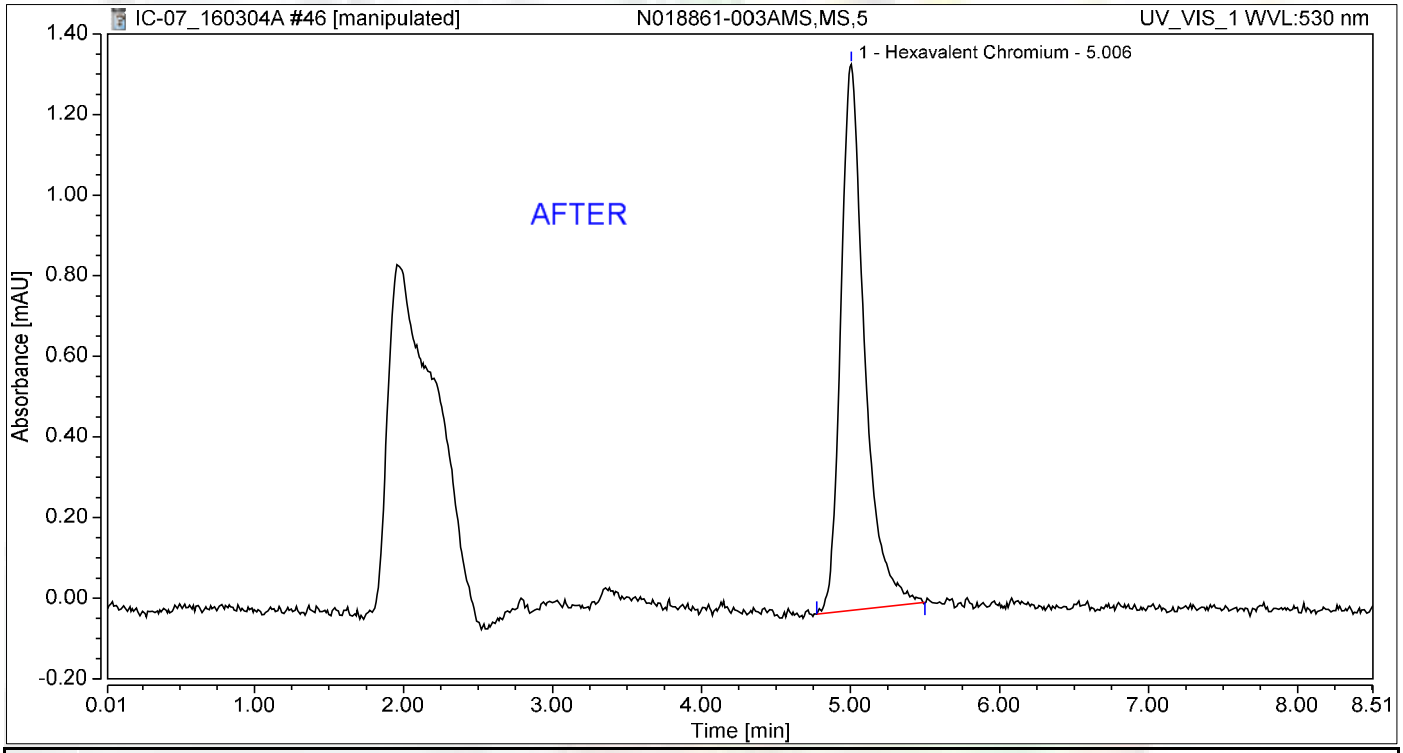
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.251	1.355	100.00	100.00	1.0416
Total:			**0.251**	**1.355**	**100.00**	**100.00**	

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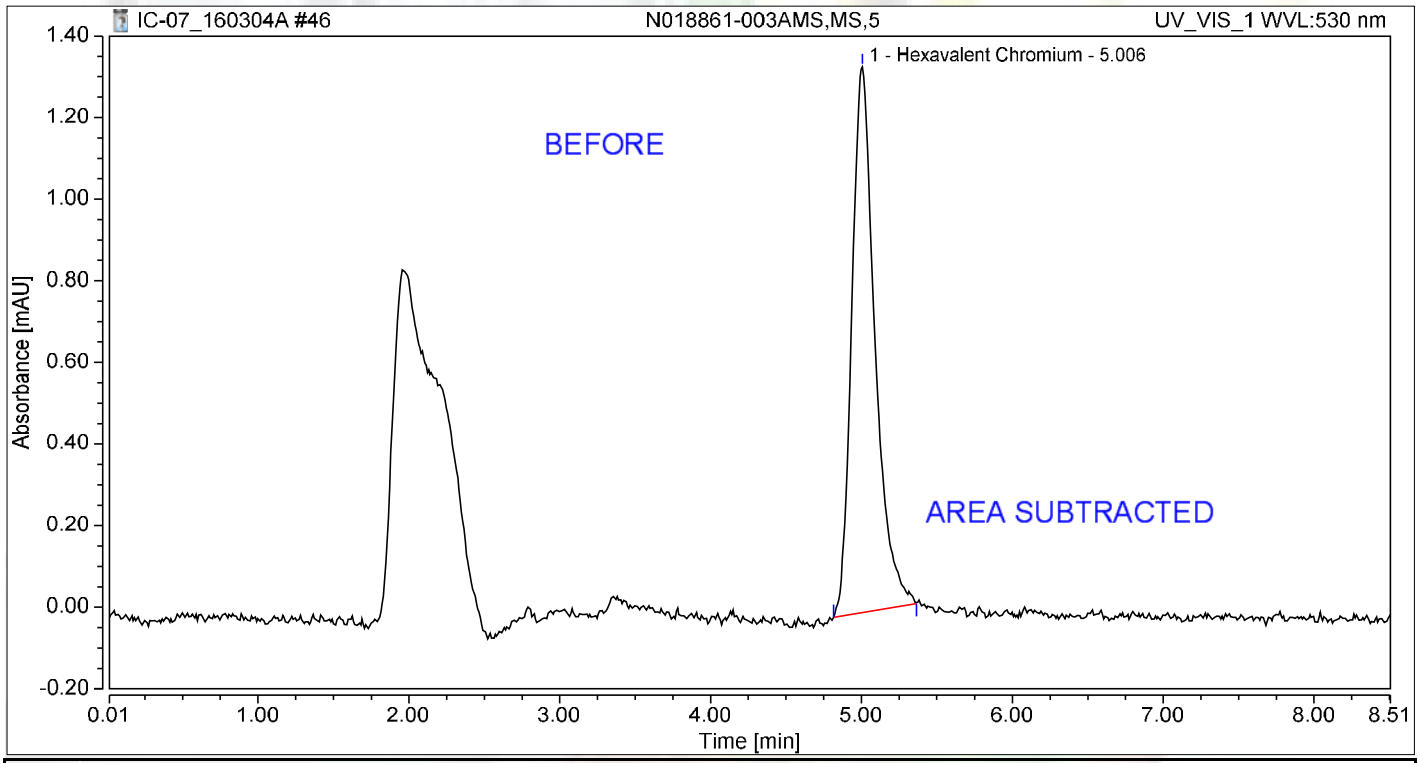
Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

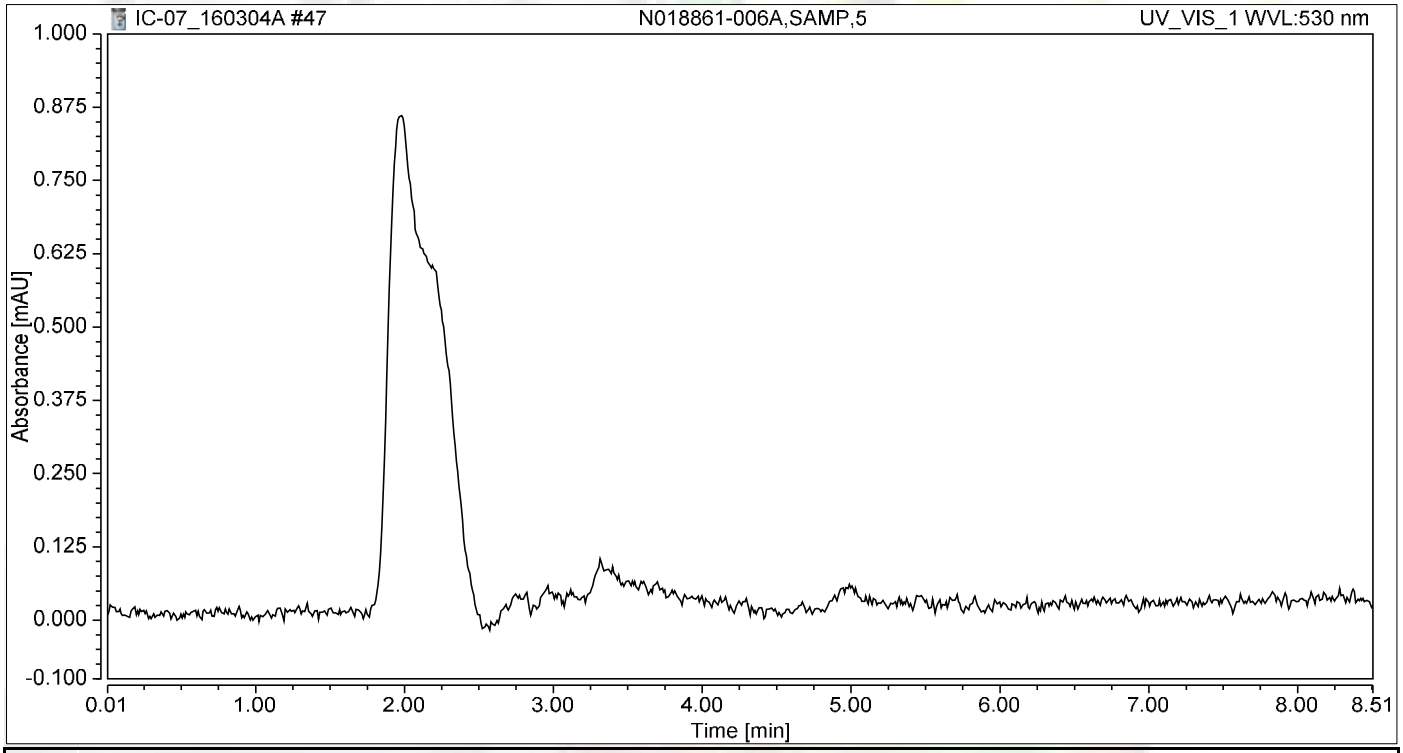
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.239	1.338	100.00	100.00	0.9894
Total:			**0.239**	**1.338**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

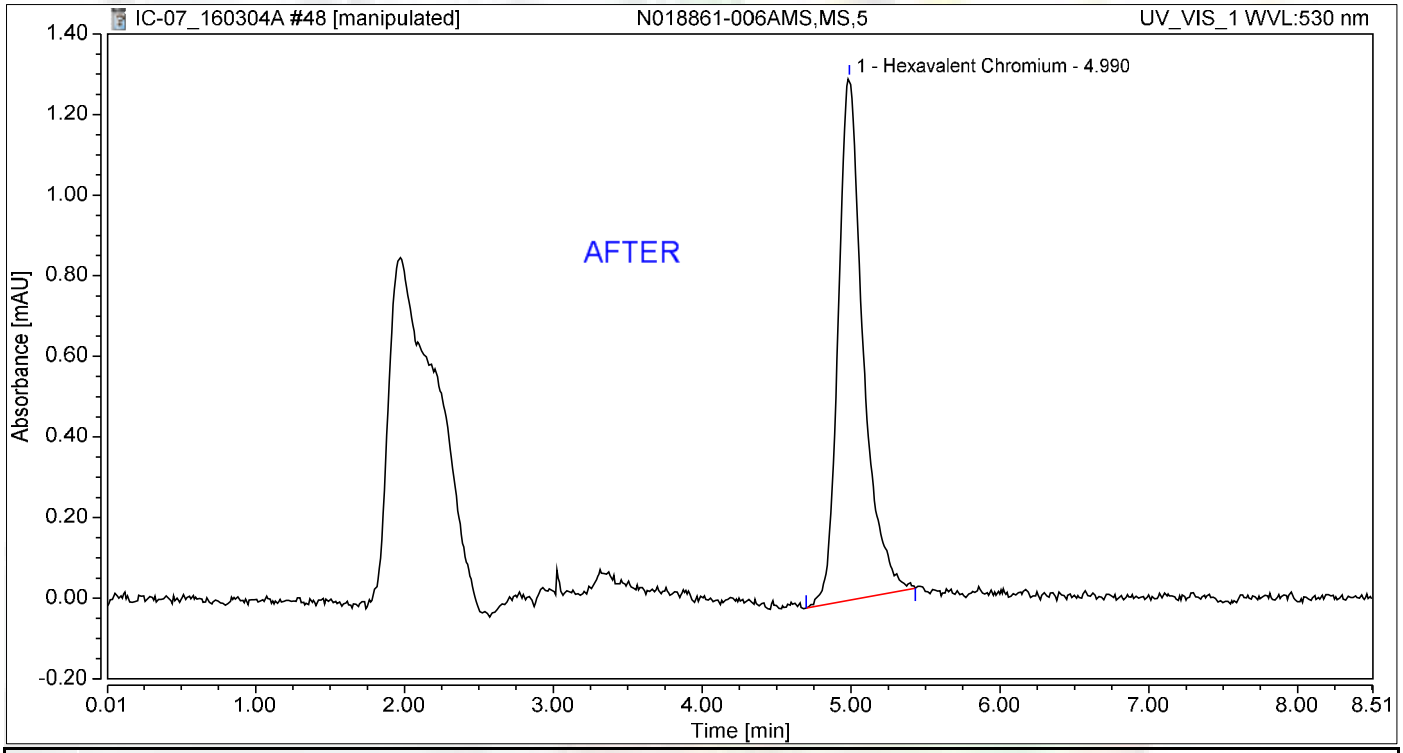
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.252	1.295	100.00	100.00	1.0435
Total:			**0.252**	**1.295**	**100.00**	**100.00**	

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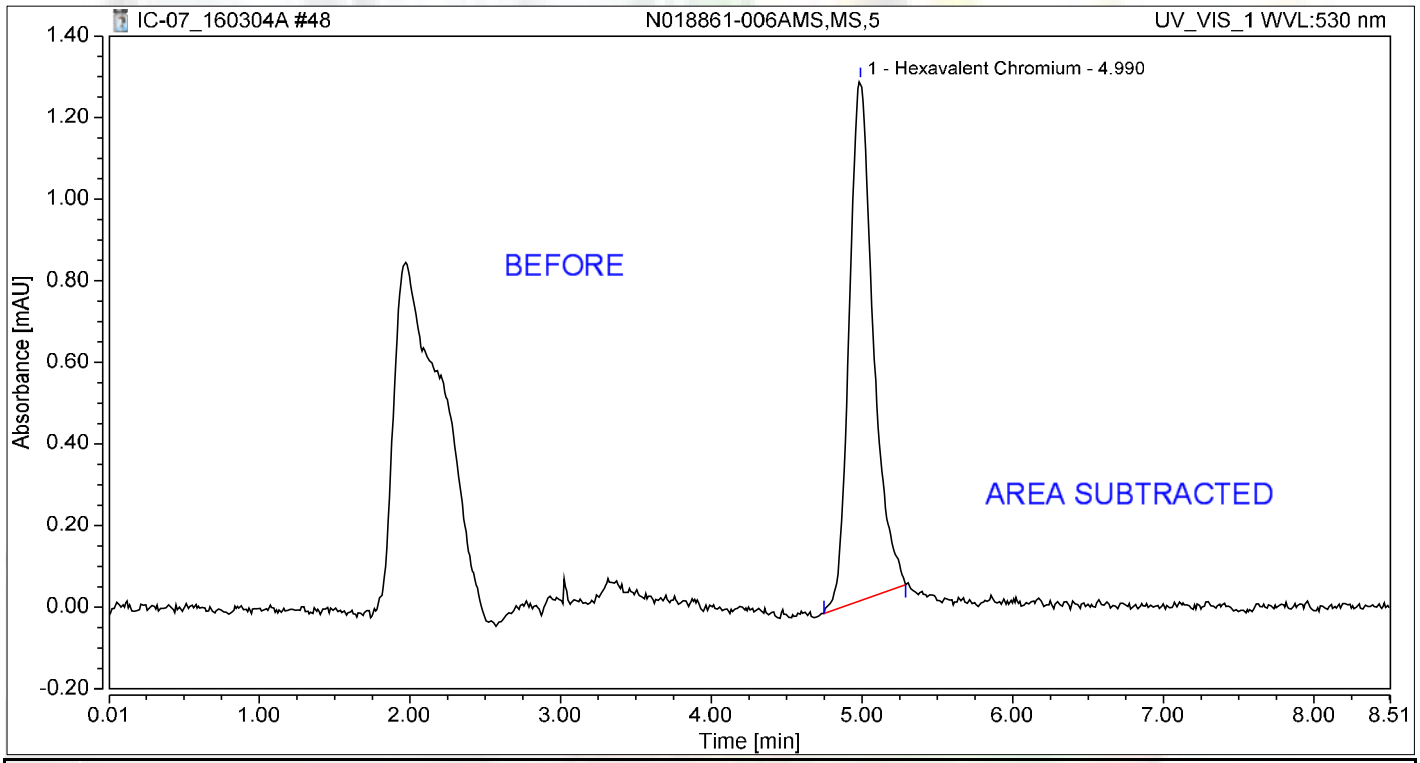
Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

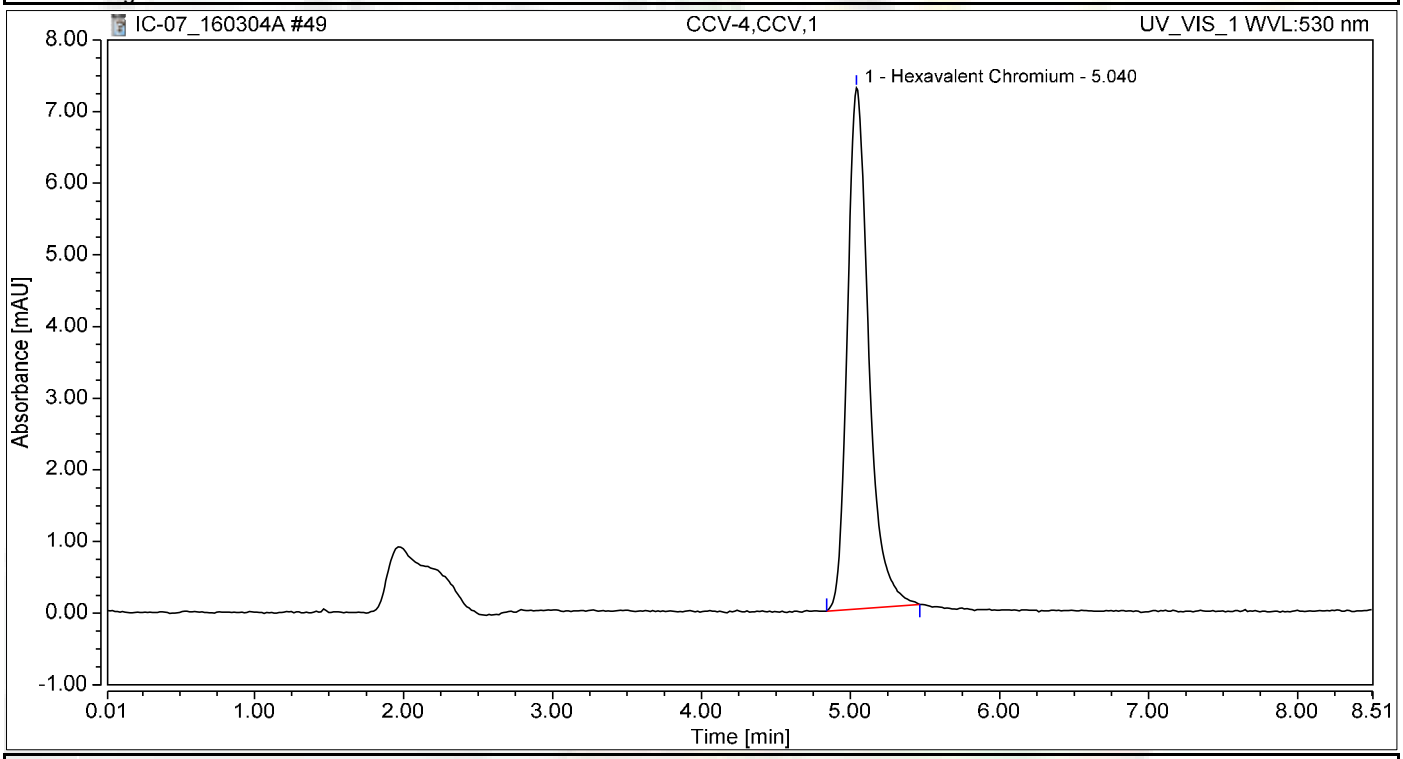
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.236	1.275	100.00	100.00	0.9799
Total:			**0.236**	**1.275**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

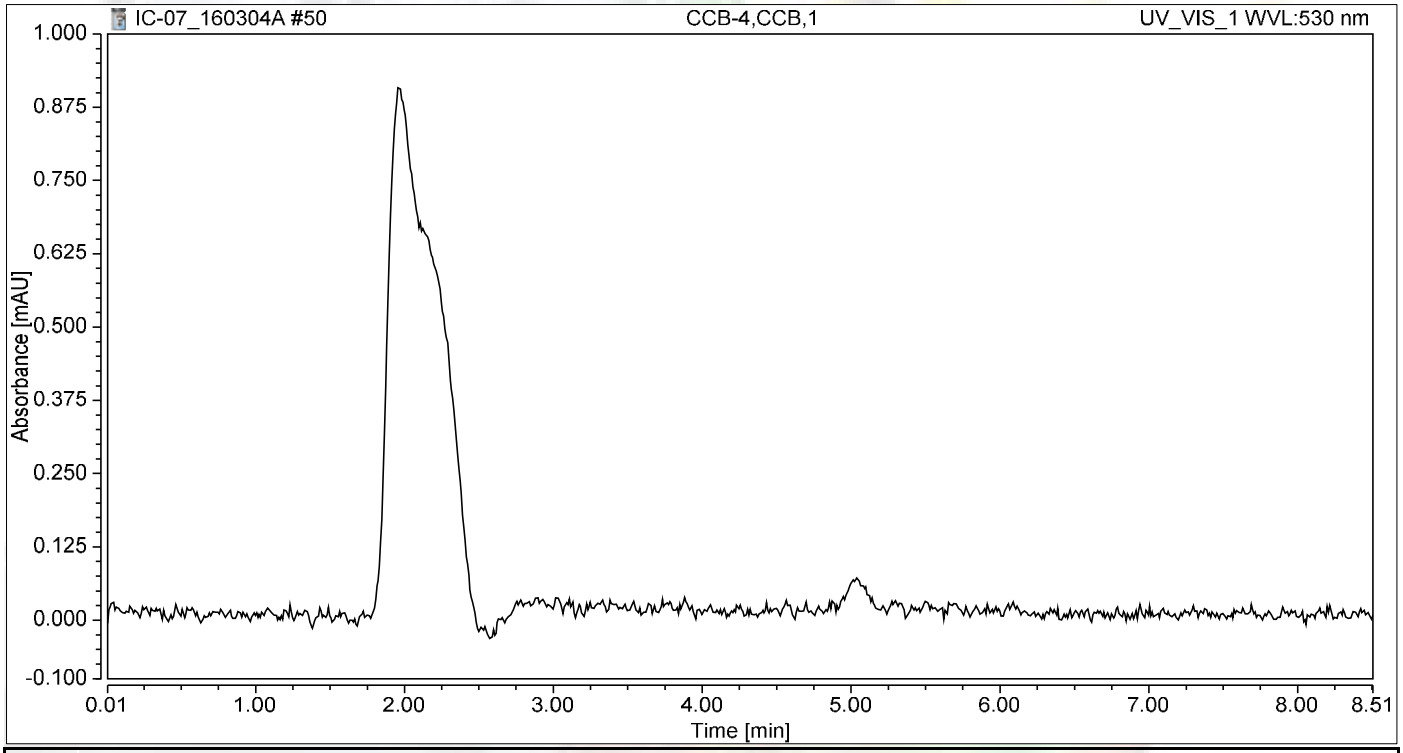
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.206	7.268	100.00	100.00	4.9999
Total:			**1.206**	**7.268**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

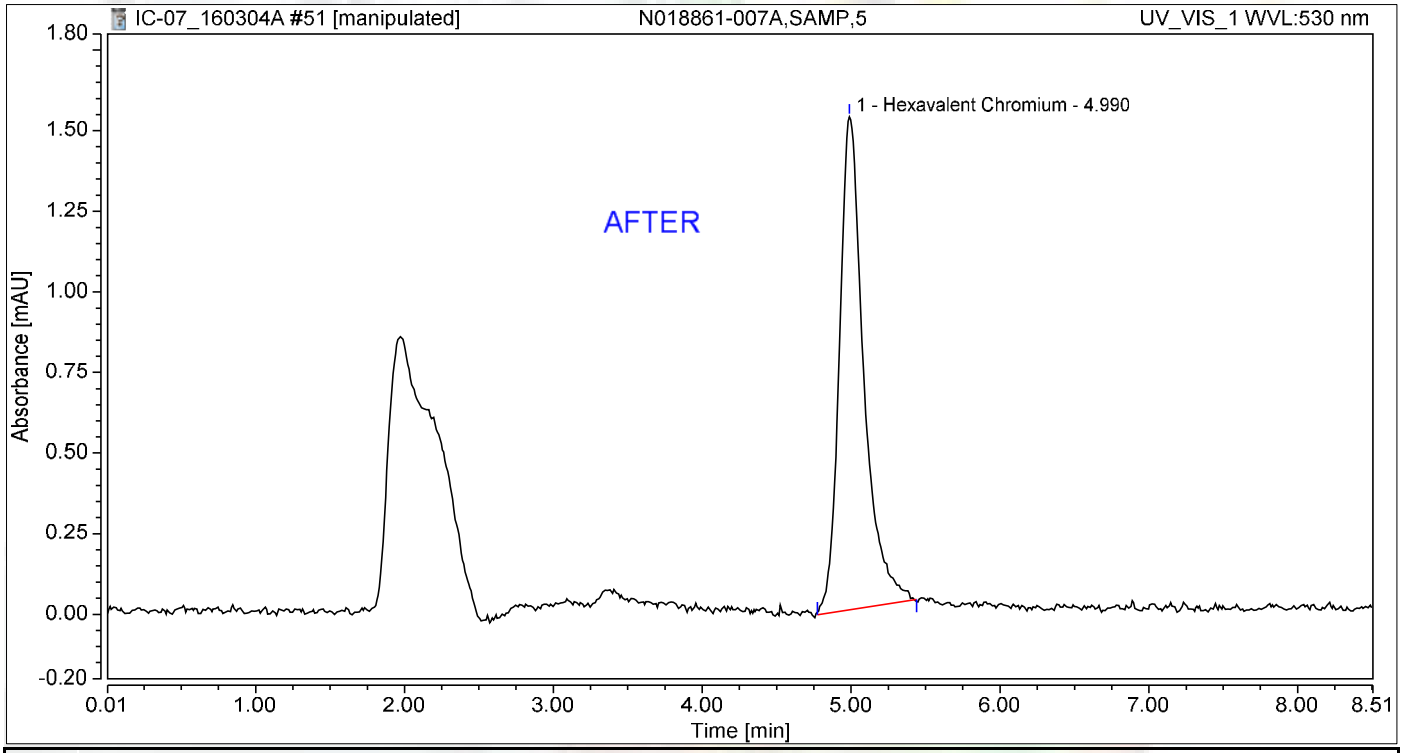
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.290	1.529	100.00	100.00	1.2014
Total:			**0.290**	**1.529**	**100.00**	**100.00**	

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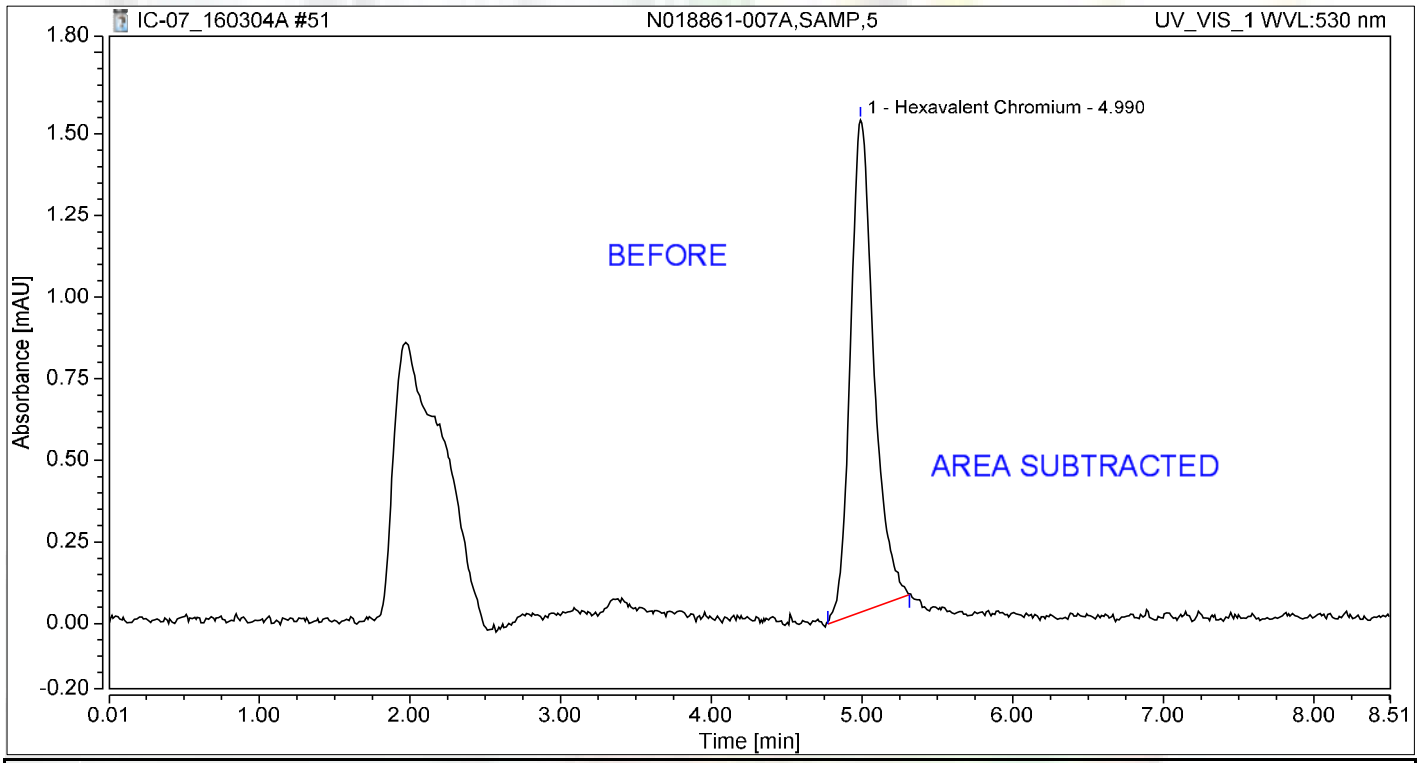
Chromatogram and Results

Injection Details

Injection Name:	**N018861-007A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

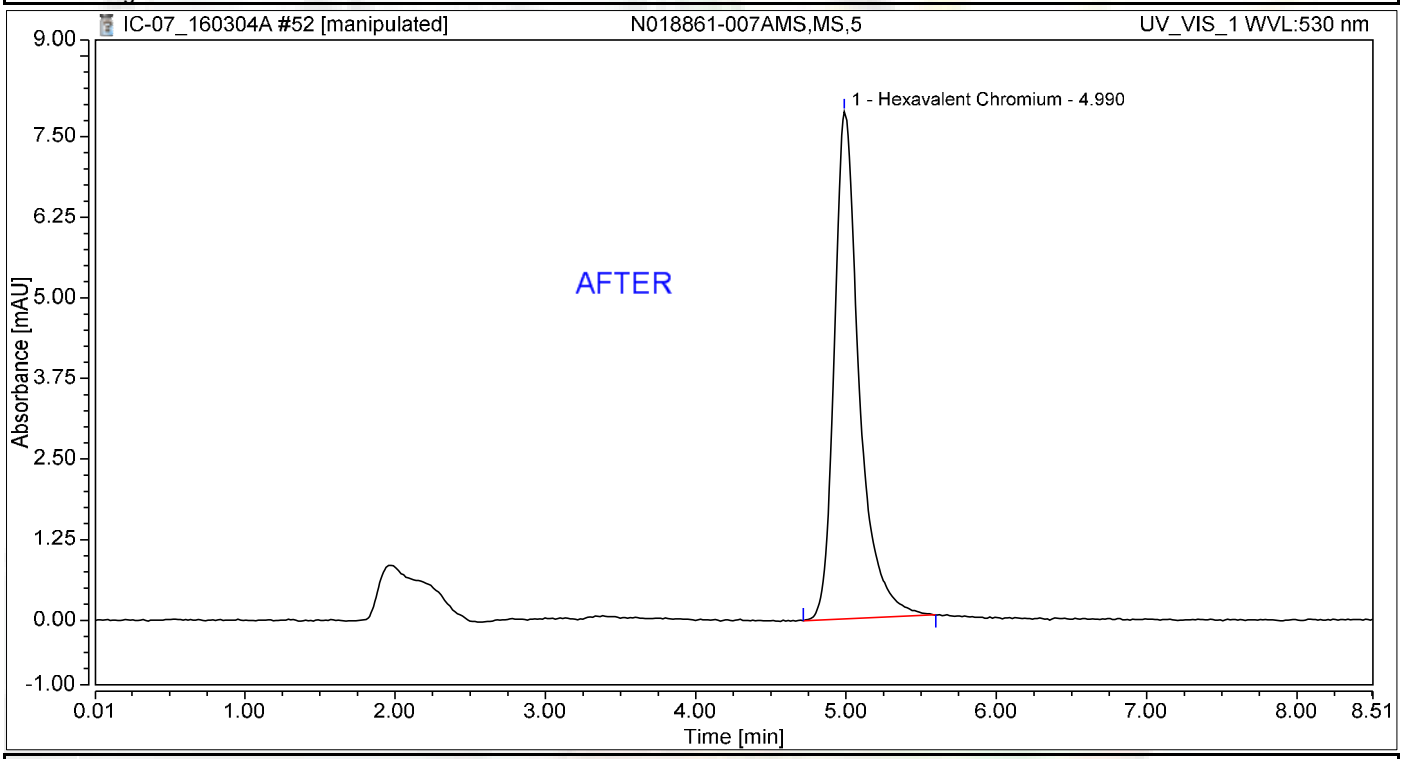
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.273	1.509	100.00	100.00	1.1317
Total:			**0.273**	**1.509**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	1.513	7.865	100.00	100.00	6.2706
Total:			**1.513**	**7.865**	**100.00**	**100.00**	

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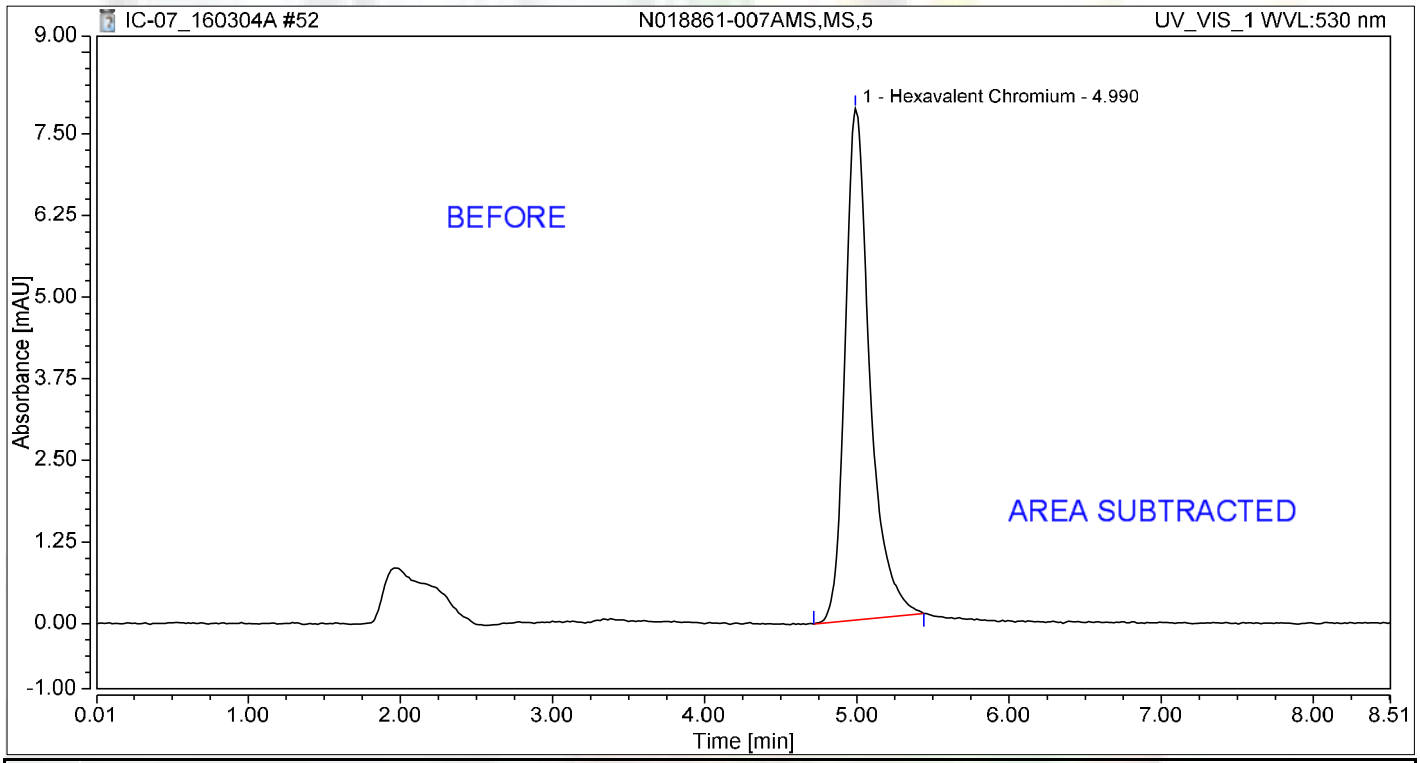
Chromatogram and Results

Injection Details

Injection Name:	**N018861-007AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

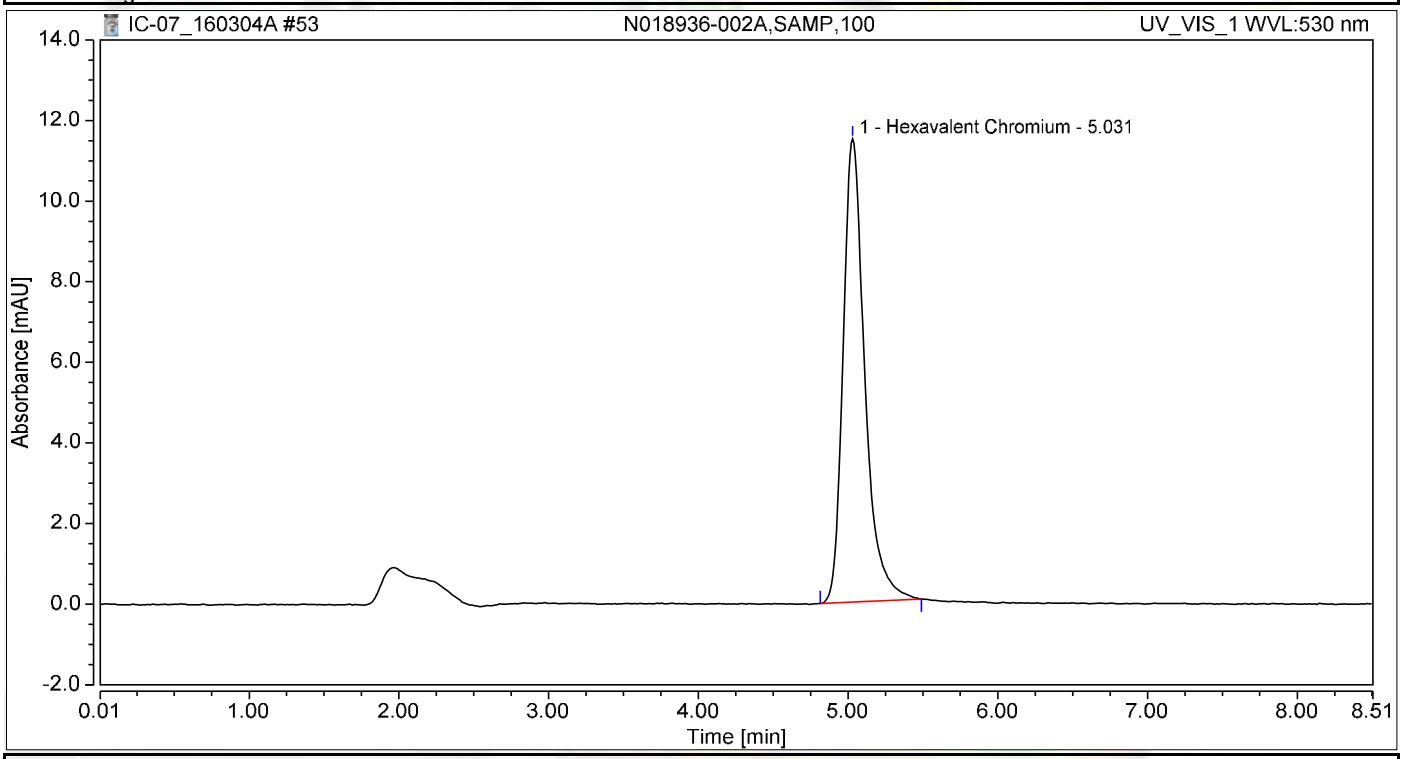
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	1.477	7.834	100.00	100.00	6.1229
Total:			**1.477**	**7.834**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-002A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

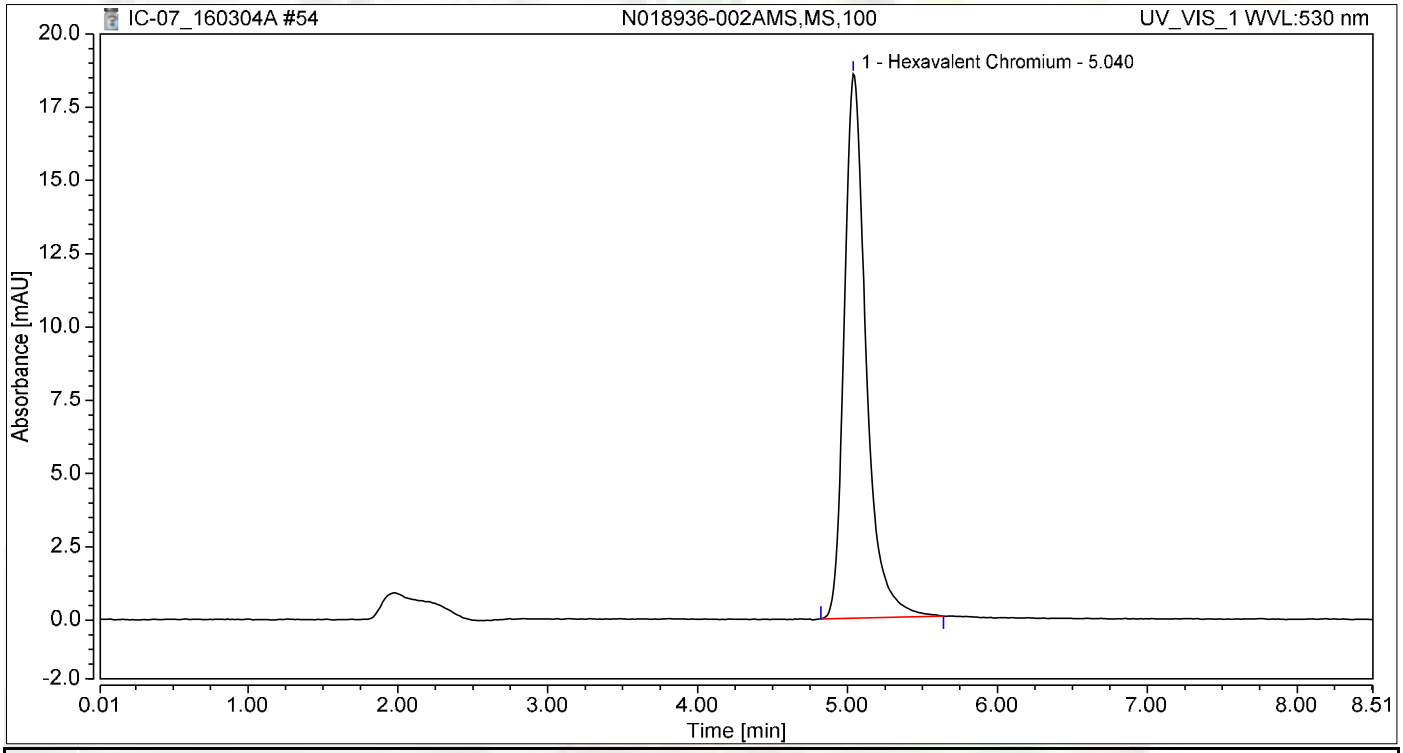
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.915	11.496	100.00	100.00	7.9381
Total:			**1.915**	**11.496**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-002AMS,MS,100**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

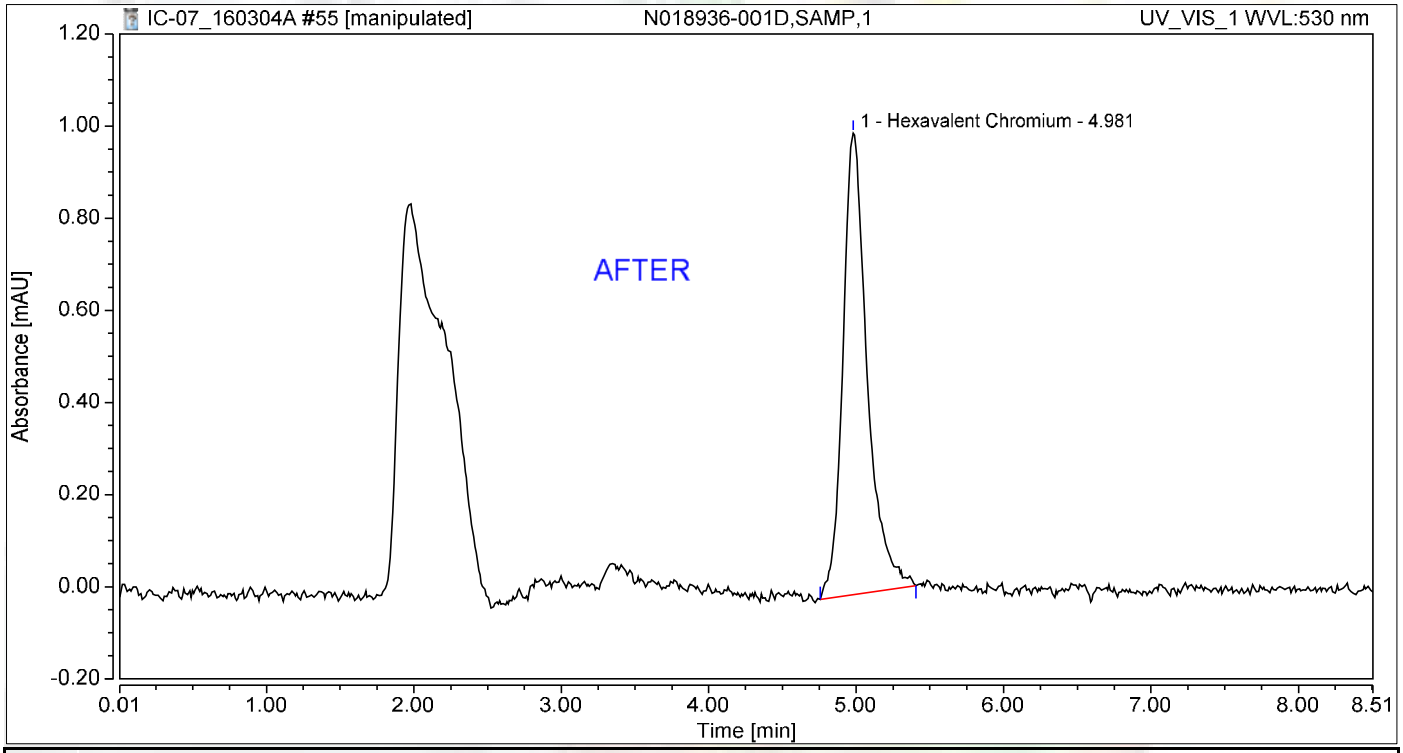
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.130	18.562	100.00	100.00	12.9753
Total:			**3.130**	**18.562**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-001D,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.191	1.002	100.00	100.00	0.7916
Total:			**0.191**	**1.002**	**100.00**	**100.00**	

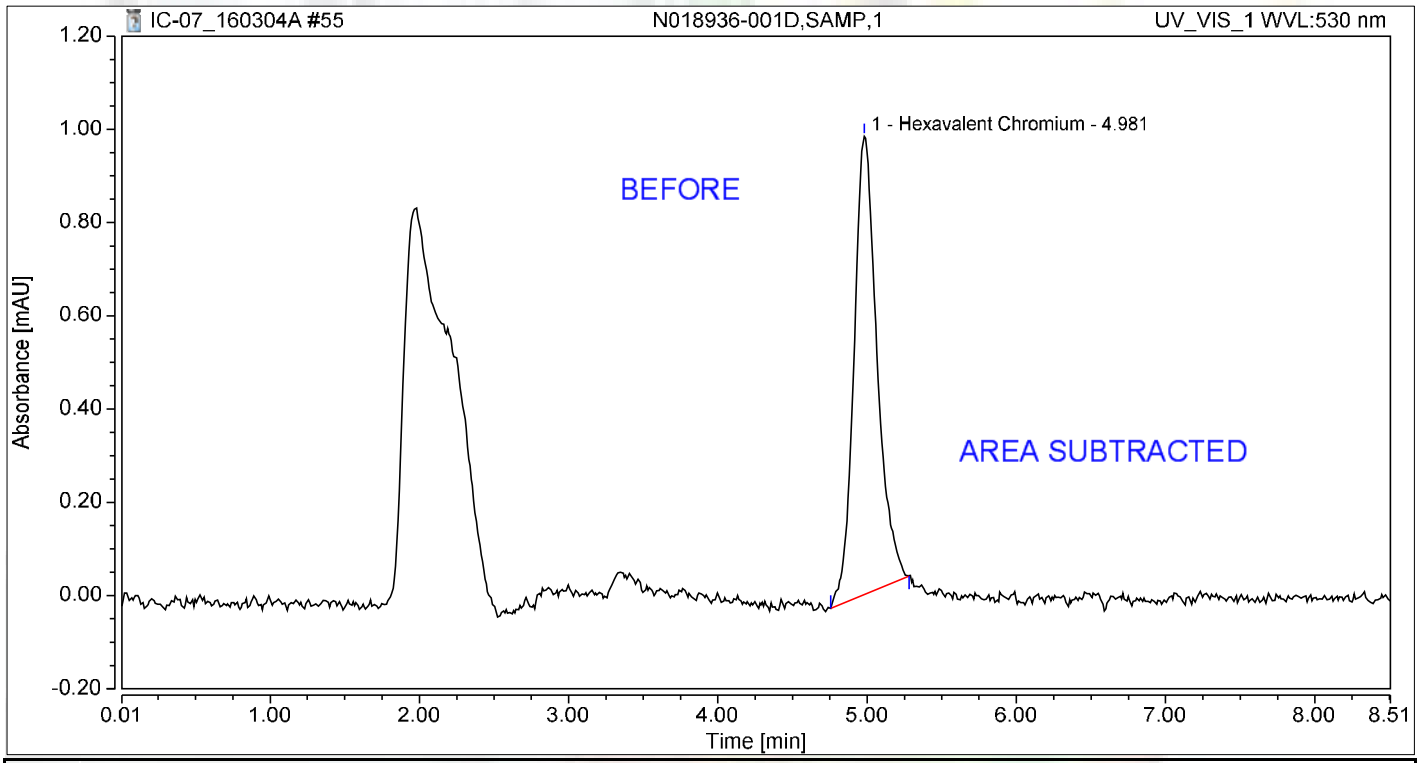
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018936-001D,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

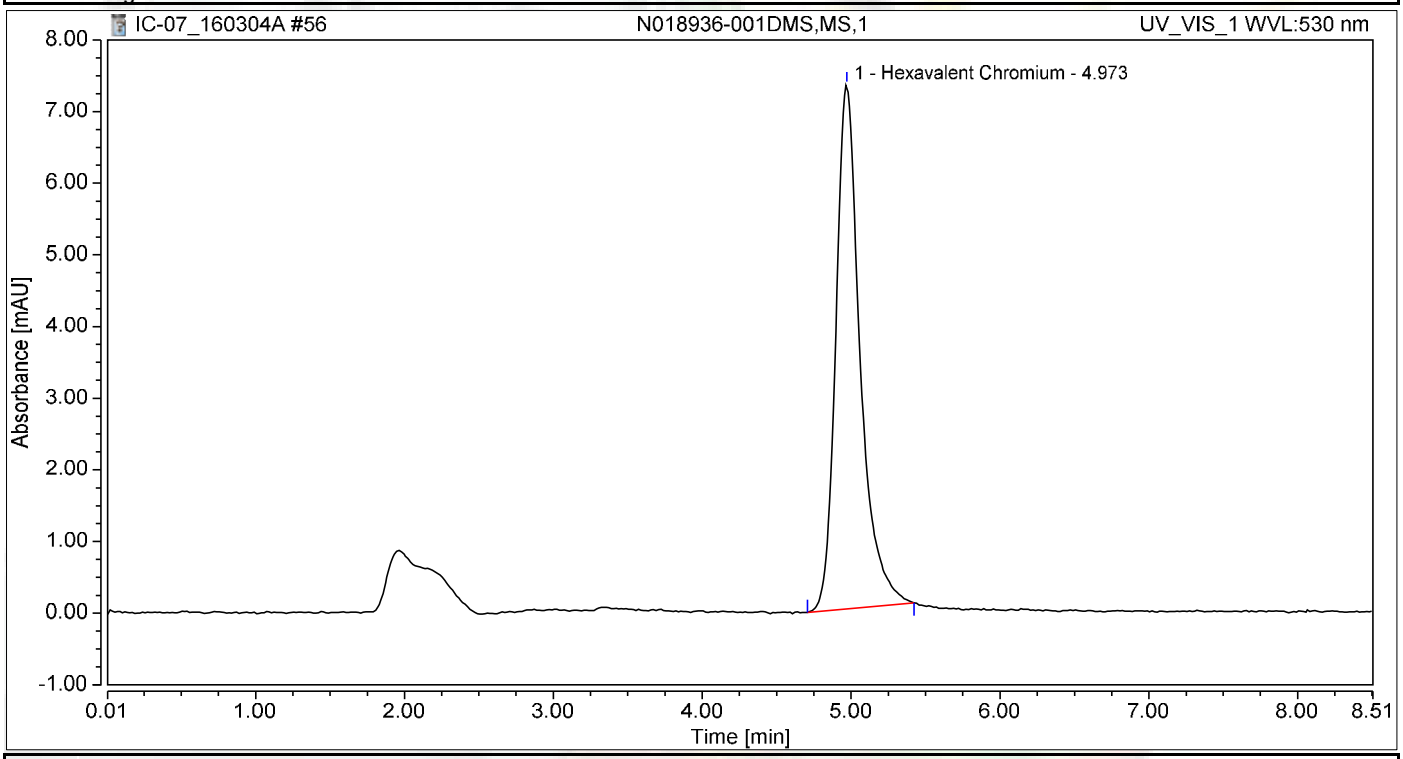
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.176	0.983	100.00	100.00	0.7315
Total:			**0.176**	**0.983**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-001DMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**46**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

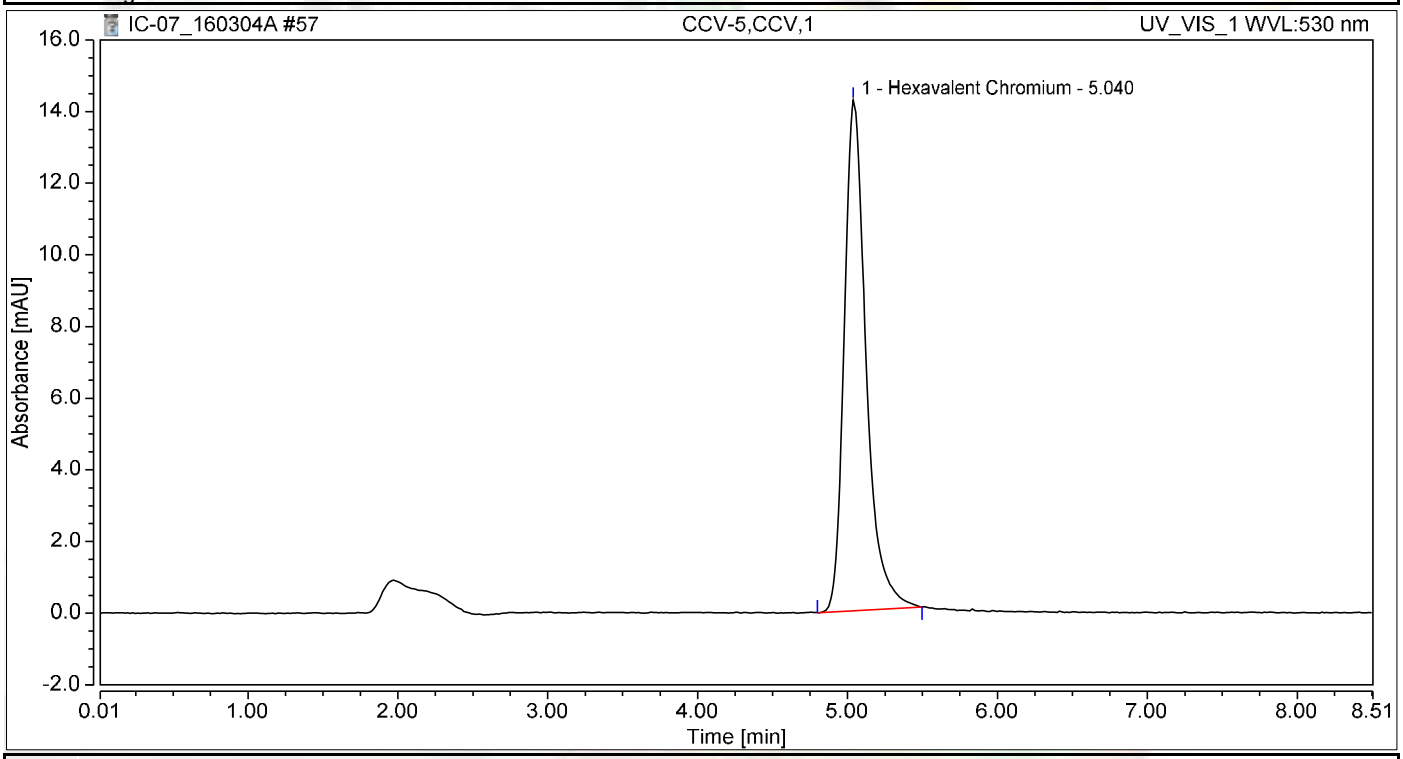
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.973	1.381	7.311	100.00	100.00	5.7239
Total:			**1.381**	**7.311**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**47**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 20:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

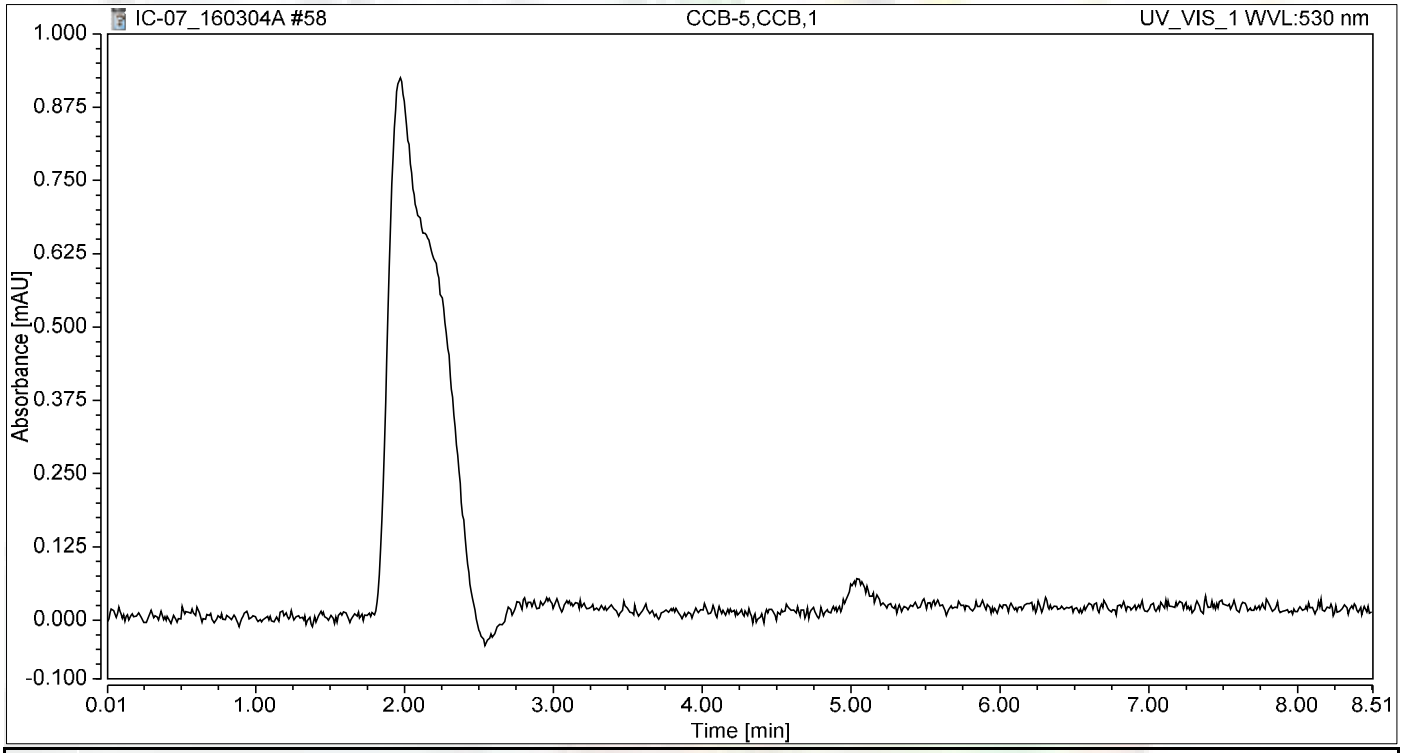
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.394	14.251	100.00	100.00	9.9228
Total:			**2.394**	**14.251**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**48**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 20:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

STANDARDS LOG

Inorganics Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
9/17/14	Hexadecane & Steric Acid	Isst-140917B	8,000 mg/ml	Accustandard	214 061302	9/17/14		6/16/2024	PS
		C							
		D							
		E							
9/23/14	Fluoride, 1000 mg/L	Isst-140923A	1000 mg/L	ERA	230314	9/23/14	9/30/14 PS 9/24/14	9/30/15 ~~3/2016~~	PS
	chloride,	B		ERA PS 9/23/14	~~230314~~ 570414		9/30/14 PS 9/24/14	9/30/15 ~~4/2016~~	
	Nitrite as N,	C		PS 9/23/14	~~570414~~ 070414		9/30/14 PS 9/24/14	9/30/15 ~~4/2016~~	
	Bromide,	D		PS 9/23/14	~~070414~~ 170614		9/30/14 PS 9/24/14	9/30/15 ~~6/2016~~	
	Nitrate as N,	E		PS 9/23/14	~~070414~~ 320614		9/30/14	9/30/15 ~~6/2016~~ PS 10/26/14	
	phosphate as P,	F			190714		9/25/14	9/25/15 ~~7/2016~~ PS 10/26/14	
	sulfate,	G		PS 9/23/14					
11/4/14	Nitrite as N, 1000 mg/L	Isst-141104A	1000 mg/L	Absolute	090514	11/4/14	11/12/14	11/12/15	PS
11/26/14	Tox Standard	Isst-141126A	1000 mg/L	Peak Performance	14K142	11/26/14	12/5/14	12/5/15	PS
1/9/15	100 ppm Cr6+	ISST 150109A	100 ppm	High Purity	1402622	1/9/15	1/20/15	1/6/16	2

Advanced Technology Laboratories-Las Vegas
Logbook #1

8 total

Inorganics Stock Standard Logbook

Date	Stock STD							Exp Date	Initials
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	
2/6/15	Phosphorus as P, 1000 mg/L	1SST150206E	1000 mg/L	Absolute Stds	011615	2/6/15	2/11/15	1/16/18	L
	Sulfate, 1000 mg/L	F			123014			12/30/19	
2/10/15	EPA 1664 STANDARD (MS/MSD)	1SST150206A	1000 mg/L	ULTRA SCIENTIFIC	CL-3509	2/10/15		10/31/2017	LSR
2/12/15	Hexadecane Stearic Acid	1SST150212A	40 mg/mL	ACCU STANDARD	214101420	2/12/15	3/3/15	11/10/24	LSR
		B					3/9/15		
		C							
		D							
		E							
3/10/15	1000 ppm HEXAVALENT Chromium	1SST150306A	1000 ppm	ERA	300014	3/6/15	3/9/15	06/2017	MEB

Advanced Technology Laboratories-Las Vegas
Logbook #1

Inorganics Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
9/14/15	Hexadecane & Stearic Acid Std	ISSTI50914D	4mg/mL	ACCU STANDARD	215 041058	9/14/15		4/8/25	LSR
↓	↓	↓ E	↓	↓	↓	↓		↓	↓
9/28/15	EPA 1664 STANDARD (MS/MSD)	ISSTI50928A	4000 µg/mL	ULTRA SCIENTIFIC	CM-4130	9/28/15	10/19/15	8/31/18	LSR
11/4/15	Nitrite as N	ISITI51104A	1000 ppm	Absolute Stds	102615	11/4/15	11/10/15	10/26/17	L
12/7/15	Hexadecane & Stearic Acid Std	ISSTI51207A	4 mg/mL	ACCU STANDARD	215041058	12/7/15	12/31/15	4/8/25	LSR
↓	↓	B	↓	↓	↓	↓		↓	↓
↓	↓	C	↓	↓	↓	↓		↓	↓
↓	↓	D	↓	↓	↓	↓		↓	↓
↓	↓	E	↓	↓	↓	↓		↓	↓
12/31/15	EPA 1664 STD (MS/MSD)	ISST151208A	4000 µg/mL	ULTRA SCIENTIFIC	CM-4129	12/8/15	12/31/15	8/31/18	LSR
01/05/16	1000 ppm Hexavalent Chromium	ISST160105A	1000 ppm	HIGH-PURITY	1533405	01/05/16	01/07/16	06/30/17	[illegible]

Advanced Technology Laboratories-Las Vegas
Logbook #1

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/04/15	1000 ppm Inorganic Carbon 2°	IWST ~~1216~~ 151204 D	CINV 150601A	-	0.6995
12/10/15	1000 ppm NACL	IWST151210A	CINV 150914A	-	2.0 g
12/13/15	0.05 N Sodium Carbonate (Na2CO3)	IWST151213A	CINV-150202G	-	0.0265 g
12/13/15	0.05 N Sodium Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g
12/23/15	0.05 N Sodium ~~Bi~~ Carbonate (Na2CO3)	IWST151223A	CINV-150202G	-	0.265 g
↓	0.05 N Sodium Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g
1/5/16	0.05 N Sodium Carbonate (Na2CO3)	IWST160105A	CINV-150202G	-	0.265 g
↓	0.05 N Sodium Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g
1/5/16	1ppm Cr6+ 1°	IWST-160105~~B~~C	ISST 150306A	1000	~~0.1~~ 100
	1ppm Cr6+ 2°	↓ CD	ISST 150109A	100	1000
1/7/16	1ppm Cr6+ 2°	IWST-160107A	ISST-160105A	1000	100
1/8/16	1000 ppm Talc	IWST 160108A	CINV-140317C	-	1.0 g
1/18/16	1000 ppm NaCl	IWST160118A	CINV-150914A	-	1.0 g
1/19/16	50 ppm Cr6+, 2°	IWST160119A	ISST 160105A	1000	2500
1/27/16	0.05 N Sodium Carbonate (Na2CO3)	IWST160127A	CINV-150202G	-	0.265 g
↓	↓ Bicarbonate (NaHCO3)	↓ B	CINV-150601A	-	0.8398 g
02/02/16	1ppm Cr6+ 1°	IWST160202A	ISST-150306A	1000	100
↓	1ppm Cr6+ 2°	↓ B	ISST-160105A	1000	100
2/5/16	0.05 N Sodium Carbonate (Na2CO3)	IWST160205A	CINV-150202G	-	0.265 g
↓	0.05 N Sodium Bicarbonate (NaHCO3)	B	CINV-150601A	-	0.8398 g

	PREPARATION INFORMATION								
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	100	1000	H_2O	—	—	12/04/16	6/9/18		PEB
	2000	1000	H_2O	-	-	12/10/16	9/14/18		USR
	100	0.05N	H_2O	—	-	12/20/15	2/13/18		USR
	100	0.05N	H_2O	—	—	12/20/15	6/9/18		USR
5	100	0.05N	H_2O	—	—	12/30/15	2/13/18		USR
	100	1	1	-	-	12/30/16	6/9/18		USR
	100	0.05N	H_2O	-	-	1/12/16	2/13/18		USR
	1	1	1	—	-	1/12/16	6/9/18		USR
	100	1	H_2O	—	—	3/9/16	6/2017		PEB
10	100	1	1	—	—	1/4/16	1/4/16		1
	100	1	H_2O	—	—	7/7/16	6/30/17		PEB
	1000	1000 ppm	H_2O	—	—	1/8/17	5/9/17		USR
	1000	1000 ppm	H_2O	-	-	1/18/17	9/14/18		USR
	50	50	H_2O	—	—	7/19/16	6/30/17		2
15	100	0.05N	H_2O	-	-	2/3/16	2/13/18		USR
	1	1	1	-	-	2/3/16	6/9/18		USR
	100	1ppm	H_2O	—	—	~~3/9/16~~ 8/2/16	6/2017		PEB
	1	1	1	—	—	8/2/16	6/30/17		1
	100	0.05N	H_2O	—	—	2/12/16	2/13/18		USR
20	1	1	1	-	-	1	6/9/18		USR

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-150923A	Ammonium Sulfate, granular	JT Baker	118186	>= 99%	9/23/15	10/16/15	10/16/18	MET	
B						10/24/15	10/24/18		
C						11/06/15	11/06/18		
D						11/25/15	11/25/18		
CINV-150924A	Ammonium Hydroxide	BDH	7215070	20-22%	9/24/15	10/07/15	10/07/17	MET	
B						11/16/15	11/16/17		
C	Phosphoric Acid	EMD	55051510	min 85%	9/24/15	10/19/15	10/19/17		
CINV-150928A	METHANOL	JT BAKER	57548	≥ 99.8%	9/28/15	12/01/15	12/01/17		
CINV-151012A	CONDUCTIVITY STD, 1412 us/cm	VWR	CC13851	-	10/12/15		7/6/16	LSR	
B	CONDUCTIVITY STD, 99797 us/cm	VWR	CC13746	-	10/12/15	11/9/15	6/5/16	LSR	
CINV-151027A	HYDROGEN PEROXIDE 30%	JT BAKER	0000118853	30%	10/27/15		2/10/17	LSR	2/10/17 #7872
B	SODIUM CARBONATE	MACRON	104967	-				LSR	MANUFACTURE EXP: 8/11/21 #7871
C	AMMONIUM PERSULFATE	BDH	2455C516	-		11/04/15	11/04/18	LSR	4/30/19 #7870
CINV-151027D	HEXANES		55161		10/27/15			LSR	#7873
E									#7874
F									#7875
G									#7876
CINV-151028A	Magnesium Chloride hexahydate	Omnipur	YE24A	-	10/28/15			MET	
CINV-151117A	SODIUM CARBONATE	MACRON	7528-04	-	11/17/15			LSR	
B			7528-04	-					

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CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-151117 C	AMMONIUM PERSULFATE	BDH	2455C516	-	11/17/15	1	4/2019	LSR	
↓ D	MAGNESIUM chloride Hexahydrate	EMD Chemicals	YE27A	-	↓			LSR	
CINV-151117 E	METHANOL	HONEYWELL	DN615	-	11/17/15			LSR	
F				-				LSR	
G				-				LSR	
H				-				LSR	
I				-				LSR	
J				-				LSR	
CINV-151119 A	Ammonium Sulfate	J.T BAKER	~~[illegible]~~ REB	7=99.0%	11/19/15	12/12/15	12/12/18	REB	
B			115217			12/28/15	12/28/18		
C						01/08/16	01/08/19		
D						01/15/16	01/15/19		
CINV-151130 A	Conductivity Std, 99893 µS/cm	VWR	CC13872	-	11/30/15		7/13/2016	LSR	
B	Ammonium Hydroxide	BDH	7215070	-		12/28/15	12/28/17 ~~8/2018~~		
C	↓	↓	↓	-	↓		↓	↓	
CINV-151130 D	SULFURIC ACID	JT BAKER	120287	95%-98%	11/30/15	12/02/15	12/02/17	LSR	
E	↓	↓	↓	↓	↓			↓	
CINV-151130 F	1,5 Diphenyl Carbazide	JT BAKER	104477	-	11/30/15	12/01/15	12/01/18	REB	

Advanced Technology Laboratories-Las Vegas
Logbook #2

REB 1/11/2016

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CIW-160111 C	Buffer, pH 7	Thermo Scientific	TP2		1/11/16		1/2017	LSR	
D	↓, pH 10	VWR	1509B50		1/11/16		3/2017	LSR	
E	CONDUCTIVITY STD, 1413 ms/cm	Metteler Toledo	1511260009		1/11/16		8/24/17	LSR	
CIW-160112A	HEXANES	EMD Chemicals			1/12/16	1/12/16	1/12/18	LSR	8147
B						1/19/16	1/19/18	LSR	8148
C								LSR	8149
D								LSR	8150
CIW-160125A	SODIUM CARBONATE	MACRON	109514		1/25/16			REB	
CIW-160125B									
C	Ammonium hydroxide	BDH	7215070		1/25/16			REB	
CIW-160125 ~~A~~ D REB 1/25/16	Ammonium sulfate	JT. BAKER	126292	≥99%	1/25/16	1/25/16	1/25/19	REB	
E						02/01/16	02/01/19		
F						02/10/16	02/10/19		
G						02/23/16	02/23/19		
CIW-160125 H	1,5 diphenyl carbazide	JT	125086		1/25/16			REB	
CIW-160125 ~~I~~ 5 I LSR 1/25/16	Turbidity, 5.0 NTU	AMCO Clear	C585117	–	1/25/16	2/1/16 2/27/16	1/2017	LSR	

Advanced Technology Laboratories-Las Vegas
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CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CIW-160111 C	Buffer, pH 7	Thermo Scientific	TP2		1/11/16		11/2017	[illegible]	
D	↓, pH 10	VWR	1509E50		1/11/16		3/2017	LSR	
E	Conductivity STD, 1413 mS/cm	Mettler Toledo	1514260009		1/11/16		8/24/17	LSR	
CIW-160112 A	HEXANES	EMD Chemicals	55219		1/12/16	1/12/16	1/12/18	LSR	8147
B						1/19/16	1/19/18	LSR	8148
C						1/28/16	1/28/18	LSR	8149
D						2/17/16	2/17/18	LSR	8150
CIW-160125 A	Sodium Carbonate	Macron	109514		1/25/16			REB	
CIW-160125 B									
C	Ammonium hydroxide	BDH	7215070		1/25/16			REB	
CIW-160125 ~~A~~ D (REB 160116)	Ammonium sulfate	JT. BAKER	126292	≥99%	1/25/16	1/25/16	1/25/19	REB	
E						02/01/16	02/01/19		
F									
G									
CIW-160125 H	1,5 diphenyl carbazide	J.T	128086		1/25/16			REB	
CIW-160125 ~~I~~ 5 I (1/25/16)	Turbidity, 5.0 NTU	AMCO Clear	C585117	–	1/25/16	2/1/16 2/27/16	1/2017	LSR	
CIW-160219 A	Zinc acetate	RICCA	1601D42	—	2/19/16		01/2018	XRJ	
CIW-160219 B	METHANOL	J.T BAKER	121483	99.8%	2/19/16	2/20/16	2/20/18	REB	
C	Magnesium chloride	Omni Pur	15K18008						
D	Ammonium persulfate	BDH	2455C516	≥98%					

Advanced Technology Laboratories-Las Vegas
Logbook #2

Reagent Preparation

Reagent Name	Reagent Code	Inventory Chemical Inventory Code	Preparation Wt/Vol of Aliquot	Preparation Final Vol (ml)
Post Column Rgt. Crat	R160121D	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	R160121E	CIN-151119D / CIN-151130B	66g / 13mL	2000
Post Column Rgt Crat	R160122A	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	R160123A	CIN-151119D / CIN-151130B	66g / 13mL	2000
5N HNO_3	⊥ B	# 8142	138mL	500 ~~ml~~
~~Post Column Rgt Digestion Soln~~ Crat	R160124A	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	B	CIN-151119D / CIN-151130C	66g / 13mL	2000
Digestion Solution Crat	R160125A	CIN-150619C / CIN-151117B	40g / 160g	2000
$MgCl_2$ Soln Crat	⊥ B	CIN-151117D	40g	100
Elvent Crat	R160125C	CIN-~~151119~~ 160125D CIN-151130C	66g / 13mL	2000
Digestion Solution Crat	R160126A	CIN-150619C CIN-151027B	40g / 60g	2000
Elvent Crat	R160127A	CIN-160125D, CIN-151130C	66g / 13mL	2000
Post Column Rgt Crat	⊥ B	CIN-151130F, CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Post Colum Rgt Crat	⊥ C	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
Elvent Crat	R160127D	CIN-160125D / CIN-151130C	66g / 13mL	2000
Bitter Crat	R160128A	CIN-160125D / CIN-151130C	33g / 65mL	1000
5N HNO_3	R160128B	# 8142	138mL	500
Ascorbic Acid Solution	R160129A	CIN-141124A, # 8059	6g / 12mL	100
Elvent Crat	R160129B	CIN-160125D, CIN-151130C	66g, 13mL	2000
Elvent Crat	C	CIN-160125D, CIN-151130C	66g, 13mL	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	—	1/21/16	1/24/16	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	MEB
	—	1/21/16	1/21/17	01/15/19; 12/28/17	IC-01	MEB
	—	1/22/16	1/22/16	12/01/18; 12/02/17; 12/01/17		⊥
	—	1/23/16	1/23/17	01/15/19; 12/28/17	IC-01	MEB
5	SN	1/23/16	1/23/17	01/21/18		⊥
	—	1/24/16	1/29/16	12/01/18; 12/02/17; 12/01/17	IC-01	MEB
	—	1/24/16	1/24/17	01/15/19; 01/24/18		⊥
	—	1/25/16	1/25/17	8/24/18; 1/18/19		MEB
	—	1/25/16	1/25/17	12/08/18		⊥
10	—	1/25/16	1/25/17	1/25/19 01/24/18	IC-01	MEB
	—	1/26/16	1/26/17	8/24/18; 1/26/19		MEB
	—	1/27/16	1/27/17	1/25/19; 01/24/18	IC-01	MEB
	—		2/1/16	12/01/18; 12/02/17; 12/01/17		
	—		⊥	12/01/18; 12/02/17; 12/01/18	IC-06 & 07	
15	—		1/27/17	1/25/19; 1/24/18		⊥
	—	1/28/16	2/28/16	1/25/19; 1/24/18		MEB
	SN	⊥	1/28/17	01/21/18		MEB
	—	1/29/16	2/12/16	8/24/18; 1/24/18		
	—	1/29/16	1/29/17	1/25/19; 1/24/18	IC-06 & 07	MEB
20	—	⊥	1/29/17	1/25/19; 1/24/18	IC-01	⊥

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory: Chemical Inventory Code	Preparation: Wt/Vol of Aliquot	Preparation: Final Vol (ml)
R2 Coloring Rgt.	R160205C	CIW-150324A / CIW-1301 1A CIW-151 [illegible]	0.0g / 4.0g / 17mL	100
Digestion Sol'n Crat	1 D	~~CIW-15~~ 8788 / CIW-151 [illegible]	4kg / 60g	2000
~~Post Column~~ Eluent Crat	R160206A	CIW-160125E / CIW-151130C	66g / 13mL	2000
~~1:1 HNO_3~~ Eluent Crat	R160208A	CIW-160125E / CIW-151130C	66g / 13mL	2000
Post column Rgt Crat	B	CIW-151130F / CIW-151130D CIW-150[illegible]	0.5g / 28mL / 100mL	1000
Eluent Crat	C	CIW-160125E / CIW-151130C	66g / 13mL	2000
Post column Rgt Crat	D	CIW-151130F / CIW-151130D CIW-150[illegible]8A	0.5g / 28mL / 100mL	1000
10% Ammonium Permolybdate, 5% H_3PO_4	E	CIW-151117C / CIW-150[illegible]4C	100g / 150mL	1000
1:1 HNO_3	R160209A	# 8187	1L	2L
6N ~~1N~~ NaOH	R160209B	Cims #8878	120g.	500mL
Buffer Crat	R160209C	CIW-160125E / CIW151130C	16.5g / 325mL	500
Eluent Crat	R160210A	CIW-160125F / CIW151130C	66g / 13mL	2000
TCLP Fluid 1	R160128C	7606 / 7828	1286 / 11.4	2000
SPLP Fluid	R160129G	7877	160	3500
5N HNO_3	R160211A	~~#5137~~ 8269	138mL	500
Eluent Crat	R160211B	CIW-160125F / CIW-151130C	66g / 13mL	2000
Eluent Crat	R160212A	CIW-160125F / CIW-151130C	66g / 13mL	2000
Post Column Rgt Crat	1 D	CIW-151130F / CIW-151130D CIW-150[illegible]8A	0.5g / 28mL / 100mL	1000
Digestion Sol'n	R160217C	~~CIW-151130F~~ #7878 / CIW-160125A	40g / 160mL	2000
Eluent Crat	R160213A	CIW-160125F / CIW-151130C	66g / 13mL	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	—	2/5/16	2/5/16	5/22/18; 0-23/16; 2/4/17		MEB
	—	2/5/16	2/5/17	2/1/19; [illegible]	MEB 2/7/16	MEB
	—	2/6/16	2/6/17	02/01/19; 01/24/18	IC-01	MEB
	—	2/8/16	2/8/17	02/01/19; 01/24/18	~~IC-01~~	MEB
5	—	↓	2/13/16	02/01/18; 02/02/17; 12/01/17		↓
	—		2/8/17	02/01/19; 01/24/18	~~IC-06 & 07~~	
	—		2/13/16	02/01/18; 12/02/17; 12/01/17		
	0.9, 5%		2/8/17	11/8/19; 10/19/17		
	1:1	2/9/16	2/9/17	1/4/18		PG
10	6N	2/9/16	2/9/17	2/1/17		PG
	—	2/9/16	3/9/16	02/01/19; 01/24/18		MEB
	—	2/10/16	2/10/17	2/10/19; 01/24/18	IC-01	MEB
	—	1/28/16	1/28/17	6/3/17 / 8/24/17	pH 4.95 Late entry.	[illegible]
	—	1/29/16	1/29/17	10/30/18	pH 5.00 Late entry	[illegible]
15	5N	2/11/16	2/11/17	2/3/17		MEB
	—	↓	2/11/17	02/10/19; 01/24/18	IC-06 & 07	↓
	—	2/12/16	↓	02/10/19; 01/24/18	~~IC-01~~	MEB
	—	↓	2/17/16	02/01/18; 12/02/17; 12/01/17		↓
	—	↓	2/12/17	2/1/19; 11/26/19		MEB
	—	2/15/16	2/15/17	02/01/19; 01/24/18	IC-07	MEB

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory Chemical Inventory Code	Preparation Wt/Vol of Aliquot	Preparation Final Vol (ml)
TCLP FLUID #1	R160215B	7606 / 7878	128.6 / 11.4	2000
POST COLUMN Rgt Crat	R160215C	CIM-151120F / CIM-151130D CIM-150928A	0.5g / 28mL / 100mL	1000
TCLP Fluid 1	R160216A	7606 / 7878	128.6 / 11.4	2000
1,5-Diphenylcarbazide soln	R160216 B	CIM-150106G / #8158	0.25g / 50 mL	50
10% persulfate + H_2PO_4	R160216 C	CIM-151117C / CIM-150424C	100g / 150mL	1000
POST COLUMN Rgt Crat	R160216 D	CIM-151120F / CIM-151130D CIM-150928A	0.5g / 28mL / 100mL	1000
ELUENT Crat	E	CIM-160125F / CIM-151130C	66g / 13mL	2000
ELUENT Crat	R160217A	CIM-160125F / CIM-151130C	66g / 13mL	2000
2% $CuSO_4$	R160217 B	CIM-140211D	2g	100
R1 Buffer	C	R160217B: CIM-150127A CIM-140224A; CIM-151130B	25mL / 85g / 0.1g / 1mL	1000
R2 COLORING Rgt.	D	CIM-150323A / CIM-150911A CIM-151130C	0.2g / 4.0g / 17mL	100
DIGESTION SOLN Crat	R160219 A	#7878 / CIM-160125A	40g / 60g	2000
STLC fluid	R160219B	7877 / 1026	160g	3500
ELUENT Crat	R160219 C	CIM-160125F / CIM-151130C	66g / 13mL	2000
BUFFER Crat	R160219D	CIM-160125F / CIM-151130C	83g / 165 mL	1000
POST COLUMN Rgt Crat	R160220A	CIM-151130F / CIM-151130D CIM-160219B	0.5g / 28mL / 100mL	1000
$MgCl_2$ Soln	R160220B	CIM-151117D	40g	100
POST COLUMN Rgt Crat	R160221A	CIM-151120F / CIM-151130D CIM-160219B	0.5g / 28mL / 100mL	1000
DIGESTION SOL'n Crat	B	#7878 / CIM-160125A	40g / 60g	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	–	2/15/16	3/4/16	10/30/18	pH 4.95	AH
	–	2/15/16	2/20/16	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	MEB
	–	2/16/16	2/16/17	6/3/17/8/24/17	pH 4.89	[illegible]
	–	2/16/16	2/16/16	3/2/18; 2/12/17		–
5	10%; 5%	2/16/16	2/16/17	11/18/19; 10/19/17		MEB
	–	2/16/16	2/21/17	12/01/18; 12/02/17; 12/01/17	IC-01	
	–	1	2/16/17	2/10/19; 01/24/18		1
	–	2/17/16	2/17/17	2/10/19; 01/24/18	IC-06 & 07	MEB
	2%	2/17/16	3/17/16	5/20/17		MEB
10	–	1	3/17/16	3/17/16; 5/20/17; 5/22/18; 01/24/18		1
	–	–	3/17/16	5/22/18 & 02/28/16	2/14/17	–
	–	2/19/16	2/19/17	2/11/19; 1/28/19		MEB
	–	2/19/16	2/19/17	10/30/18	pH 5.01	Amy
	–	1	2/19/17	2/10/19; 01/24/18	IC-01	MEB
15	–	1	3/19/17	2/10/19; 01/24/18		1
	–	2/20/16	2/25/16	12/01/18; 12/03/17; 2/20/18	IC-01	MEB
	–	1	2/20/16	12/28/18		MEB
	–	2/21/16	2/26/16	12/01/18; 6/26/17; 2/20/18	IC-06 & 07	MEB
	–	2/21/16	2/21/17	2/11/19; 01/28/19		1
20						

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory Chemical Inventory Code	Preparation Wt/Vol of Aliquot	Preparation Final Vol (ml)
Digestion Soln Crat	R160222A	#7878 / CINV-160125D	40g / 160g	2000
5N HNO_3	↓ B	#8269	138mL	500
Elvent Crat	R160222C	CINV-160125F / CINV-151130C	66g / 13mL	2000
Elvent Crat	R160223A	CINV-160125G / CINV-151130C	66g / 13mL	2000
Post Column Rgt.	↓ B	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Elvent Crat	R160224A	CINV-160125G / CINV-160125C	66g / 13mL	2000
Post Column Rgt. Crat	R160226A	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Phosphate buffer Crat	R160226B	CINV-140226A0 / CINV-151803A	8.7g ; 6.8g	100
MgCl2 Soln Crat	R160229A	CINV-151117D	40g	100
Digestion Soln Crat	↓ B	#7878 / CINV-160125A	40g / 160g	2000
Elvent Crat	↓ C	CINV-150125G / CINV-160125C	66g / 13mL	2000
Post Column Rgt Crat	↓ D	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Ammonium Molybdate Sb-K tartrate soln	R160301A	CINV-130913D / CINV-131216A	4.0 / 0.1g	500
Ascorbic Acid Solution	↓ B	CINV-141126A / #8162	6g / 2.0mL	100
Elvent Crat	R160302A	CINV-160125G / CINV-160125C	66g / 13mL	2000
Elvent Crat	R160302B	CINV-160125G / CINV-160125C	66g / 13mL	2000
Post Column Rgt Crat	R160304A	CINV-151130F / CINV-151130D CINV-160219B	0.5g / 28mL / 100mL	1000
Elvent Crat	R160307A	CINV-160125G / CINV-160125C	66g / 13mL	2000
Elvent Crat	R160307B	CINV-160219E / CINV-160125C	66g / 13mL	2000

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Reagent Preparation

Preparation		Exp Date			
Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
—	2/22/16	2/22/17	2/11/19; 01/24/19		MEB
5N	2/22/16	2/22/17	2/3/17		J
—	2/22/16	2/22/17	2/10/19; 1/24/18	IC-06 & 07	MEB
—	2/23/16	2/23/17	2/23/19; 01/24/18	J IC-01	MEB
—	1	2/28/16	12/01/18; 12/02/17; 2/20/18		1
—	2/24/16	2/24/17	2/23/19; 2/24/18	IC-06 & 07	MEB
—	2/26/16	3/29/16	12/01/18; 12/02/17; 2/20/18	IC-06 & 07	MEB
—	2/26/16	5/26/16	6/15/17; 8/17/18		MEB
—	2/29/16	2/29/17	12/28/18		MEB
—		2/29/17	2/11/19; 01/24/19		
—		2/29/17	2/23/19; 2/24/18	J IC-01	
—		3/5/16	12/01/18; 12/02/17; 2/20/18		
—	3/1/16	9/23/16	9/23/16; 12/30/16		2
—	1	3/15/16	3/26/18; 2/28/17		1
—	3/2/16	3/2/17	2/23/19; 2/24/18	IC-01	MEB
—	1	1	2/23/19; 2/24/18	IC-06 & 07	MEB
—	3/4/16	3/9/16	12/01/18; 12/02/17; 2/20/18		MEB
—	3/7/16	3/7/17	2/23/19; 2/24/18	IC-06 & IC-07	JAS
—	3/7/16	3/7/17	3/7/19; 2/24/18	IC-01	MEB

* Check reagent expiration date versus stock/manufacturer's expiration date

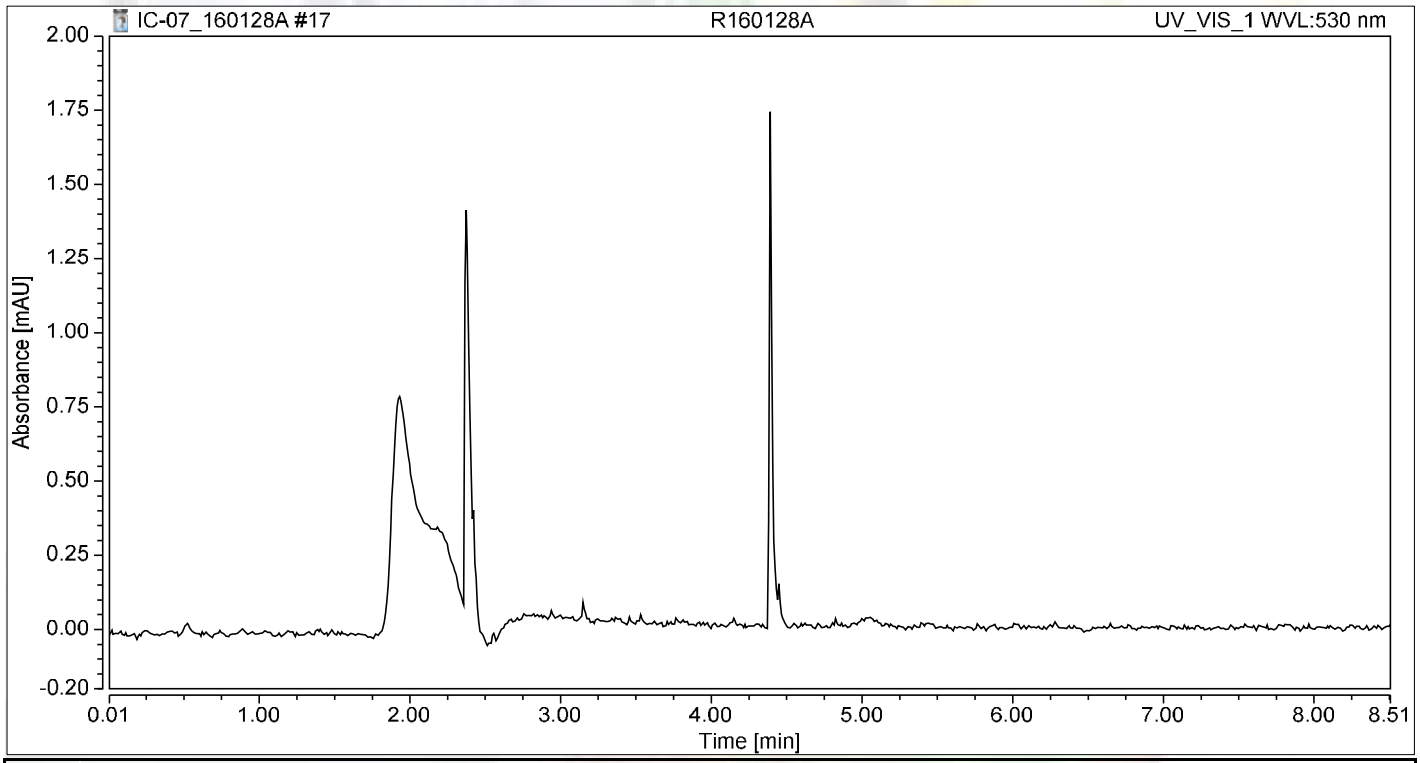
Logbook 4

Chromatogram and Results

Injection Details

Injection Name:	**R160128A**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160105_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/16 11:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

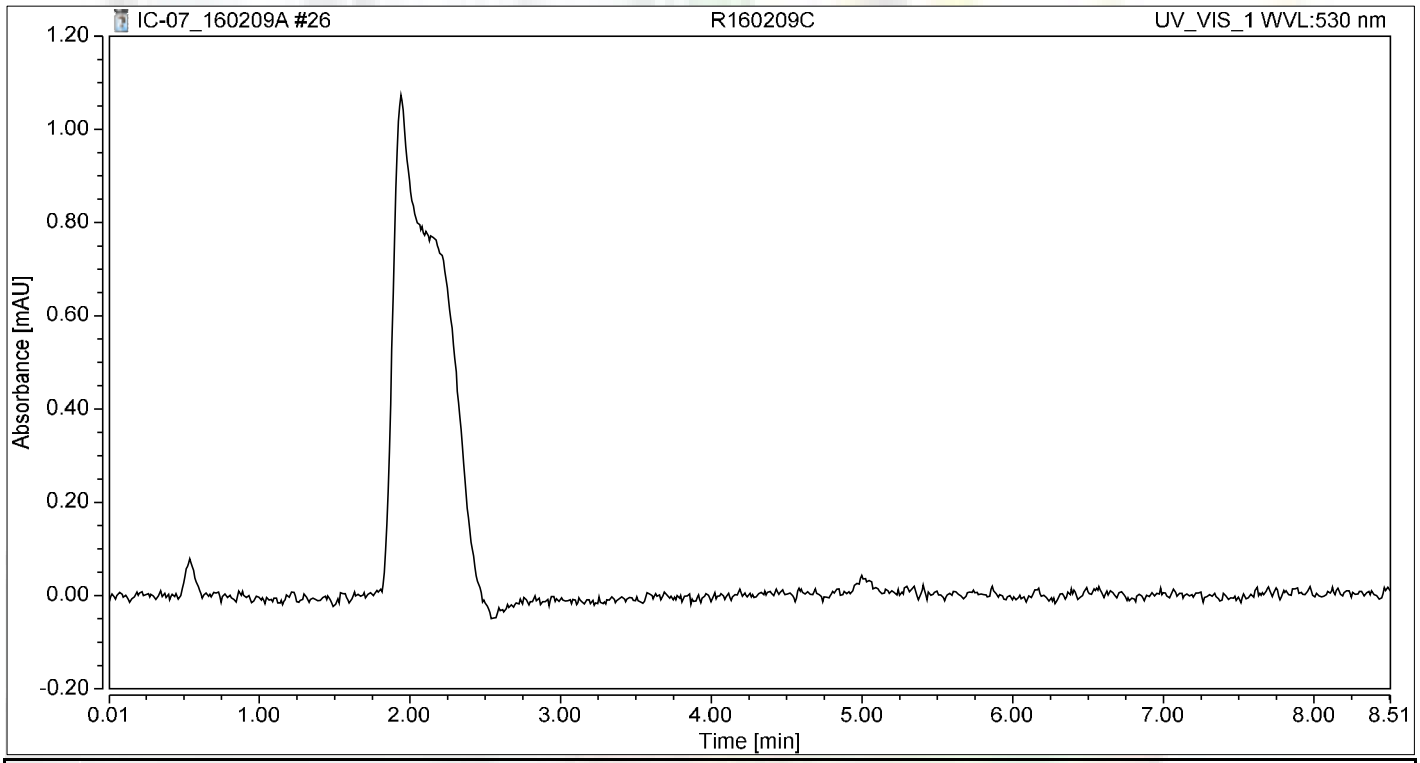
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**R160209C**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**09/Feb/16 13:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

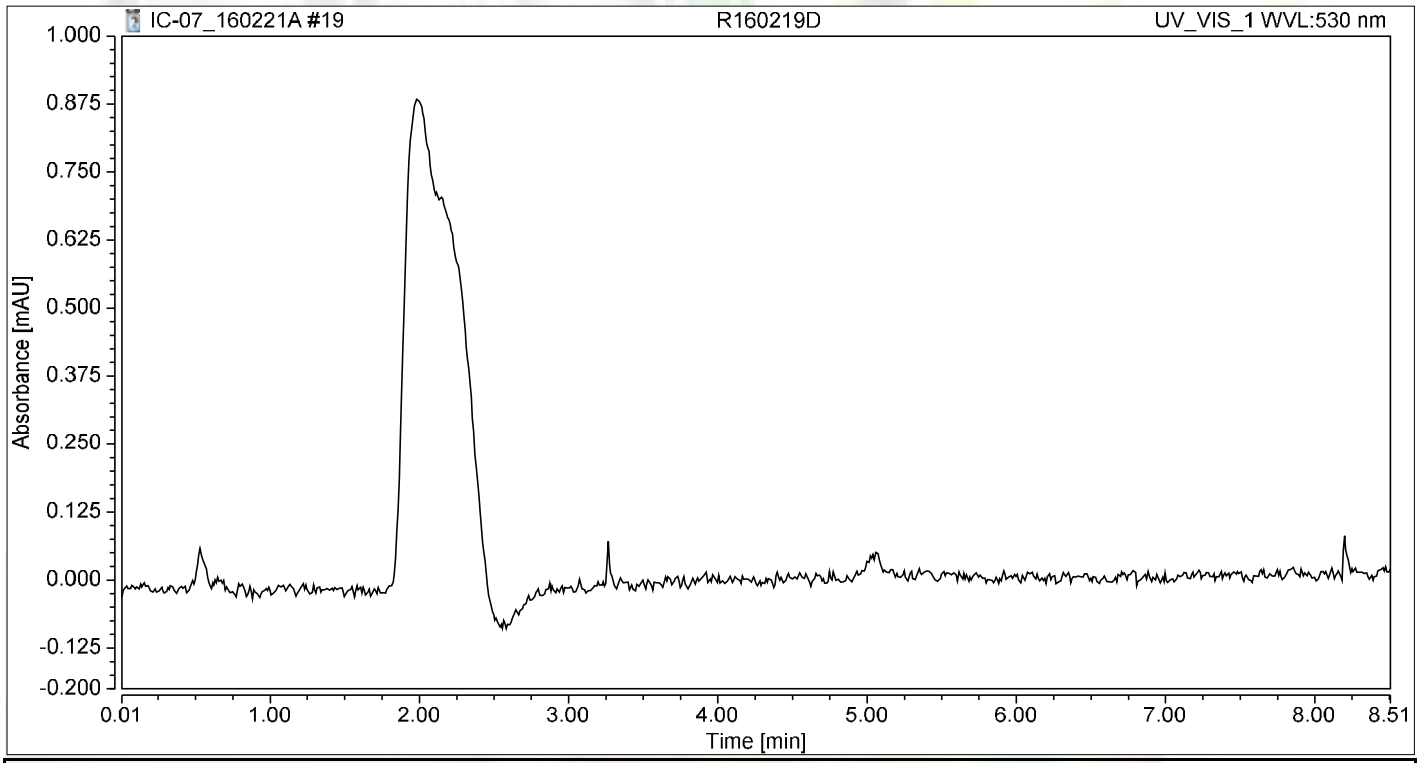
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**R160219D**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160202_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Feb/16 16:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106281 **Analyst:** REB

ASSET #: N018861 **Date Analyzed:** 3/4/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/8/2016 Date: —

2nd Level Reviewer Nancy 3/8/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018861-001C**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.9280*5

= 4.640 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 4.6

Reb 3/8/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

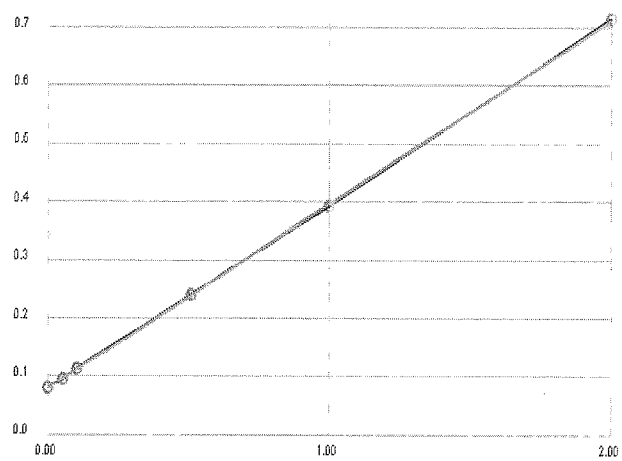
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3165x + 0.0806
Correlation	.999977



Calibrant	Energy	Set	Conc
1	0.0807	0.0000	0.0002
2	0.0963	0.0500	0.0495
3	0.1130	0.1000	0.1023
4	0.2402	0.5000	0.5042
5	0.3939	1.0000	0.9899
6	0.7148	2.0000	2.0039

Notes:

R1 Buffer - R160217C
Coloring Rgt. - R160217D
2% $CuSO_4$ - R160217B

1° ISST - 150206D
2° ISST - 150730E

Reb 3/8/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ICV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.532	0.050	0.5000	0	106	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.498	0.050	0.5000	0	99.6	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.505	0.050	0.5000	0	101	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCV** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2254004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.508	0.050	0.5000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **ICB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2253997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106281**
Client ID: **CCB** Batch ID: **R106281** TestNo: **SM4500-NO3** Analysis Date: **3/4/2016** SeqNo: **2254005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-04-2016 15:07
Time end: 03-04-2016 17:56

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	17:16:39	-0.0036		0.0795
2	<BLANK>	17:17:39	0.0015		0.0811
3	<CAL1>	17:18:33	0.0002	[0]	0.0807
4	<CAL2>	17:19:29	0.0495	[0.05]	0.0963
5	<CAL3>	17:20:30	0.1023	[0.1]	0.1130
6	<CAL4>	17:21:24	0.5042	[0.5]	0.2402
7	<CAL5>	17:22:26	0.9899	[1]	0.3939
8	<CAL6>	17:23:21	2.0039	[2]	0.7148
9	,BLANK,BLANK,1,	17:24:17	0.0419		0.0939
10	,ICV,ICV,1,	17:25:17	0.5323		0.2491
11	,ICB,ICB,1,	17:26:12	0.0163		0.0858
12	,MB-H2O,MBLK,1,	17:27:08	0.0068		0.0828
13	,LCS-H2O,LCS,1,	17:28:08	0.4909		0.2360
14	,N018833-001E,SAMP,1,	17:29:03	0.5156		0.2438
15	,N018833-001EDUP,DUP,1,	17:30:05	0.5244		0.2466
16	,N018833-001EMS,MS,1,	17:31:00	1.0231		0.4044
17	,N018833-001EMSD,MSD,1,	17:32:01	1.0367		0.4087
18	,N018833-002E,SAMP,1,	17:32:56	0.5077		0.2413
19	,N018833-003E,SAMP,1,	17:33:52	0.4963		0.2377
20	,N018833-004E,SAMP,1,	17:34:53	0.5014		0.2393
21	,BLANK,BLANK,1	17:35:47	0.0151		0.0854
22	,CCV-1,CCV,1,	17:36:43	0.4979		0.2382
23	,CCB-1,CCB,1,	17:37:45	0.0100		0.0838
24	,N018833-005E,SAMP,1,	17:38:39	0.5115		0.2425
25	,N018833-006E,SAMP,1,	17:39:40	0.5137		0.2432
26	,N018833-007E,SAMP,1,	17:40:24	0.4998		0.2388

			EPA 353.2 NO3 as N ppm	Flags	OD
27	,N018833-008E,SAMP,1,	17:41:12	0.4998		0.2388
28	,N018833-009E,SAMP,1,	17:41:55	0.5567		0.2568
29	,N018833-010E,SAMP,1,	17:42:37	0.5099		0.2420
30	,N018834-001E,SAMP,1,	17:43:27	0.5526		0.2555
31	,N018834-004E,SAMP,1,	17:44:10	0.4868		0.2347
32	,N018861-001C,SAMP,5,	17:44:52	0.9280		0.3743
33	,BLANK,BLANK,1	17:45:42	0.0170		0.0860
34	,CCV-2,CCV,1,	17:46:24	0.5048		0.2404
35	,CCB-2,CCB,1,	17:47:07	0.0062		0.0826
36	,N018861-002C,SAMP,1,	17:47:55	0.9248		0.3733
37	,N018861-003C,SAMP,1,	17:48:38	-0.0055		0.0789
38	,N018861-004C,SAMP,1,	17:49:28	0.9077		0.3679
39	,N018861-005C,SAMP,5,	17:50:10	0.9317		0.3755
40	,N018861-006C,SAMP,1,	17:50:53	0.0309		0.0904
41	,N018861-007C,SAMP,1,	17:51:41	0.1032		0.1133
42	,BLANK,BLANK,1	17:52:25	-0.0124		0.0767
43	,CCV-3,CCV,1,	17:53:07	0.5080		0.2414
44	,CCB-3,CCB,1,	17:53:56	-0.0061		0.0787

Reb 3/8/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/4/2016
Time Analyzed: 03:07 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018833-001E		8.44						
2)	N018833-002E		8.95						
3)	N018833-003E		8.62						
4)	N018833-004E		8.37						
5)	N018833-005E		8.28						
6)	N018833-006E		7.02						
7)	N018833-007E		8.97						
8)	N018833-008E		8.38						
9)	N018833-009E		8.45						
10)	N018833-010E		8.82						
11)	N018834-001E		7.21						
12)	N018834-004E		8.71						
13)	N018861-001E		8.99						
14)	N018861-002E		8.92						
15)	N018861-003E		8.18						
16)	N018861-004E		8.31						
17)	N018861-005E		8.47						
18)	N018861-006E		8.13						
19)	N018861-007E		8.58						
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/8/2016

STANDARDS LOG

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.269
www.assetlaboratories.com

CHEMICAL INVENTORY LOG

Inventory Code CINV	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
~~SX07~~ 140122A	Sodium Sulfate, anhydrous	EMD	WF03H	99.02	1/22/14			STF	#6912
CINV 140206A	Zinc Acetate 2N	Ricca	1401B21	–	2/5/14		01/16	PS	#6914
CINV 140206 B	2N Zinc Acetate	Ricca	1401B21	–	2/5/14		01/16	PS	
CINV-140211 A	Mercury II oxide	Alfa Aesar	F22I27	99.6%	2/11/14			MC	
B	Pyridine, ACS, 99.0% Liquid	Alfa Aesar	D05Z888	99.0%	2/11/14			MC	
C	Ethanol, Alcohol Reagent	Alfa Aesar	I17Y018	94-96%	2/11/14			MC	
D	Copper II sulfate pentahydrate	Alfa Aesar	C28Y031	98-102%	2/11/14	5/20/14	5/20/17	MC	
E	Ammonium Chloride	Alfa Aesar	D29Z044	99.5%	2/11/14	2/19/14	2/19/17	MC/MI	
CINV-140211F	Silver Nitrate	Spectrum	1040834	≥99.0%	2/11/14			2	
CINV-140213 A	1° Turbidity Std. 0.02 NTU	Oakton	C365301	–	2/13/14	2/13/14	2/13/15	MC	
B	20		C365600						
C	100		C365829						
D	800		C365735						
CINV-140127A	Phosphoric Acid	EMD	53224335	≥85.0%	1/27/14	1/28/14	1/28/16	2	
CINV-140217A	Silica Gel (80-200 Mesh)	J.T. Baker	0000053205	–	2/17/14		6/26/20	PLN	#6962
CINV-140218A	Iron (III) nitrate monohydrate	Alfa Aesar	K132039	98.0-101%	2/18/14			MI	
B	Phenol, ACS, 99+%, stab. Crystalline		A28Z020	99+%					
C	Acetic acid, glacial		J10Z048	99.7%		3/24/14	3/24/16		#6975
D	Sodium hypochlorite		L10Z021	14.5%					
E	Potassium sodium-L tartrate tetrahydrate		C28Z028	99.0-102%					

Advanced Technology Laboratories-Las Vegas
Logbook #2

Inorganics Stock Standard Logbook

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
9/17/14	Hexadecane & Steric Acid	Isst-140917B	8,000mg/ml	Accustandard	214 061302	9/17/14		6/16/2024	PS
		C							
		D							
		E							
9/23/14	Fluoride, 1000 mg/L	Isst-140923A	1000 mg/L	ERA	230314	9/23/14	9/30/14	PS 10/24/14 9/30/15 ~~3/2016~~	PS
	chloride,	B		ERA PS 9/23/14	570414 ~~230314~~		9/30/14	PS 10/24/14 9/30/15 ~~4/2016~~	
	Nitrite as N,	C		PS 9/23/14	070414 ~~570414~~		9/30/14	PS 10/24/14 9/30/15 ~~4/2016~~	
	Bromide,	D		PS 9/23/14	170614 ~~070414~~		9/30/14	PS 10/24/14 9/30/15 ~~6/2016~~	
	Nitrate as N,	E		PS 9/23/14	320614 ~~070414~~		9/30/14	9/30/15 ~~6/2016~~ PS 10/24/14	
	phosphate as P,	F			190714	—	9/25/14	9/25/15 ~~7/2016~~ PS	10/24/14
	sulfate,	G		PS 9/23/14					
11/4/14	Nitrite as N, 1000 mg/L	Isst-141104A	1000 mg/L	Absolute	090514	11/4/14	11/12/14	11/12/15	PS
11/26/14	Tou Standard	Isst-141126A	1000 mg/L	Peak Performance	14K142	11/26/14	12/5/14	12/5/15	PS
1/9/15	100 ppm Cr6+	ISST 150109A	100 ppm	High Purity	1402622	1/9/15	1/26/15	1/6/16	2
2/3/15	EPA 1664 STANDARD (MS/MSD)	ISST 150203A	4000 mg/mL	ULTRA SCIENTIFIC	CL-1755	—	2/13/15	6/31/17	LSR
2/6/15	Fluoride, 1000 mg/L	ISST 150206A	1000 mg/L	Absolute STAS	12/6/14	2/6/15	2/11/15	12/16/17	2
	Chloride, 1000 mg/L	B			122914			12/29/17	
	Bromide, 1000 mg/L	C			112414			11/24/17	
	Nitrate as N, 1000 mg/L	D			12/6/14			12/16/17	

Advanced Technology Laboratories-Las Vegas
Logbook #1

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV - 140218 F	Methyl Red sodium SALT	Alfa Aesar	J31Z031	-	2/18/14			mi	
G	Ethylenediamine tetraacetic acid disodium		K10175810	-					
H	magnesium salt hydrate Glycerol, ACS, 99.5% Viscous liquid		mi 2/18/14 K19Z027	99.5 +%					
I	Potassium cyanide		K22Z010	96.0% min.					
J	Sodium hydrogen phosphate, anhydrous, 99% min., Granular		J16Z014	99.0% min					
K	N-(1-Naphthyl) ethylenediamine dihydrochloride, ACS, powder		K04Z031	-		5/20/14	5/20/17		
L	Calmagite, indicator		10169022	-					
CINV-140218 M	Sodium Nitroferricyanide, Dihydrate	JT Baker	0000052646	-	2/18/14			mi	
N	Chloramine-T, trihydrate	MacRon	00000 562032	-					
CINV-140221A	Sodium Salicylate, 99%	Alfa Aesar	J03Z041	99%	2/21/14			mo	
CINV-140224A	Ethylenediamine tetraacetic acid disodium SALT dihydrate, ACS, 99-101%	Alfa Aesar	A18Z040	99-101%	2/24/14	5/20/14	5/20/17	mi	
B	Calcium carbonate		H01Z033	99%					
CINV-140226A	Dichloromethane	OmniSolv	51090	99.96%	02/25/14			mi	LIMS BTL# 6916
B									6917
C									6918
D									6919
E									6920
F									6921
G									6922
H									6923

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-141003 T	Dichloromethane	EMD	54225	99.9	10/3/14			AH	7200
U									7201
V									7202
W									7203
X									7204
Y									7205
Z									7206
AA									7207
CINV-141006A	Boiling Chips	Chemware	K565-4H031	—	10/6/14			MI	
B	Phosphoric acid	EMD	59010419	min. 85%	10/6/14	2/4/15	2/4/16	MI	
CINV-M1007A	Hydroxylamine Hydrochloride	JT Baker	87923	≥96.0%	10/7/14			L	Re-test date: 12/9/20
B									
C									
D									
CINV-141008A	Acetone	Honeywell	DL089	99.9%	10/8/14			AH	7209
B									7210
C									7211
D									7212
E	Dichloromethane	EMD	54192						7213
F									7214

Advanced Technology Laboratories-Las Vegas
Logbook #2

Inorganics Stock Standard Logbook

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
5/29/15	Hexadecane & Stearic Acid Std	ISST150529A	4mg/mL	ACCU STANDARD	21410420	5/29/15	6/2/15	11/10/24	LSR
		B					6/25/15		
		C					7/13/15		
		D					7/24/15		
		E					8/31/15		
7/9/15	Perchlorate	ISST150709A	100 mg/L	ERA	110415	7/9/15		5/17	2
7/30/15	Fluoride, 1000 ppm	ISST150730A	1000 mg/L	ERA	121214	7/30/15	8/14/15	12/16	2
	Chloride, 1000 ppm	B			260115			1/17	
	Nitrite as N, 1000 ppm	C			100115			1/17	
	Bromide, 1000 ppm	D			170614			1/17	
	Nitrate as N, 1000 ppm	E			270415			4/17	
	Phosphate as P, 1000 ppm	F			280415			4/17	
	Sulfate, 1000 ppm	G			660415			4/17	
8/4/15	KHP 500ppm (TOC STD 1°)	ISST150804A	500mg/L	ABSOLUTE	061015	8/4/15	8/5/15	06/10/18	MEB
8/11/15	Carbon as TOC (TOC STD 1°)	ISST 150811A MEB	1000mg/mL	High purity	1409004	8/11/15	8/11/15	2/6/17	MG
8/14/15	TOC Std 1° (KHP)	ISST-150814A	1000mg/L	CPI	151-1067 ~~151406~~ MEB 8/14/15	8/14/15		02/12/2017	MEB
9/14/15	Hexadecane & Stearic Acid Std	ISST150914A	4mg/mL	ACCU STANDARD	215041058	9/14/15	9/16/15	4/8/25	LSR
		B					9/21/15		
		C							

Advanced Technology Laboratories-Las Vegas
Logbook #1

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
~~CINV-130909~~ AP									
AQ									
AR									
AS									
AT									
AU									
AV									
AW									
AX									
AY									
AZ									
BA									
CINV-130909AG	Sodium metasilicate monohydrate	Acros Organics	A0322526	44-47.5% total solids	9/9/13			Z	
AH	Sand	JTBaker	49649	—		9/10/13	9/10/16		Re-test Date: 8/31/18
CINV-130910A	Sodium metasilicate monohydrate	JTBaker	39835	—	9/10/13			Z	Retest Date: 6/28/16
B	Ammonium Hydroxide	EMD	53043	20-22%		10/7/13	10/7/14		
C	Sulfamic Acid	JTBaker	53304	—					Re-test Date: 10/24/19
D	Sodium Acetate Trihydrate	EMD	A0469422 242	99.0-101.0%					
CINV-130910 E	TCLP Extraction Fluid #1	Environmental Express	130531		9/9/13		05/2015	AK	#6753
CINV-130911 A	Sulfanilamide	JT Baker	0000042228		9/11/13	5/20/14	02/28/2016	AK	

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-150320A	Buffer, pH 2	BDH	1408B19	-	3/20/15		8/2016	LSR	
B	Buffer, pH 12	BDH	1409454	-	3/20/15		9/2015	LSR	
CINV-150323A	N-(1-Naphthyl) ethylenediamine	~~Alfa Aesar~~	~~N03A036~~	-	3/19/15	5/22/15	5/22/18	2	
	dihydrochloride								
CINV-150325A	TETRAbutylammonium hydroxide	Macron			3/25/15	3/26/15	3/26/17	PEB	
B	Heptafluorobutyric acid	Alfa Aesar	G07X060	99%	3/25/15	3/26/15	3/26/17	PEB	
CINV-150335C	1,5-diphenylcarbazide	J.T BAKER	000010030	-	3/25/15	3/25/15	3/25/18	PEB	
CINV-150401A	Sodium Chloride	J.T BAKER		99%	4/1/15	04/14/15	4/14/18	PEB	
CINV-150402A	Hexanes	EMD Chemicals	54308	98.5%	4/2/15	5/22/15	5/22/17	LSR	#7546
B						6/25/15	6/25/17	LSR	#7547
C						7/24/15	7/24/15	LSR	#7548
D						8/28/15	8/28/17	LSR	#7549
CINV-150416A	METHANOL	J.T BAKER	57548	99.8%	4/16/15	5/16/15	5/16/17	PEB	
B	1,5-diphenyl carbazide	J.T. BAKER	000010030	-	4/16/15	7/20/15	7/20/18	PEB	
CINV-150430A	Conductivity Std, 99996	VWR	CC13489	-	4/30/15	6/10/15	2/20/16	LSR	
CINV-150501A	Ferrous Sulfate	Aqua Solutions	501214	-	5/1/15			LSR	
CINV-150506A	Ammonium Persulfate	JTBaker	162447	≥98.0%	5/6/15		7/8/16	2	
B		BDH	3495C517	-		5/8/15	5/8/18		
CINV-150511A	Ammonium Sulfate	J.T BAKER	86693	99%	5/11/15	5/20/15	5/20/18	PEB	
B									

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-150511C	Ammonium Sulfate	J.T BAKER	86693	99.0%	5/11/15	7/7/15	7/7/18	PEB	
↓ D	↓	↓	↓	↓	↓			↓	
CINV-150511E	SULFURIC ACID	J.T BAKER	84185	95-98%	5/11/15	5/16/15	5/16/17	PEB	
CINV-150520 A	Turbidity Std 20 NTU	AMCO	C579123	–	5/20/15	6/3/15	5/2016	LSR	
↓ B	Turbidity Std, 100 NTU	↓	C475122	–	5/20/15	6/3/15	5/2016	LSR	
CINV-150527 A	Conductivity Std 1413 µS/cm	Mettler Toledo	15P150006	–	5/27/15	6/29/15	4/15/17	LSR	
CINV-~~150527B~~ 150528 B	Thymol Blue	Ricca	1505B80	.	~~5/28~~ ↓	6/1/15	5/2017	LSR	
CINV-150528 A	Turbidity Std, 0.02 NTU	Cole Palmer	C475781	–	5/28/15	6/3/15	6/2016	LSR	
↓ B	↓ 20 ↓	↓	C475844	–	↓	↓	↓	↓	
C	100		C475845	–					
↓ D	↓ 800 ↓	↓	C475846	–	↓	↓	↓	↓	
CINV-150528 E	Ammonium Hydroxide	BDH	7214420	–	5/28/15	6/10/15	1/21/18	LSR	#7593
F	Ammonium Hydroxide	↓	↓	–	↓	7/13/15	↓	↓	#7594
G	Hydrochloric Acid	JT Baker	97262		5/28/15			LSR	#7595
H	↓	↓	↓		↓			↓	#7596
I									#7598
J									#75989
K									#~~7599~~ 7600
↓ L	↓	↓	↓		↓			↓	#7601
CINV-150529 A	Ammonium Hydroxide	J.T BAKER		20%	5/29/15	9/4/15	9/4/17	PEB	

Advanced Technology Laboratories-Las Vegas
Logbook #2

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CINV-151117 C	AMMONIUM PERSULFATE	BDH	2455C516	-	11/17/15	1	4/2019	LSR	
↓ D	MAGNESIUM chloride Hexahydrate	EMD Chemicals	YE27A	-	↓			LSR	
CINV-151117 E	METHANOL	HONEYWELL	DN615	-	11/17/15			LSR	
F				-				LSR	
G				-				LSR	
H				-				LSR	
I				-				LSR	
J				-				LSR	
CINV-151119 A	Ammonium Sulfate	J.T BAKER	~~118186~~ PEB 115217	Y=99.0%	11/19/15			PEB	
B									
C									
D									
CINV-151130 A	Conductivity Std, 99893 uS/cm	VWR	CC13872	-	11/30/15		7/13/2016	LSR	
B	Ammonium Hydroxide	BDH	7215070	-		12/01/15	8/2018		
C	↓	↓	↓	-	↓	1/24/16	↓	↓	
CINV-151130 D	SULFURIC ACID	JT BAKER	120287	95%-98%	11/30/15	12/02/15	12/02/17	LSR	
E	↓	↓	↓	↓	↓			↓	
CINV-151130 F	1,5 Diphenyl Carbazide	JT BAKER	104477	-	11/30/15	12/01/15	12/01/18	PEB	
CINV-160111 A	CONDUCTIVITY STD, 9.31 uS/cm	VWR	CC14270	-	1/11/16		11/11/16	LSR	
B	↓ 19,992 uS/cm	↓	CC14206	-	1/11/16	1/27/16	10/24/16	↓	

Advanced Technology Laboratories-Las Vegas
Logbook #2

Reagent Preparation

Reagent Name	Reagent Code	Inventory Chemical Inventory Code	Preparation Wt/Vol of Aliquot	Preparation Final Vol (ml)
1:1 HNO_3	R160109A	8137	1L	2L
ELUENT Crat	R160107C	CINV-151119B / CINV-151130B	66g / 13mL	2000
ELUENT Crat	R160108A	CINV-151119C, CINV-151130B	66g / 13mL	2000
POST COLUMN Rgt Crat	↓ B	CINV-151130F / CINV-151130D / CINV-150928A	0.5g / 28mL / 100mL	1000
POST COLUMN Rgt Crat	R160109A	CINV-151130F / CINV-151130D / CINV-150928A	0.5g / 28mL / 100mL	1000
BUFFER Crat	R160110A	CINV-151119C / CINV-151130B	66g / 13mL	2000
ELUENT Crat	R160110B	CINV-151119C / CINV-151130B	66g / 13mL	2000
GN NaOH	R160110C	CINV-150019C	24g	100
1N H_2SO_4	R160111A	CINV-151130D	31mL	100
ASCORBIC ACID	↓ B	CINV-141126A / #8042	6g / 12mL	100
ELUENT Crat	R160111C	CINV-151119C / CINV-151130B	66g / 13mL	2000
$MgCl_2$ Soln	R160112A	CINV-151117D	40g	100
Phosphate buffer soln	↓ B	CINV-140226A0 / CINV-150803A	8.7g, 4.8g	100
2% $CuSO_4$	R160112C	CINV-140211D	2g, 14mL	100
R1 Buffer	↓ D	R160112C, CINV-150127A, CINV-140224A, CINV-151130B	2.5mL, 85g, 0.1g	2000
POST COLUMN Rgt Crat	R160113A	CINV-151130F / CINV-151130D / CINV-150928A	0.5g / 28mL / 100mL	1000
POST COLUMN Rgt Crat	↓ B	CINV-151130F / CINV-151130D / CINV-150928A	0.5g / 28mL / 100mL	1000
GN HNO_3	↓ C	#8140	138mL	500
ELUENT Crat	↓ D	CINV-151119C / CINV-151130B	66g / 13mL	2000
ELUENT Crat	R160113E	CINV-151119C / CINV-151130B	66g / 13mL	2000

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	1:1	01/04/16	01/04/17	01/04/18		PG
	—	01/07/16	01/07/17	12/28/18; 12/28/17	IC-01	MEB
	—	01/08/16	01/08/17	1/8/19, 12/28/17	IC-06 & 07	MEB
	—	01/08/16	01/16/16	12/10/18 12/02/17, 12/01/17		⊥
5	—	01/08/16	01/14/16	12/01/18, 12/02/17, 12/01/17	IC-01	MEB
	—	01/10/16	02/10/16	1/8/19, 12/28/17		MEB
	—	01/10/16	01/10/17	01/08/19, 12/28/17	IC-06 & 07	MEB
	0.01N	01/10/16	01/10/17	8/24/18		MEB
	1N	01/11/16	01/11/17	12/02/17		?
10	—	01/11/16	01/25/16	8/26/18;		Z
	—	01/11/16	01/11/17	01/8/19, 12/28/17	IC-01	MEB
	—	01/12/16	01/12/17	12/28/18		MEB
	—	⊥	04/12/16	6/15/17 8/7/18		⊥
	2%	01/12/16	02/12/16	5/20/17		MEB
15	—	01/12/16	02/12/16	2/12/16, 5/20/17 12/22/18 12/28/17		⊥
	—	01/13/16	01/18/16	12/01/18 12/01/17, 12/01/17	IC-01	MEB
	—	⊥	⊥	12/01/18, 12/01/17, 12/01/17	IC-06 & 07	⊥
	5%	⊥	01/18/17	—		⊥
	—	⊥	01/18/17	01/08/19, 12/28/17	IC-06 & 07	⊥
20	—	⊥	01/18/17	01/08/19, 12/28/17	IC-01	MEB

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

Reagent Preparation

Reagent Name	Reagent Code	Inventory: Chemical Inventory Code	Preparation: Wt/Vol of Aliquot	Preparation: Final Vol (ml)
TCLP FLUID #1	R160215B	7606 / 7878	128.6 / 11.4	2000
POST COLUMN Rgt Crat	R160215C	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
TCLP Fluid 1	R160216A	7606 / 7878	128.6 / 11.4	2000
1,5-Diphenylcarbazide soln	R160216~~A~~ 2 B	CINV-1501066 / #8158	0.25g / 50 mL	50
10% persulfate + H_3PO_4	R160216 C	CIN-151117C / CIN-150924C	100g / 50mL	1000
POST COLUMN Rgt Crat	R160216 D	CIN-151130F / CIN-151130D CIN-150928A	0.5g / 28mL / 100mL	1000
ELUENT Crat	⊥ E	CIN-160125F / CIN-151130C	66g / 13mL	2000
ELUENT Crat	R160217A	CIN-160125F / CIN-151130C	66g / 13mL	2000
2% $CuSO_4$	R160217 B	CIN-140211D	2g	100
R_1 Buffer	⊥ C	R160217B; CIN-150127A CIN-140224A; CIN-151130B	2.5mL / 85g / 0.1g / 14mL	1000
R_2 COLORING Rgt.	⊥ D	CIN-150323A / CIN-150911A CIN-151130C	0.2g / 4.0g / 17mL	100
DIGESTION SOLN Crat	R160219 A	#7878 / CIN-160125A	40g / 60g	2000
STLC fluid	R160219B	7877 / 1503	160g	3500
ELUENT Crat	R160219 C	CIN-160125F / CIN-151130C	66g / 13mL	2000
BUFFER Crat	R160219D	CIN-160125F / CIN-151130C	33g / 65 mL	1000
POST COLUMN Rgt Crat	R160220A	CIN-151130F / CIN-151130D CIN-160219B	0.5g / 28mL / 100mL	1000
$MgCl_2$ Soln	R160220B	CIN-151117D	40g	100
POST COLUMN Rgt Crat	R160221A	CIN-151130F / CIN-151130D CIN-160219B	0.5g / 28mL / 100mL	1000
DIGESTION SOL'N Crat	⊥ B	#7878 / CIN-160125A	40g / 60g	2000

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"Serving Clients with Passion and Professionalism"

Reagent Preparation

	Preparation		Exp Date			
	Final Conc.	Date Prepared	Reagent	Stock/ Manufacturer	Comments	Initials
1	–	2/15/16	3/4/16 //	10/30/18	pH 4.95	AH
	–	2/15/16	2/20/16	12/01/18; 12/02/17; 12/01/17	IC-06 & 07	MEB
	–	2/16/16	2/16/17	6/3/17/8/24/17	pH 4.89	[illegible]
	–	2/16/16	2/16/16	3/2/18 ; 2/12/17		–
5	10%; 5%	2/16/16	2/16/17	1/18/19; 10/19/17		MEB
	–	2/16/16	2/2/17	12/01/18; 12/02/17; 12/01/17	IC-01	
	–	1	2/16/17	2/10/19; 01/24/18		1
	–	2/17/16	2/17/17	2/10/19; 01/24/18	IC-06 & 07	MEB
	2%	2/17/16	3/17/16	5/20/17		MEB
10	–	1	3/17/16	3/17/16; 5/20/17; 5/22/18; 01/24/18		1
	–	–	3/17/16	5/22/18 & 02/28/16	2/14/17	–
	–	2/19/16	2/19/17	2/11/19; 1/28/19		MEB
	–	2/19/16	2/19/17	10/30/18	pH 5.01	Amy
	–	1	2/19/17	2/10/19 ; 01/24/18	IC-01	MEB
15	–	1	3/19/17	2/10/19 01/24/18		1
	–	2/20/16	2/25/16	12/01/18; 12/03/17; 2/20/18	IC-01	MEB
	–	1	2/20/16	12/28/18		MEB
	–	2/21/16	2/26/16	12/01/18; 6/26/17; 2/20/18	IC-06 & 07	MEB
	–	2/21/16	2/21/17	2/11/19; 01/28/19		1
20						

* Check reagent expiration date versus stock/manufacturer's expiration date

Logbook 4

CHEMICAL INVENTORY LOG

Inventory Code	Chemical Name	Vendor	Lot #	% Purity	Date Rec'd	Date Opened	Date Expired	Init	Comments
CIW-160111 C	Buffer, pH 7	Thermo Scientific	TP2		1/11/16		11/2017	LSR	
D	↓, pH 10	VWR	1509B50		1/11/16		3/2017	LSR	
E	CONDUCTIVITY STD, 1413 mV/cm	Metteler Toledo	1511260009		1/11/16		8/24/17	LSR	
CIW-160112 A	HEXANES	EMD Chemicals	55219		1/12/16	1/12/16	1/12/18	LSR	8147
B						1/19/16	1/19/18	LSR	8148
C						1/28/16	1/28/18	LSR	8149
D						2/17/16	2/17/18	LSR	8150
CIW-160125 A	SODIUM CARBONATE	MACRON	109514		1/25/16			REB	
CIW-160125 B									
C	Ammonium hydroxide	BDH	7215070		1/25/16	2/24/16	2/24/18	REB	
CIW-160125 ~~A~~ D REB 1/25/16	Ammonium sulfate	JT. BAKER	126292	≥99%	1/25/16	1/25/16	1/25/19	REB	
E						02/01/16	02/01/19		
F									
G									
CIW-160125 H	1,5 diphenyl carbazide	J.T	125086		1/25/16			REB	
CIW-160125 ~~C~~ I 1/25/16	Turbidity, 5.0 NTU	AMCO Clear	C585117	–	1/25/16	2/1/16 2/27/16	1/2017	LSR	
CIW-160219 A	Zinc acetate	RICCA	1601D42	–	2/19/16		01/2018	XRJ	
CIW-160219 B	METHANOL	J.T BAKER	121483	99.5%	2/19/16	2/20/16	2/20/18	REB	
C	Magnesium chloride	Omn. Pur	15K18008						
D	Ammonium persulfate	BDH	2455C516	≥98%					

Advanced Technology Laboratories-Las Vegas
Logbook #2

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018861

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of IS is failing. All samples for rerun. except for Cr

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date: —

2nd Level Reviewer 3/9/201 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018861

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 2/26/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of IS is failing. All samples for rerun. **except for Cr**

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date:

2nd Level Reviewer 3/9/201 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018861

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Ge [2] & Rh [2] IS in N018861-004B, 005B, 006B failed. Mo & Se for rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ 3/9/2016 Date: _____

2nd Level Reviewer _____ 3/9/201 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018861

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/7/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).		X				
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Rh [2] IS in N018861-007B, PS/MS/MSD. Mo for rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date: —

2nd Level Reviewer 3/9/201 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56418
ASSET #: N018861

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/8/2016

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits			X			
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Mo & Se in N018861-004B, 005B & 006B rerun only.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date:

2nd Level Reviewer 3/9/201 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56419
ASSET #: N018861

Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/8/2016

Method:

- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X				
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .			X			
24. LCS compounds within control limits.			X			
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Mo in N018861-007B PS/MS/MSD rerun only.
%Rec of Mo in N018861-007B PS/MSD failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/9/2016 Date: —

2nd Level Reviewer 3/9/201 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018861-002B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 2.08389 * 1 * (25/25)

Chromium , ug/L = 2.083890

Reporting results in two significant figures,

Chromium , ug/L = 2.1

% RSD SUMMARY

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.098	8.75	15	PASS	0.064	6.65	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	1.81	15	PASS	0.46	1.93	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.72	15	PASS	5	0.49	15	PASS
Std4-10/100 ppb	ICAL	1	10.098	0.3	15	PASS	10.0032	0.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.95	0.4	15	PASS	19.68	0.44	15	PASS
Std6-40/400 ppb	ICAL	1	39.77	0.53	15	PASS	39.12	0.31	15	PASS
Std7-100/1000 ppb	ICAL	1	100.69	1.42	15	PASS	98.18	0.5	15	PASS
Std8-200/2000 ppb	ICAL	1	199.7	0.68	15	PASS	201.12	0.47	15	PASS
ICV	ICV	1	10.34	0.46	15	PASS	97.95	0.43	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.045	0.58	20	PASS	0.49	4.81	20	PASS
ICSA1	ICSA	1	0.17	3.069	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.12	0.63	15	PASS	16.46	1.38	15	PASS
MB-56418	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56418	LCS	1	9.76	0.86	15	PASS	94.58	0.23	15	PASS
N018833-001B	SAMP	1	0.0028	169.57	15	<PQL	<0.000	N/A	15	<PQL
N018833-001B	SAMP	5	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018833-001B-PS	PS	1	9.17	0.77	15	PASS	88.66	0.095	15	PASS
N018833-001B-MS	MS	1	9.31	0.26	15	PASS	96.6	0.55	15	PASS
N018833-001B-MSD	MSD	1	9.29	0.62	15	PASS	89.87	0.34	15	PASS
N018833-002B	SAMP	1	0.031	26.37	15	<PQL	0.24	22.54	15	<PQL
N018833-003B	SAMP	1	0.37	4.23	15	PASS	113.69	0.096	15	PASS
N018833-004B	SAMP	1	0.025	50.98	15	<PQL	110.56	0.74	15	PASS
CCV1	CCV	1	20.24	0.99	15	PASS	20.07	0.56	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018833-005B	SAMP	1	0.045	3.7	15	PASS	0.071	19.95	15	<PQL
N018833-006B	SAMP	1	0.056	7.31	15	PASS	6.83	1.9	15	PASS
N018833-007B	SAMP	1	0.052	1.44	15	PASS	0.44	7.65	15	PASS
N018833-008B	SAMP	1	0.023	20.7	15	<PQL	<0.000	N/A	15	<PQL
N018833-009B	SAMP	1	0.0069	62.81	15	<PQL	<0.000	N/A	15	<PQL
N018833-010B	SAMP	1	0.11	11.42	15	PASS	<0.000	N/A	15	<PQL
N018834-001B	SAMP	1	0.021	45.57	15	<PQL	0.61	1.94	15	PASS
N018834-001B-MS	MS	1	9.19	0.43	15	PASS	90.16	0.72	15	PASS
N018834-002B	SAMP	1	<0.000	N/A	15	<PQL	15.55	0.59	15	PASS
N018834-003B	SAMP	1	0.051	27.54	15	<PQL	12.39	0.98	15	PASS
CCV2	CCV	1	20.38	1.42	15	PASS	20.43	1.43	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.015	16.52	15	<PQL
N018834-004B	SAMP	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018861-001B	SAMP	1	553.94	0.97	15	PASS	2.3	0.93	15	PASS
N018861-002B	SAMP	1	2.084	0.69	15	PASS	1.34	2.65	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	<0.000	N/A	15	<PQL	888.95	0.49	15	PASS
N018861-004B	SAMP	1	110.93	0.66	15	PASS	26.24	0.39	15	PASS
N018861-005B	SAMP	1	48.64	0.63	15	PASS	16.24	0.47	15	PASS
N018861-006B	SAMP	1	0.42	6.14	15	PASS	12.99	1.35	15	PASS
CCV3	CCV	1	20.16	0.062	15	PASS	20.0093	0.26	15	PASS
CCB3	CCB	1	0.0025	310.52	15	<PQL	0.00054	829.95	15	<PQL
CCV4	CCV	1	20.098	1.071	15	PASS	20.005	0.87	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.013	45.073	15	<PQL
LLCCV1	CCV2	1	1.014	2.92	20	PASS	0.49	5.23	20	PASS
ICSA2	ICSA	1	0.16	5.75	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	19.74	0.54	15	PASS	16.35	1.29	15	PASS
CCV5	CCV	1	20.09	0.9	15	PASS	19.89	0.53	15	PASS
CCB5	CCB	1	0.032	17.27	15	<PQL	<0.000	N/A	15	<PQL
CCV6	CCV	1	27.92	1.98	15	PASS	20.085	1.63	15	PASS
CCB6	CCB	1	4.053	14.037	15	PASS	0.0032	114.36	15	<PQL
LLCCV2	CCV2	1	3.027	7.16	20	PASS	0.48	4.33	20	PASS
ICSA3	ICSA	1	1.58	10.41	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.66	1.27	15	PASS	16.51	1.12	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	19.59	15	<PQL	0.1	26.28	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.48	5.026	15	PASS	0.47	8.85	15	PASS
Std3-5/50 ppb	ICAL	1	5.053	0.78	15	PASS	4.98	3.95	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	1.91	15	PASS	10.25	2.89	15	PASS
Std5-20/200 ppb	ICAL	1	20.27	0.95	15	PASS	20.73	1.38	15	PASS
Std6-40/400 ppb	ICAL	1	40.24	1.38	15	PASS	40.54	0.69	15	PASS
Std7-100/1000 ppb	ICAL	1	100.75	0.86	15	PASS	100.44	1.19	15	PASS
Std8-200/2000 ppb	ICAL	1	199.53	0.85	15	PASS	199.59	0.88	15	PASS
ICV	ICV	1	9.96	3.61	15	PASS	10.16	3.87	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.025	68.0016	15	<PQL
LLICV	CCV1	1	0.11	9.71	20	PASS	0.49	11.65	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.028	26.29	15	<PQL
ICSAB1	ICSAB	1	20.2	0.5	15	PASS	19.28	1.34	15	PASS
MB-56418	MBLK	1	<0.000	N/A	15	<PQL	0.016	0.1	15	PASS
LCS-56418	LCS	1	9.34	2.019	15	PASS	8.77	1.65	15	PASS
N018833-001B	SAMP	1	2.3	2.072	15	PASS	1.65	3.38	15	PASS
N018833-001B	SAMP	5	0.47	1.8	15	PASS	0.39	16.94	15	<PQL
N018833-001B-PS	PS	1	12.12	1.65	15	PASS	10.48	2.84	15	PASS
N018833-001B-MS	MS	1	11.91	0.46	15	PASS	10.73	0.77	15	PASS
N018833-001B-MSD	MSD	1	12.031	1.47	15	PASS	10.63	0.88	15	PASS
N018833-002B	SAMP	1	2.29	1.85	15	PASS	1.66	8.5	15	PASS
N018833-003B	SAMP	1	2.55	1.17	15	PASS	1.57	11.87	15	PASS
N018833-004B	SAMP	1	2.36	2.12	15	PASS	1.52	8.16	15	PASS
CCV1	CCV	1	20.27	1.71	15	PASS	20.13	1.29	15	PASS
CCB1	CCB	1	0.0063	21.16	15	<PQL	0.019	48.038	15	<PQL
N018833-005B	SAMP	1	2.36	2.79	15	PASS	1.57	9.55	15	PASS
N018833-006B	SAMP	1	2.27	3.59	15	PASS	1.53	11.34	15	PASS
N018833-007B	SAMP	1	2.39	1.056	15	PASS	1.59	3.35	15	PASS
N018833-008B	SAMP	1	2.36	1.16	15	PASS	1.66	6.28	15	PASS
N018833-009B	SAMP	1	2.33	2.22	15	PASS	1.7	4.17	15	PASS
N018833-010B	SAMP	1	2.21	3.99	15	PASS	1.59	1.97	15	PASS
N018834-001B	SAMP	1	2.27	1.5	15	PASS	1.62	1.7	15	PASS
N018834-001B-MS	MS	1	12.02	1.4	15	PASS	10.79	3.38	15	PASS
N018834-002B	SAMP	1	2.27	1.63	15	PASS	1.41	9.93	15	PASS
N018834-003B	SAMP	1	2.11	2.015	15	PASS	1.24	8.19	15	PASS
CCV2	CCV	1	20.1	0.93	15	PASS	20.039	1.27	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.0073	195.95	15	<PQL
N018834-004B	SAMP	1	2.45	0.4	15	PASS	1.78	1.37	15	PASS
N018861-001B	SAMP	1	1.26	1.35	15	PASS	3.81	1.27	15	PASS
N018861-002B	SAMP	1	1.53	1.42	15	PASS	0.92	9.91	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	3.69	2.3	15	PASS	0.097	51.37	15	<PQL
N018861-004B	SAMP	1	10.58	1.094	15	PASS	1.28	14.76	15	PASS
N018861-005B	SAMP	1	1.54	1.19	15	PASS	4.67	6.024	15	PASS
N018861-006B	SAMP	1	6.75	3	15	PASS	2.72	9.67	15	PASS
CCV3	CCV	1	20.31	1.19	15	PASS	20.2	3	15	PASS
CCB3	CCB	1	0.0024	199.86	15	<PQL	0.0051	287.87	15	<PQL
CCV4	CCV	1	20.37	0.54	15	PASS	20.8	2.25	15	PASS
CCB4	CCB	1	0.0012	56.32	15	<PQL	0.006	179.56	15	<PQL
LLCCV1	CCV2	1	0.098	16.56	20	PASS	0.5	13.31	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.023	80	15	<PQL
ICSAB2	ICSAB	1	20.37	0.37	15	PASS	19.51	1.44	15	PASS
CCV5	CCV	1	20.62	1.48	15	PASS	20.45	2.34	15	PASS
CCB5	CCB	1	0.00014	4234.47	15	<PQL	0.0051	290.48	15	<PQL
CCV6	CCV	1	20.39	0.54	15	PASS	20.61	0.84	15	PASS
CCB6	CCB	1	0.0051	292.0053	15	<PQL	0.024	63.98	15	<PQL
LLCCV2	CCV2	1	0.083	24.88	20	<PQL	0.5	3.6	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.024	100.78	15	<PQL
ICSAB3	ICSAB	1	20.35	0.75	15	PASS	19.19	1.78	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	200.0022	1.13	15	PASS
ICV	ICV	1	9.54	0.89	15	PASS
ICB	ICB	1	0.27	4.45	15	PASS
LLICV	CCV1	1	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	23.2	0.96	15	PASS
MB-56418	MBLK	1	0.099	2.54	15	PASS
LCS-56418	LCS	1	9.91	0.61	15	PASS
N018833-001B	SAMP	1	5.36	0.83	15	PASS
N018833-001B	SAMP	5	1.065	2.67	15	PASS
N018833-001B-PS	PS	1	16.013	1.038	15	PASS
N018833-001B-MS	MS	1	16.054	0.92	15	PASS
N018833-001B-MSD	MSD	1	16.03	1.36	15	PASS
N018833-002B	SAMP	1	5.37	1.23	15	PASS
N018833-003B	SAMP	1	5.63	0.85	15	PASS
N018833-004B	SAMP	1	5.78	2.38	15	PASS
CCV1	CCV	1	19.89	1.67	15	PASS
CCB1	CCB	1	0.11	5.59	15	PASS
N018833-005B	SAMP	1	5.53	0.98	15	PASS
N018833-006B	SAMP	1	5.22	2.036	15	PASS
N018833-007B	SAMP	1	5.44	0.64	15	PASS
N018833-008B	SAMP	1	5.46	1.34	15	PASS
N018833-009B	SAMP	1	5.37	3.3	15	PASS
N018833-010B	SAMP	1	5.2	0.52	15	PASS
N018834-001B	SAMP	1	5.33	0.99	15	PASS
N018834-001B-MS	MS	1	16.31	1.64	15	PASS
N018834-002B	SAMP	1	6.37	0.57	15	PASS
N018834-003B	SAMP	1	5.84	0.99	15	PASS
CCV2	CCV	1	19.97	1.33	15	PASS
CCB2	CCB	1	0.11	12.11	15	PASS
N018834-004B	SAMP	1	5.43	0.85	15	PASS
N018861-001B	SAMP	1	14.5	0.55	15	PASS
N018861-002B	SAMP	1	20.96	0.7	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N018861-003B	SAMP	1	71.8	1.66	15	PASS
N018861-004B	SAMP	1	80.91	0.86	15	PASS
N018861-005B	SAMP	1	25.47	0.34	15	PASS
N018861-006B	SAMP	1	67.5	1.65	15	PASS
CCV3	CCV	1	20.37	0.56	15	PASS
CCB3	CCB	1	0.17	16.46	15	<PQL
CCV4	CCV	1	20.039	1.18	15	PASS
CCB4	CCB	1	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	23.23	0.89	15	PASS
CCV5	CCV	1	20.19	0.37	15	PASS
CCB5	CCB	1	0.12	1.077	15	PASS
CCV6	CCV	1	20.16	0.61	15	PASS
CCB6	CCB	1	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.098	8.75	15	PASS	0.064	6.65	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.5	1.81	15	PASS	0.46	1.93	15	PASS
Std3-5/50 ppb	ICAL	1	5	0.72	15	PASS	5	0.49	15	PASS
Std4-10/100 ppb	ICAL	1	10.098	0.3	15	PASS	10.0032	0.91	15	PASS
Std5-20/200 ppb	ICAL	1	19.95	0.4	15	PASS	19.68	0.44	15	PASS
Std6-40/400 ppb	ICAL	1	39.77	0.53	15	PASS	39.12	0.31	15	PASS
Std7-100/1000 ppb	ICAL	1	100.69	1.42	15	PASS	98.18	0.5	15	PASS
Std8-200/2000 ppb	ICAL	1	199.7	0.68	15	PASS	201.12	0.47	15	PASS
ICV	ICV	1	10.34	0.46	15	PASS	97.95	0.43	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.045	0.58	20	PASS	0.49	4.81	20	PASS
ICSA1	ICSA	1	0.17	3.069	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.12	0.63	15	PASS	16.46	1.38	15	PASS
CCV1	CCV	1	20.24	0.99	15	PASS	20.07	0.56	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.38	1.42	15	PASS	20.43	1.43	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.015	16.52	15	<PQL
MB-56419	MBLK	1	0.01	79.39	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	9.63	0.64	15	PASS	94.67	0.79	15	PASS
N018861-007B	SAMP	1	5.58	1.46	15	PASS	18.34	0.17	15	PASS
CCV3	CCV	1	20.16	0.062	15	PASS	20.0093	0.26	15	PASS
CCB3	CCB	1	0.0025	310.52	15	<PQL	0.00054	829.95	15	<PQL
N018861-007B	SAMP	5	1.11	2.23	15	PASS	4.76	0.67	15	PASS
N018861-007B-PS	PS	1	13.57	0.18	15	PASS	96.32	0.16	15	PASS
N018861-007B-MS	MS	1	13.9	0.39	15	PASS	97.24	0.51	15	PASS
N018861-007B-MSD	MSD	1	13.71	1.017	15	PASS	97.13	0.83	15	PASS
N018843-001B	SAMP	1	0.058	15.33	15	<PQL	<0.000	N/A	15	<PQL
N018843-002B	SAMP	1	0.014	31.64	15	<PQL	<0.000	N/A	15	<PQL
N018843-003B	SAMP	1	0.058	9.39	15	PASS	<0.000	N/A	15	<PQL
N018843-004B	SAMP	1	0.028	24.28	15	<PQL	<0.000	N/A	15	<PQL
N018843-005B	SAMP	1	0.096	6.52	15	PASS	<0.000	N/A	15	<PQL
N018843-006B	SAMP	1	0.017	37.37	15	<PQL	<0.000	N/A	15	<PQL
CCV4	CCV	1	20.098	1.071	15	PASS	20.005	0.87	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.013	45.073	15	<PQL
LLCCV1	CCV2	1	1.014	2.92	20	PASS	0.49	5.23	20	PASS
ICSA2	ICSA	1	0.16	5.75	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	19.74	0.54	15	PASS	16.35	1.29	15	PASS
N018843-007B	SAMP	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018843-008B	SAMP	1	0.023	17.34	15	<PQL	<0.000	N/A	15	<PQL
N018843-009B	SAMP	1	0.0069	81.59	15	<PQL	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	0.037	25.97	15	<PQL	<0.000	N/A	15	<PQL
N018843-010B-MS	MS	1	9.22	0.74	15	PASS	90.38	1.059	15	PASS
N018844-001B	SAMP	1	0.027	18.2	15	<PQL	0.4	5.47	15	PASS
N018845-001B	SAMP	1	7.2	0.92	15	PASS	9.44	1.29	15	PASS
N018845-002B	SAMP	1	0.4	2.97	15	PASS	73.69	0.55	15	PASS
N018845-003B	SAMP	1	625.83	1.16	15	PASS	2.038	2.39	15	PASS
N018845-004B	SAMP	1	625.71	0.67	15	PASS	1.98	1.46	15	PASS
CCV5	CCV	1	20.09	0.9	15	PASS	19.89	0.53	15	PASS
CCB5	CCB	1	0.032	17.27	15	<PQL	<0.000	N/A	15	<PQL
N018845-006B	SAMP	1	146.96	1.27	15	PASS	8.029	1.41	15	PASS
N018845-007B	SAMP	1	475.68	1.025	15	PASS	26.67	1.064	15	PASS
N018845-008B	SAMP	1	0.27	4.6	15	PASS	210.86	0.24	15	PASS
N018845-005B	SAMP	1	36331.98	0.5	15	PASS	<0.000	N/A	15	<PQL
CCV6	CCV	1	27.92	1.98	15	PASS	20.085	1.63	15	PASS
CCB6	CCB	1	4.053	14.037	15	PASS	0.0032	114.36	15	<PQL
LLCCV2	CCV2	1	3.027	7.16	20	PASS	0.48	4.33	20	PASS
ICSA3	ICSA	1	1.58	10.41	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.66	1.27	15	PASS	16.51	1.12	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	19.59	15	<PQL	0.1	26.28	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.48	5.026	15	PASS	0.47	8.85	15	PASS
Std3-5/50 ppb	ICAL	1	5.053	0.78	15	PASS	4.98	3.95	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	1.91	15	PASS	10.25	2.89	15	PASS
Std5-20/200 ppb	ICAL	1	20.27	0.95	15	PASS	20.73	1.38	15	PASS
Std6-40/400 ppb	ICAL	1	40.24	1.38	15	PASS	40.54	0.69	15	PASS
Std7-100/1000 ppb	ICAL	1	100.75	0.86	15	PASS	100.44	1.19	15	PASS
Std8-200/2000 ppb	ICAL	1	199.53	0.85	15	PASS	199.59	0.88	15	PASS
ICV	ICV	1	9.96	3.61	15	PASS	10.16	3.87	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.025	68.0016	15	<PQL
LLICV	CCV1	1	0.11	9.71	20	PASS	0.49	11.65	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.028	26.29	15	<PQL
ICSAB1	ICSAB	1	20.2	0.5	15	PASS	19.28	1.34	15	PASS
CCV1	CCV	1	20.27	1.71	15	PASS	20.13	1.29	15	PASS
CCB1	CCB	1	0.0063	21.16	15	<PQL	0.019	48.038	15	<PQL
CCV2	CCV	1	20.1	0.93	15	PASS	20.039	1.27	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.0073	195.95	15	<PQL
MB-56419	MBLK	1	0.0039	201.76	15	<PQL	0.0034	356.98	15	<PQL
LCS-56419	LCS	1	9.18	0.63	15	PASS	8.65	3.94	15	PASS
N018861-007B	SAMP	1	14.59	0.43	15	PASS	0.25	18.33	15	<PQL
CCV3	CCV	1	20.31	1.19	15	PASS	20.2	3	15	PASS
CCB3	CCB	1	0.0024	199.86	15	<PQL	0.0051	287.87	15	<PQL
N018861-007B	SAMP	5	3.2	0.74	15	PASS	0.078	20.65	15	<PQL
N018861-007B-PS	PS	1	23.057	0.57	15	PASS	8.47	3.74	15	PASS
N018861-007B-MS	MS	1	23.25	0.29	15	PASS	8.56	4.42	15	PASS
N018861-007B-MSD	MSD	1	23.44	0.35	15	PASS	8.25	5.17	15	PASS
N018843-001B	SAMP	1	2.3	1.24	15	PASS	1.69	9.9	15	PASS
N018843-002B	SAMP	1	2.36	1.94	15	PASS	1.83	3.35	15	PASS
N018843-003B	SAMP	1	2.29	3.16	15	PASS	1.58	4.26	15	PASS
N018843-004B	SAMP	1	2.28	1.83	15	PASS	1.72	9.73	15	PASS
N018843-005B	SAMP	1	2.52	3.28	15	PASS	1.86	4.15	15	PASS
N018843-006B	SAMP	1	2.27	2	15	PASS	1.69	6.77	15	PASS
CCV4	CCV	1	20.37	0.54	15	PASS	20.8	2.25	15	PASS
CCB4	CCB	1	0.0012	56.32	15	<PQL	0.006	179.56	15	<PQL
LLCCV1	CCV2	1	0.098	16.56	20	PASS	0.5	13.31	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.023	80	15	<PQL
ICSAB2	ICSAB	1	20.37	0.37	15	PASS	19.51	1.44	15	PASS
N018843-007B	SAMP	1	2.32	1.26	15	PASS	1.74	5.65	15	PASS
N018843-008B	SAMP	1	2.41	2.52	15	PASS	1.68	6.45	15	PASS
N018843-009B	SAMP	1	2.31	3	15	PASS	1.61	7.92	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	2.21	1.89	15	PASS	1.58	9.043	15	PASS
N018843-010B-MS	MS	1	12.0013	0.62	15	PASS	10.7	1.47	15	PASS
N018844-001B	SAMP	1	2.33	2.17	15	PASS	1.59	5.075	15	PASS
N018845-001B	SAMP	1	5.86	0.31	15	PASS	0.46	13.82	15	PASS
N018845-002B	SAMP	1	5.0056	2.062	15	PASS	0.66	16.86	15	NR!
N018845-003B	SAMP	1	2.38	1.91	15	PASS	12.26	3.033	15	PASS
N018845-004B	SAMP	1	2.34	1.31	15	PASS	11.79	1.35	15	PASS
CCV5	CCV	1	20.62	1.48	15	PASS	20.45	2.34	15	PASS
CCB5	CCB	1	0.00014	4234.47	15	<PQL	0.0051	290.48	15	<PQL
N018845-006B	SAMP	1	0.55	4.9	15	PASS	7.11	5.76	15	PASS
N018845-007B	SAMP	1	2.094	5.48	15	PASS	4.42	4.028	15	PASS
N018845-008B	SAMP	1	14.2	1.47	15	PASS	0.076	34.29	15	<PQL
N018845-005B	SAMP	1	2.74	1.76	15	PASS	17.31	2.37	15	PASS
CCV6	CCV	1	20.39	0.54	15	PASS	20.61	0.84	15	PASS
CCB6	CCB	1	0.0051	292.0053	15	<PQL	0.024	63.98	15	<PQL
LLCCV2	CCV2	1	0.083	24.88	20	<PQL	0.5	3.6	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.024	100.78	15	<PQL
ICSAB3	ICSAB	1	20.35	0.75	15	PASS	19.19	1.78	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.065	7.87	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	2.19	15	PASS
Std3-5/50 ppb	ICAL	1	5	2.19	15	PASS
Std4-10/100 ppb	ICAL	1	9.9	1.023	15	PASS
Std5-20/200 ppb	ICAL	1	19.78	1.22	15	PASS
Std6-40/400 ppb	ICAL	1	39.66	0.29	15	PASS
Std7-100/1000 ppb	ICAL	1	100.19	0.72	15	PASS
Std8-200/2000 ppb	ICAL	1	200.0022	1.13	15	PASS
ICV	ICV	1	9.54	0.89	15	PASS
ICB	ICB	1	0.27	4.45	15	PASS
LLICV	CCV1	1	0.59	7.98	20	PASS
ICSA1	ICSA	1	0.057	16.64	15	<PQL
ICSAB1	ICSAB	1	23.2	0.96	15	PASS
CCV1	CCV	1	19.89	1.67	15	PASS
CCB1	CCB	1	0.11	5.59	15	PASS
CCV2	CCV	1	19.97	1.33	15	PASS
CCB2	CCB	1	0.11	12.11	15	PASS
MB-56419	MBLK	1	0.23	6.7	15	PASS
LCS-56419	LCS	1	9.93	0.7	15	PASS
N018861-007B	SAMP	1	86.49	0.81	15	PASS
CCV3	CCV	1	20.37	0.56	15	PASS
CCB3	CCB	1	0.17	16.46	15	<PQL
N018861-007B	SAMP	5	16.16	0.96	15	PASS
N018861-007B-PS	PS	1	93.56	0.25	15	PASS
N018861-007B-MS	MS	1	96.13	1.43	15	PASS
N018861-007B-MSD	MSD	1	95.14	1.54	15	PASS
N018843-001B	SAMP	1	5.81	1.68	15	PASS
N018843-002B	SAMP	1	5.63	1.47	15	PASS
N018843-003B	SAMP	1	5.4	0.53	15	PASS
N018843-004B	SAMP	1	5.26	2.46	15	PASS
N018843-005B	SAMP	1	5.84	1.49	15	PASS
N018843-006B	SAMP	1	5.13	1.097	15	PASS
CCV4	CCV	1	20.039	1.18	15	PASS
CCB4	CCB	1	0.11	0.73	15	PASS
LLCCV1	CCV2	1	0.5	2.063	20	PASS
ICSA2	ICSA	1	0.002	196.18	15	<PQL
ICSAB2	ICSAB	1	23.23	0.89	15	PASS
N018843-007B	SAMP	1	5.33	1.65	15	PASS
N018843-008B	SAMP	1	5.53	2.91	15	PASS
N018843-009B	SAMP	1	5.45	0.54	15	PASS

PERCENT RSD SUMMARY: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N018843-010B	SAMP	1	5.25	0.92	15	PASS
N018843-010B-MS	MS	1	16.093	0.54	15	PASS
N018844-001B	SAMP	1	5.35	1.037	15	PASS
N018845-001B	SAMP	1	61.99	1.061	15	PASS
N018845-002B	SAMP	1	82.24	0.6	15	PASS
N018845-003B	SAMP	1	90.83	1.63	15	PASS
N018845-004B	SAMP	1	92.85	0.49	15	PASS
CCV5	CCV	1	20.19	0.37	15	PASS
CCB5	CCB	1	0.12	1.077	15	PASS
N018845-006B	SAMP	1	32.58	0.79	15	PASS
N018845-007B	SAMP	1	38.82	0.97	15	PASS
N018845-008B	SAMP	1	41.68	1.16	15	PASS
N018845-005B	SAMP	1	56.78	0.94	15	PASS
CCV6	CCV	1	20.16	0.61	15	PASS
CCB6	CCB	1	0.14	21.96	15	<PQL
LLCCV2	CCV2	1	0.52	3.95	20	PASS
ICSA3	ICSA	1	0.017	76.32	15	<PQL
ICSAB3	ICSAB	1	23.41	0.92	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.091	12.56	15	PASS	0.11	11.33	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	3.7	15	PASS	0.47	5.13	15	PASS
Std3-5/50 ppb	ICAL	1	4.77	0.77	15	PASS	4.83	2.7	15	PASS
Std4-10/100 ppb	ICAL	1	9.67	0.96	15	PASS	9.85	1.16	15	PASS
Std5-20/200 ppb	ICAL	1	19.43	0.53	15	PASS	19.44	0.57	15	PASS
Std6-40/400 ppb	ICAL	1	39.61	0.32	15	PASS	39.61	0.77	15	PASS
Std7-100/1000 ppb	ICAL	1	98.96	1.42	15	PASS	99.78	0.59	15	PASS
Std8-200/2000 ppb	ICAL	1	200.68	1.059	15	PASS	200.26	0.45	15	PASS
ICV	ICV	1	10.3	1.34	15	PASS	100.89	0.77	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.0012	473.087	15	<PQL
LLICV	CCV1	1	0.98	2.35	20	PASS	0.51	2.72	20	PASS
ICSA1	ICSA	1	0.18	11.48	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	21.11	0.63	15	PASS	17.82	1.49	15	PASS
LLICV	CCV1	1	0.95	2.68	20	PASS	0.51	1.89	20	PASS
CCV1	CCV	1	19.35	1.66	15	PASS	19.16	0.86	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018833-001B	SAMP	25	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018833-001B-PS	PS	5	2.042	0.57	15	PASS	19.74	1.12	15	PASS
N018833-001B-MS	MS	5	2.059	0.96	15	PASS	20.051	0.96	15	PASS
N018833-001B-MSD	MSD	5	2.068	1.92	15	PASS	19.89	1.67	15	PASS
N018834-001B	SAMP	5	0.0066	110.59	15	<PQL	0.2	4.38	15	PASS
N018834-001B-MS	MS	5	2.031	1.87	15	PASS	20.066	1.071	15	PASS
CCV2	CCV	1	19.46	0.25	15	PASS	19.16	0.67	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLCCV1	CCV2	1	0.97	0.43	20	PASS	0.52	4.17	20	PASS
ICSA2	ICSA	1	0.18	2.73	15	PASS	<0.000	N/A	15	<PQL
ICSAB	ICSAB	1	22.97	0.87	15	PASS	19.58	0.58	15	PASS
N018861-001B	SAMP	1	559.9	0.95	15	PASS	2.48	1.23	15	PASS
N018861-001B	SAMP	5	123.47	0.17	15	PASS	0.54	3.43	15	PASS
N018861-002B	SAMP	1	2.096	1.55	15	PASS	1.43	1.75	15	PASS
N018861-002B	SAMP	5	0.46	3.52	15	PASS	0.3	5.28	15	PASS
N018861-003B	SAMP	1	<0.000	N/A	15	<PQL	890.39	1.25	15	PASS
N018861-003B	SAMP	5	<0.000	N/A	15	<PQL	194.17	0.48	15	PASS
N018861-003B	SAMP	10	<0.000	N/A	15	<PQL	100.26	1.98	15	PASS
N018861-004B	SAMP	1	112.66	1.041	15	PASS	30.7	1.21	15	PASS
N018861-004B	SAMP	5	26	0.48	15	PASS	7.0061	1.6	15	PASS
N018861-005B	SAMP	1	50.27	0.85	15	PASS	16.72	0.98	15	PASS
CCV3	CCV	1	19.55	0.94	15	PASS	19.16	1.54	15	PASS
CCB3	CCB	1	0.017	24.72	15	<PQL	<0.000	N/A	15	<PQL
N018861-005B	SAMP	5	10.64	1.24	15	PASS	3.55	2.21	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-006B	SAMP	1	0.23	142.11	15	<PQL	15.13	15.97	15	NR!
N018861-006B	SAMP	5	<0.000	N/A	15	<PQL	3.75	2.42	15	PASS
MB-56419	MBLK	1	0.0063	23.58	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	10.25	0.95	15	PASS	100.056	0.76	15	PASS
N018861-007B	SAMP	1	5.49	0.67	15	PASS	23.46	1.13	15	PASS
N018861-007B	SAMP	5	1.13	1.84	15	PASS	4.9	0.98	15	PASS
N018861-007B	SAMP	25	0.23	2.11	15	PASS	1.026	3.53	15	PASS
N018861-007B-PS	PS	1	14.15	1.33	15	PASS	106.088	1.78	15	PASS
N018861-007B-PS	PS	5	3.089	0.48	15	PASS	23.29	0.8	15	PASS
CCV4	CCV	1	19.26	1.36	15	PASS	19.17	1.43	15	PASS
CCB4	CCB	1	0.0049	48.31	15	<PQL	<0.000	N/A	15	<PQL
N018861-007B-MS	MS	1	14.29	1.38	15	PASS	108.48	0.35	15	PASS
N018861-007B-MS	MS	5	3.15	1.33	15	PASS	24.057	0.74	15	PASS
N018861-007B-MSD	MSD	1	14.088	0.52	15	PASS	106.24	0.17	15	PASS
N018861-007B-MSD	MSD	5	3.17	0.85	15	PASS	24.1	0.45	15	PASS
N018843-001B	SAMP	1	0.1	6.11	15	PASS	0.037	161.79	15	<PQL
N018843-002B	SAMP	1	0.026	9.66	15	PASS	<0.000	N/A	15	<PQL
N018843-003B	SAMP	1	0.086	5.48	15	PASS	<0.000	N/A	15	<PQL
N018843-004B	SAMP	1	0.057	11.56	15	PASS	<0.000	N/A	15	<PQL
N018843-005B	SAMP	1	0.12	9.069	15	PASS	<0.000	N/A	15	<PQL
N018843-006B	SAMP	1	0.033	14.029	15	PASS	<0.000	N/A	15	<PQL
CCV5	CCV	1	19.32	0.61	15	PASS	19.019	0.95	15	PASS
CCB5	CCB	1	0.00096	269.0022	15	<PQL	<0.000	N/A	15	<PQL
N018843-007B	SAMP	1	0.021	15.0079	15	<PQL	<0.000	N/A	15	<PQL
N018843-008B	SAMP	1	0.042	25.72	15	<PQL	<0.000	N/A	15	<PQL
N018843-009B	SAMP	1	0.065	7.48	15	PASS	<0.000	N/A	15	<PQL
N018843-010B	SAMP	1	0.074	8.6	15	PASS	0.064	39.21	15	<PQL
N018843-010B	SAMP	5	0.011	50.94	15	<PQL	0.037	40.29	15	<PQL
N018843-010B-MS	MS	1	10.089	0.52	15	PASS	96.83	0.75	15	PASS
N018843-010B-MSD	MSD	1	2.1	4.18	15	PASS	20.29	2.085	15	PASS
N018844-001B	SAMP	1	0.13	15.034	15	<PQL	0.54	5.93	15	PASS
CCV6	CCV	1	19.29	0.92	15	PASS	19.16	0.48	15	PASS
CCB6	CCB	1	0.001	157.92	15	<PQL	<0.000	N/A	15	<PQL
LLCCV2	CCV2	1	0.98	2.22	20	PASS	0.5	2.83	20	PASS
ICSA3	ICSA	1	0.17	3.89	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	22.31	0.34	15	PASS	19.56	1.073	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	7.61	15	PASS	0.08	14.54	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	5.78	15	PASS	0.45	21.93	15	<PQL
Std3-5/50 ppb	ICAL	1	4.61	0.53	15	PASS	4.89	5.2	15	PASS
Std4-10/100 ppb	ICAL	1	9.34	0.24	15	PASS	9.39	1.53	15	PASS
Std5-20/200 ppb	ICAL	1	19.074	0.36	15	PASS	18.96	1.43	15	PASS
Std6-40/400 ppb	ICAL	1	38.77	1.44	15	PASS	38.14	1.73	15	PASS
Std7-100/1000 ppb	ICAL	1	98.11	0.15	15	PASS	99.74	1.33	15	PASS
Std8-200/2000 ppb	ICAL	1	201.33	0.41	15	PASS	200.64	0.52	15	PASS
ICV	ICV	1	10.19	0.55	15	PASS	10.16	0.99	15	PASS
ICB	ICB	1	0.013	36.76	15	<PQL	0.0022	513.46	15	<PQL
LLICV	CCV1	1	0.11	9.27	20	PASS	0.47	3.67	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.012	69.51	15	<PQL
ICSAB1	ICSAB	1	20.82	0.43	15	PASS	19.099	0.85	15	PASS
LLICV	CCV1	1	0.12	13.99	20	PASS	0.53	9.27	20	PASS
CCV1	CCV	1	18.95	0.74	15	PASS	19.014	0.87	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0023	134.48	15	<PQL
N018833-001B	SAMP	25	0.11	10.14	15	PASS	0.058	39.41	15	<PQL
N018833-001B-PS	PS	5	2.57	2.47	15	PASS	2.42	9.047	15	PASS
N018833-001B-MS	MS	5	2.6	1.73	15	PASS	2.38	6.25	15	PASS
N018833-001B-MSD	MSD	5	2.56	1.95	15	PASS	2.44	4.36	15	PASS
N018834-001B	SAMP	5	0.48	6.79	15	PASS	0.36	10.36	15	PASS
N018834-001B-MS	MS	5	2.69	2.36	15	PASS	2.46	1.47	15	PASS
CCV2	CCV	1	19.3	0.33	15	PASS	18.79	2.039	15	PASS
CCB2	CCB	1	0.0018	492.88	15	<PQL	0.0008	1086.091	15	<PQL
LLCCV1	CCV2	1	0.1	16.55	20	PASS	0.53	10.86	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.0071	125.66	15	<PQL
ICSAB	ICSAB	1	21.49	0.75	15	PASS	21.1	2.79	15	PASS
N018861-001B	SAMP	1	1.23	2.34	15	PASS	3.67	3.32	15	PASS
N018861-001B	SAMP	5	0.29	6.11	15	PASS	0.8	9.32	15	PASS
N018861-002B	SAMP	1	1.48	3.95	15	PASS	0.86	3.2	15	PASS
N018861-002B	SAMP	5	0.34	6.44	15	PASS	0.18	6.73	15	PASS
N018861-003B	SAMP	1	3.64	2.31	15	PASS	0.082	51.92	15	<PQL
N018861-003B	SAMP	5	0.81	3.37	15	PASS	0.012	89.68	15	<PQL
N018861-003B	SAMP	10	0.42	4.46	15	PASS	0.0055	111.75	15	<PQL
N018861-004B	SAMP	1	10.46	0.94	15	PASS	1.048	8.82	15	PASS
N018861-004B	SAMP	5	2.4	0.7	15	PASS	0.26	21.15	15	<PQL
N018861-005B	SAMP	1	1.48	4.48	15	PASS	4.075	2.98	15	PASS
CCV3	CCV	1	19.25	1.74	15	PASS	18.86	1.96	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
N018861-005B	SAMP	5	0.3	6.47	15	PASS	0.97	11.23	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-006B	SAMP	1	6.56	0.62	15	PASS	2.63	3.4	15	PASS
N018861-006B	SAMP	5	1.38	1.34	15	PASS	0.55	16.76	15	NR!
MB-56419	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-56419	LCS	1	10.35	0.37	15	PASS	10.17	2.96	15	PASS
N018861-007B	SAMP	1	14.7	2	15	PASS	0.27	6.36	15	PASS
N018861-007B	SAMP	5	3.26	1.096	15	PASS	0.031	34.69	15	<PQL
N018861-007B	SAMP	25	0.64	4.75	15	PASS	0.0077	123.52	15	<PQL
N018861-007B-PS	PS	1	22.53	1.34	15	PASS	7.98	2.12	15	PASS
N018861-007B-PS	PS	5	5.047	2.45	15	PASS	1.7	4.78	15	PASS
CCV4	CCV	1	18.97	1.4	15	PASS	19.14	0.83	15	PASS
CCB4	CCB	1	0.0028	105.69	15	<PQL	<0.000	N/A	15	<PQL
N018861-007B-MS	MS	1	22.81	1.12	15	PASS	7.95	6.053	15	PASS
N018861-007B-MS	MS	5	5.21	2.18	15	PASS	1.89	14.94	15	PASS
N018861-007B-MSD	MSD	1	22.46	2.25	15	PASS	8.24	4.59	15	PASS
N018861-007B-MSD	MSD	5	5.25	1.82	15	PASS	1.91	11.65	15	PASS
N018843-001B	SAMP	1	2.26	3.92	15	PASS	1.61	4.12	15	PASS
N018843-002B	SAMP	1	2.37	0.7	15	PASS	1.71	3.48	15	PASS
N018843-003B	SAMP	1	2.36	1.2	15	PASS	1.5	7.39	15	PASS
N018843-004B	SAMP	1	2.26	2.66	15	PASS	1.62	10.8	15	PASS
N018843-005B	SAMP	1	2.5	1.82	15	PASS	1.72	1.79	15	PASS
N018843-006B	SAMP	1	2.26	5.15	15	PASS	1.71	8.57	15	PASS
CCV5	CCV	1	19.11	0.99	15	PASS	18.72	4.0011	15	PASS
CCB5	CCB	1	0.0041	47.71	15	<PQL	<0.000	N/A	15	<PQL
N018843-007B	SAMP	1	2.22	2.73	15	PASS	1.72	2.45	15	PASS
N018843-008B	SAMP	1	2.34	2.12	15	PASS	1.84	1.94	15	PASS
N018843-009B	SAMP	1	2.27	1.52	15	PASS	1.63	10.49	15	PASS
N018843-010B	SAMP	1	2.3	1.94	15	PASS	1.73	6.67	15	PASS
N018843-010B	SAMP	5	0.51	2.34	15	PASS	0.39	14.74	15	PASS
N018843-010B-MS	MS	1	12.29	1.82	15	PASS	10.41	0.16	15	PASS
N018843-010B-MSD	MSD	1	2.56	3.12	15	PASS	2.45	4.18	15	PASS
N018844-001B	SAMP	1	2.34	3.4	15	PASS	1.67	15.55	15	NR!
CCV6	CCV	1	19.086	0.83	15	PASS	18.87	1.59	15	PASS
CCB6	CCB	1	0.0029	151.5	15	<PQL	0.011	93.92	15	<PQL
LLCCV2	CCV2	1	0.1	6.54	20	PASS	0.53	13.83	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.021	86.68	15	<PQL
ICSAB3	ICSAB	1	21.53	1.7	15	PASS	20.039	1.043	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.084	7.039	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.87	15	PASS
Std3-5/50 ppb	ICAL	1	4.73	0.66	15	PASS
Std4-10/100 ppb	ICAL	1	9.51	1.54	15	PASS
Std5-20/200 ppb	ICAL	1	18.97	0.25	15	PASS
Std6-40/400 ppb	ICAL	1	38.98	0.19	15	PASS
Std7-100/1000 ppb	ICAL	1	98.95	0.32	15	PASS
Std8-200/2000 ppb	ICAL	1	200.86	0.078	15	PASS
ICV	ICV	1	10.97	2.027	15	PASS
ICB	ICB	1	0.23	5.02	15	PASS
LLICV	CCV1	1	0.55	3.11	20	PASS
ICSA1	ICSA	1	0.085	13.41	15	PASS
ICSAB1	ICSAB	1	23.94	1.37	15	PASS
LLICV	CCV1	1	0.55	3.24	20	PASS
CCV1	CCV	1	19.83	0.38	15	PASS
CCB1	CCB	1	0.19	4.59	15	PASS
N018833-001B	SAMP	25	0.3	7.048	15	PASS
N018833-001B-PS	PS	5	3.28	1.79	15	PASS
N018833-001B-MS	MS	5	3.25	2.33	15	PASS
N018833-001B-MSD	MSD	5	3.25	2.71	15	PASS
N018834-001B	SAMP	5	1.063	4.052	15	PASS
N018834-001B-MS	MS	5	3.28	2.29	15	PASS
CCV2	CCV	1	18.93	0.68	15	PASS
CCB2	CCB	1	0.072	6.68	15	PASS
LLCCV1	CCV2	1	0.5	3.56	20	PASS
ICSA2	ICSA	1	0.039	21.64	15	<PQL
ICSAB	ICSAB	1	23.54	0.75	15	PASS
N018861-001B	SAMP	1	14.85	0.71	15	PASS
N018861-001B	SAMP	5	2.85	1.57	15	PASS
N018861-002B	SAMP	1	21.68	2.5	15	PASS
N018861-002B	SAMP	5	4.059	0.52	15	PASS
N018861-003B	SAMP	1	74.34	0.86	15	PASS
N018861-003B	SAMP	5	14.004	0.68	15	PASS
N018861-003B	SAMP	10	6.78	2.15	15	PASS
N018861-004B	SAMP	1	83.74	1.0035	15	PASS
N018861-004B	SAMP	5	16.67	0.99	15	PASS
N018861-005B	SAMP	1	25.86	0.71	15	PASS
CCV3	CCV	1	19.28	1.089	15	PASS
CCB3	CCB	1	0.093	19.67	15	<PQL
N018861-005B	SAMP	5	4.78	1.33	15	PASS

PERCENT RSD SUMMARY: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N018861-006B	SAMP	1	69.55	1.55	15	PASS
N018861-006B	SAMP	5	12.91	0.64	15	PASS
MB-56419	MBLK	1	0.071	19.35	15	<PQL
LCS-56419	LCS	1	10.31	0.85	15	PASS
N018861-007B	SAMP	1	89.46	1.76	15	PASS
N018861-007B	SAMP	5	16.65	1.18	15	PASS
N018861-007B	SAMP	25	3.25	3.27	15	PASS
N018861-007B-PS	PS	1	96.3	1.096	15	PASS
N018861-007B-PS	PS	5	18.5	1.044	15	PASS
CCV4	CCV	1	18.99	1.21	15	PASS
CCB4	CCB	1	0.097	7.72	15	PASS
N018861-007B-MS	MS	1	97.85	0.66	15	PASS
N018861-007B-MS	MS	5	19.4	0.76	15	PASS
N018861-007B-MSD	MSD	1	96.4	0.63	15	PASS
N018861-007B-MSD	MSD	5	19.46	1.74	15	PASS
N018843-001B	SAMP	1	5.57	0.69	15	PASS
N018843-002B	SAMP	1	5.63	1.15	15	PASS
N018843-003B	SAMP	1	5.44	2.73	15	PASS
N018843-004B	SAMP	1	5.35	0.44	15	PASS
N018843-005B	SAMP	1	5.86	0.91	15	PASS
N018843-006B	SAMP	1	5.32	3.091	15	PASS
CCV5	CCV	1	18.98	0.62	15	PASS
CCB5	CCB	1	0.067	5.9	15	PASS
N018843-007B	SAMP	1	5.38	2.41	15	PASS
N018843-008B	SAMP	1	5.56	2.93	15	PASS
N018843-009B	SAMP	1	5.45	1.16	15	PASS
N018843-010B	SAMP	1	5.29	0.99	15	PASS
N018843-010B	SAMP	5	1.037	3.99	15	PASS
N018843-010B-MS	MS	1	16.46	0.89	15	PASS
N018843-010B-MSD	MSD	1	3.28	2.65	15	PASS
N018844-001B	SAMP	1	5.38	1.16	15	PASS
CCV6	CCV	1	18.83	0.85	15	PASS
CCB6	CCB	1	0.077	11.44	15	PASS
LLCCV2	CCV2	1	0.5	2.19	20	PASS
ICSA3	ICSA	1	0.043	22.7	15	<PQL
ICSAB3	ICSAB	1	23.54	1.61	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.15	24.5	15	<PQL	0.087	8.46	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	10.17	15	PASS	0.46	6.027	15	PASS
Std3-5/50 ppb	ICAL	1	4.61	5.25	15	PASS	4.64	1.78	15	PASS
Std4-10/100 ppb	ICAL	1	9.62	1.71	15	PASS	9.24	1.96	15	PASS
Std5-20/200 ppb	ICAL	1	19.8	3.64	15	PASS	18.74	1.26	15	PASS
Std6-40/400 ppb	ICAL	1	40.53	1.82	15	PASS	38.94	1.16	15	PASS
Std7-100/1000 ppb	ICAL	1	99.88	2.037	15	PASS	98.015	0.51	15	PASS
Std8-200/2000 ppb	ICAL	1	203.97	1.58	15	PASS	201.38	0.75	15	PASS
ICV	ICV	1	10.65	1.093	15	PASS	10.99	1.08	15	PASS
ICB	ICB	1	0.035	65.98	15	<PQL	0.22	3.93	15	PASS
LLICV	CCV1	1	0.53	10.56	20	PASS	0.56	4.078	20	PASS
ICSA1	ICSA	1	0.022	65.7	15	<PQL	0.089	5.14	15	PASS
ICSAB1	ICSAB	1	19.32	3.13	15	PASS	23.7	1.2	15	PASS
LLICV	CCV1	1	0.53	8.099	20	PASS	0.65	2.33	20	PASS
N018845-002B	SAMP	1	0.64	18.4	15	NR!	84.65	1.64	15	PASS
N018845-002B	SAMP	5	0.12	35.87	15	<PQL	15.45	0.76	15	PASS
N018845-003B	SAMP	1	12.37	1.79	15	PASS	92.12	0.22	15	PASS
N018845-003B	SAMP	5	2.6	6.13	15	PASS	17.9	0.89	15	PASS
N018845-004B	SAMP	1	11.74	0.5	15	PASS	94.15	1.026	15	PASS
N018845-004B	SAMP	5	2.2	1.92	15	PASS	17.66	0.5	15	PASS
N018845-006B	SAMP	1	7.17	3.56	15	PASS	33.61	0.13	15	PASS
N018845-006B	SAMP	5	1.59	9.29	15	PASS	6.44	0.98	15	PASS
N018845-007B	SAMP	1	4.18	1.54	15	PASS	39.46	1.091	15	PASS
N018845-007B	SAMP	5	0.97	9.7	15	PASS	7.19	2.18	15	PASS
CCV1	CCV	1	19.061	0.9	15	PASS	19.24	1.12	15	PASS
CCB1	CCB	1	0.021	42.72	15	<PQL	0.087	20.8	15	<PQL
N018845-008B	SAMP	1	0.1	13.54	15	PASS	43.75	0.77	15	PASS
N018845-008B	SAMP	5	0.016	50.13	15	<PQL	8.35	1.049	15	PASS
N018845-005B	SAMP	1	16.42	0.33	15	PASS	58.29	1	15	PASS
N018845-005B	SAMP	5	3.38	8.51	15	PASS	10.99	0.82	15	PASS
N018845-005B	SAMP	500	0.054	48.7	15	<PQL	0.17	3.44	15	PASS
CCV2	CCV	1	19.79	3.19	15	PASS	19.52	0.63	15	PASS
CCB2	CCB	1	0.014	35.12	15	<PQL	0.082	7.32	15	PASS
N018861-004B	SAMP	25	0.07	39.65	15	<PQL	3.21	1.16	15	PASS
N018861-005B	SAMP	25	0.21	0.91	15	PASS	0.99	3.29	15	PASS
N018861-006B	SAMP	25	0.15	39.31	15	<PQL	2.38	2.62	15	PASS
CCV3	CCV	1	18.2	0.62	15	PASS	19.31	0.54	15	PASS
CCB3	CCB	1	0.0089	100.38	15	<PQL	0.08	6.0063	15	PASS
N018861-007B	SAMP	125	0.012	114.43	15	<PQL	0.61	6.99	15	PASS
N018861-007B-PS	PS	25	0.43	13.25	15	PASS	3.54	2.96	15	PASS

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	78 Se [1]				95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018861-007B-MS	MS	25	0.35	9.79	15	PASS	3.55	1.44	15	PASS
N018861-007B-MSD	MSD	25	0.35	4.049	15	PASS	3.5	1.77	15	PASS
CCV4	CCV	1	18.8	1.17	15	PASS	19.089	0.86	15	PASS
CCB4	CCB	1	0.0091	100.13	15	<PQL	0.079	5.57	15	PASS
LLCCV1	CCV2	1	0.49	0.48	20	PASS	0.52	2.49	20	PASS
ICSA2	ICSA	1	0.023	88.32	15	<PQL	0.047	11.22	15	PASS
ICSAB2	ICSAB	1	19.63	2.42	15	PASS	23.73	1.53	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MSD	MSD	1	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:01:25**
Prep End Date: **2/26/2016 12:30:00**

Initials/ Date: 3/9/2016

Prep Batch **56418** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**02-25**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56418	Aqueous		25	☐	0	0	25	1.000		
MB-56418	Aqueous		25	☐	0	0	25	1.000		
N018833-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018833-010B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:01:25**
Prep End Date: **2/26/2016 12:30:00**

Initials/ Date: 3/9/2016

Prep Batch **56418** Prep Code: **3010_W_MSDI** Technician **Claire Ignacio**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**02-25**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018834-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018834-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-006B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05 A**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/9/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56419	Aqueous		25	☐	0	0	25	1.000		
MB-56419	Aqueous		25	☐	0	0	25	1.000		
N018843-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **2/26/2016 8:02:05 A**
Prep End Date: **2/26/2016 12:45:00**

Initials/ Date: 3/9/2016

Prep Batch **56419** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.7**	**02-28**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018845-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-002B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-003B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-004B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-005B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-006B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018845-008B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018861-007B-MS	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 26 Feb 2016 01:09:35 pm
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	86884.50	0.00	
24 Mg	368440.00	0.00	
25 Mg	49147.30	0.00	
26 Mg	58400.50	0.00	
59 Co	712632.00	0.00	
115 In	1577600.00	0.00	
206 Pb	461718.00	0.00	
207 Pb	404323.00	0.00	
208 Pb	985724.00	0.00	

RSD (%)

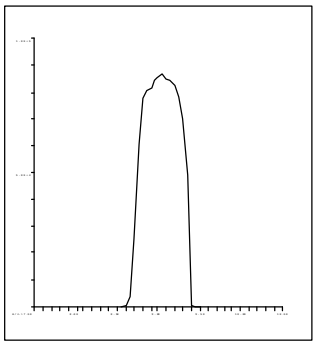
Element	Actual	Required	Flag
9 Be	0.78	5.00	
24 Mg	1.13	5.00	
25 Mg	1.29	5.00	
26 Mg	0.76	5.00	
59 Co	0.84	5.00	
115 In	0.38	5.00	
206 Pb	1.01	5.00	
207 Pb	0.85	5.00	
208 Pb	1.94	5.00	

Ion Ratio

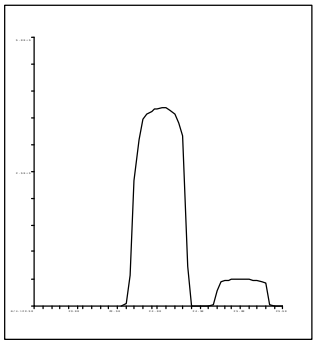
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

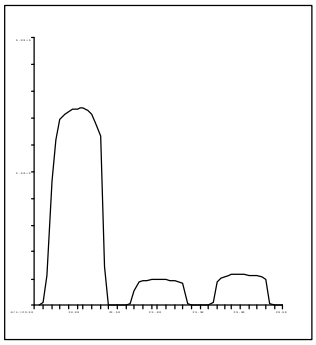
Element	Actual	Required	Flag



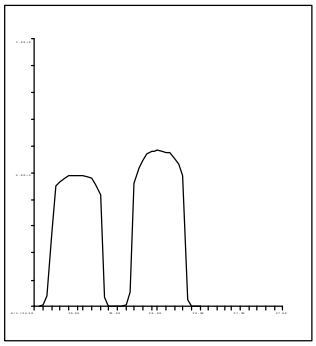
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



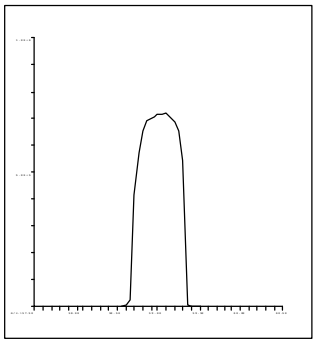
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



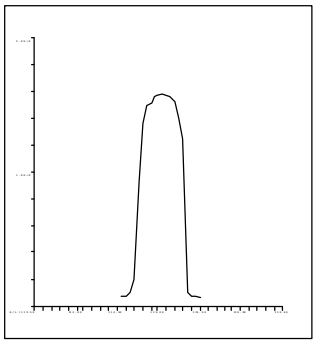
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



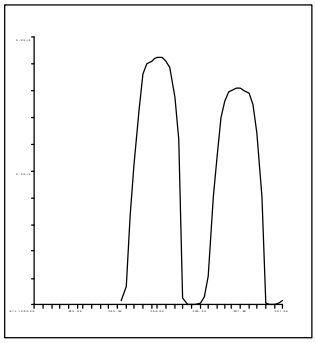
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



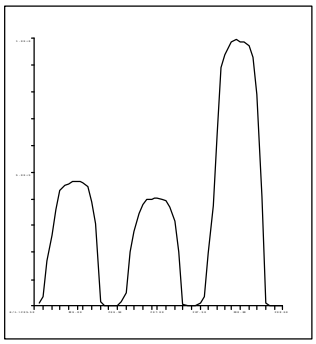
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.75
Flag:

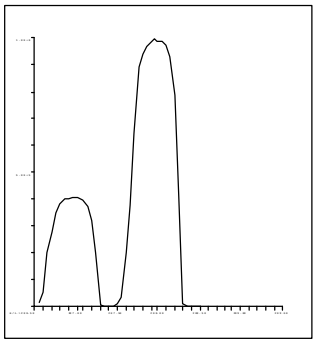


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Mar 2016 10:27:11 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	69087.40	0.00	
24 Mg	391549.00	0.00	
25 Mg	52345.80	0.00	
26 Mg	61763.20	0.00	
59 Co	602975.00	0.00	
115 In	1322290.00	0.00	
206 Pb	291696.00	0.00	
207 Pb	256315.00	0.00	
208 Pb	622343.00	0.00	

RSD (%)

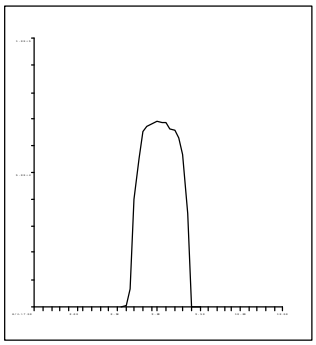
Element	Actual	Required	Flag
9 Be	0.40	5.00	
24 Mg	0.44	5.00	
25 Mg	0.83	5.00	
26 Mg	0.88	5.00	
59 Co	0.62	5.00	
115 In	1.30	5.00	
206 Pb	1.15	5.00	
207 Pb	1.35	5.00	
208 Pb	1.17	5.00	

Ion Ratio

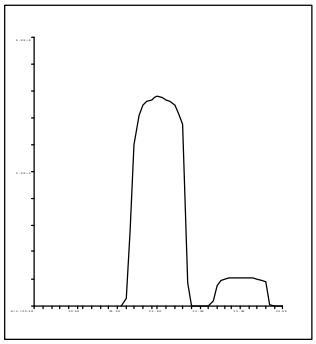
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

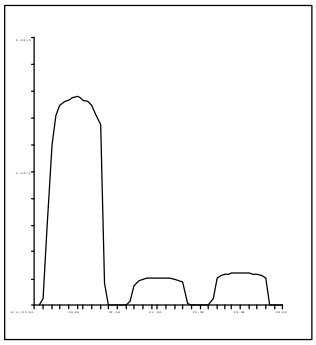
Element	Actual	Required	Flag



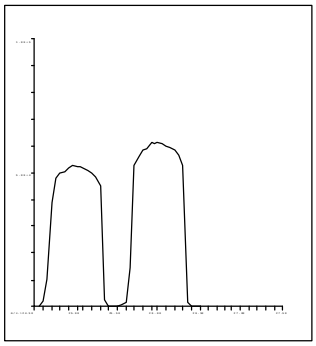
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



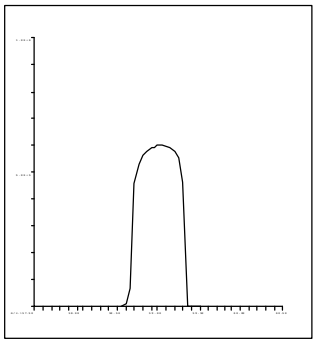
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



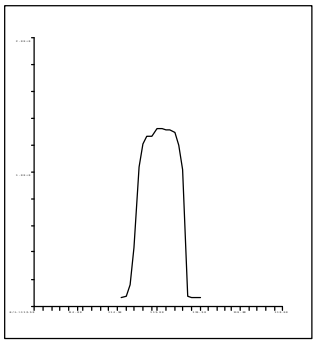
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



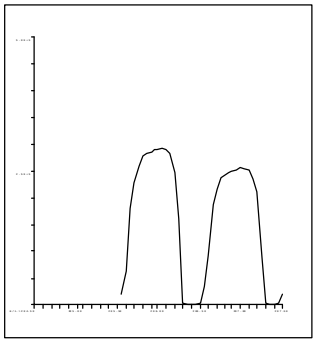
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



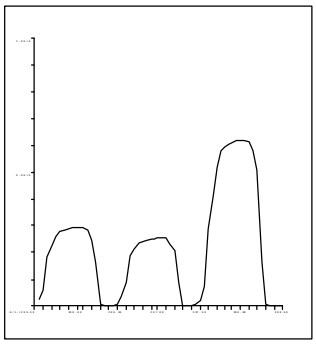
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

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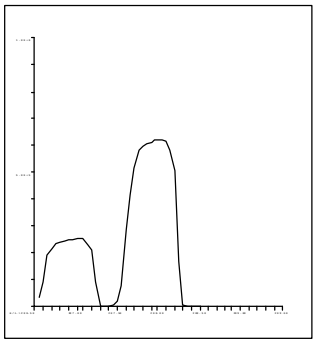


208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Mar 2016 10:50:36 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	64030.00	0.00	
24 Mg	356184.00	0.00	
25 Mg	47474.40	0.00	
26 Mg	55352.20	0.00	
59 Co	548784.00	0.00	
115 In	1237250.00	0.00	
206 Pb	284929.00	0.00	
207 Pb	248633.00	0.00	
208 Pb	604949.00	0.00	

RSD (%)

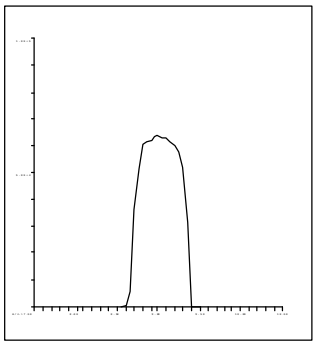
Element	Actual	Required	Flag
9 Be	1.43	5.00	
24 Mg	0.31	5.00	
25 Mg	0.61	5.00	
26 Mg	0.52	5.00	
59 Co	0.99	5.00	
115 In	0.45	5.00	
206 Pb	1.12	5.00	
207 Pb	1.38	5.00	
208 Pb	1.51	5.00	

Ion Ratio

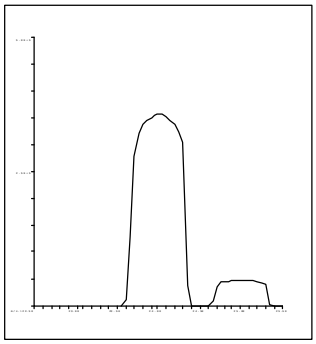
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

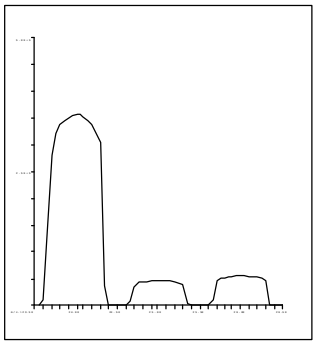
Element	Actual	Required	Flag



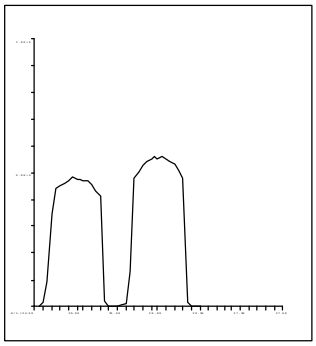
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



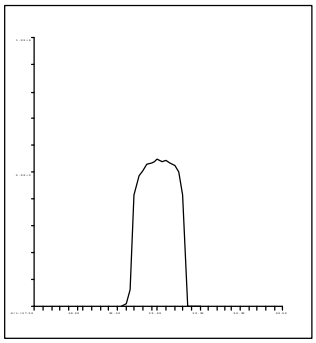
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



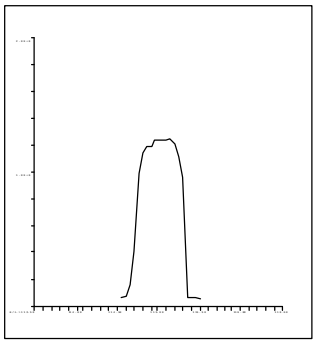
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



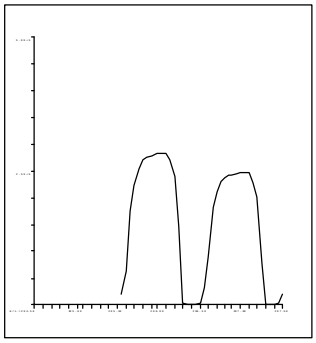
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



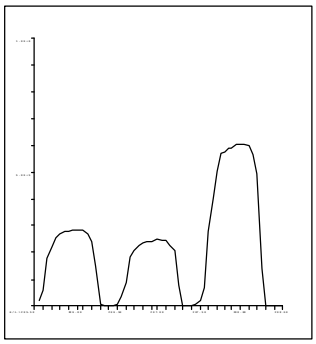
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

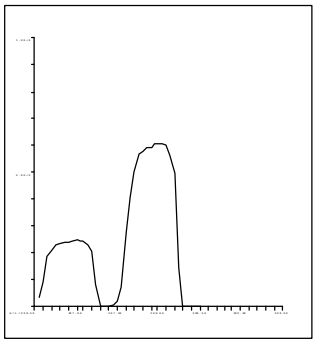


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160226A1

Instrument ID: ICPMS-02

Analyte	Data File	A0226002.D	A0226003.D	A0226004.D	A0226005.D	A0226006.D	A0226007.D	A0226008.D	A0226009.D	A0226010.D	
	Acq. Date-Time	02/26/2016 07:35 PM	02/26/2016 07:41 PM	02/26/2016 07:47 PM	02/26/2016 07:52 PM	02/26/2016 07:58 PM	02/26/2016 08:03 PM	02/26/2016 08:09 PM	02/26/2016 08:14 PM	02/26/2016 08:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	203921.1		219372.2	216758.8	213499.5	209337.4	209526.9	202738.2	200626.5	
55 Mn [2]	CPS	419.2		4510.6	44194.4	86721.2	166868.5	331604.7	804556.2	1630499.1	0.9999
52 Cr [2]	CPS	430		8290.4	78095.1	155015.8	299802.9	597867.8	1463807.5	2872645.4	1.0000
72 Ge (ISTD) [1]	CPS	164771.4		176991.3	176108.1	171058.3	168702.9	170189.2	166024.5	164349.5	
78 Se [1]	CPS	5.6		363.4	3783.9	7555.4	15064.2	29720.4	71825.8	141288.1	1.0000
72 Ge (ISTD) [2]	CPS	135207	147912.9	146598.5	145259.7	142616.2	139991.3	141092.9	136435.5	135652.3	
75 As [2]	CPS	42.7	212.9	886.3	8740.6	17366.7	33656.5	67293.5	162863.1	320668.9	1.0000
103 Rh (ISTD) [2]	CPS	3649054.4		3919515.8	3891447.1	3870199.5	3833322.2	3850266.1	3726860.3	3690356.2	
95 Mo [2]	CPS	535.6		5023.2	47934.9	93869.6	185151.6	372272.6	909396.3	1797219.2	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160307A3

Instrument ID: ICPMS-02

Analyte	Data File	A0307002.D	A0307003.D	A0307004.D	A0307005.D	A0307006.D	A0307007.D	A0307008.D	A0307009.D	A0307010.D	
	Acq. Date-Time	03/07/2016 07:42 PM	03/07/2016 07:48 PM	03/07/2016 07:54 PM	03/07/2016 07:59 PM	03/07/2016 08:05 PM	03/07/2016 08:10 PM	03/07/2016 08:16 PM	03/07/2016 08:21 PM	03/07/2016 08:27 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	171872.1		164481.1	162231.7	158833.7	159849.4	158058.1	154833.5	152727.7	
55 Mn [2]	CPS	160.1		3182.6	30919.3	61545	122150.4	245945.4	606643.3	1200838.7	1.0000
52 Cr [2]	CPS	240.5		5391.7	51963.5	102895.9	207876.3	418756.5	1024609.3	2049143.5	1.0000
72 Ge (ISTD) [1]	CPS	151772		146301.7	143870.9	142366.7	141838.4	138142	136219.5	132719.9	
78 Se [1]	CPS	4.4		294.5	3074.9	5838	11748	23003.7	59319.3	116263.3	1.0000
72 Ge (ISTD) [2]	CPS	114739.3	113154.9	110851.4	109870.7	107891	107005.2	106125.1	103960.2	101544.3	
75 As [2]	CPS	24.4	144	626.2	6010.1	11933.8	24136.6	48628	120525.2	241541.1	0.9999
103 Rh (ISTD) [2]	CPS	3065661.7		2997102.7	2941755.2	2921619.2	2927018.5	2892832.2	2857868.5	2799519.5	
95 Mo [2]	CPS	136.7		3299.4	33462.5	66703.6	133184	270430.5	677899.6	1347873.1	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICPMS-02

Analyte	Data File	A0308002.D	A0308004.D	A0308005.D	A0308006.D	A0308007.D	A0308008.D	A0308009.D	A0308010.D	
	Acq. Date-Time	03/08/2016 11:24 AM	03/08/2016 11:35 AM	03/08/2016 11:41 AM	03/08/2016 11:46 AM	03/08/2016 11:52 AM	03/08/2016 11:57 AM	03/08/2016 12:03 PM	03/08/2016 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
72 Ge (ISTD) [1]	CPS	90543.7	88064.6	86784.4	85838.5	84985.3	84090.3	83972.5	81628.4	
78 Se [1]	CPS	0	183.3	1731.3	3570.5	7277.5	14741.6	36279.2	72013	1.0000
103 Rh (ISTD) [2]	CPS	2123839.9	2046142.4	2046093.3	2033311.7	2029111.6	2021066.6	1990908.3	1961243.2	
95 Mo [2]	CPS	27.8	2190.2	21892.3	43302.7	87618.8	181283.3	449483	909695.9	0.9999

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.958	0.10	10.00	0	99.6	90	110				
Manganese	97.945	0.50	100.0	0	97.9	90	110				
Molybdenum	9.539	0.50	10.00	0	95.4	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.109	0.10	0.1000	0	109	80	120				
Manganese	0.490	0.50	0.5000	0	98.0	80	120				
Molybdenum	0.590	0.50	0.5000	0	118	80	120				
Selenium	0.489	0.50	0.5000	0	97.8	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.269	0.10	20.00	0	101	90	110				
Manganese	20.070	0.50	20.00	0	100	90	110				
Molybdenum	19.888	0.50	20.00	0	99.4	90	110				
Selenium	20.131	0.50	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.100	0.10	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.430	0.50	20.00	0	102	90	110				
Molybdenum	19.971	0.50	20.00	0	99.9	90	110				
Selenium	20.039	0.50	20.00	0	100	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.307	0.10	20.00	0	102	90	110				
Manganese	20.009	0.50	20.00	0	100	90	110				
Molybdenum	20.366	0.50	20.00	0	102	90	110				
Selenium	20.198	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	90	110				
Manganese	20.005	0.50	20.00	0	100	90	110				
Molybdenum	20.039	0.50	20.00	0	100	90	110				
Selenium	20.800	0.50	20.00	0	104	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10	0.1000	0	97.5	70	130				
Manganese	0.492	0.50	0.5000	0	98.4	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.7	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.495	0.50	0.5000	0	99.0	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.621	0.10	20.00	0	103	90	110				
Manganese	19.891	0.50	20.00	0	99.5	90	110				
Molybdenum	20.187	0.50	20.00	0	101	90	110				
Selenium	20.453	0.50	20.00	0	102	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCV** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Manganese	20.085	0.50	20.00	0	100	90	110				
Molybdenum	20.162	0.50	20.00	0	101	90	110				
Selenium	20.607	0.50	20.00	0	103	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.083	0.10	0.1000	0	82.9	70	130				
Manganese	0.481	0.50	0.5000	0	96.2	70	130				
Molybdenum	0.524	0.50	0.5000	0	105	70	130				
Selenium	0.504	0.50	0.5000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0	102	90	110				
Manganese	100.893	0.50	100.0	0	101	90	110				
Molybdenum	10.973	0.50	10.00	0	110	90	110				
Selenium	10.160	0.50	10.00	0	102	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.118	0.10	0.1000	0	118	80	120				
Manganese	0.510	0.50	0.5000	0	102	80	120				
Molybdenum	0.555	0.50	0.5000	0	111	80	120				
Selenium	0.528	0.50	0.5000	0	106	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.950	0.10	20.00	0	94.8	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				
Molybdenum	19.830	0.50	20.00	0	99.1	90	110				
Selenium	19.014	0.50	20.00	0	95.1	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.304	0.10	20.00	0	96.5	90	110				
Manganese	19.158	0.50	20.00	0	95.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	18.928	0.50	20.00	0	94.6	90	110				
Selenium	18.795	0.50	20.00	0	94.0	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Manganese	0.520	0.50	0.5000	0	104	70	130				
Molybdenum	0.498	0.50	0.5000	0	99.5	70	130				
Selenium	0.529	0.50	0.5000	0	106	70	130				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.252	0.10	20.00	0	96.3	90	110				
Manganese	19.159	0.50	20.00	0	95.8	90	110				
Molybdenum	19.275	0.50	20.00	0	96.4	90	110				
Selenium	18.855	0.50	20.00	0	94.3	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.971	0.10	20.00	0	94.9	90	110				
Manganese	19.171	0.50	20.00	0	95.9	90	110				
Molybdenum	18.990	0.50	20.00	0	94.9	90	110				
Selenium	19.138	0.50	20.00	0	95.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.105	0.10	20.00	0	95.5	90	110				
Manganese	19.019	0.50	20.00	0	95.1	90	110				
Molybdenum	18.977	0.50	20.00	0	94.9	90	110				
Selenium	18.725	0.50	20.00	0	93.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.086	0.10	20.00	0	95.4	90	110				
Manganese	19.161	0.50	20.00	0	95.8	90	110				
Molybdenum	18.828	0.50	20.00	0	94.1	90	110				
Selenium	18.873	0.50	20.00	0	94.4	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	70	130				
Manganese	0.504	0.50	0.5000	0	101	70	130				
Molybdenum	0.503	0.50	0.5000	0	101	70	130				
Selenium	0.530	0.50	0.5000	0	106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ICV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.992	0.50	10.00	0	110	90	110				
Selenium	10.646	0.50	10.00	0	106	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.563	0.50	0.5000	0	113	80	120				
Selenium	0.534	0.50	0.5000	0	107	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.235	0.50	20.00	0	96.2	90	110				
Selenium	19.061	0.50	20.00	0	95.3	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.520	0.50	20.00	0	97.6	90	110				
Selenium	19.790	0.50	20.00	0	98.9	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **CCV** Batch ID: **R106298** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.306	0.50	20.00	0	96.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCV3	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCV	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255287

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	18.200	0.50	20.00	0	91.0	90	110				

Sample ID	CCV4	SampType:	CCV	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCV	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255293

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	19.089	0.50	20.00	0	95.4	90	110				
Selenium	18.799	0.50	20.00	0	94.0	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ZZZZZZ	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255295

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.517	0.50	0.5000	0	103	70	130				
Selenium	0.493	0.50	0.5000	0	98.5	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.336	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.045	1.0	1.000	0	105	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.382	1.0	20.00	0	102	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCV** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.164	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCV4	SampType:	CCV	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	CCV	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.098	1.0	20.00	0	100	90	110				

Sample ID	LLCCV1	SampType:	CCV2	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106153
Client ID:	ZZZZZZ	Batch ID:	R106153	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2246862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.014	1.0	1.000	0	101	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.303	1.0	10.00	0	103	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.945	1.0	1.000	0	94.5	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.346	1.0	20.00	0	96.7	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.460	1.0	20.00	0	97.3	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.972	1.0	1.000	0	97.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.547	1.0	20.00	0	97.7	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.257	1.0	20.00	0	96.3	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.318	1.0	20.00	0	96.6	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCV** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.294	1.0	20.00	0	96.5	90	110				

Sample ID **LLCCV2** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.981	1.0	1.000	0	98.1	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.267	0.50									
Selenium	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.108	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2247021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	0.167	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.107	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.124	0.50									
Selenium	ND	0.50									

Sample ID **CCB6** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **CCB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.142	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106155
Client ID:	CCB	Batch ID:	R106155	TestNo:	EPA 6020			Analysis Date:	2/27/2016	SeqNo:	2247066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICB	SampType:	ICB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254552

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.234	0.50									
Selenium	ND	0.50									

Sample ID	CCB1	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254568

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.190	0.50									
Selenium	ND	0.50									

Sample ID	CCB2	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.072	0.50									
Selenium	ND	0.50									

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254595

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.093	0.50									
Selenium	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.097	0.50									
Selenium	ND	0.50									

Sample ID **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.067	0.50									
Selenium	ND	0.50									

Sample ID **CCB6** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2254631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.077	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**6020_DIS**	**µg/L**		**106298**
Client ID: **ICB**	Batch ID: **R106298**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.219	0.50									
Selenium	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB1	**CCB**	**6020_DIS**	**µg/L**		**106298**
Client ID: **CCB**	Batch ID: **R106298**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.087	0.50									
Selenium	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB2	**CCB**	**6020_DIS**	**µg/L**		**106298**
Client ID: **CCB**	Batch ID: **R106298**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.082	0.50									
Selenium	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB3	**CCB**	**6020_DIS**	**µg/L**		**106298**
Client ID: **CCB**	Batch ID: **R106298**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.080	0.50									
Selenium	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB4	**CCB**	**6020_DIS**	**µg/L**		**106298**
Client ID: **CCB**	Batch ID: **R106298**	TestNo: **EPA 6020**		Analysis Date: **3/8/2016**	SeqNo: **2255294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.079	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	CCB4	SampType:	CCB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	CCB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255294

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **CCB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **CCB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	CCB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.057	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	80	120				
Manganese	16.459	0.50	20.00	0	82.3	80	120				
Molybdenum	23.196	0.50	20.00	0	116	80	120				
Selenium	19.281	0.50	20.00	0	96.4	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.372	0.10	20.00	0	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.347	0.50	20.00	0	81.7	80	120				
Molybdenum	23.232	0.50	20.00	0	116	80	120				
Selenium	19.506	0.50	20.00	0	97.5	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSA** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ICSAB** Batch ID: **R106155** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2247069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.348	0.10	20.00	0	102	80	120				
Manganese	16.506	0.50	20.00	0	82.5	80	120				
Molybdenum	23.406	0.50	20.00	0	117	80	120				
Selenium	19.192	0.50	20.00	0	96.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.085	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.824	0.10	20.00	0	104	80	120				
Manganese	17.818	0.50	20.00	0	89.1	80	120				
Molybdenum	23.941	0.50	20.00	0	120	80	120				
Selenium	19.099	0.50	20.00	0	95.5	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.039	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2254583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.494	0.10	20.00	0	107	80	120				
Manganese	19.579	0.50	20.00	0	97.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/7/2016	SeqNo:	2254583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.538	0.50	20.00	0	118	80	120				
Selenium	21.101	0.50	20.00	0	106	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSA	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.043	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106294
Client ID:	ICSAB	Batch ID:	R106294	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2254634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.531	0.10	20.00	0	108	80	120				
Manganese	19.559	0.50	20.00	0	97.8	80	120				
Molybdenum	23.541	0.50	20.00	0	118	80	120				
Selenium	20.039	0.50	20.00	0	100	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID	ICSA1	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICSA	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255252

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.089	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICSAB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255253

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.702	0.50	20.00	0	119	80	120				
Selenium	19.324	0.50	20.00	0	96.6	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICSA	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255296

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.047	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020_DIS	Units:	µg/L	Prep Date:		RunNo:	106298
Client ID:	ICSAB	Batch ID:	R106298	TestNo:	EPA 6020			Analysis Date:	3/8/2016	SeqNo:	2255297

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.732	0.50	20.00	0	119	80	120				
Selenium	19.634	0.50	20.00	0	98.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.172	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/26/2016** SeqNo: **2246813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.118	1.0	20.00	0	101	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSA** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.163	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ICSAB** Batch ID: **R106153** TestNo: **EPA 6020** Analysis Date: **2/27/2016** SeqNo: **2246864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.744	1.0	20.00	0	98.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.177	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.112	1.0	20.00	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/7/2016** SeqNo: **2255169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.967	1.0	20.00	0	115	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSA** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.175	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ICSAB** Batch ID: **R106294** TestNo: **EPA 6020** Analysis Date: **3/8/2016** SeqNo: **2255220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	22.308	1.0	20.00	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	203921.1	203921.1	100	PASS	70-130	135207	135207	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	220681.7	203921.1	108.22	PASS	70-130	147912.9	135207	109.4	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	219372.2	203921.1	107.58	PASS	70-130	146598.5	135207	108.43	PASS	70-130
Std3-5/50 ppb	ICAL	1	216758.8	203921.1	106.3	PASS	70-130	145259.7	135207	107.44	PASS	70-130
Std4-10/100 ppb	ICAL	1	213499.5	203921.1	104.7	PASS	70-130	142616.2	135207	105.48	PASS	70-130
Std5-20/200 ppb	ICAL	1	209337.4	203921.1	102.66	PASS	70-130	139991.3	135207	103.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	209526.9	203921.1	102.75	PASS	70-130	141092.9	135207	104.35	PASS	70-130
Std7-100/1000 ppb	ICAL	1	202738.2	203921.1	99.42	PASS	70-130	136435.5	135207	100.91	PASS	70-130
Std8-200/2000 ppb	ICAL	1	200626.5	203921.1	98.38	PASS	70-130	135652.3	135207	100.33	PASS	70-130
ICV	ICV	1	147643.7	203921.1	72.4	PASS	70-130	98316.8	135207	72.72	PASS	70-130
ICB	ICB	1	185314	203921.1	90.88	PASS	70-130	126582.2	135207	93.62	PASS	70-130
LLICV	CCV1	1	191313.1	203921.1	93.82	PASS	70-130	133211.4	135207	98.52	PASS	70-130
ICSA1	ICSA	1	213396.6	203921.1	104.65	PASS	70-130	135652.7	135207	100.33	PASS	70-130
ICSAB1	ICSAB	1	221245.2	203921.1	108.5	PASS	70-130	137509.6	135207	101.7	PASS	70-130
MB-56418	MBLK	1	197227.2	203921.1	96.72	PASS	70-130	134376.2	135207	99.39	PASS	70-130
LCS-56418	LCS	1	191773.3	203921.1	94.043	PASS	70-130	128830.2	135207	95.28	PASS	70-130
N018833-001B	SAMP	1	179476	203921.1	88.012	PASS	70-130	117522.4	135207	86.92	PASS	70-130
N018833-001B	SAMP	5	179122.8	203921.1	87.84	PASS	70-130	122369.2	135207	90.51	PASS	70-130
N018833-001B-PS	PS	1	185048.1	203921.1	90.74	PASS	70-130	119251.7	135207	88.2	PASS	70-130
N018833-001B-MS	MS	1	187361.1	203921.1	91.88	PASS	70-130	122718.2	135207	90.76	PASS	70-130
N018833-001B-MSD	MSD	1	186373.1	203921.1	91.39	PASS	70-130	121886	135207	90.15	PASS	70-130
N018833-002B	SAMP	1	175717.8	203921.1	86.17	PASS	70-130	114749.2	135207	84.87	PASS	70-130
N018833-003B	SAMP	1	182050	203921.1	89.27	PASS	70-130	117894.1	135207	87.2	PASS	70-130
N018833-004B	SAMP	1	176505.8	203921.1	86.56	PASS	70-130	115541	135207	85.45	PASS	70-130
CCV1	CCV	1	195379.1	203921.1	95.81	PASS	70-130	134446.3	135207	99.44	PASS	70-130
CCB1	CCB	1	174751.1	203921.1	85.7	PASS	70-130	120968.8	135207	89.47	PASS	70-130
N018833-005B	SAMP	1	174045.1	203921.1	85.35	PASS	70-130	115206.9	135207	85.21	PASS	70-130
N018833-006B	SAMP	1	178177.5	203921.1	87.38	PASS	70-130	117501.1	135207	86.9	PASS	70-130
N018833-007B	SAMP	1	173685	203921.1	85.17	PASS	70-130	114780	135207	84.89	PASS	70-130
N018833-008B	SAMP	1	171625.6	203921.1	84.16	PASS	70-130	114249.9	135207	84.5	PASS	70-130
N018833-009B	SAMP	1	176487.2	203921.1	86.55	PASS	70-130	116684.5	135207	86.3	PASS	70-130
N018833-010B	SAMP	1	173223.5	203921.1	84.95	PASS	70-130	115659.1	135207	85.54	PASS	70-130
N018834-001B	SAMP	1	166541.9	203921.1	81.67	PASS	70-130	111358.2	135207	82.36	PASS	70-130
N018834-001B-MS	MS	1	173828.8	203921.1	85.24	PASS	70-130	115298	135207	85.28	PASS	70-130
N018834-002B	SAMP	1	169921.8	203921.1	83.33	PASS	70-130	112053.6	135207	82.88	PASS	70-130
N018834-003B	SAMP	1	168987.2	203921.1	82.87	PASS	70-130	112992.7	135207	83.57	PASS	70-130
CCV2	CCV	1	179607.1	203921.1	88.077	PASS	70-130	126298.5	135207	93.41	PASS	70-130
CCB2	CCB	1	160161.7	203921.1	78.54	PASS	70-130	113420.9	135207	83.89	PASS	70-130
N018834-004B	SAMP	1	161063.3	203921.1	78.98	PASS	70-130	107640.9	135207	79.61	PASS	70-130
N018861-001B	SAMP	1	160184.7	203921.1	78.55	PASS	70-130	98515.1	135207	72.86	PASS	70-130
N018861-002B	SAMP	1	160340.1	203921.1	78.63	PASS	70-130	96796.2	135207	71.59	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	147189.3	203921.1	72.18	PASS	70-130	83820.5	135207	61.99	NR!	70-130
N018861-004B	SAMP	1	152389.6	203921.1	74.73	PASS	70-130	83622	135207	61.85	NR!	70-130
N018861-005B	SAMP	1	156122.6	203921.1	76.56	PASS	70-130	88008.9	135207	65.092	NR!	70-130
N018861-006B	SAMP	1	135921.5	203921.1	66.65	NR!	70-130	74083.2	135207	54.79	NR!	70-130
MB-56419	MBLK	1	195746.7	203921.1	95.99	PASS	70-130	133237.9	135207	98.54	PASS	70-130
LCS-56419	LCS	1	198779.1	203921.1	97.48	PASS	70-130	132942.6	135207	98.33	PASS	70-130
N018861-007B	SAMP	1	145037.4	203921.1	71.12	PASS	70-130	81790.3	135207	60.49	NR!	70-130
CCV3	CCV	1	218523.1	203921.1	107.16	PASS	70-130	147319.6	135207	108.96	PASS	70-130
CCB3	CCB	1	194355	203921.1	95.31	PASS	70-130	131180.5	135207	97.022	PASS	70-130
N018861-007B	SAMP	5	169755.1	203921.1	83.25	PASS	70-130	106697.1	135207	78.91	PASS	70-130
N018861-007B-PS	PS	1	152670	203921.1	74.87	PASS	70-130	84520.7	135207	62.51	NR!	70-130
N018861-007B-MS	MS	1	154727.3	203921.1	75.88	PASS	70-130	86130.2	135207	63.7	NR!	70-130
N018861-007B-MSD	MSD	1	156559.8	203921.1	76.77	PASS	70-130	85834.3	135207	63.48	NR!	70-130
N018843-001B	SAMP	1	198008.6	203921.1	97.1	PASS	70-130	127497.8	135207	94.3	PASS	70-130
N018843-002B	SAMP	1	192973	203921.1	94.63	PASS	70-130	125360.2	135207	92.72	PASS	70-130
N018843-003B	SAMP	1	191316.2	203921.1	93.82	PASS	70-130	125853.5	135207	93.082	PASS	70-130
N018843-004B	SAMP	1	186670	203921.1	91.54	PASS	70-130	122724.5	135207	90.77	PASS	70-130
N018843-005B	SAMP	1	187770.6	203921.1	92.08	PASS	70-130	121427.1	135207	89.81	PASS	70-130
N018843-006B	SAMP	1	185135.4	203921.1	90.79	PASS	70-130	120717.9	135207	89.28	PASS	70-130
CCV4	CCV	1	202073.9	203921.1	99.094	PASS	70-130	137979.7	135207	102.05	PASS	70-130
CCB4	CCB	1	180430.1	203921.1	88.48	PASS	70-130	123115.4	135207	91.057	PASS	70-130
LLCCV1	CCV2	1	189392	203921.1	92.88	PASS	70-130	129440.7	135207	95.74	PASS	70-130
ICSA2	ICSA	1	207757.1	203921.1	101.88	PASS	70-130	130512.1	135207	96.53	PASS	70-130
ICSAB2	ICSAB	1	212702.2	203921.1	104.31	PASS	70-130	132273.4	135207	97.83	PASS	70-130
N018843-007B	SAMP	1	182536.8	203921.1	89.51	PASS	70-130	118808.5	135207	87.87	PASS	70-130
N018843-008B	SAMP	1	176908.8	203921.1	86.75	PASS	70-130	115177.1	135207	85.19	PASS	70-130
N018843-009B	SAMP	1	178067.7	203921.1	87.32	PASS	70-130	116983.2	135207	86.52	PASS	70-130
N018843-010B	SAMP	1	178547.2	203921.1	87.56	PASS	70-130	118426.2	135207	87.59	PASS	70-130
N018843-010B-MS	MS	1	179079	203921.1	87.82	PASS	70-130	117237.4	135207	86.71	PASS	70-130
N018844-001B	SAMP	1	172947.3	203921.1	84.81	PASS	70-130	114601.5	135207	84.76	PASS	70-130
N018845-001B	SAMP	1	151931.7	203921.1	74.51	PASS	70-130	91318.1	135207	67.54	NR!	70-130
N018845-002B	SAMP	1	141662.4	203921.1	69.47	NR!	70-130	82787.6	135207	61.23	NR!	70-130
N018845-003B	SAMP	1	176500.7	203921.1	86.55	PASS	70-130	110473.1	135207	81.71	PASS	70-130
N018845-004B	SAMP	1	171517.6	203921.1	84.11	PASS	70-130	105804.5	135207	78.25	PASS	70-130
CCV5	CCV	1	213508.1	203921.1	104.7	PASS	70-130	143851.3	135207	106.39	PASS	70-130
CCB5	CCB	1	190287	203921.1	93.31	PASS	70-130	128120.7	135207	94.76	PASS	70-130
N018845-006B	SAMP	1	170328	203921.1	83.53	PASS	70-130	107112.9	135207	79.22	PASS	70-130
N018845-007B	SAMP	1	142169.3	203921.1	69.72	NR!	70-130	82802.3	135207	61.24	NR!	70-130
N018845-008B	SAMP	1	176078.2	203921.1	86.35	PASS	70-130	113615.6	135207	84.031	PASS	70-130
N018845-005B	SAMP	1	159059.1	203921.1	78	PASS	70-130	98587.6	135207	72.92	PASS	70-130
CCV6	CCV	1	190726	203921.1	93.53	PASS	70-130	130106.5	135207	96.23	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCB6	CCB	1	175643	203921.1	86.13	PASS	70-130	119420.7	135207	88.32	PASS	70-130
LLCCV2	CCV2	1	186336.9	203921.1	91.38	PASS	70-130	127750.8	135207	94.49	PASS	70-130
ICSA3	ICSA	1	193457.1	203921.1	94.87	PASS	70-130	123555.9	135207	91.38	PASS	70-130
ICSAB3	ICSAB	1	197474.6	203921.1	96.84	PASS	70-130	124020.1	135207	91.73	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	164771.4	164771.4	100	PASS	70-130	3649054.4	3649054.4	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	178524.1	164771.4	108.35	PASS	70-130	3936389.5	3649054.4	107.87	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	176991.3	164771.4	107.42	PASS	70-130	3919515.8	3649054.4	107.41	PASS	70-130
Std3-5/50 ppb	ICAL	1	176108.1	164771.4	106.88	PASS	70-130	3891447.1	3649054.4	106.64	PASS	70-130
Std4-10/100 ppb	ICAL	1	171058.3	164771.4	103.82	PASS	70-130	3870199.5	3649054.4	106.06	PASS	70-130
Std5-20/200 ppb	ICAL	1	168702.9	164771.4	102.39	PASS	70-130	3833322.2	3649054.4	105.05	PASS	70-130
Std6-40/400 ppb	ICAL	1	170189.2	164771.4	103.29	PASS	70-130	3850266.1	3649054.4	105.51	PASS	70-130
Std7-100/1000 ppb	ICAL	1	166024.5	164771.4	100.76	PASS	70-130	3726860.3	3649054.4	102.13	PASS	70-130
Std8-200/2000 ppb	ICAL	1	164349.5	164771.4	99.74	PASS	70-130	3690356.2	3649054.4	101.13	PASS	70-130
ICV	ICV	1	116781.5	164771.4	70.87	PASS	70-130	3036599.5	3649054.4	83.22	PASS	70-130
ICB	ICB	1	149925.6	164771.4	90.99	PASS	70-130	3466105.7	3649054.4	94.99	PASS	70-130
LLICV	CCV1	1	159338.6	164771.4	96.7	PASS	70-130	3608489	3649054.4	98.89	PASS	70-130
ICSA1	ICSA	1	156599	164771.4	95.04	PASS	70-130	3377494.3	3649054.4	92.56	PASS	70-130
ICSAB1	ICSAB	1	162406	164771.4	98.56	PASS	70-130	3395422	3649054.4	93.049	PASS	70-130
MB-56418	MBLK	1	163788.1	164771.4	99.4	PASS	70-130	3572840.6	3649054.4	97.91	PASS	70-130
LCS-56418	LCS	1	159994.4	164771.4	97.1	PASS	70-130	3530333	3649054.4	96.75	PASS	70-130
N018833-001B	SAMP	1	142334.8	164771.4	86.38	PASS	70-130	2995769.3	3649054.4	82.097	PASS	70-130
N018833-001B	SAMP	5	148331.9	164771.4	90.023	PASS	70-130	3223592.9	3649054.4	88.34	PASS	70-130
N018833-001B-PS	PS	1	144643.9	164771.4	87.78	PASS	70-130	3084349.6	3649054.4	84.52	PASS	70-130
N018833-001B-MS	MS	1	146793.6	164771.4	89.089	PASS	70-130	3125040.1	3649054.4	85.64	PASS	70-130
N018833-001B-MSD	MSD	1	148235.2	164771.4	89.96	PASS	70-130	3105185.2	3649054.4	85.096	PASS	70-130
N018833-002B	SAMP	1	140384.1	164771.4	85.2	PASS	70-130	2965100.2	3649054.4	81.26	PASS	70-130
N018833-003B	SAMP	1	141149.1	164771.4	85.66	PASS	70-130	2987292.3	3649054.4	81.86	PASS	70-130
N018833-004B	SAMP	1	141158.1	164771.4	85.67	PASS	70-130	2956967.2	3649054.4	81.034	PASS	70-130
CCV1	CCV	1	166758.6	164771.4	101.21	PASS	70-130	3637663.8	3649054.4	99.69	PASS	70-130
CCB1	CCB	1	144543.2	164771.4	87.72	PASS	70-130	3292290.8	3649054.4	90.22	PASS	70-130
N018833-005B	SAMP	1	139307.9	164771.4	84.55	PASS	70-130	2946250.6	3649054.4	80.74	PASS	70-130
N018833-006B	SAMP	1	144423.7	164771.4	87.65	PASS	70-130	3016141.9	3649054.4	82.66	PASS	70-130
N018833-007B	SAMP	1	140678.6	164771.4	85.38	PASS	70-130	2934750.4	3649054.4	80.42	PASS	70-130
N018833-008B	SAMP	1	138484.2	164771.4	84.046	PASS	70-130	2912824.9	3649054.4	79.82	PASS	70-130
N018833-009B	SAMP	1	141912.3	164771.4	86.13	PASS	70-130	2971967.3	3649054.4	81.44	PASS	70-130
N018833-010B	SAMP	1	139598	164771.4	84.72	PASS	70-130	2939254.3	3649054.4	80.55	PASS	70-130
N018834-001B	SAMP	1	136835.5	164771.4	83.046	PASS	70-130	2830123.6	3649054.4	77.56	PASS	70-130
N018834-001B-MS	MS	1	139359.4	164771.4	84.58	PASS	70-130	2943232.9	3649054.4	80.66	PASS	70-130
N018834-002B	SAMP	1	138608.3	164771.4	84.12	PASS	70-130	2889236	3649054.4	79.18	PASS	70-130
N018834-003B	SAMP	1	138027.6	164771.4	83.77	PASS	70-130	2870308.5	3649054.4	78.66	PASS	70-130
CCV2	CCV	1	156637.1	164771.4	95.063	PASS	70-130	3429982.5	3649054.4	94	PASS	70-130
CCB2	CCB	1	136446.8	164771.4	82.81	PASS	70-130	3110562	3649054.4	85.24	PASS	70-130
N018834-004B	SAMP	1	127590.5	164771.4	77.43	PASS	70-130	2798394.3	3649054.4	76.69	PASS	70-130
N018861-001B	SAMP	1	114696.4	164771.4	69.61	NR!	70-130	2372642.9	3649054.4	65.021	NR!	70-130
N018861-002B	SAMP	1	111953.1	164771.4	67.94	NR!	70-130	2311667	3649054.4	63.35	NR!	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-003B	SAMP	1	95590.9	164771.4	58.014	NR!	70-130	1952100.6	3649054.4	53.5	NR!	70-130
N018861-004B	SAMP	1	96271.6	164771.4	58.43	NR!	70-130	1934760.8	3649054.4	53.021	NR!	70-130
N018861-005B	SAMP	1	99885.7	164771.4	60.62	NR!	70-130	2088705.1	3649054.4	57.24	NR!	70-130
N018861-006B	SAMP	1	83654.1	164771.4	50.77	NR!	70-130	1699196.7	3649054.4	46.57	NR!	70-130
MB-56419	MBLK	1	160968.4	164771.4	97.69	PASS	70-130	3536710.9	3649054.4	96.92	PASS	70-130
LCS-56419	LCS	1	163545.2	164771.4	99.26	PASS	70-130	3578821.9	3649054.4	98.075	PASS	70-130
N018861-007B	SAMP	1	92172.8	164771.4	55.94	NR!	70-130	1849419.4	3649054.4	50.68	NR!	70-130
CCV3	CCV	1	180298.9	164771.4	109.42	PASS	70-130	3895709.1	3649054.4	106.76	PASS	70-130
CCB3	CCB	1	158917.8	164771.4	96.45	PASS	70-130	3505563	3649054.4	96.068	PASS	70-130
N018861-007B	SAMP	5	126139	164771.4	76.55	PASS	70-130	2630783.5	3649054.4	72.095	PASS	70-130
N018861-007B-PS	PS	1	97455.4	164771.4	59.15	NR!	70-130	1922403.9	3649054.4	52.68	NR!	70-130
N018861-007B-MS	MS	1	97479.9	164771.4	59.16	NR!	70-130	1950060	3649054.4	53.44	NR!	70-130
N018861-007B-MSD	MSD	1	97669.1	164771.4	59.28	NR!	70-130	1960540.1	3649054.4	53.73	NR!	70-130
N018843-001B	SAMP	1	154505	164771.4	93.77	PASS	70-130	3201090.1	3649054.4	87.72	PASS	70-130
N018843-002B	SAMP	1	153001.9	164771.4	92.86	PASS	70-130	3082537.6	3649054.4	84.47	PASS	70-130
N018843-003B	SAMP	1	152606.6	164771.4	92.62	PASS	70-130	3088205.7	3649054.4	84.63	PASS	70-130
N018843-004B	SAMP	1	148205.7	164771.4	89.95	PASS	70-130	3041807.1	3649054.4	83.36	PASS	70-130
N018843-005B	SAMP	1	149713.4	164771.4	90.86	PASS	70-130	3027730.7	3649054.4	82.97	PASS	70-130
N018843-006B	SAMP	1	146394.4	164771.4	88.85	PASS	70-130	3000338.5	3649054.4	82.22	PASS	70-130
CCV4	CCV	1	173239.7	164771.4	105.14	PASS	70-130	3640849	3649054.4	99.78	PASS	70-130
CCB4	CCB	1	148965.3	164771.4	90.41	PASS	70-130	3275233.4	3649054.4	89.76	PASS	70-130
LLCCV1	CCV2	1	155869.7	164771.4	94.6	PASS	70-130	3446043.8	3649054.4	94.44	PASS	70-130
ICSA2	ICSA	1	150867.6	164771.4	91.56	PASS	70-130	3213929.4	3649054.4	88.076	PASS	70-130
ICSAB2	ICSAB	1	158271.8	164771.4	96.055	PASS	70-130	3224762.2	3649054.4	88.37	PASS	70-130
N018843-007B	SAMP	1	142975.8	164771.4	86.77	PASS	70-130	2995327.3	3649054.4	82.085	PASS	70-130
N018843-008B	SAMP	1	141168.5	164771.4	85.68	PASS	70-130	2872974.6	3649054.4	78.73	PASS	70-130
N018843-009B	SAMP	1	141702.9	164771.4	86	PASS	70-130	2919941.9	3649054.4	80.019	PASS	70-130
N018843-010B	SAMP	1	142570.5	164771.4	86.53	PASS	70-130	2942353.9	3649054.4	80.63	PASS	70-130
N018843-010B-MS	MS	1	142060.1	164771.4	86.22	PASS	70-130	2932205.3	3649054.4	80.36	PASS	70-130
N018844-001B	SAMP	1	139722.8	164771.4	84.8	PASS	70-130	2876373.1	3649054.4	78.83	PASS	70-130
N018845-001B	SAMP	1	108610.4	164771.4	65.92	NR!	70-130	2128330.6	3649054.4	58.33	NR!	70-130
N018845-002B	SAMP	1	95869.5	164771.4	58.18	NR!	70-130	1942286.2	3649054.4	53.23	NR!	70-130
N018845-003B	SAMP	1	128511.8	164771.4	77.99	PASS	70-130	2649370.4	3649054.4	72.6	PASS	70-130
N018845-004B	SAMP	1	125067.9	164771.4	75.9	PASS	70-130	2557456.8	3649054.4	70.085	PASS	70-130
CCV5	CCV	1	179680.3	164771.4	109.05	PASS	70-130	3748949.6	3649054.4	102.74	PASS	70-130
CCB5	CCB	1	159505.7	164771.4	96.8	PASS	70-130	3364377.4	3649054.4	92.2	PASS	70-130
N018845-006B	SAMP	1	125078.4	164771.4	75.91	PASS	70-130	2575526.2	3649054.4	70.58	PASS	70-130
N018845-007B	SAMP	1	96905.6	164771.4	58.81	NR!	70-130	1907283.2	3649054.4	52.27	NR!	70-130
N018845-008B	SAMP	1	135908.1	164771.4	82.48	PASS	70-130	2804713.8	3649054.4	76.86	PASS	70-130
N018845-005B	SAMP	1	117850.1	164771.4	71.52	PASS	70-130	2381565	3649054.4	65.27	NR!	70-130
CCV6	CCV	1	161230.3	164771.4	97.85	PASS	70-130	3441226.2	3649054.4	94.3	PASS	70-130

INTERNAL STANDARD: 160226A1

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
CCB6	CCB	1	146286.4	164771.4	88.78	PASS	70-130	3180107.3	3649054.4	87.15	PASS	70-130
LLCCV2	CCV2	1	154368	164771.4	93.69	PASS	70-130	3364032	3649054.4	92.19	PASS	70-130
ICSA3	ICSA	1	146304.2	164771.4	88.79	PASS	70-130	3007549.2	3649054.4	82.42	PASS	70-130
ICSAB3	ICSAB	1	148570.5	164771.4	90.17	PASS	70-130	3002123.9	3649054.4	82.27	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	171872.1	171872.1	100	PASS	70-130	114739.3	114739.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	166885.6	171872.1	97.099	PASS	70-130	113154.9	114739.3	98.62	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	164481.1	171872.1	95.7	PASS	70-130	110851.4	114739.3	96.61	PASS	70-130
Std3-5/50 ppb	ICAL	1	162231.7	171872.1	94.39	PASS	70-130	109870.7	114739.3	95.76	PASS	70-130
Std4-10/100 ppb	ICAL	1	158833.7	171872.1	92.41	PASS	70-130	107891	114739.3	94.031	PASS	70-130
Std5-20/200 ppb	ICAL	1	159849.4	171872.1	93.005	PASS	70-130	107005.2	114739.3	93.26	PASS	70-130
Std6-40/400 ppb	ICAL	1	158058.1	171872.1	91.96	PASS	70-130	106125.1	114739.3	92.49	PASS	70-130
Std7-100/1000 ppb	ICAL	1	154833.5	171872.1	90.086	PASS	70-130	103960.2	114739.3	90.61	PASS	70-130
Std8-200/2000 ppb	ICAL	1	152727.7	171872.1	88.86	PASS	70-130	101544.3	114739.3	88.5	PASS	70-130
ICV	ICV	1	169671.3	171872.1	98.72	PASS	70-130	113930.8	114739.3	99.3	PASS	70-130
ICB	ICB	1	161352	171872.1	93.88	PASS	70-130	109872.1	114739.3	95.76	PASS	70-130
LLICV	CCV1	1	162638.9	171872.1	94.63	PASS	70-130	106883.6	114739.3	93.15	PASS	70-130
ICSA1	ICSA	1	165823.9	171872.1	96.48	PASS	70-130	104594.7	114739.3	91.16	PASS	70-130
ICSAB1	ICSAB	1	155734.6	171872.1	90.61	PASS	70-130	97742.6	114739.3	85.19	PASS	70-130
LLICV	CCV1	1	177090.1	171872.1	103.04	PASS	70-130	114372.4	114739.3	99.68	PASS	70-130
CCV1	CCV	1	165901.8	171872.1	96.53	PASS	70-130	109469.2	114739.3	95.41	PASS	70-130
CCB1	CCB	1	163804.8	171872.1	95.31	PASS	70-130	109342.2	114739.3	95.3	PASS	70-130
N018833-001B	SAMP	25	162773.2	171872.1	94.71	PASS	70-130	108379	114739.3	94.46	PASS	70-130
N018833-001B-PS	PS	5	162399.9	171872.1	94.49	PASS	70-130	105957.5	114739.3	92.35	PASS	70-130
N018833-001B-MS	MS	5	161266.1	171872.1	93.83	PASS	70-130	106792.7	114739.3	93.074	PASS	70-130
N018833-001B-MSD	MSD	5	162080.6	171872.1	94.3	PASS	70-130	106418.2	114739.3	92.75	PASS	70-130
N018834-001B	SAMP	5	158726.4	171872.1	92.35	PASS	70-130	105262.7	114739.3	91.74	PASS	70-130
N018834-001B-MS	MS	5	156788.8	171872.1	91.22	PASS	70-130	103521.1	114739.3	90.22	PASS	70-130
CCV2	CCV	1	155556.3	171872.1	90.51	PASS	70-130	102231.9	114739.3	89.099	PASS	70-130
CCB2	CCB	1	157102.8	171872.1	91.41	PASS	70-130	104574.2	114739.3	91.14	PASS	70-130
LLCCV1	CCV2	1	157849.7	171872.1	91.84	PASS	70-130	102750.8	114739.3	89.55	PASS	70-130
ICSA2	ICSA	1	169212.6	171872.1	98.45	PASS	70-130	106011.6	114739.3	92.39	PASS	70-130
ICSAB	ICSAB	1	152714.6	171872.1	88.85	PASS	70-130	98577.6	114739.3	85.91	PASS	70-130
N018861-001B	SAMP	1	143382.9	171872.1	83.42	PASS	70-130	84044	114739.3	73.25	PASS	70-130
N018861-001B	SAMP	5	150341.8	171872.1	87.47	PASS	70-130	95849.7	114739.3	83.54	PASS	70-130
N018861-002B	SAMP	1	134950.8	171872.1	78.52	PASS	70-130	78860.6	114739.3	68.73	NR!	70-130
N018861-002B	SAMP	5	149429.1	171872.1	86.94	PASS	70-130	94206.3	114739.3	82.1	PASS	70-130
N018861-003B	SAMP	1	117721.9	171872.1	68.49	NR!	70-130	64001.5	114739.3	55.78	NR!	70-130
N018861-003B	SAMP	5	144581.9	171872.1	84.12	PASS	70-130	88970.6	114739.3	77.54	PASS	70-130
N018861-003B	SAMP	10	153046.3	171872.1	89.047	PASS	70-130	97285	114739.3	84.79	PASS	70-130
N018861-004B	SAMP	1	121457.7	171872.1	70.67	PASS	70-130	66123.2	114739.3	57.63	NR!	70-130
N018861-004B	SAMP	5	145771.9	171872.1	84.81	PASS	70-130	87797.8	114739.3	76.52	PASS	70-130
N018861-005B	SAMP	1	125366.5	171872.1	72.94	PASS	70-130	69458.2	114739.3	60.54	NR!	70-130
CCV3	CCV	1	153037.7	171872.1	89.042	PASS	70-130	100796.8	114739.3	87.85	PASS	70-130
CCB3	CCB	1	148270.4	171872.1	86.27	PASS	70-130	98954.3	114739.3	86.24	PASS	70-130
N018861-005B	SAMP	5	133506.9	171872.1	77.68	PASS	70-130	83877.1	114739.3	73.1	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-006B	SAMP	1	103944.8	171872.1	60.48	NR!	70-130	56618.8	114739.3	49.35	NR!	70-130
N018861-006B	SAMP	5	138747.9	171872.1	80.73	PASS	70-130	84655.8	114739.3	73.78	PASS	70-130
MB-56419	MBLK	1	153280.5	171872.1	89.18	PASS	70-130	102190.6	114739.3	89.063	PASS	70-130
LCS-56419	LCS	1	161470.8	171872.1	93.95	PASS	70-130	105443.2	114739.3	91.9	PASS	70-130
N018861-007B	SAMP	1	107626.7	171872.1	62.62	NR!	70-130	61963.8	114739.3	54.004	NR!	70-130
N018861-007B	SAMP	5	139931.1	171872.1	81.42	PASS	70-130	85832.7	114739.3	74.81	PASS	70-130
N018861-007B	SAMP	25	147151.9	171872.1	85.62	PASS	70-130	96711	114739.3	84.29	PASS	70-130
N018861-007B-PS	PS	1	115884.6	171872.1	67.42	NR!	70-130	65106.7	114739.3	56.74	NR!	70-130
N018861-007B-PS	PS	5	143156.6	171872.1	83.29	PASS	70-130	88045.5	114739.3	76.74	PASS	70-130
CCV4	CCV	1	153911.3	171872.1	89.55	PASS	70-130	101146.1	114739.3	88.15	PASS	70-130
CCB4	CCB	1	149834.3	171872.1	87.18	PASS	70-130	101093.8	114739.3	88.11	PASS	70-130
N018861-007B-MS	MS	1	116288.3	171872.1	67.66	NR!	70-130	66165.7	114739.3	57.67	NR!	70-130
N018861-007B-MS	MS	5	142234.7	171872.1	82.76	PASS	70-130	86770.1	114739.3	75.62	PASS	70-130
N018861-007B-MSD	MSD	1	120049.1	171872.1	69.85	NR!	70-130	67568.3	114739.3	58.89	NR!	70-130
N018861-007B-MSD	MSD	5	143043.2	171872.1	83.23	PASS	70-130	87883.8	114739.3	76.59	PASS	70-130
N018843-001B	SAMP	1	143101.4	171872.1	83.26	PASS	70-130	93414	114739.3	81.41	PASS	70-130
N018843-002B	SAMP	1	138294.9	171872.1	80.46	PASS	70-130	90858.4	114739.3	79.19	PASS	70-130
N018843-003B	SAMP	1	133971.5	171872.1	77.95	PASS	70-130	90197.3	114739.3	78.61	PASS	70-130
N018843-004B	SAMP	1	131403.8	171872.1	76.45	PASS	70-130	88164	114739.3	76.84	PASS	70-130
N018843-005B	SAMP	1	133001.7	171872.1	77.38	PASS	70-130	88120.4	114739.3	76.8	PASS	70-130
N018843-006B	SAMP	1	130116.3	171872.1	75.71	PASS	70-130	86799	114739.3	75.65	PASS	70-130
CCV5	CCV	1	138521.4	171872.1	80.6	PASS	70-130	91764.9	114739.3	79.98	PASS	70-130
CCB5	CCB	1	138681.8	171872.1	80.69	PASS	70-130	91960	114739.3	80.15	PASS	70-130
N018843-007B	SAMP	1	128697.6	171872.1	74.88	PASS	70-130	85767.1	114739.3	74.75	PASS	70-130
N018843-008B	SAMP	1	124792.6	171872.1	72.61	PASS	70-130	82876.8	114739.3	72.23	PASS	70-130
N018843-009B	SAMP	1	125473.5	171872.1	73.004	PASS	70-130	83642.8	114739.3	72.9	PASS	70-130
N018843-010B	SAMP	1	125801	171872.1	73.19	PASS	70-130	84701.6	114739.3	73.82	PASS	70-130
N018843-010B	SAMP	5	130323.7	171872.1	75.83	PASS	70-130	89559.4	114739.3	78.055	PASS	70-130
N018843-010B-MS	MS	1	127364.2	171872.1	74.1	PASS	70-130	85640.9	114739.3	74.64	PASS	70-130
N018843-010B-MSD	MSD	1	132060.2	171872.1	76.84	PASS	70-130	89504.6	114739.3	78.007	PASS	70-130
N018844-001B	SAMP	1	121935.3	171872.1	70.95	PASS	70-130	83423.8	114739.3	72.71	PASS	70-130
CCV6	CCV	1	140105.1	171872.1	81.52	PASS	70-130	92720.3	114739.3	80.81	PASS	70-130
CCB6	CCB	1	137384.6	171872.1	79.93	PASS	70-130	91840.9	114739.3	80.043	PASS	70-130
LLCCV2	CCV2	1	136439.8	171872.1	79.38	PASS	70-130	89468.7	114739.3	77.98	PASS	70-130
ICSA3	ICSA	1	139750.5	171872.1	81.31	PASS	70-130	88581.9	114739.3	77.2	PASS	70-130
ICSAB3	ICSAB	1	162057	171872.1	94.29	PASS	70-130	103010.5	114739.3	89.78	PASS	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	151772	151772	100	PASS	70-130	3065661.7	3065661.7	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	146962.5	151772	96.83	PASS	70-130	3012633.5	3065661.7	98.27	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	146301.7	151772	96.4	PASS	70-130	2997102.7	3065661.7	97.76	PASS	70-130
Std3-5/50 ppb	ICAL	1	143870.9	151772	94.79	PASS	70-130	2941755.2	3065661.7	95.96	PASS	70-130
Std4-10/100 ppb	ICAL	1	142366.7	151772	93.8	PASS	70-130	2921619.2	3065661.7	95.3	PASS	70-130
Std5-20/200 ppb	ICAL	1	141838.4	151772	93.45	PASS	70-130	2927018.5	3065661.7	95.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	138142	151772	91.019	PASS	70-130	2892832.2	3065661.7	94.36	PASS	70-130
Std7-100/1000 ppb	ICAL	1	136219.5	151772	89.75	PASS	70-130	2857868.5	3065661.7	93.22	PASS	70-130
Std8-200/2000 ppb	ICAL	1	132719.9	151772	87.45	PASS	70-130	2799519.5	3065661.7	91.32	PASS	70-130
ICV	ICV	1	145029.5	151772	95.56	PASS	70-130	3118126.4	3065661.7	101.71	PASS	70-130
ICB	ICB	1	142122.4	151772	93.64	PASS	70-130	3000190.3	3065661.7	97.86	PASS	70-130
LLICV	CCV1	1	138927.8	151772	91.54	PASS	70-130	3013514.1	3065661.7	98.3	PASS	70-130
ICSA1	ICSA	1	132052.7	151772	87.007	PASS	70-130	2625999.5	3065661.7	85.66	PASS	70-130
ICSAB1	ICSAB	1	124666.6	151772	82.14	PASS	70-130	2429414.3	3065661.7	79.25	PASS	70-130
LLICV	CCV1	1	150707.1	151772	99.3	PASS	70-130	3143402.4	3065661.7	102.54	PASS	70-130
CCV1	CCV	1	143042.9	151772	94.25	PASS	70-130	2914783.7	3065661.7	95.078	PASS	70-130
CCB1	CCB	1	140510.1	151772	92.58	PASS	70-130	2897607	3065661.7	94.52	PASS	70-130
N018833-001B	SAMP	25	140035	151772	92.27	PASS	70-130	2850081.8	3065661.7	92.97	PASS	70-130
N018833-001B-PS	PS	5	136738.1	151772	90.094	PASS	70-130	2728286.1	3065661.7	89	PASS	70-130
N018833-001B-MS	MS	5	137008.7	151772	90.27	PASS	70-130	2760205.9	3065661.7	90.036	PASS	70-130
N018833-001B-MSD	MSD	5	138935.6	151772	91.54	PASS	70-130	2788916.1	3065661.7	90.97	PASS	70-130
N018834-001B	SAMP	5	134463.3	151772	88.6	PASS	70-130	2736397.2	3065661.7	89.26	PASS	70-130
N018834-001B-MS	MS	5	133253.4	151772	87.8	PASS	70-130	2703355.2	3065661.7	88.18	PASS	70-130
CCV2	CCV	1	128575.5	151772	84.72	PASS	70-130	2805985.1	3065661.7	91.53	PASS	70-130
CCB2	CCB	1	134516.8	151772	88.63	PASS	70-130	2846550.3	3065661.7	92.85	PASS	70-130
LLCCV1	CCV2	1	133473.7	151772	87.94	PASS	70-130	2835229	3065661.7	92.48	PASS	70-130
ICSA2	ICSA	1	127789.1	151772	84.2	PASS	70-130	2600319.2	3065661.7	84.82	PASS	70-130
ICSAB	ICSAB	1	114090.2	151772	75.17	PASS	70-130	2667953.6	3065661.7	87.027	PASS	70-130
N018861-001B	SAMP	1	105853.4	151772	69.75	NR!	70-130	2002174.9	3065661.7	65.31	NR!	70-130
N018861-001B	SAMP	5	122637	151772	80.8	PASS	70-130	2393634.3	3065661.7	78.079	PASS	70-130
N018861-002B	SAMP	1	96574.3	151772	63.63	NR!	70-130	1851126.9	3065661.7	60.38	NR!	70-130
N018861-002B	SAMP	5	119050.1	151772	78.44	PASS	70-130	2341764.3	3065661.7	76.39	PASS	70-130
N018861-003B	SAMP	1	78173.8	151772	51.51	NR!	70-130	1496164.8	3065661.7	48.8	NR!	70-130
N018861-003B	SAMP	5	110057.7	151772	72.52	PASS	70-130	2175792.8	3065661.7	70.97	PASS	70-130
N018861-003B	SAMP	10	124956.4	151772	82.33	PASS	70-130	2395497.6	3065661.7	78.14	PASS	70-130
N018861-004B	SAMP	1	79420.9	151772	52.33	NR!	70-130	1489857.6	3065661.7	48.6	NR!	70-130
N018861-004B	SAMP	5	109603.2	151772	72.22	PASS	70-130	2122108.4	3065661.7	69.22	NR!	70-130
N018861-005B	SAMP	1	85867.3	151772	56.58	NR!	70-130	1607843.2	3065661.7	52.45	NR!	70-130
CCV3	CCV	1	131560.2	151772	86.68	PASS	70-130	2686495.3	3065661.7	87.63	PASS	70-130
CCB3	CCB	1	126508.4	151772	83.35	PASS	70-130	2634925.7	3065661.7	85.95	PASS	70-130
N018861-005B	SAMP	5	105641	151772	69.61	NR!	70-130	2074208.6	3065661.7	67.66	NR!	70-130

INTERNAL STANDARD: 160307A3

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-006B	SAMP	1	66776.8	151772	44	NR!	70-130	1285025.8	3065661.7	41.92	NR!	70-130
N018861-006B	SAMP	5	105885.7	151772	69.77	NR!	70-130	2055050.2	3065661.7	67.034	NR!	70-130
MB-56419	MBLK	1	133126	151772	87.71	PASS	70-130	2704909.5	3065661.7	88.23	PASS	70-130
LCS-56419	LCS	1	134847.4	151772	88.85	PASS	70-130	2823509	3065661.7	92.1	PASS	70-130
N018861-007B	SAMP	1	73439.7	151772	48.39	NR!	70-130	1399640.5	3065661.7	45.66	NR!	70-130
N018861-007B	SAMP	5	107925.6	151772	71.11	PASS	70-130	2106210.7	3065661.7	68.7	NR!	70-130
N018861-007B	SAMP	25	123461	151772	81.35	PASS	70-130	2427565.5	3065661.7	79.19	PASS	70-130
N018861-007B-PS	PS	1	77612.5	151772	51.14	NR!	70-130	1493594.9	3065661.7	48.72	NR!	70-130
N018861-007B-PS	PS	5	111354.5	151772	73.37	PASS	70-130	2182119.3	3065661.7	71.18	PASS	70-130
CCV4	CCV	1	130942.4	151772	86.28	PASS	70-130	2716989.8	3065661.7	88.63	PASS	70-130
CCB4	CCB	1	127959.2	151772	84.31	PASS	70-130	2699916.1	3065661.7	88.07	PASS	70-130
N018861-007B-MS	MS	1	77888.9	151772	51.32	NR!	70-130	1503820.5	3065661.7	49.054	NR!	70-130
N018861-007B-MS	MS	5	111806.9	151772	73.67	PASS	70-130	2128237.7	3065661.7	69.42	NR!	70-130
N018861-007B-MSD	MSD	1	81696.3	151772	53.83	NR!	70-130	1522774.8	3065661.7	49.67	NR!	70-130
N018861-007B-MSD	MSD	5	110005.7	151772	72.48	PASS	70-130	2153217.9	3065661.7	70.24	PASS	70-130
N018843-001B	SAMP	1	118695.3	151772	78.21	PASS	70-130	2374852.8	3065661.7	77.47	PASS	70-130
N018843-002B	SAMP	1	116264	151772	76.6	PASS	70-130	2309486.9	3065661.7	75.33	PASS	70-130
N018843-003B	SAMP	1	113949.5	151772	75.079	PASS	70-130	2285971.3	3065661.7	74.57	PASS	70-130
N018843-004B	SAMP	1	113486	151772	74.77	PASS	70-130	2258287.9	3065661.7	73.66	PASS	70-130
N018843-005B	SAMP	1	111466.7	151772	73.44	PASS	70-130	2225034	3065661.7	72.58	PASS	70-130
N018843-006B	SAMP	1	112715.4	151772	74.27	PASS	70-130	2204002.7	3065661.7	71.89	PASS	70-130
CCV5	CCV	1	119334.6	151772	78.63	PASS	70-130	2489512.8	3065661.7	81.21	PASS	70-130
CCB5	CCB	1	117380.6	151772	77.34	PASS	70-130	2533105.9	3065661.7	82.63	PASS	70-130
N018843-007B	SAMP	1	107922.4	151772	71.11	PASS	70-130	2193481.6	3065661.7	71.55	PASS	70-130
N018843-008B	SAMP	1	105241.6	151772	69.34	NR!	70-130	2143677.1	3065661.7	69.93	NR!	70-130
N018843-009B	SAMP	1	106605.2	151772	70.24	PASS	70-130	2174854.7	3065661.7	70.94	PASS	70-130
N018843-010B	SAMP	1	107896.7	151772	71.091	PASS	70-130	2182438.9	3065661.7	71.19	PASS	70-130
N018843-010B	SAMP	5	113032.1	151772	74.47	PASS	70-130	2319156.9	3065661.7	75.65	PASS	70-130
N018843-010B-MS	MS	1	106355.2	151772	70.076	PASS	70-130	2202663.6	3065661.7	71.85	PASS	70-130
N018843-010B-MSD	MSD	1	116575.5	151772	76.81	PASS	70-130	2330678.3	3065661.7	76.025	PASS	70-130
N018844-001B	SAMP	1	105792.8	151772	69.71	NR!	70-130	2168983.8	3065661.7	70.75	PASS	70-130
CCV6	CCV	1	119369.2	151772	78.65	PASS	70-130	2504572.7	3065661.7	81.7	PASS	70-130
CCB6	CCB	1	117770.8	151772	77.6	PASS	70-130	2514564.6	3065661.7	82.024	PASS	70-130
LLCCV2	CCV2	1	114732.8	151772	75.6	PASS	70-130	2486822.8	3065661.7	81.12	PASS	70-130
ICSA3	ICSA	1	108470.5	151772	71.47	PASS	70-130	2195659.5	3065661.7	71.62	PASS	70-130
ICSAB3	ICSAB	1	122164.3	151772	80.49	PASS	70-130	2767708.7	3065661.7	90.28	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	90543.7	90543.7	100	PASS	70-130	2123839.9	2123839.9	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	88372.7	90543.7	97.6	PASS	70-130	2056633.4	2123839.9	96.84	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	88064.6	90543.7	97.26	PASS	70-130	2046142.4	2123839.9	96.34	PASS	70-130
Std3-5/50 ppb	ICAL	1	86784.4	90543.7	95.85	PASS	70-130	2046093.3	2123839.9	96.34	PASS	70-130
Std4-10/100 ppb	ICAL	1	85838.5	90543.7	94.8	PASS	70-130	2033311.7	2123839.9	95.74	PASS	70-130
Std5-20/200 ppb	ICAL	1	84985.3	90543.7	93.86	PASS	70-130	2029111.6	2123839.9	95.54	PASS	70-130
Std6-40/400 ppb	ICAL	1	84090.3	90543.7	92.87	PASS	70-130	2021066.6	2123839.9	95.16	PASS	70-130
Std7-100/1000 ppb	ICAL	1	83972.5	90543.7	92.74	PASS	70-130	1990908.3	2123839.9	93.74	PASS	70-130
Std8-200/2000 ppb	ICAL	1	81628.4	90543.7	90.15	PASS	70-130	1961243.2	2123839.9	92.34	PASS	70-130
ICV	ICV	1	87997.5	90543.7	97.19	PASS	70-130	2161188.7	2123839.9	101.76	PASS	70-130
ICB	ICB	1	88272.5	90543.7	97.49	PASS	70-130	2151314	2123839.9	101.29	PASS	70-130
LLICV	CCV1	1	88642	90543.7	97.9	PASS	70-130	2165445.2	2123839.9	101.96	PASS	70-130
ICSA1	ICSA	1	81062.2	90543.7	89.53	PASS	70-130	1809989.7	2123839.9	85.22	PASS	70-130
ICSAB1	ICSAB	1	75116.1	90543.7	82.96	PASS	70-130	1683332.9	2123839.9	79.26	PASS	70-130
LLICV	CCV1	1	91785	90543.7	101.37	PASS	70-130	2159885.6	2123839.9	101.7	PASS	70-130
N018845-002B	SAMP	1	57810.7	90543.7	63.85	NR!	70-130	1219141.1	2123839.9	57.4	NR!	70-130
N018845-002B	SAMP	5	78319.9	90543.7	86.5	PASS	70-130	1675927	2123839.9	78.91	PASS	70-130
N018845-003B	SAMP	1	76104.1	90543.7	84.052	PASS	70-130	1644574.9	2123839.9	77.43	PASS	70-130
N018845-003B	SAMP	5	87004.8	90543.7	96.092	PASS	70-130	1891392.1	2123839.9	89.055	PASS	70-130
N018845-004B	SAMP	1	72098.4	90543.7	79.63	PASS	70-130	1568671.6	2123839.9	73.86	PASS	70-130
N018845-004B	SAMP	5	87187.9	90543.7	96.29	PASS	70-130	1921365.8	2123839.9	90.47	PASS	70-130
N018845-006B	SAMP	1	78387.1	90543.7	86.57	PASS	70-130	1632791.1	2123839.9	76.88	PASS	70-130
N018845-006B	SAMP	5	87469.4	90543.7	96.6	PASS	70-130	1888023.3	2123839.9	88.9	PASS	70-130
N018845-007B	SAMP	1	60003.1	90543.7	66.27	NR!	70-130	1253635.9	2123839.9	59.027	NR!	70-130
N018845-007B	SAMP	5	84673.7	90543.7	93.52	PASS	70-130	1793237.5	2123839.9	84.43	PASS	70-130
CCV1	CCV	1	98521.5	90543.7	108.81	PASS	70-130	2169330.9	2123839.9	102.14	PASS	70-130
CCB1	CCB	1	97956.2	90543.7	108.19	PASS	70-130	2196696	2123839.9	103.43	PASS	70-130
N018845-008B	SAMP	1	86079.7	90543.7	95.07	PASS	70-130	1817139.7	2123839.9	85.56	PASS	70-130
N018845-008B	SAMP	5	95056.4	90543.7	104.98	PASS	70-130	2009551.1	2123839.9	94.62	PASS	70-130
N018845-005B	SAMP	1	72233.3	90543.7	79.78	PASS	70-130	1520787.8	2123839.9	71.61	PASS	70-130
N018845-005B	SAMP	5	83926.6	90543.7	92.69	PASS	70-130	1808357	2123839.9	85.15	PASS	70-130
N018845-005B	SAMP	500	95758.7	90543.7	105.76	PASS	70-130	2177798.4	2123839.9	102.54	PASS	70-130
CCV2	CCV	1	89564.8	90543.7	98.92	PASS	70-130	2009935.1	2123839.9	94.64	PASS	70-130
CCB2	CCB	1	88784.2	90543.7	98.057	PASS	70-130	2025804.1	2123839.9	95.38	PASS	70-130
N018861-004B	SAMP	25	80373.2	90543.7	88.77	PASS	70-130	1736394	2123839.9	81.76	PASS	70-130
N018861-005B	SAMP	25	83277.9	90543.7	91.98	PASS	70-130	1773970	2123839.9	83.53	PASS	70-130
N018861-006B	SAMP	25	80196.9	90543.7	88.57	PASS	70-130	1722104.7	2123839.9	81.084	PASS	70-130
CCV3	CCV	1	86449.6	90543.7	95.48	PASS	70-130	1944448.1	2123839.9	91.55	PASS	70-130
CCB3	CCB	1	86727.4	90543.7	95.79	PASS	70-130	1998227.2	2123839.9	94.086	PASS	70-130
N018861-007B	SAMP	125	84330.6	90543.7	93.14	PASS	70-130	1862943.8	2123839.9	87.72	PASS	70-130
N018861-007B-PS	PS	25	77284.2	90543.7	85.36	PASS	70-130	1714053.7	2123839.9	80.71	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N018861-007B-MS	MS	25	78753	90543.7	86.98	PASS	70-130	1727986.3	2123839.9	81.36	PASS	70-130
N018861-007B-MSD	MSD	25	79609.7	90543.7	87.92	PASS	70-130	1754014.7	2123839.9	82.59	PASS	70-130
CCV4	CCV	1	85295.3	90543.7	94.2	PASS	70-130	1947126.3	2123839.9	91.68	PASS	70-130
CCB4	CCB	1	84745	90543.7	93.6	PASS	70-130	1975849.4	2123839.9	93.032	PASS	70-130
LLCCV1	CCV2	1	85012.9	90543.7	93.89	PASS	70-130	1996379.3	2123839.9	94	PASS	70-130
ICSA2	ICSA	1	77384.7	90543.7	85.47	PASS	70-130	1721848.6	2123839.9	81.072	PASS	70-130
ICSAB2	ICSAB	1	74009.9	90543.7	81.74	PASS	70-130	1678560.7	2123839.9	79.034	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018861
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56418

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to several analytes. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018833-001B DT 5X	Arsenic	ug/L	2.361276	NA	2.295541	2.86%	10
N018833-001B DT 5X	Chromium	ug/L	0	NA	0		10
N018833-001B DT 5X	Manganese	ug/L	0	NA	0		10
N018833-001B DT 5X	Molybdenum	ug/L	5.327166	NA	5.356014	0.54%	10
N018833-001B DT 5X	Selenium	ug/L	1.961576	NA	1.654206	18.58%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018861
Test Method: EPA 6020
Analysis Date: 2/26/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 5X	Chromium	ug/L	5.551185	NA	5.575755	0.44%	10

Note: NA - Not applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018861
Test Method: EPA 6020
Analysis Date: 3/7/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Se. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 25X	Arsenic	ug/L	15.99961	PASS	16.30795	1.89%	10
N018861-007B DT 25X	Manganese	ug/L	25.65824	PASS	24.48796	4.78%	10
N018861-007B DT 25X	Selenium	ug/L	~~1.961576~~ 0	NA	0		10

Note: NA - Not applicable

Mary 3/9/201
for

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018861
Test Method: EPA 6020
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56419

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018861-007B DT 125X	Molybdenum	ug/L	75.84905	PASS	81.14314	6.52%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106155**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2247002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.121	0.10	10.00	2.296	98.3	80	120				
Manganese	88.656	0.50	100.0	0	88.7	80	120				
Molybdenum	16.013	0.50	10.00	5.356	107	80	120				
Selenium	10.476	0.50	10.00	1.654	88.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106294**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2254605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.233	0.50	10.00	16.31	89.2	80	120				
Manganese	116.471	2.5	100.0	24.49	92.0	80	120				
Selenium	8.502	2.5	10.00	0	85.0	80	120				

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106298**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **3/8/2016** SeqNo: **2255290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	88.498	12	10.00	81.14	73.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018833-001B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56418** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/26/2016** SeqNo: **2246818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.168	1.0	10.00	0	91.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018861
Project: PG&E Topock - GMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID **N018861-007B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106153**
Client ID: **ZZZZZZ** Batch ID: **56419** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **2/27/2016** SeqNo: **2246851**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.566	1.0	10.00	5.576	79.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

RAW DATA

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226001.D	RINSE	RINSE	1	02/26/16 7:30 PM
A0226002.D	Cal Blank	IBLK	1	02/26/16 7:35 PM
A0226003.D	Std1-0.1/1 ppb	ICAL	1	02/26/16 7:41 PM
A0226004.D	Std2-0.5/5 ppb	ICAL	1	02/26/16 7:47 PM
A0226005.D	Std3-5/50 ppb	ICAL	1	02/26/16 7:52 PM
A0226006.D	Std4-10/100 ppb	ICAL	1	02/26/16 7:58 PM
A0226007.D	Std5-20/200 ppb	ICAL	1	02/26/16 8:03 PM
A0226008.D	Std6-40/400 ppb	ICAL	1	02/26/16 8:09 PM
A0226009.D	Std7-100/1000 ppb	ICAL	1	02/26/16 8:14 PM
A0226010.D	Std8-200/2000 ppb	ICAL	1	02/26/16 8:20 PM
A0226011.D	ICV	ICV	1	02/26/16 8:23 PM
A0226012.D	ICB	ICB	1	02/26/16 8:31 PM
A0226013.D	LLICV	CCV1	1	02/26/16 8:36 PM
A0226014.D	ICSA1	ICSA	1	02/26/16 8:42 PM
A0226015.D	ICSAB1	ICSAB	1	02/26/16 8:47 PM
A0226016.D	MB-56418	MBLK	1	02/26/16 8:53 PM
A0226017.D	LCS-56418	LCS	1	02/26/16 8:59 PM
A0226018.D	N018833-001B	SAMP	1	02/26/16 9:05 PM
A0226019.D	N018833-001B	SAMP	5	02/26/16 9:10 PM
A0226020.D	N018833-001B-PS	PS	1	02/26/16 9:16 PM
A0226021.D	N018833-001B-MS	MS	1	02/26/16 9:21 PM
A0226022.D	N018833-001B-MSD	MSD	1	02/26/16 9:27 PM
A0226023.D	N018833-002B	SAMP	1	02/26/16 9:32 PM
A0226024.D	N018833-003B	SAMP	1	02/26/16 9:38 PM
A0226025.D	N018833-004B	SAMP	1	02/26/16 9:43 PM
A0226026.D	CCV1	CCV	1	02/26/16 9:49 PM
A0226027.D	CCB1	CCB	1	02/26/16 9:54 PM
A0226028.D	N018833-005B	SAMP	1	02/26/16 10:00 PM
A0226029.D	N018833-006B	SAMP	1	02/26/16 10:06 PM
A0226030.D	N018833-007B	SAMP	1	02/26/16 10:11 PM
A0226031.D	N018833-008B	SAMP	1	02/26/16 10:17 PM
A0226032.D	N018833-009B	SAMP	1	02/26/16 10:22 PM
A0226033.D	N018833-010B	SAMP	1	02/26/16 10:28 PM
A0226034.D	N018834-001B	SAMP	1	02/26/16 10:34 PM
A0226035.D	N018834-001B-MS	MS	1	02/26/16 10:39 PM
A0226036.D	N018834-002B	SAMP	1	02/26/16 10:45 PM
A0226037.D	N018834-003B	SAMP	1	02/26/16 10:50 PM
A0226038.D	CCV2	CCV	1	02/26/16 10:56 PM
A0226039.D	CCB2	CCB	1	02/26/16 11:01 PM
A0226040.D	N018834-004B	SAMP	1	02/26/16 11:07 PM
A0226041.D	N018861-001B	SAMP	1	02/26/16 11:13 PM
A0226042.D	N018861-002B	SAMP	1	02/26/16 11:18 PM

3/8/2016

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226043.D	N018861-003B	SAMP	1	02/26/16 11:24 PM
A0226044.D	N018861-004B	SAMP	1	02/26/16 11:29 PM
A0226045.D	N018861-005B	SAMP	1	02/26/16 11:35 PM
A0226046.D	N018861-006B	SAMP	1	02/26/16 11:40 PM
A0226047.D	MB-56419	MBLK	1	02/26/16 11:46 PM
A0226048.D	LCS-56419	LCS	1	02/26/16 11:51 PM
A0226049.D	N018861-007B	SAMP	1	02/26/16 11:57 PM
A0226050.D	CCV3	CCV	1	02/27/16 12:02 AM
A0226051.D	CCB3	CCB	1	02/27/16 12:08 AM
A0226052.D	N018861-007B	SAMP	5	02/27/16 12:14 AM
A0226053.D	N018861-007B-PS	PS	1	02/27/16 12:19 AM
A0226054.D	N018861-007B-MS	MS	1	02/27/16 12:25 AM
A0226055.D	N018861-007B-MSD	MSD	1	02/27/16 12:30 AM
A0226056.D	N018843-001B	SAMP	1	02/27/16 12:36 AM
A0226057.D	N018843-002B	SAMP	1	02/27/16 12:41 AM
A0226058.D	N018843-003B	SAMP	1	02/27/16 12:47 AM
A0226059.D	N018843-004B	SAMP	1	02/27/16 12:52 AM
A0226060.D	N018843-005B	SAMP	1	02/27/16 12:58 AM
A0226061.D	N018843-006B	SAMP	1	02/27/16 1:03 AM
A0226062.D	CCV4	CCV	1	02/27/16 1:09 AM
A0226063.D	CCB4	CCB	1	02/27/16 1:15 AM
A0226064.D	LLCCV1	CCV2	1	02/27/16 1:20 AM
A0226065.D	ICSA2	ICSA	1	02/27/16 1:26 AM
A0226066.D	ICSAB2	ICSAB	1	02/27/16 1:31 AM
A0226067.D	N018843-007B	SAMP	1	02/27/16 1:37 AM
A0226068.D	N018843-008B	SAMP	1	02/27/16 1:42 AM
A0226069.D	N018843-009B	SAMP	1	02/27/16 1:48 AM
A0226070.D	N018843-010B	SAMP	1	02/27/16 1:53 AM
A0226071.D	N018843-010B-MS	MS	1	02/27/16 1:59 AM
A0226072.D	N018844-001B	SAMP	1	02/27/16 2:04 AM
A0226073.D	N018845-001B	SAMP	1	02/27/16 2:10 AM
A0226074.D	N018845-002B	SAMP	1	02/27/16 2:15 AM
A0226075.D	N018845-003B	SAMP	1	02/27/16 2:21 AM
A0226076.D	N018845-004B	SAMP	1	02/27/16 2:27 AM
A0226077.D	CCV5	CCV	1	02/27/16 2:32 AM
A0226078.D	CCB5	CCB	1	02/27/16 2:40 AM
A0226079.D	N018845-006B	SAMP	1	02/27/16 2:45 AM
A0226080.D	N018845-007B	SAMP	1	02/27/16 2:51 AM
A0226081.D	N018845-008B	SAMP	1	02/27/16 2:56 AM
A0226082.D	N018845-005B	SAMP	1	02/27/16 3:02 AM
A0226083.D	CCV6	CCV	1	02/27/16 3:08 AM
A0226084.D	CCB6	CCB	1	02/27/16 3:14 AM

INJECTION LOG: 160226A1

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0226085.D	LLCCV2	CCV2	1	02/27/16 3:19 AM
A0226086.D	ICSA3	ICSA	1	02/27/16 3:25 AM
A0226087.D	ICSAB3	ICSAB	1	02/27/16 3:30 AM
A0226088.D	RINSE	RINSE	1	02/27/16 3:36 AM
A0226089.D	RINSE	RINSE	1	02/27/16 3:41 AM

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0226001	RINSE,RINSE,1	rinse	1.000				
2	C:\ICPMH\1\METHODS\DEFAULT.M	CalBlk	1101	A0226002	Cal Blank,IBLK,1	initial blank	Level 1				
3	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1102	A0226003	Std-0.1/1 ppb	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H	Level 2				
4	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1103	A0226004	Std-0.5/5 ppb	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H	Level 3				
5	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1104	A0226005	Std-5/50 ppb	5/50 ug/L, 1.25<50mL of 2MWST- 151207H	Level 4				
6	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1105	A0226006	Std-10/100 ppb	10/100 ug/L,2.5<50mL of 2MWST- 151207H	Level 5				
7	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1106	A0226007	Std-20/200 ppb	20/200 ug/L,5<50mL of 2MWST- 151207H	Level 6				
8	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1107	A0226008	Std-40/400 ppb	40/400 ug/L, 10<50mL of 2MWST- 151207H	Level 7				
9	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1206	A0226009	Std-100/1000 ppb	100/1000ug/L,10<20mL of 2MWST- 151207H	Level 8				
10	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1207	A0226010	Std-200/2000 ppb	200/2000ug/L, 2MWST- 151207H	Level 9				
11	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICV	1301	A0226011	ICV,ICV,1	10/100 ug/L,200mL of 2MWST- 151207I	1.000				
12	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1302	A0226012	ICB,ICB,1		1.000				
13	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0226013	LLICV,CCV1,1	2MWST- 151207J	1.000				
14	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0226014	ICSA1,ICSA,1	2MWST- 151207K	1.000				
15	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0226015	ICSAB1,ICSAB,1	2MWST- 151207L	1.000				
16	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2101	A0226016	MB-56418,MBLK,1		1.000				
17	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2102	A0226017	LCS-56418,LCS,1		1.000				
18	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2103	A0226018	N018833-001B,SAMP,1		1.000				
19	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2104	A0226019	N018833-001B,SAMP,5		1.000				
20	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2105	A0226020	N018833-001B-PS,PS,1		1.000				
21	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2106	A0226021	N018833-001B-MS,MS,1		1.000				
22	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2107	A0226022	N018833-001B-MSD,MSD,1		1.000				
23	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2108	A0226023	N018833-002B,SAMP,1		1.000				
24	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2109	A0226024	N018833-003B,SAMP,1		1.000				
25	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2110	A0226025	N018833-004B,SAMP,1		1.000				
26	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0226026	CCV1,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
27	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0226027	CCB1,CCB,1		1.000				
28	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2111	A0226028	N018833-005B,SAMP,1		1.000				
29	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2112	A0226029	N018833-006B,SAMP,1		1.000				
30	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2201	A0226030	N018833-007B,SAMP,1		1.000				
31	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2202	A0226031	N018833-008B,SAMP,1		1.000				
32	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2203	A0226032	N018833-009B,SAMP,1		1.000				
33	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2204	A0226033	N018833-010B,SAMP,1		1.000				
34	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2205	A0226034	N018834-001B,SAMP,1		1.000				
35	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2206	A0226035	N018834-001B-MS,MS,1		1.000				
36	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2207	A0226036	N018834-002B,SAMP,1		1.000				
37	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2208	A0226037	N018834-003B,SAMP,1		1.000				
38	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0226038	CCV2,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
39	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0226039	CCB2,CCB,1		1.000				
40	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2209	A0226040	N018834-004B,SAMP,1		1.000				
41	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2210	A0226041	N018834-005B,SAMP,1		1.000				
42	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2211	A0226042	N018834-006B,SAMP,1		1.000				
43	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2212	A0226043	N018834-007B,SAMP,1		1.000				
44	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2301	A0226044	N018834-008B,SAMP,1		1.000				
45	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2302	A0226045	N018834-009B,SAMP,1		1.000				
46	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2303	A0226046	N018834-010B,SAMP,1		1.000				
47	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2304	A0226047	MB-56419,MBLK,1		1.000				
48	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2305	A0226048	LCS-56419,LCS,1		1.000				
49	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2306	A0226049	N018834-011B,SAMP,1		1.000				
50	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0226050	CCV3,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
51	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0226051	CCB3,CCB,1		1.000				
52	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2307	A0226052	N018834-011B,SAMP,5		1.000				
53	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2308	A0226053	N018834-011B-PS,PS,1		1.000				
54	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2309	A0226054	N018834-011B-MS,MS,1		1.000				
55	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2310	A0226055	N018834-011B-MSD,MSD,1		1.000				
56	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2311	A0226056	N018843-001B,SAMP,1		1.000				
57	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2312	A0226057	N018843-002B,SAMP,1		1.000				
58	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2401	A0226058	N018843-003B,SAMP,1		1.000				
59	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2402	A0226059	N018843-004B,SAMP,1		1.000				
60	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2403	A0226060	N018843-005B,SAMP,1		1.000				
61	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2404	A0226061	N018843-006B,SAMP,1		1.000				
62	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0226062	CCV4,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
63	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0226063	CCB4,CCB,1		1.000				
64	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0226064	LLCCV1,CCV2,1	2MWST- 151207J	1.000				
65	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0226065	ICSA2,ICSA,1	2MWST- 151207K	1.000				
66	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0226066	ICSAB2,ICSAB,1	2MWST- 151207L	1.000				
67	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2405	A0226067	N018843-007B,SAMP,1		1.000				
68	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2406	A0226068	N018843-008B,SAMP,1		1.000				
69	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2407	A0226069	N018843-009B,SAMP,1		1.000				
70	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2408	A0226070	N018843-010B,SAMP,1		1.000				
71	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2409	A0226071	N018843-010B-MS,MS,1		1.000				
72	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2410	A0226072	N018844-001B,SAMP,1		1.000				
73	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2411	A0226073	N018845-001B,SAMP,1		1.000				
74	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2412	A0226074	N018845-002B,SAMP,1		1.000				
75	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2501	A0226075	N018845-003B,SAMP,1		1.000				
76	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2502	A0226076	N018845-004B,SAMP,1		1.000				
77	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0226077	CCV5,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
78	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0226078	CCB5,CCB,1		1.000				
79	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2503	A0226079	N018845-006B,SAMP,1		1.000				
80	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2504	A0226080	N018845-007B,SAMP,1		1.000				
81	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2505	A0226081	N018845-008B,SAMP,1		1.000				
82	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2506	A0226082	N018845-005B,SAMP,1		1.000				
83	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0226083	CCV6,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
84	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0226084	CCB6,CCB,1		1.000				
85	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0226085	LLCCV2,CCV2,1	2MWST- 151207J	1.000				
86	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0226086	ICSA3,ICSA,1	2MWST- 151207K	1.000				
87	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0226087	ICSAB3,ICSAB,1	2MWST- 151207L	1.000				
88	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0226088	RINSE,RINSE,1	rinse	1.000				
89	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0226089	RINSE,RINSE,1	rinse	1.000				
90		Keyword		StandBy							

Quantitation Report

File Name	A0226002.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 19:35
Sample Name	Cal Blank,IBLK,1
Sample Type	CalBlk
Comment	initial blank
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	---	318.91	1.241E-04	Pulse	0.30	3
B	11	6	3	0.000	ppb	---	372,495.56	1.450E-01	Pulse	0.30	3
Na	23	45	2	0.000	ppb	---	1,100,572.61	5.401E+00	Analog	0.30	3
Mg	26	45	2	0.000	ppb	---	253.35	1.244E-03	Pulse	0.30	3
Al	27	45	2	0.000	ppb	---	950.04	4.657E-03	Pulse	0.30	3
K	39	45	2	0.000	ppb	---	46,638.22	2.288E-01	Pulse	0.30	3
Ca	44	45	3	0.000	ppb	---	38,801.87	6.964E-03	Pulse	0.30	3
V	51	45	2	0.000	ppb	---	2,723.67	1.336E-02	Pulse	0.30	3
Cr	52	45	2	0.000	ppb	---	430.02	2.111E-03	Pulse	0.30	3
Mn	55	45	2	0.000	ppb	---	419.16	2.055E-03	Pulse	0.30	3
Fe	56	45	2	0.000	ppb	---	8,812.30	4.321E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	---	68.86	3.378E-04	Pulse	0.30	3
Ni	60	72	2	0.000	ppb	---	804.45	5.951E-03	Pulse	0.30	3
Cu	63	72	2	0.000	ppb	---	4,314.04	3.187E-02	Pulse	0.30	3
Zn	66	72	2	0.000	ppb	---	3,191.24	2.361E-02	Pulse	0.30	3
As	75	72	2	0.000	ppb	---	42.67	3.142E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	5.56	3.370E-05	Pulse	0.30	3
Mo	95	103	2	0.000	ppb	---	535.59	1.467E-04	Pulse	0.30	3
Ag	107	103	3	0.000	ppb	---	6,825.34	8.051E-04	Pulse	0.30	3
Cd	111	115	3	0.000	ppb	---	-148.78	-1.684E-05	Pulse	0.30	3
Sb	121	115	3	0.000	ppb	---	876.73	9.923E-05	Pulse	0.30	3
Ba	137	159	3	0.000	ppb	---	1,401.62	1.130E-04	Pulse	0.30	3
Tl	205	209	3	0.000	ppb	---	6,927.47	9.985E-04	Pulse	0.30	3
Pb	208	209	3	0.000	ppb	---	1,220.93	1.760E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	---	124.96	1.801E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	2,568,240.86	0.72	100.0	Analog	0.30	3
2	Sc	45	203,921.05	2.03	100.0	Pulse	0.30	3
3	Sc	45	5,571,393.88	0.82	100.0	Analog	0.30	3
1	Ge	72	164,771.35	0.30	100.0	Pulse	0.30	3
2	Ge	72	135,206.98	2.24	100.0	Pulse	0.30	3
2	Rh	103	3,649,054.39	1.79	100.0	Analog	0.30	3
3	Rh	103	8,475,477.37	0.58	100.0	Analog	0.30	3
3	In	115	8,835,198.71	0.20	100.0	Analog	0.30	3
3	Tb	159	12,406,543.98	0.17	100.0	Analog	0.30	3
3	Bi	209	6,938,214.34	0.26	100.0	Analog	0.30	3

Quantitation Report

FOR As ONLY

File Name	A0226003.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 19:41
Sample Name	Std-0.1/1 ppb
Sample Type	CalStd
Comment	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.093	ppb	11.33	1,829.07	6.651E-04	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	308,818.08	1.123E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	926,063.43	4.199E+00	Pulse	0.30	3
Mg	26	45	2	0.410	ppb	37.21	366.69	1.664E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	465.56	2.113E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	44,728.94	2.028E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	20,822.63	3.493E-03	Pulse	0.30	3
V	51	45	2	0.077	ppb	13.22	3,905.08	1.770E-02	Pulse	0.30	3
Cr	52	45	2	0.098	ppb	8.75	2,013.70	9.133E-03	Pulse	0.30	3
Mn	55	45	2	0.064	ppb	6.65	1,023.81	4.642E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	8,050.67	3.650E-02	Pulse	0.30	3
Co	59	45	2	0.100	ppb	1.76	2,987.23	1.354E-02	Pulse	0.30	3
Ni	60	72	2	0.040	ppb	29.34	1,176.90	7.955E-03	Pulse	0.30	3
Cu	63	72	2	0.004	ppb	176.75	4,792.95	3.240E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,145.95	7.747E-03	Pulse	0.30	3
As	75	72	2	0.095	ppb	19.59	212.89	1.438E-03	Pulse	0.75	3
Se	78	72	1	0.103	ppb	26.28	85.56	4.788E-04	Pulse	0.30	3
Mo	95	103	2	0.065	ppb	7.87	1,200.10	3.049E-04	Pulse	0.30	3
Ag	107	103	3	0.022	ppb	5.26	9,114.14	9.973E-04	Pulse	0.30	3
Cd	111	115	3	0.113	ppb	2.83	1,812.65	1.896E-04	Pulse	0.30	3
Sb	121	115	3	0.101	ppb	3.59	7,048.55	7.371E-04	Pulse	0.30	3
Ba	137	159	3	0.055	ppb	4.43	2,782.67	2.055E-04	Pulse	0.30	3
Tl	205	209	3	0.087	ppb	1.35	19,199.78	2.552E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.104	ppb	2.31	20,223.52	2.688E-03	Pulse	0.30	3
U	238	209	3	0.104	ppb	0.95	20,476.17	2.721E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,749,569.02	0.44	107.1	Analog	0.30	3
2	Sc	45	220,681.67	2.28	108.2	Pulse	0.30	3
3	Sc	45	5,960,511.16	0.52	107.0	Analog	0.30	3
1	Ge	72	178,524.08	0.74	108.3	Pulse	0.30	3
2	Ge	72	147,912.95	1.04	109.4	Pulse	0.30	3
2	Rh	103	3,936,389.46	0.81	107.9	Analog	0.30	3
3	Rh	103	9,138,368.82	0.20	107.8	Analog	0.30	3
3	In	115	9,561,416.49	0.46	108.2	Analog	0.30	3
3	Tb	159	13,541,261.74	0.85	109.1	Analog	0.30	3
3	Bi	209	7,524,173.78	0.32	108.4	Analog	0.30	3

Quantitation Report

File Name	A0226004.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 19:47
Sample Name	Std-0.5/5 ppb
Sample Type	CalStd
Comment	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.494	ppb	2.77	8,146.77	3.003E-03	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	373,697.41	1.378E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	807,100.71	3.681E+00	Pulse	0.30	3
Mg	26	45	2	4.464	ppb	3.79	1,274.55	5.812E-03	Pulse	0.30	3
Al	27	45	2	1.279	ppb	20.72	1,623.35	7.407E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	47,526.11	2.168E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	36,273.79	6.191E-03	Pulse	0.30	3
V	51	45	2	0.458	ppb	6.59	8,613.69	3.928E-02	Pulse	0.30	3
Cr	52	45	2	0.498	ppb	1.81	8,290.40	3.778E-02	Pulse	0.30	3
Mn	55	45	2	0.458	ppb	1.93	4,510.64	2.056E-02	Pulse	0.30	3
Fe	56	45	2	0.426	ppb	8.46	15,262.36	6.960E-02	Pulse	0.30	3
Co	59	45	2	0.502	ppb	2.18	14,549.43	6.634E-02	Pulse	0.30	3
Ni	60	72	2	0.423	ppb	2.00	3,958.54	2.701E-02	Pulse	0.30	3
Cu	63	72	2	0.444	ppb	4.70	13,594.87	9.273E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,358.51	1.609E-02	Pulse	0.30	3
As	75	72	2	0.484	ppb	5.03	886.26	6.044E-03	Pulse	0.75	3
Se	78	72	1	0.469	ppb	8.85	363.35	2.053E-03	Pulse	0.30	3
Mo	95	103	2	0.466	ppb	2.19	5,023.23	1.281E-03	Pulse	0.30	3
Ag	107	103	3	0.365	ppb	3.08	35,960.12	3.945E-03	Pulse	0.30	3
Cd	111	115	3	0.524	ppb	2.38	8,919.46	9.358E-04	Pulse	0.30	3
Sb	121	115	3	0.519	ppb	1.62	32,015.73	3.359E-03	Pulse	0.30	3
Ba	137	159	3	0.483	ppb	2.18	12,608.20	9.303E-04	Pulse	0.30	3
Tl	205	209	3	0.493	ppb	1.57	74,515.71	9.828E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.537	ppb	0.29	99,754.82	1.316E-02	Pulse	0.30	3
U	238	209	3	0.527	ppb	0.34	103,985.44	1.371E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,713,016.37	0.89	105.6	Analog	0.30	3
2	Sc	45	219,372.22	1.95	107.6	Pulse	0.30	3
3	Sc	45	5,858,816.23	0.60	105.2	Analog	0.30	3
1	Ge	72	176,991.34	1.28	107.4	Pulse	0.30	3
2	Ge	72	146,598.46	1.25	108.4	Pulse	0.30	3
2	Rh	103	3,919,515.84	1.16	107.4	Analog	0.30	3
3	Rh	103	9,116,052.15	0.45	107.6	Analog	0.30	3
3	In	115	9,532,411.29	1.08	107.9	Analog	0.30	3
3	Tb	159	13,552,421.61	0.74	109.2	Analog	0.30	3
3	Bi	209	7,581,877.74	0.54	109.3	Analog	0.30	3

Quantitation Report

File Name	A0226005.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 19:52
Sample Name	Std-5/50 ppb
Sample Type	CalStd
Comment	5/50 ug/L, 1.25<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	4.974	ppb	0.82	77,630.51	2.910E-02	Pulse	0.30	3
B	11	6	3	42.493	ppb	4.94	972,926.43	3.647E-01	Mix	0.30	3
Na	23	45	2	<0.000	ppb	---	832,029.91	3.840E+00	Pulse	0.30	3
Mg	26	45	2	51.811	ppb	1.50	11,761.18	5.427E-02	Pulse	0.30	3
Al	27	45	2	3.881	ppb	3.21	2,818.07	1.300E-02	Pulse	0.30	3
K	39	45	2	43.336	ppb	5.17	89,053.36	4.109E-01	Pulse	0.30	3
Ca	44	45	3	44.789	ppb	1.06	166,135.66	2.857E-02	Pulse	0.30	3
V	51	45	2	4.901	ppb	0.70	63,029.43	2.908E-01	Pulse	0.30	3
Cr	52	45	2	4.996	ppb	0.72	78,095.05	3.603E-01	Pulse	0.30	3
Mn	55	45	2	4.996	ppb	0.49	44,194.38	2.039E-01	Pulse	0.30	3
Fe	56	45	2	4.902	ppb	1.24	75,220.14	3.471E-01	Pulse	0.30	3
Co	59	45	2	5.041	ppb	0.35	143,642.64	6.627E-01	Pulse	0.30	3
Ni	60	72	2	4.908	ppb	0.76	36,332.86	2.501E-01	Pulse	0.30	3
Cu	63	72	2	5.021	ppb	0.72	104,506.32	7.195E-01	Pulse	0.30	3
Zn	66	72	2	4.204	ppb	2.34	15,398.30	1.060E-01	Pulse	0.30	3
As	75	72	2	5.053	ppb	0.78	8,740.64	6.017E-02	Pulse	0.75	3
Se	78	72	1	4.981	ppb	3.95	3,783.93	2.149E-02	Pulse	0.30	3
Mo	95	103	2	5.000	ppb	2.19	47,934.92	1.232E-02	Pulse	0.30	3
Ag	107	103	3	4.916	ppb	0.77	390,324.13	4.305E-02	Pulse	0.30	3
Cd	111	115	3	5.228	ppb	0.48	90,778.77	9.496E-03	Pulse	0.30	3
Sb	121	115	3	5.140	ppb	0.18	309,838.68	3.241E-02	Pulse	0.30	3
Ba	137	159	3	5.242	ppb	0.95	122,186.68	8.985E-03	Pulse	0.30	3
Tl	205	209	3	5.219	ppb	0.97	721,952.39	9.453E-02	Pulse	0.30	3
Pb	208	209	3	5.353	ppb	0.70	989,158.96	1.295E-01	Pulse	0.30	3
U	238	209	3	5.219	ppb	1.36	1,035,654.89	1.356E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	2,668,106.94	0.53	103.9	Analog	0.30	3
2	Sc	45	216,758.77	1.41	106.3	Pulse	0.30	3
3	Sc	45	5,815,349.15	0.60	104.4	Analog	0.30	3
1	Ge	72	176,108.13	0.13	106.9	Pulse	0.30	3
2	Ge	72	145,259.65	1.62	107.4	Pulse	0.30	3
2	Rh	103	3,891,447.13	0.93	106.6	Analog	0.30	3
3	Rh	103	9,066,813.20	0.68	107.0	Analog	0.30	3
3	In	115	9,559,808.58	0.25	108.2	Analog	0.30	3
3	Tb	159	13,598,866.04	0.26	109.6	Analog	0.30	3
3	Bi	209	7,637,618.01	0.67	110.1	Analog	0.30	3

Quantitation Report

File Name	A0226006.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 19:58
Sample Name	Std-10/100 ppb
Sample Type	CalStd
Comment	10/100 ug/L,2.5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.870	ppb	1.06	150,416.40	5.761E-02	Pulse	0.30	3
B	11	6	3	94.334	ppb	0.99	1,651,718.41	6.326E-01	Analog	0.30	3
Na	23	45	2	<0.000	ppb	---	877,682.87	4.112E+00	Pulse	0.30	3
Mg	26	45	2	103.690	ppb	0.65	22,919.64	1.074E-01	Pulse	0.30	3
Al	27	45	2	9.158	ppb	2.23	5,198.76	2.435E-02	Pulse	0.30	3
K	39	45	2	94.359	ppb	2.14	133,495.65	6.253E-01	Pulse	0.30	3
Ca	44	45	3	95.458	ppb	0.84	300,472.99	5.301E-02	Pulse	0.30	3
V	51	45	2	9.919	ppb	0.49	122,717.51	5.748E-01	Pulse	0.30	3
Cr	52	45	2	10.098	ppb	0.30	155,015.75	7.261E-01	Pulse	0.30	3
Mn	55	45	2	10.003	ppb	0.91	86,721.16	4.062E-01	Pulse	0.30	3
Fe	56	45	2	9.884	ppb	1.24	140,027.23	6.559E-01	Pulse	0.30	3
Co	59	45	2	10.101	ppb	0.81	283,418.23	1.328E+00	Pulse	0.30	3
Ni	60	72	2	9.988	ppb	0.76	71,711.03	5.028E-01	Pulse	0.30	3
Cu	63	72	2	10.057	ppb	1.62	200,953.94	1.409E+00	Pulse	0.30	3
Zn	66	72	2	9.500	ppb	0.47	29,920.78	2.098E-01	Pulse	0.30	3
As	75	72	2	10.255	ppb	1.91	17,366.68	1.218E-01	Pulse	0.75	3
Se	78	72	1	10.245	ppb	2.89	7,555.42	4.416E-02	Pulse	0.30	3
Mo	95	103	2	9.903	ppb	1.02	93,869.57	2.425E-02	Pulse	0.30	3
Ag	107	103	3	10.123	ppb	0.64	787,431.70	8.781E-02	Pulse	0.30	3
Cd	111	115	3	10.336	ppb	0.56	179,391.75	1.879E-02	Pulse	0.30	3
Sb	121	115	3	10.169	ppb	0.52	611,263.78	6.403E-02	Pulse	0.30	3
Ba	137	159	3	10.579	ppb	0.64	242,377.48	1.802E-02	Pulse	0.30	3
Tl	205	209	3	10.181	ppb	1.43	1,397,282.81	1.834E-01	Analog	0.30	3
Pb	208	209	3	10.586	ppb	0.38	1,949,629.40	2.560E-01	Pulse	0.30	3
U	238	209	3	10.088	ppb	0.17	1,996,588.06	2.621E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,610,947.60	0.93	101.7	Analog	0.30	3
2	Sc	45	213,499.45	1.43	104.7	Pulse	0.30	3
3	Sc	45	5,668,285.05	0.54	101.7	Analog	0.30	3
1	Ge	72	171,058.26	1.01	103.8	Pulse	0.30	3
2	Ge	72	142,616.16	2.20	105.5	Pulse	0.30	3
2	Rh	103	3,870,199.46	1.43	106.1	Analog	0.30	3
3	Rh	103	8,967,940.21	0.47	105.8	Analog	0.30	3
3	In	115	9,546,867.40	0.52	108.1	Analog	0.30	3
3	Tb	159	13,450,887.58	0.69	108.4	Analog	0.30	3
3	Bi	209	7,616,818.57	0.28	109.8	Analog	0.30	3

Quantitation Report

File Name	A0226007.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:03
Sample Name	Std-20/200 ppb
Sample Type	CalStd
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	19.683	ppb	0.61	287,224.24	1.148E-01	Pulse	0.30	3
B	11	6	3	192.400	ppb	1.36	2,851,753.94	1.140E+00	Analog	0.30	3
Na	23	45	2	<0.000	ppb	---	1,077,034.54	5.147E+00	Analog	0.30	3
Mg	26	45	2	204.044	ppb	0.43	43,974.90	2.101E-01	Pulse	0.30	3
Al	27	45	2	19.352	ppb	2.45	9,683.23	4.627E-02	Pulse	0.30	3
K	39	45	2	194.617	ppb	0.60	219,087.86	1.047E+00	Pulse	0.30	3
Ca	44	45	3	195.380	ppb	0.64	558,506.82	1.012E-01	Pulse	0.30	3
V	51	45	2	19.698	ppb	0.25	236,207.12	1.128E+00	Pulse	0.30	3
Cr	52	45	2	19.947	ppb	0.40	299,802.85	1.432E+00	Pulse	0.30	3
Mn	55	45	2	19.681	ppb	0.44	166,868.48	7.972E-01	Pulse	0.30	3
Fe	56	45	2	19.633	ppb	0.16	263,812.29	1.260E+00	Pulse	0.30	3
Co	59	45	2	20.196	ppb	0.64	555,584.16	2.654E+00	Pulse	0.30	3
Ni	60	72	2	20.052	ppb	1.07	140,472.63	1.003E+00	Pulse	0.30	3
Cu	63	72	2	20.131	ppb	0.64	390,404.74	2.789E+00	Pulse	0.30	3
Zn	66	72	2	19.914	ppb	0.28	57,947.66	4.139E-01	Pulse	0.30	3
As	75	72	2	20.269	ppb	0.95	33,656.45	2.404E-01	Pulse	0.75	3
Se	78	72	1	20.726	ppb	1.38	15,064.23	8.930E-02	Pulse	0.30	3
Mo	95	103	2	19.781	ppb	1.22	185,151.57	4.830E-02	Pulse	0.30	3
Ag	107	103	3	20.099	ppb	1.64	1,524,190.86	1.735E-01	Analog	0.30	3
Cd	111	115	3	20.300	ppb	0.41	346,532.66	3.692E-02	Pulse	0.30	3
Sb	121	115	3	19.772	ppb	1.05	1,167,489.45	1.244E-01	Analog	0.30	3
Ba	137	159	3	20.784	ppb	0.60	469,729.31	3.529E-02	Pulse	0.30	3
Tl	205	209	3	20.039	ppb	0.45	2,705,680.62	3.601E-01	Analog	0.30	3
Pb	208	209	3	20.564	ppb	0.45	3,734,912.52	4.971E-01	Analog	0.30	3
U	238	209	3	19.768	ppb	0.08	3,859,208.10	5.136E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,502,719.25	0.73	97.4	Analog	0.30	3
2	Sc	45	209,337.38	1.60	102.7	Pulse	0.30	3
3	Sc	45	5,518,357.98	0.53	99.0	Analog	0.30	3
1	Ge	72	168,702.89	1.20	102.4	Pulse	0.30	3
2	Ge	72	139,991.25	1.80	103.5	Pulse	0.30	3
2	Rh	103	3,833,322.24	1.72	105.0	Analog	0.30	3
3	Rh	103	8,782,392.44	0.50	103.6	Analog	0.30	3
3	In	115	9,385,320.21	0.25	106.2	Analog	0.30	3
3	Tb	159	13,309,725.22	0.70	107.3	Analog	0.30	3
3	Bi	209	7,513,656.34	0.17	108.3	Analog	0.30	3

Quantitation Report

File Name	A0226008.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:09
Sample Name	Std-40/400 ppb
Sample Type	CalStd
Comment	40/400 ug/L, 10<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	39.300	ppb	0.46	564,562.89	2.290E-01	Pulse	0.30	3
B	11	6	3	391.794	ppb	0.15	5,349,707.94	2.170E+00	Analog	0.30	3
Na	23	45	2	186.661	ppb	5.02	1,489,393.33	7.109E+00	Analog	0.30	3
Mg	26	45	2	403.419	ppb	1.15	86,768.22	4.141E-01	Pulse	0.30	3
Al	27	45	2	39.741	ppb	1.10	18,881.42	9.011E-02	Pulse	0.30	3
K	39	45	2	393.282	ppb	0.76	394,186.95	1.881E+00	Pulse	0.30	3
Ca	44	45	3	399.032	ppb	3.13	1,092,913.95	1.994E-01	Analog	0.30	3
V	51	45	2	39.315	ppb	0.64	469,051.91	2.239E+00	Pulse	0.30	3
Cr	52	45	2	39.773	ppb	0.53	597,867.80	2.854E+00	Pulse	0.30	3
Mn	55	45	2	39.124	ppb	0.31	331,604.70	1.583E+00	Pulse	0.30	3
Fe	56	45	2	39.521	ppb	0.80	522,329.03	2.493E+00	Pulse	0.30	3
Co	59	45	2	40.522	ppb	0.59	1,115,690.78	5.325E+00	Analog	0.30	3
Ni	60	72	2	39.485	ppb	0.90	277,955.56	1.970E+00	Pulse	0.30	3
Cu	63	72	2	39.947	ppb	0.54	776,388.09	5.503E+00	Pulse	0.30	3
Zn	66	72	2	39.723	ppb	0.90	113,177.93	8.022E-01	Pulse	0.30	3
As	75	72	2	40.242	ppb	1.38	67,293.51	4.770E-01	Pulse	0.75	3
Se	78	72	1	40.538	ppb	0.69	29,720.37	1.746E-01	Pulse	0.30	3
Mo	95	103	2	39.660	ppb	0.29	372,272.62	9.669E-02	Pulse	0.30	3
Ag	107	103	3	39.621	ppb	0.70	3,007,647.82	3.413E-01	Analog	0.30	3
Cd	111	115	3	40.824	ppb	0.12	693,470.37	7.427E-02	Pulse	0.30	3
Sb	121	115	3	39.913	ppb	0.38	2,343,719.01	2.510E-01	Analog	0.30	3
Ba	137	159	3	41.298	ppb	0.21	943,719.11	7.002E-02	Pulse	0.30	3
Tl	205	209	3	39.929	ppb	0.19	5,440,487.84	7.165E-01	Analog	0.30	3
Pb	208	209	3	40.147	ppb	0.22	7,366,997.22	9.703E-01	Analog	0.30	3
U	238	209	3	39.581	ppb	1.10	7,808,000.61	1.028E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,465,127.65	0.40	96.0	Analog	0.30	3
2	Sc	45	209,526.86	1.32	102.7	Pulse	0.30	3
3	Sc	45	5,480,180.33	0.82	98.4	Analog	0.30	3
1	Ge	72	170,189.15	0.64	103.3	Pulse	0.30	3
2	Ge	72	141,092.93	1.52	104.4	Pulse	0.30	3
2	Rh	103	3,850,266.09	1.68	105.5	Analog	0.30	3
3	Rh	103	8,811,845.56	0.39	104.0	Analog	0.30	3
3	In	115	9,337,076.09	0.07	105.7	Analog	0.30	3
3	Tb	159	13,478,300.64	0.55	108.6	Analog	0.30	3
3	Bi	209	7,592,671.55	0.50	109.4	Analog	0.30	3

Quantitation Report

File Name	A0226009.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:14
Sample Name	Std-100/1000 ppb
Sample Type	CalStd
Comment	100/1000ug/L,10<20mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	100.686	ppb	0.75	1,392,543.94	5.866E-01	Analog	0.30	3
B	11	6	3	992.714	ppb	1.32	12,525,996.50	5.276E+00	Analog	0.30	3
Na	23	45	2	913.994	ppb	1.71	2,790,412.67	1.376E+01	Analog	0.30	3
Mg	26	45	2	1008.446	ppb	0.86	209,468.04	1.033E+00	Pulse	0.30	3
Al	27	45	2	100.925	ppb	1.01	44,936.57	2.217E-01	Pulse	0.30	3
K	39	45	2	996.130	ppb	1.06	894,978.34	4.415E+00	Pulse	0.30	3
Ca	44	45	3	1011.268	ppb	0.20	2,632,459.41	4.948E-01	Analog	0.30	3
V	51	45	2	100.570	ppb	2.00	1,156,727.61	5.706E+00	Analog	0.30	3
Cr	52	45	2	100.691	ppb	1.42	1,463,807.51	7.221E+00	Analog	0.30	3
Mn	55	45	2	98.181	ppb	0.50	804,556.17	3.969E+00	Pulse	0.30	3
Fe	56	45	2	100.569	ppb	1.13	1,272,559.76	6.277E+00	Analog	0.30	3
Co	59	45	2	101.837	ppb	1.30	2,712,938.32	1.338E+01	Analog	0.30	3
Ni	60	72	2	98.749	ppb	0.29	671,027.53	4.918E+00	Pulse	0.30	3
Cu	63	72	2	101.604	ppb	0.57	1,902,837.81	1.395E+01	Analog	0.30	3
Zn	66	72	2	100.999	ppb	0.84	273,289.86	2.003E+00	Pulse	0.30	3
As	75	72	2	100.755	ppb	0.86	162,863.13	1.194E+00	Pulse	0.75	3
Se	78	72	1	100.441	ppb	1.19	71,825.83	4.326E-01	Pulse	0.30	3
Mo	95	103	2	100.185	ppb	0.72	909,396.29	2.440E-01	Pulse	0.30	3
Ag	107	103	3	100.125	ppb	0.72	7,330,662.84	8.613E-01	Analog	0.30	3
Cd	111	115	3	100.827	ppb	0.43	1,670,763.58	1.835E-01	Analog	0.30	3
Sb	121	115	3	99.208	ppb	0.76	5,680,571.03	6.238E-01	Analog	0.30	3
Ba	137	159	3	100.998	ppb	0.92	2,262,164.30	1.711E-01	Analog	0.30	3
Tl	205	209	3	100.315	ppb	0.45	13,379,481.47	1.799E+00	Analog	0.30	3
Pb	208	209	3	100.303	ppb	0.15	18,030,070.86	2.424E+00	Analog	0.30	3
U	238	209	3	99.744	ppb	0.35	19,276,917.94	2.592E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,374,212.71	0.88	92.4	Analog	0.30	3
2	Sc	45	202,738.15	1.25	99.4	Pulse	0.30	3
3	Sc	45	5,320,516.35	0.26	95.5	Analog	0.30	3
1	Ge	72	166,024.52	0.73	100.8	Pulse	0.30	3
2	Ge	72	136,435.52	1.67	100.9	Pulse	0.30	3
2	Rh	103	3,726,860.33	1.64	102.1	Analog	0.30	3
3	Rh	103	8,510,987.51	0.14	100.4	Analog	0.30	3
3	In	115	9,107,073.59	0.51	103.1	Analog	0.30	3
3	Tb	159	13,223,698.69	0.20	106.6	Analog	0.30	3
3	Bi	209	7,438,515.03	0.25	107.2	Analog	0.30	3

Quantitation Report

File Name	A0226010.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:20
Sample Name	Std-200/2000 ppb
Sample Type	CalStd
Comment	200/2000ug/L, 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	199.836	ppb	1.01	2,710,094.82	1.164E+00	Analog	0.30	3
B	11	6	3	2006.515	ppb	0.89	24,484,484.98	1.052E+01	Analog	0.30	3
Na	23	45	2	2126.011	ppb	0.53	4,986,493.75	2.486E+01	Analog	0.30	3
Mg	26	45	2	1994.459	ppb	0.97	409,732.72	2.042E+00	Pulse	0.30	3
Al	27	45	2	199.724	ppb	0.05	87,090.88	4.341E-01	Pulse	0.30	3
K	39	45	2	2004.266	ppb	0.98	1,735,591.36	8.651E+00	Analog	0.30	3
Ca	44	45	3	1995.379	ppb	0.59	5,173,590.96	9.695E-01	Analog	0.30	3
V	51	45	2	199.889	ppb	0.93	2,272,487.73	1.133E+01	Analog	0.30	3
Cr	52	45	2	199.701	ppb	0.68	2,872,645.41	1.432E+01	Analog	0.30	3
Mn	55	45	2	201.117	ppb	0.47	1,630,499.08	8.127E+00	Analog	0.30	3
Fe	56	45	2	199.856	ppb	0.37	2,494,087.78	1.243E+01	Analog	0.30	3
Co	59	45	2	198.952	ppb	0.34	5,244,964.12	2.614E+01	Analog	0.30	3
Ni	60	72	2	200.726	ppb	0.14	1,355,359.61	9.991E+00	Analog	0.30	3
Cu	63	72	2	199.192	ppb	0.51	3,705,049.72	2.731E+01	Analog	0.30	3
Zn	66	72	2	199.609	ppb	0.92	533,938.40	3.936E+00	Pulse	0.30	3
As	75	72	2	199.533	ppb	0.85	320,668.87	2.364E+00	Pulse	0.75	3
Se	78	72	1	199.588	ppb	0.88	141,288.10	8.597E-01	Pulse	0.30	3
Mo	95	103	2	200.002	ppb	1.13	1,797,219.17	4.870E-01	Analog	0.30	3
Ag	107	103	3	171.951	ppb	0.04	12,622,882.93	1.479E+00	Analog	0.30	3
Cd	111	115	3	199.369	ppb	0.63	3,311,128.46	3.628E-01	Analog	0.30	3
Sb	121	115	3	200.424	ppb	0.22	11,501,103.16	1.260E+00	Analog	0.30	3
Ba	137	159	3	199.128	ppb	0.59	4,479,034.09	3.372E-01	Analog	0.30	3
Tl	205	209	3	199.838	ppb	0.32	26,796,190.99	3.582E+00	Analog	0.30	3
Pb	208	209	3	199.724	ppb	0.49	36,102,081.64	4.826E+00	Analog	0.30	3
U	238	209	3	200.225	ppb	0.35	38,914,124.51	5.202E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,328,344.79	1.04	90.7	Analog	0.30	3
2	Sc	45	200,626.55	1.18	98.4	Pulse	0.30	3
3	Sc	45	5,336,549.29	0.66	95.8	Analog	0.30	3
1	Ge	72	164,349.51	0.14	99.7	Pulse	0.30	3
2	Ge	72	135,652.31	0.55	100.3	Pulse	0.30	3
2	Rh	103	3,690,356.16	0.99	101.1	Analog	0.30	3
3	Rh	103	8,536,973.55	0.32	100.7	Analog	0.30	3
3	In	115	9,127,345.61	0.33	103.3	Analog	0.30	3
3	Tb	159	13,284,122.30	0.23	107.1	Analog	0.30	3
3	Bi	209	7,480,569.89	0.83	107.8	Analog	0.30	3

Quantitation Report

File Name	A0226011.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:23
Sample Name	ICV,ICV,1
Sample Type	6-ICV
Comment	10/100 ug/L,200mL of 2MWST- 151207I
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.840	ppb	0.61	117,192.44	5.744E-02	Pulse	0.30	3
B	11	6	3	1883.826	ppb	0.74	20,163,317.03	9.882E+00	Analog	0.30	3
Na	23	45	2	<0.000	ppb	---	505,083.22	3.421E+00	Pulse	0.30	3
Mg	26	45	2	108.043	ppb	0.52	16,507.63	1.118E-01	Pulse	0.30	3
Al	27	45	2	198.064	ppb	1.60	63,570.11	4.305E-01	Pulse	0.30	3
K	39	45	2	64.095	ppb	1.05	73,543.92	4.982E-01	Pulse	0.30	3
Ca	44	45	3	156.072	ppb	0.59	314,869.11	8.225E-02	Pulse	0.30	3
V	51	45	2	9.675	ppb	1.26	82,824.61	5.610E-01	Pulse	0.30	3
Cr	52	45	2	10.336	ppb	0.46	109,712.16	7.431E-01	Pulse	0.30	3
Mn	55	45	2	97.945	ppb	0.43	584,511.87	3.959E+00	Pulse	0.30	3
Fe	56	45	2	106.977	ppb	0.64	985,356.89	6.674E+00	Pulse	0.30	3
Co	59	45	2	10.199	ppb	1.05	197,894.97	1.341E+00	Pulse	0.30	3
Ni	60	72	2	11.195	ppb	1.20	55,334.94	5.629E-01	Pulse	0.30	3
Cu	63	72	2	11.257	ppb	1.83	154,711.29	1.574E+00	Pulse	0.30	3
Zn	66	72	2	108.368	ppb	1.00	211,144.02	2.148E+00	Pulse	0.30	3
As	75	72	2	9.958	ppb	3.61	11,627.78	1.183E-01	Pulse	0.75	3
Se	78	72	1	10.160	ppb	3.87	5,113.24	4.379E-02	Pulse	0.30	3
Mo	95	103	2	9.539	ppb	0.89	70,954.03	2.337E-02	Pulse	0.30	3
Ag	107	103	3	10.520	ppb	0.60	626,825.04	9.122E-02	Pulse	0.30	3
Cd	111	115	3	10.428	ppb	0.37	137,946.09	1.896E-02	Pulse	0.30	3
Sb	121	115	3	10.113	ppb	0.09	463,262.88	6.367E-02	Pulse	0.30	3
Ba	137	159	3	91.960	ppb	0.70	1,752,313.58	1.558E-01	Analog	0.30	3
Tl	205	209	3	9.270	ppb	0.82	1,151,663.42	1.671E-01	Analog	0.30	3
Pb	208	209	3	10.573	ppb	0.59	1,761,763.93	2.557E-01	Pulse	0.30	3
U	238	209	3	10.366	ppb	0.24	1,855,983.57	2.693E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,040,413.22	0.38	79.4	Analog	0.30	3
2	Sc	45	147,643.69	1.93	72.4	Pulse	0.30	3
3	Sc	45	3,828,299.63	0.73	68.7	Analog	0.30	3
1	Ge	72	116,781.54	2.33	70.9	Pulse	0.30	3
2	Ge	72	98,316.83	0.98	72.7	Pulse	0.30	3
2	Rh	103	3,036,599.47	1.77	83.2	Analog	0.30	3
3	Rh	103	6,871,810.10	0.49	81.1	Analog	0.30	3
3	In	115	7,275,774.37	0.22	82.3	Analog	0.30	3
3	Tb	159	11,249,142.33	0.51	90.7	Analog	0.30	3
3	Bi	209	6,890,977.40	0.26	99.3	Analog	0.30	3

Quantitation Report

File Name	A0226012.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:31
Sample Name	ICB,ICB,1
Sample Type	6-ICB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	178.90	8.243E-05	Pulse	0.30	3
B	11	6	3	22.142	ppb	3.28	562,909.70	2.595E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	369,696.80	1.999E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	71.11	3.821E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	178.92	9.548E-04	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	37,220.31	2.011E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	7,872.18	1.625E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,211.21	6.549E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	310.76	1.680E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	127.91	6.904E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	4,782.11	2.583E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	37.40	2.039E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	231.85	1.828E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	1,841.21	1.455E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	642.05	5.064E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	37.33	2.945E-04	Pulse	0.75	3
Se	78	72	1	0.025	ppb	68.00	21.11	1.412E-04	Pulse	0.30	3
Mo	95	103	2	0.267	ppb	4.45	2,759.25	7.961E-04	Pulse	0.30	3
Ag	107	103	3	0.660	ppb	12.10	51,841.39	6.480E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	10.91	-3.54	-4.288E-07	Pulse	0.30	3
Sb	121	115	3	0.132	ppb	3.04	7,791.14	9.281E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	281.12	2.330E-05	Pulse	0.30	3
Tl	205	209	3	0.139	ppb	2.45	23,853.37	3.489E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.006	ppb	4.63	2,186.30	3.198E-04	Pulse	0.30	3
U	238	209	3	0.005	ppb	2.55	1,064.17	1.557E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,169,152.44	0.70	84.5	Analog	0.30	3
2	Sc	45	185,313.99	3.64	90.9	Pulse	0.30	3
3	Sc	45	4,844,773.33	0.76	87.0	Analog	0.30	3
1	Ge	72	149,925.58	1.06	91.0	Pulse	0.30	3
2	Ge	72	126,582.23	2.51	93.6	Pulse	0.30	3
2	Rh	103	3,466,105.71	0.80	95.0	Analog	0.30	3
3	Rh	103	7,996,434.26	0.78	94.3	Analog	0.30	3
3	In	115	8,395,634.61	0.60	95.0	Analog	0.30	3
3	Tb	159	12,061,233.57	0.60	97.2	Analog	0.30	3
3	Bi	209	6,836,180.80	0.18	98.5	Analog	0.30	3

Quantitation Report

File Name	A0226013.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:36
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.513	ppb	2.94	6,987.27	3.114E-03	Pulse	0.30	3
B	11	6	3	62.386	ppb	2.80	1,049,146.11	4.675E-01	Analog	0.30	3
Na	23	45	2	<0.000	ppb	---	351,501.85	1.838E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	90.00	4.717E-04	Pulse	0.30	3
Al	27	45	2	9.136	ppb	4.16	4,648.58	2.430E-02	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	37,210.16	1.946E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	17,041.55	3.382E-03	Pulse	0.30	3
V	51	45	2	0.918	ppb	0.45	12,494.10	6.531E-02	Pulse	0.30	3
Cr	52	45	2	1.045	ppb	0.58	14,743.39	7.706E-02	Pulse	0.30	3
Mn	55	45	2	0.490	ppb	4.81	4,176.27	2.184E-02	Pulse	0.30	3
Fe	56	45	2	10.115	ppb	0.94	128,214.86	6.702E-01	Pulse	0.30	3
Co	59	45	2	0.503	ppb	0.62	12,709.41	6.644E-02	Pulse	0.30	3
Ni	60	72	2	0.984	ppb	1.09	7,310.34	5.488E-02	Pulse	0.30	3
Cu	63	72	2	0.908	ppb	2.53	20,811.35	1.562E-01	Pulse	0.30	3
Zn	66	72	2	9.648	ppb	1.08	28,333.59	2.127E-01	Pulse	0.30	3
As	75	72	2	0.109	ppb	9.71	213.34	1.603E-03	Pulse	0.75	3
Se	78	72	1	0.489	ppb	11.65	341.13	2.140E-03	Pulse	0.30	3
Mo	95	103	2	0.590	ppb	7.98	5,710.14	1.582E-03	Pulse	0.30	3
Ag	107	103	3	0.491	ppb	0.74	41,954.50	5.026E-03	Pulse	0.30	3
Cd	111	115	3	0.557	ppb	4.23	8,763.33	9.960E-04	Pulse	0.30	3
Sb	121	115	3	0.605	ppb	1.13	34,310.51	3.900E-03	Pulse	0.30	3
Ba	137	159	3	1.024	ppb	1.33	23,531.90	1.847E-03	Pulse	0.30	3
Tl	205	209	3	0.466	ppb	1.12	67,133.88	9.354E-03	Pulse	0.30	3
Pb	208	209	3	1.111	ppb	0.72	193,895.47	2.702E-02	Pulse	0.30	3
U	238	209	3	0.527	ppb	1.52	98,397.15	1.371E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	2,244,285.56	0.57	87.4	Analog	0.30	3
2	Sc	45	191,313.11	1.96	93.8	Pulse	0.30	3
3	Sc	45	5,038,756.45	0.14	90.4	Analog	0.30	3
1	Ge	72	159,338.55	0.76	96.7	Pulse	0.30	3
2	Ge	72	133,211.42	1.99	98.5	Pulse	0.30	3
2	Rh	103	3,608,489.01	0.93	98.9	Analog	0.30	3
3	Rh	103	8,347,644.74	0.09	98.5	Analog	0.30	3
3	In	115	8,797,978.80	0.17	99.6	Analog	0.30	3
3	Tb	159	12,742,367.45	0.45	102.7	Analog	0.30	3
3	Bi	209	7,176,626.77	0.80	103.4	Analog	0.30	3

Quantitation Report

File Name	A0226014.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:42
Sample Name	ICSA1,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	136.67	5.580E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	322,917.65	1.318E-01	Pulse	0.30	3
Na	23	45	2	125710.771	ppb	0.76	246,586,287.44	1.156E+03	Analog	0.30	3
Mg	26	45	2	101797.371	ppb	0.79	22,227,594.39	1.042E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	555.74	2.611E-03	Pulse	0.30	3
K	39	45	2	105657.980	ppb	0.72	94,778,656.36	4.442E+02	Analog	0.30	3
Ca	44	45	3	96408.711	ppb	0.21	279,865,269.16	4.651E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	1,060.09	4.965E-03	Pulse	0.30	3
Cr	52	45	2	0.172	ppb	3.07	3,077.99	1.442E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-23,786.84	-1.114E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-156.34	-7.117E-04	Pulse	0.30	3
Co	59	45	2	0.008	ppb	22.75	286.16	1.336E-03	Pulse	0.30	3
Ni	60	72	2	0.212	ppb	10.26	2,241.14	1.650E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-7,038.42	-5.188E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,338.71	-1.724E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	8.00	5.892E-05	Pulse	0.75	3
Se	78	72	1	0.028	ppb	26.29	24.44	1.561E-04	Pulse	0.30	3
Mo	95	103	2	0.057	ppb	16.64	962.29	2.849E-04	Pulse	0.30	3
Ag	107	103	3	0.096	ppb	11.77	13,225.25	1.633E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-614.37	-7.080E-05	Pulse	0.30	3
Sb	121	115	3	0.059	ppb	5.54	4,058.47	4.677E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-31,862.44	-2.546E-03	Pulse	0.30	3
Tl	205	209	3	0.004	ppb	9.03	6,457.22	1.077E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,303.34	-3.841E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	13.45	554.07	9.238E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,450,009.07	0.40	95.4	Analog	0.30	3
2	Sc	45	213,396.61	3.35	104.6	Pulse	0.30	3
3	Sc	45	6,017,120.26	1.07	108.0	Analog	0.30	3
1	Ge	72	156,598.97	0.45	95.0	Pulse	0.30	3
2	Ge	72	135,652.69	3.10	100.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,377,494.33	2.50	92.6	Analog	0.30	3
3	Rh	103	8,097,466.13	0.29	95.5	Analog	0.30	3
3	In	115	8,678,668.78	0.64	98.2	Analog	0.30	3
3	Tb	159	12,516,305.37	0.64	100.9	Analog	0.30	3
3	Bi	209	5,996,645.19	0.29	86.4	Analog	0.30	3

Quantitation Report

File Name	A0226015.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:47
Sample Name	ICSAB1,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.314	ppb	0.50	295,585.62	1.184E-01	Pulse	0.30	3
B	11	6	3	201.252	ppb	0.51	2,958,143.78	1.185E+00	Analog	0.30	3
Na	23	45	2	124192.964	ppb	1.03	252,587,045.13	1.142E+03	Analog	0.30	3
Mg	26	45	2	99499.669	ppb	1.12	22,524,879.39	1.018E+02	Analog	0.30	3
Al	27	45	2	20.905	ppb	4.69	10,969.17	4.961E-02	Pulse	0.30	3
K	39	45	2	102453.074	ppb	0.82	95,292,305.25	4.307E+02	Analog	0.30	3
Ca	44	45	3	94514.533	ppb	0.19	279,791,038.05	4.560E+01	Analog	0.30	3
V	51	45	2	20.470	ppb	1.32	259,261.11	1.172E+00	Pulse	0.30	3
Cr	52	45	2	20.118	ppb	0.63	319,535.86	1.444E+00	Pulse	0.30	3
Mn	55	45	2	16.459	ppb	1.38	147,553.56	6.670E-01	Pulse	0.30	3
Fe	56	45	2	19.590	ppb	1.93	278,149.68	1.258E+00	Pulse	0.30	3
Co	59	45	2	19.131	ppb	1.35	556,151.65	2.514E+00	Pulse	0.30	3
Ni	60	72	2	19.990	ppb	0.25	137,563.03	1.000E+00	Pulse	0.30	3
Cu	63	72	2	18.496	ppb	0.05	352,725.48	2.565E+00	Pulse	0.30	3
Zn	66	72	2	17.354	ppb	2.07	50,030.01	3.638E-01	Pulse	0.30	3
As	75	72	2	20.201	ppb	0.50	32,948.16	2.396E-01	Pulse	0.75	3
Se	78	72	1	19.281	ppb	1.34	13,491.67	8.308E-02	Pulse	0.30	3
Mo	95	103	2	23.196	ppb	0.96	192,218.13	5.661E-02	Pulse	0.30	3
Ag	107	103	3	19.396	ppb	1.19	1,355,788.24	1.675E-01	Analog	0.30	3
Cd	111	115	3	19.833	ppb	0.32	311,905.35	3.607E-02	Pulse	0.30	3
Sb	121	115	3	20.808	ppb	1.32	1,131,891.49	1.309E-01	Analog	0.30	3
Ba	137	159	3	20.485	ppb	0.46	431,676.16	3.479E-02	Pulse	0.30	3
Tl	205	209	3	22.174	ppb	0.44	2,349,959.67	3.984E-01	Analog	0.30	3
Pb	208	209	3	22.420	ppb	0.21	3,196,754.43	5.419E-01	Analog	0.30	3
U	238	209	3	22.944	ppb	0.09	3,516,636.07	5.961E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,495,750.73	0.39	97.2	Analog	0.30	3
2	Sc	45	221,245.23	2.48	108.5	Pulse	0.30	3
3	Sc	45	6,135,987.69	0.24	110.1	Analog	0.30	3
1	Ge	72	162,406.02	0.76	98.6	Pulse	0.30	3
2	Ge	72	137,509.57	1.59	101.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,395,422.03	1.43	93.0	Analog	0.30	3
3	Rh	103	8,093,890.02	0.44	95.5	Analog	0.30	3
3	In	115	8,646,362.56	0.20	97.9	Analog	0.30	3
3	Tb	159	12,408,632.45	0.25	100.0	Analog	0.30	3
3	Bi	209	5,899,002.69	0.10	85.0	Analog	0.30	3

Quantitation Report

File Name	A0226016.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:53
Sample Name	MB-56418,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	122.23	5.309E-05	Pulse	0.30	3
B	11	6	3	0.086	ppb	415.72	334,950.55	1.455E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	367,439.85	1.863E+00	Pulse	0.30	3
Mg	26	45	2	1.563	ppb	17.76	561.15	2.844E-03	Pulse	0.30	3
Al	27	45	2	0.001	ppb	18440.70	918.93	4.660E-03	Pulse	0.30	3
K	39	45	2	15.799	ppb	8.27	58,217.52	2.952E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	15,175.38	2.907E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	2,064.67	1.046E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	344.06	1.744E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	129.98	6.588E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	4,736.23	2.402E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	39.61	2.013E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	167.34	1.244E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,478.13	1.844E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	791.83	5.891E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	40.89	3.042E-04	Pulse	0.75	3
Se	78	72	1	0.016	ppb	0.10	16.67	1.018E-04	Pulse	0.30	3
Mo	95	103	2	0.099	ppb	2.54	1,383.46	3.872E-04	Pulse	0.30	3
Ag	107	103	3	0.656	ppb	14.47	53,038.06	6.445E-03	Pulse	0.30	3
Cd	111	115	3	0.008	ppb	16.75	-12.83	-1.500E-06	Pulse	0.30	3
Sb	121	115	3	0.066	ppb	3.62	4,425.26	5.154E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	29.02	2.398E-06	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	4,210.77	6.233E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.003	ppb	25.65	1,659.77	2.457E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	10.35	638.62	9.454E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,302,334.75	0.57	89.6	Analog	0.30	3
2	Sc	45	197,227.18	0.77	96.7	Pulse	0.30	3
3	Sc	45	5,221,015.03	0.32	93.7	Analog	0.30	3
1	Ge	72	163,788.08	0.07	99.4	Pulse	0.30	3
2	Ge	72	134,376.15	0.51	99.4	Pulse	0.30	3
2	Rh	103	3,572,840.57	0.59	97.9	Analog	0.30	3
3	Rh	103	8,231,039.32	0.17	97.1	Analog	0.30	3
3	In	115	8,584,911.39	0.42	97.2	Analog	0.30	3
3	Tb	159	12,119,176.07	0.70	97.7	Analog	0.30	3
3	Bi	209	6,755,664.07	0.22	97.4	Analog	0.30	3

Quantitation Report

File Name	A0226017.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 20:59
Sample Name	LCS-56418,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.345	ppb	0.41	118,043.52	5.455E-02	Pulse	0.30	3
B	11	6	3	1844.694	ppb	0.94	20,945,006.97	9.680E+00	Analog	0.30	3
Na	23	45	2	53.140	ppb	6.89	1,128,993.18	5.887E+00	Analog	0.30	3
Mg	26	45	2	99.915	ppb	0.30	19,847.91	1.035E-01	Pulse	0.30	3
Al	27	45	2	192.084	ppb	0.83	80,094.71	4.177E-01	Pulse	0.30	3
K	39	45	2	106.166	ppb	1.76	129,437.32	6.749E-01	Pulse	0.30	3
Ca	44	45	3	138.015	ppb	0.21	362,765.23	7.354E-02	Pulse	0.30	3
V	51	45	2	9.390	ppb	0.68	104,489.64	5.449E-01	Pulse	0.30	3
Cr	52	45	2	9.764	ppb	0.86	134,643.04	7.021E-01	Pulse	0.30	3
Mn	55	45	2	94.576	ppb	0.23	733,139.61	3.823E+00	Pulse	0.30	3
Fe	56	45	2	100.328	ppb	0.45	1,200,952.74	6.262E+00	Analog	0.30	3
Co	59	45	2	9.257	ppb	0.04	233,329.47	1.217E+00	Pulse	0.30	3
Ni	60	72	2	9.838	ppb	1.37	63,811.76	4.954E-01	Pulse	0.30	3
Cu	63	72	2	9.739	ppb	0.73	175,930.91	1.366E+00	Pulse	0.30	3
Zn	66	72	2	94.360	ppb	1.01	241,290.29	1.873E+00	Pulse	0.30	3
As	75	72	2	9.337	ppb	2.02	14,285.93	1.109E-01	Pulse	0.75	3
Se	78	72	1	8.768	ppb	1.65	6,048.05	3.780E-02	Pulse	0.30	3
Mo	95	103	2	9.908	ppb	0.61	85,661.12	2.426E-02	Pulse	0.30	3
Ag	107	103	3	11.021	ppb	7.77	768,372.04	9.552E-02	Pulse	0.30	3
Cd	111	115	3	9.728	ppb	0.85	150,038.27	1.768E-02	Pulse	0.30	3
Sb	121	115	3	9.837	ppb	0.64	525,468.52	6.194E-02	Pulse	0.30	3
Ba	137	159	3	99.662	ppb	0.66	2,073,392.55	1.688E-01	Analog	0.30	3
Tl	205	209	3	9.389	ppb	1.37	1,165,308.87	1.693E-01	Analog	0.30	3
Pb	208	209	3	10.356	ppb	0.05	1,724,008.77	2.504E-01	Pulse	0.30	3
U	238	209	3	10.051	ppb	1.10	1,797,915.19	2.611E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,163,801.01	0.35	84.3	Analog	0.30	3
2	Sc	45	191,773.33	0.93	94.0	Pulse	0.30	3
3	Sc	45	4,932,936.56	0.34	88.5	Analog	0.30	3
1	Ge	72	159,994.42	1.09	97.1	Pulse	0.30	3
2	Ge	72	128,830.17	1.60	95.3	Pulse	0.30	3
2	Rh	103	3,530,332.97	0.98	96.7	Analog	0.30	3
3	Rh	103	8,043,421.90	0.26	94.9	Analog	0.30	3
3	In	115	8,484,162.15	0.67	96.0	Analog	0.30	3
3	Tb	159	12,282,296.90	0.31	99.0	Analog	0.30	3
3	Bi	209	6,884,768.30	0.13	99.2	Analog	0.30	3

Quantitation Report

File Name	A0226018.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:05
Sample Name	N018833-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

SAMPLE REFERENCE

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	105.56	5.369E-05	Pulse	0.30	3
B	11	6	3	135.408	ppb	1.24	1,661,372.00	8.449E-01	Analog	0.30	3
Na	23	45	2	112425.597	ppb	0.54	185,596,701.68	1.034E+03	Analog	0.30	3
Mg	26	45	2	26227.666	ppb	0.52	4,817,183.82	2.684E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	434.08	2.424E-03	Pulse	0.30	3
K	39	45	2	4784.349	ppb	0.24	3,649,249.11	2.033E+01	Analog	0.30	3
Ca	44	45	3	71946.778	ppb	0.38	167,872,321.94	3.471E+01	Analog	0.30	3
V	51	45	2	2.060	ppb	1.56	23,323.94	1.300E-01	Pulse	0.30	3
Cr	52	45	2	0.003	ppb	169.57	414.70	2.315E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-3,135.67	-1.747E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	5,941.90	3.311E-02	Pulse	0.30	3
Co	59	45	2	0.024	ppb	11.73	636.13	3.540E-03	Pulse	0.30	3
Ni	60	72	2	0.592	ppb	8.57	4,156.33	3.540E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,267.92	1.932E-02	Pulse	0.30	3
Zn	66	72	2	0.448	ppb	11.81	3,806.07	3.239E-02	Pulse	0.30	3
As	75	72	2	2.296	ppb	2.07	3,232.59	2.751E-02	Pulse	0.75	3
Se	78	72	1	1.654	ppb	3.38	1,018.96	7.159E-03	Pulse	0.30	3
Mo	95	103	2	5.356	ppb	0.83	39,497.50	1.318E-02	Pulse	0.30	3
Ag	107	103	3	0.901	ppb	3.26	59,794.24	8.551E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-446.91	-5.793E-05	Pulse	0.30	3
Sb	121	115	3	0.329	ppb	1.87	16,740.64	2.170E-03	Pulse	0.30	3
Ba	137	159	3	134.518	ppb	0.44	2,594,818.28	2.278E-01	Analog	0.30	3
Tl	205	209	3	0.049	ppb	4.60	10,966.76	1.883E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,483.62	-1.628E-03	Pulse	0.30	3
U	238	209	3	4.937	ppb	0.94	747,122.80	1.283E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,966,336.61	0.60	76.6	Analog	0.30	3
2	Sc	45	179,475.96	2.02	88.0	Pulse	0.30	3
3	Sc	45	4,836,112.08	0.46	86.8	Analog	0.30	3
1	Ge	72	142,334.76	0.30	86.4	Pulse	0.30	3
2	Ge	72	117,522.37	1.92	86.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,995,769.26	1.41	82.1	Analog	0.30	3
3	Rh	103	6,992,548.58	0.42	82.5	Analog	0.30	3
3	In	115	7,715,213.34	0.19	87.3	Analog	0.30	3
3	Tb	159	11,390,374.83	0.26	91.8	Analog	0.30	3
3	Bi	209	5,823,997.13	0.41	83.9	Analog	0.30	3

Quantitation Report

File Name	A0226019.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:10
Sample Name	N018833-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

DILUTION TEST

and reference sample for Ba

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	85.56	4.108E-05	Pulse	0.30	3
B	11	6	3	26.674	ppb	2.91	588,207.46	2.829E-01	Pulse	0.30	3
Na	23	45	2	24085.524	ppb	0.99	40,443,185.23	2.258E+02	Analog	0.30	3
Mg	26	45	2	5668.308	ppb	0.68	1,039,369.88	5.802E+00	Mix	0.30	3
Al	27	45	2	<0.000	ppb	---	477.51	2.662E-03	Pulse	0.30	3
K	39	45	2	1021.548	ppb	0.75	809,844.35	4.521E+00	Pulse	0.30	3
Ca	44	45	3	15286.521	ppb	0.32	34,931,524.76	7.381E+00	Analog	0.30	3
V	51	45	2	0.403	ppb	6.23	6,474.88	3.616E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	245.62	1.371E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-684.18	-3.814E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	6,637.58	3.705E-02	Pulse	0.30	3
Co	59	45	2	0.005	ppb	23.82	171.67	9.602E-04	Pulse	0.30	3
Ni	60	72	2	0.043	ppb	15.41	988.82	8.083E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,572.26	2.101E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,427.84	1.167E-02	Pulse	0.30	3
As	75	72	2	0.472	ppb	1.80	723.13	5.908E-03	Pulse	0.75	3
Se	78	72	1	0.392	ppb	16.94	255.57	1.723E-03	Pulse	0.30	3
Mo	95	103	2	1.065	ppb	2.67	8,830.56	2.740E-03	Pulse	0.30	3
Ag	107	103	3	1.109	ppb	13.84	76,273.21	1.034E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-7,786.97	-9.685E-04	Pulse	0.30	3
Sb	121	115	3	0.077	ppb	2.02	4,690.87	5.834E-04	Pulse	0.30	3
Ba	137	159	3	28.514	ppb	0.88	566,906.75	4.838E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,409.42	5.371E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-16,125.26	-2.540E-03	Pulse	0.30	3
U	238	209	3	0.965	ppb	1.04	159,255.87	2.509E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,079,189.25	0.90	81.0	Analog	0.30	3
2	Sc	45	179,122.78	1.78	87.8	Pulse	0.30	3
3	Sc	45	4,732,759.51	0.17	84.9	Analog	0.30	3
1	Ge	72	148,331.94	0.57	90.0	Pulse	0.30	3
2	Ge	72	122,369.22	1.61	90.5	Pulse	0.30	3
2	Rh	103	3,223,592.94	1.74	88.3	Analog	0.30	3
3	Rh	103	7,380,121.56	0.07	87.1	Analog	0.30	3
3	In	115	8,040,468.88	0.13	91.0	Analog	0.30	3
3	Tb	159	11,718,750.52	0.75	94.5	Analog	0.30	3
3	Bi	209	6,348,600.67	0.54	91.5	Analog	0.30	3

Quantitation Report

File Name	A0226020.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:16
Sample Name	N018833-001B-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.628	ppb	0.81	112,801.23	5.620E-02	Pulse	0.30	3
B	11	6	3	1990.451	ppb	0.67	20,941,720.89	1.043E+01	Analog	0.30	3
Na	23	45	2	111435.164	ppb	0.33	189,686,270.50	1.025E+03	Analog	0.30	3
Mg	26	45	2	25979.455	ppb	0.67	4,919,948.92	2.659E+01	Analog	0.30	3
Al	27	45	2	184.296	ppb	1.13	74,181.47	4.009E-01	Pulse	0.30	3
K	39	45	2	4848.645	ppb	0.56	3,812,819.53	2.060E+01	Analog	0.30	3
Ca	44	45	3	71575.494	ppb	0.30	172,937,739.65	3.453E+01	Analog	0.30	3
V	51	45	2	11.573	ppb	1.28	123,684.68	6.685E-01	Pulse	0.30	3
Cr	52	45	2	9.168	ppb	0.77	122,008.79	6.594E-01	Pulse	0.30	3
Mn	55	45	2	88.656	ppb	0.09	663,157.06	3.584E+00	Pulse	0.30	3
Fe	56	45	2	91.950	ppb	0.68	1,062,697.20	5.743E+00	Mix	0.30	3
Co	59	45	2	8.513	ppb	0.52	207,058.17	1.119E+00	Pulse	0.30	3
Ni	60	72	2	9.786	ppb	0.35	58,768.04	4.928E-01	Pulse	0.30	3
Cu	63	72	2	9.116	ppb	0.59	152,682.81	1.280E+00	Pulse	0.30	3
Zn	66	72	2	87.614	ppb	0.53	207,592.39	1.741E+00	Pulse	0.30	3
As	75	72	2	12.121	ppb	1.65	17,157.58	1.439E-01	Pulse	0.75	3
Se	78	72	1	10.476	ppb	2.84	6,531.58	4.516E-02	Pulse	0.30	3
Mo	95	103	2	16.013	ppb	1.04	120,676.24	3.912E-02	Pulse	0.30	3
Ag	107	103	3	13.809	ppb	3.88	862,091.85	1.195E-01	Pulse	0.30	3
Cd	111	115	3	9.329	ppb	0.62	134,774.49	1.696E-02	Pulse	0.30	3
Sb	121	115	3	10.246	ppb	0.38	512,654.34	6.451E-02	Pulse	0.30	3
OLR Ba	137	159	3	229.062	ppb	0.52	4,581,682.08	3.878E-01	Analog	0.30	3
Tl	205	209	3	9.563	ppb	2.00	1,042,160.40	1.724E-01	Mix	0.30	3
Pb	208	209	3	10.478	ppb	0.60	1,531,908.99	2.534E-01	Pulse	0.30	3
U	238	209	3	15.645	ppb	0.48	2,457,736.97	4.065E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,007,212.37	0.24	78.2	Analog	0.30	3
2	Sc	45	185,048.07	1.56	90.7	Pulse	0.30	3
3	Sc	45	5,007,899.86	0.41	89.9	Analog	0.30	3
1	Ge	72	144,643.87	0.67	87.8	Pulse	0.30	3
2	Ge	72	119,251.74	1.79	88.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,084,349.57	1.55	84.5	Analog	0.30	3
3	Rh	103	7,213,688.43	0.71	85.1	Analog	0.30	3
3	In	115	7,946,900.23	0.54	89.9	Analog	0.30	3
3	Tb	159	11,813,151.35	0.61	95.2	Analog	0.30	3
3	Bi	209	6,046,263.04	0.93	87.1	Analog	0.30	3

Quantitation Report

File Name	A0226021.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:21
Sample Name	N018833-001B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	9.865	ppb	0.68	115,534.84	5.758E-02	Pulse	0.30	3
	B	11	6	3	2028.865	ppb	0.39	21,333,250.49	1.063E+01	Analog	0.30	3
	Na	23	45	2	108588.428	ppb	0.42	187,172,377.21	9.990E+02	Analog	0.30	3
	Mg	26	45	2	25306.820	ppb	0.51	4,852,279.09	2.590E+01	Analog	0.30	3
	Al	27	45	2	187.411	ppb	0.79	76,368.67	4.076E-01	Pulse	0.30	3
	K	39	45	2	4773.742	ppb	0.90	3,800,862.83	2.029E+01	Analog	0.30	3
	Ca	44	45	3	69060.927	ppb	0.42	168,843,206.37	3.332E+01	Analog	0.30	3
	V	51	45	2	11.643	ppb	0.39	125,977.05	6.724E-01	Pulse	0.30	3
	Cr	52	45	2	9.312	ppb	0.26	125,471.19	6.697E-01	Pulse	0.30	3
	Mn	55	45	2	96.605	ppb	0.55	731,568.15	3.905E+00	Pulse	0.30	3
	Fe	56	45	2	93.211	ppb	0.09	1,090,648.43	5.821E+00	Analog	0.30	3
	Co	59	45	2	8.652	ppb	0.39	213,052.12	1.137E+00	Pulse	0.30	3
	Ni	60	72	2	9.722	ppb	0.99	60,073.45	4.896E-01	Pulse	0.30	3
	Cu	63	72	2	8.766	ppb	0.95	151,228.27	1.232E+00	Pulse	0.30	3
	Zn	66	72	2	87.132	ppb	0.65	212,476.74	1.731E+00	Pulse	0.30	3
	As	75	72	2	11.911	ppb	0.46	17,352.66	1.414E-01	Pulse	0.75	3
	Se	78	72	1	10.729	ppb	0.77	6,788.38	4.624E-02	Pulse	0.30	3
	Mo	95	103	2	16.054	ppb	0.92	122,586.69	3.922E-02	Pulse	0.30	3
	Ag	107	103	3	15.809	ppb	2.51	991,329.84	1.367E-01	Pulse	0.30	3
	Cd	111	115	3	9.466	ppb	0.68	136,798.68	1.721E-02	Pulse	0.30	3
	Sb	121	115	3	10.334	ppb	0.25	517,250.20	6.506E-02	Pulse	0.30	3
OLR	Ba	137	159	3	226.760	ppb	0.24	4,520,664.87	3.839E-01	Analog	0.30	3
	Tl	205	209	3	9.565	ppb	1.21	1,037,345.46	1.724E-01	Analog	0.30	3
	Pb	208	209	3	10.533	ppb	0.07	1,532,387.45	2.547E-01	Pulse	0.30	3
	U	238	209	3	15.592	ppb	0.21	2,437,519.68	4.051E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,006,516.42	0.65	78.1	Analog	0.30	3
2	Sc	45	187,361.10	2.02	91.9	Pulse	0.30	3
3	Sc	45	5,067,413.29	0.96	91.0	Analog	0.30	3
1	Ge	72	146,793.55	0.56	89.1	Pulse	0.30	3
2	Ge	72	122,718.19	1.81	90.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,125,040.13	1.71	85.6	Analog	0.30	3
3	Rh	103	7,252,806.77	0.37	85.6	Analog	0.30	3
3	In	115	7,950,084.70	0.78	90.0	Analog	0.30	3
3	Tb	159	11,774,261.91	0.57	94.9	Analog	0.30	3
3	Bi	209	6,016,704.56	0.18	86.7	Analog	0.30	3

Quantitation Report

File Name	A0226022.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:27
Sample Name	N018833-001B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	9.791	ppb	0.48	114,222.87	5.715E-02	Pulse	0.30	3
	B	11	6	3	2043.390	ppb	0.19	21,399,802.59	1.071E+01	Analog	0.30	3
	Na	23	45	2	108365.822	ppb	0.22	185,815,650.56	9.970E+02	Analog	0.30	3
	Mg	26	45	2	25194.756	ppb	0.14	4,805,675.69	2.579E+01	Analog	0.30	3
	Al	27	45	2	187.387	ppb	1.13	75,960.35	4.076E-01	Pulse	0.30	3
	K	39	45	2	4727.227	ppb	0.87	3,744,818.62	2.009E+01	Analog	0.30	3
	Ca	44	45	3	68982.888	ppb	0.40	167,938,859.72	3.328E+01	Analog	0.30	3
	V	51	45	2	11.621	ppb	0.32	125,081.68	6.711E-01	Pulse	0.30	3
	Cr	52	45	2	9.285	ppb	0.62	124,458.72	6.678E-01	Pulse	0.30	3
	Mn	55	45	2	89.874	ppb	0.34	677,093.29	3.633E+00	Pulse	0.30	3
	Fe	56	45	2	92.626	ppb	1.04	1,078,177.45	5.785E+00	Mix	0.30	3
	Co	59	45	2	8.623	ppb	0.49	211,249.80	1.133E+00	Pulse	0.30	3
	Ni	60	72	2	9.646	ppb	1.00	59,215.94	4.858E-01	Pulse	0.30	3
	Cu	63	72	2	8.705	ppb	0.72	149,203.22	1.224E+00	Pulse	0.30	3
	Zn	66	72	2	87.376	ppb	0.28	211,621.44	1.736E+00	Pulse	0.30	3
	As	75	72	2	12.031	ppb	1.47	17,407.97	1.428E-01	Pulse	0.75	3
	Se	78	72	1	10.633	ppb	0.88	6,793.94	4.583E-02	Pulse	0.30	3
	Mo	95	103	2	16.030	ppb	1.36	121,624.58	3.917E-02	Pulse	0.30	3
	Ag	107	103	3	16.187	ppb	2.41	1,016,751.97	1.399E-01	Pulse	0.30	3
	Cd	111	115	3	9.417	ppb	0.33	136,343.71	1.712E-02	Pulse	0.30	3
	Sb	121	115	3	10.263	ppb	0.23	514,633.47	6.462E-02	Pulse	0.30	3
OLR	Ba	137	159	3	225.705	ppb	0.46	4,516,382.33	3.822E-01	Analog	0.30	3
	Tl	205	209	3	9.664	ppb	2.32	1,053,017.30	1.742E-01	Analog	0.30	3
	Pb	208	209	3	10.483	ppb	0.96	1,532,491.96	2.535E-01	Pulse	0.30	3
	U	238	209	3	15.500	ppb	0.51	2,434,994.37	4.027E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,998,683.25	0.40	77.8	Analog	0.30	3
2	Sc	45	186,373.09	0.65	91.4	Pulse	0.30	3
3	Sc	45	5,045,832.49	0.19	90.6	Analog	0.30	3
1	Ge	72	148,235.23	0.22	90.0	Pulse	0.30	3
2	Ge	72	121,885.96	0.55	90.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,105,185.20	0.85	85.1	Analog	0.30	3
3	Rh	103	7,266,363.64	0.27	85.7	Analog	0.30	3
3	In	115	7,964,019.88	0.25	90.1	Analog	0.30	3
3	Tb	159	11,817,887.05	0.60	95.3	Analog	0.30	3
3	Bi	209	6,046,313.38	0.90	87.1	Analog	0.30	3

Quantitation Report

File Name	A0226023.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:32
Sample Name	N018833-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	106.67	5.666E-05	Pulse	0.30	3
B	11	6	3	153.002	ppb	0.70	1,765,762.70	9.359E-01	Analog	0.30	3
Na	23	45	2	112984.334	ppb	0.17	182,617,523.95	1.039E+03	Analog	0.30	3
Mg	26	45	2	26382.016	ppb	0.23	4,744,421.91	2.700E+01	Analog	0.30	3
Al	27	45	2	21.007	ppb	4.91	8,755.81	4.982E-02	Pulse	0.30	3
K	39	45	2	4863.747	ppb	0.59	3,631,435.92	2.067E+01	Analog	0.30	3
Ca	44	45	3	71946.500	ppb	0.26	164,133,392.00	3.471E+01	Analog	0.30	3
V	51	45	2	2.142	ppb	1.44	23,648.75	1.346E-01	Pulse	0.30	3
Cr	52	45	2	0.031	ppb	26.37	764.16	4.351E-03	Pulse	0.30	3
Mn	55	45	2	0.236	ppb	22.54	2,030.43	1.157E-02	Pulse	0.30	3
Fe	56	45	2	23.159	ppb	1.10	259,840.75	1.479E+00	Pulse	0.30	3
Co	59	45	2	0.040	ppb	10.13	992.99	5.649E-03	Pulse	0.30	3
Ni	60	72	2	0.939	ppb	3.14	6,041.07	5.265E-02	Pulse	0.30	3
Cu	63	72	2	0.200	ppb	17.04	6,799.13	5.925E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,527.33	1.331E-02	Pulse	0.30	3
As	75	72	2	2.291	ppb	1.85	3,150.13	2.745E-02	Pulse	0.75	3
Se	78	72	1	1.662	ppb	8.50	1,008.96	7.192E-03	Pulse	0.30	3
Mo	95	103	2	5.373	ppb	1.23	39,214.51	1.323E-02	Pulse	0.30	3
Ag	107	103	3	0.846	ppb	2.85	55,476.62	8.077E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-440.75	-5.859E-05	Pulse	0.30	3
Sb	121	115	3	0.320	ppb	2.78	15,894.15	2.112E-03	Pulse	0.30	3
Ba	137	159	3	135.211	ppb	1.41	2,571,594.21	2.290E-01	Analog	0.30	3
Tl	205	209	3	0.102	ppb	2.28	16,193.91	2.833E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,836.19	-6.712E-04	Pulse	0.30	3
U	238	209	3	4.907	ppb	0.53	728,878.35	1.275E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,886,795.22	0.80	73.5	Analog	0.30	3
2	Sc	45	175,717.80	1.39	86.2	Pulse	0.30	3
3	Sc	45	4,728,454.72	0.65	84.9	Analog	0.30	3
1	Ge	72	140,384.11	1.12	85.2	Pulse	0.30	3
2	Ge	72	114,749.18	1.07	84.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,965,100.20	0.96	81.3	Analog	0.30	3
3	Rh	103	6,869,138.58	0.41	81.0	Analog	0.30	3
3	In	115	7,524,962.62	0.58	85.2	Analog	0.30	3
3	Tb	159	11,230,623.86	0.35	90.5	Analog	0.30	3
3	Bi	209	5,716,297.83	0.53	82.4	Analog	0.30	3

Quantitation Report

File Name	A0226024.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:38
Sample Name	N018833-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.010	ppb	28.22	354.46	1.839E-04	Pulse	0.30	3
B	11	6	3	150.965	ppb	1.43	1,782,376.88	9.254E-01	Analog	0.30	3
Na	23	45	2	130357.914	ppb	0.18	218,141,247.86	1.198E+03	Analog	0.30	3
Mg	26	45	2	28432.486	ppb	0.69	5,297,068.91	2.910E+01	Analog	0.30	3
Al	27	45	2	448.169	ppb	3.05	176,314.73	9.683E-01	Pulse	0.30	3
K	39	45	2	5506.544	ppb	0.35	4,254,189.69	2.337E+01	Analog	0.30	3
Ca	44	45	3	78026.837	ppb	0.88	183,728,250.59	3.765E+01	Analog	0.30	3
V	51	45	2	2.177	ppb	1.08	24,871.81	1.366E-01	Pulse	0.30	3
Cr	52	45	2	0.375	ppb	4.23	5,273.83	2.897E-02	Pulse	0.30	3
Mn	55	45	2	113.688	ppb	0.10	836,516.53	4.595E+00	Pulse	0.30	3
Fe	56	45	2	385.850	ppb	3.06	4,362,747.42	2.396E+01	Analog	0.30	3
Co	59	45	2	0.449	ppb	2.39	10,793.40	5.928E-02	Pulse	0.30	3
Ni	60	72	2	1.365	ppb	1.91	8,708.98	7.387E-02	Pulse	0.30	3
Cu	63	72	2	0.611	ppb	3.29	13,619.75	1.155E-01	Pulse	0.30	3
Zn	66	72	2	0.767	ppb	11.99	4,556.98	3.863E-02	Pulse	0.30	3
As	75	72	2	2.551	ppb	1.17	3,599.68	3.054E-02	Pulse	0.75	3
Se	78	72	1	1.568	ppb	11.87	958.96	6.788E-03	Pulse	0.30	3
Mo	95	103	2	5.635	ppb	0.85	41,411.12	1.386E-02	Pulse	0.30	3
Ag	107	103	3	0.252	ppb	3.35	20,741.61	2.971E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-346.84	-4.502E-05	Pulse	0.30	3
Sb	121	115	3	0.339	ppb	1.41	17,187.79	2.231E-03	Pulse	0.30	3
Ba	137	159	3	141.783	ppb	0.40	2,747,803.60	2.401E-01	Analog	0.30	3
Tl	205	209	3	0.032	ppb	9.76	9,112.08	1.573E-03	Pulse	0.30	3
Pb	208	209	3	0.891	ppb	0.59	125,711.07	2.170E-02	Pulse	0.30	3
U	238	209	3	5.211	ppb	0.49	784,332.28	1.354E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,926,276.34	0.94	75.0	Analog	0.30	3
2	Sc	45	182,050.00	1.35	89.3	Pulse	0.30	3
3	Sc	45	4,880,572.11	0.31	87.6	Analog	0.30	3
1	Ge	72	141,149.13	1.30	85.7	Pulse	0.30	3
2	Ge	72	117,894.11	1.88	87.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,987,292.32	0.91	81.9	Analog	0.30	3
3	Rh	103	6,980,921.15	0.34	82.4	Analog	0.30	3
3	In	115	7,702,559.68	0.43	87.2	Analog	0.30	3
3	Tb	159	11,443,955.80	0.69	92.2	Analog	0.30	3
3	Bi	209	5,792,407.27	0.47	83.5	Analog	0.30	3

Quantitation Report

File Name	A0226025.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:43
Sample Name	N018833-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	140.01	7.483E-05	Pulse	0.30	3
B	11	6	3	149.750	ppb	0.69	1,719,264.48	9.191E-01	Analog	0.30	3
Na	23	45	2	133855.391	ppb	0.88	217,132,954.54	1.230E+03	Analog	0.30	3
Mg	26	45	2	29077.139	ppb	0.43	5,252,257.00	2.976E+01	Analog	0.30	3
Al	27	45	2	36.167	ppb	3.45	14,551.07	8.242E-02	Pulse	0.30	3
K	39	45	2	5577.311	ppb	1.31	4,176,713.03	2.367E+01	Analog	0.30	3
Ca	44	45	3	78893.216	ppb	0.65	180,794,770.64	3.806E+01	Analog	0.30	3
V	51	45	2	1.736	ppb	1.09	19,701.33	1.116E-01	Pulse	0.30	3
Cr	52	45	2	0.025	ppb	50.98	691.35	3.926E-03	Pulse	0.30	3
Mn	55	45	2	110.559	ppb	0.74	788,726.00	4.469E+00	Pulse	0.30	3
Fe	56	45	2	28.727	ppb	2.52	321,944.82	1.824E+00	Pulse	0.30	3
Co	59	45	2	0.311	ppb	1.59	7,265.18	4.116E-02	Pulse	0.30	3
Ni	60	72	2	0.841	ppb	3.07	5,518.84	4.777E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	1,812.08	1.569E-02	Pulse	0.30	3
Zn	66	72	2	0.121	ppb	28.74	3,002.06	2.598E-02	Pulse	0.30	3
As	75	72	2	2.363	ppb	2.12	3,271.30	2.831E-02	Pulse	0.75	3
Se	78	72	1	1.519	ppb	8.16	927.84	6.576E-03	Pulse	0.30	3
Mo	95	103	2	5.776	ppb	2.38	42,007.13	1.421E-02	Pulse	0.30	3
Ag	107	103	3	0.064	ppb	13.00	9,239.07	1.353E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-446.78	-5.947E-05	Pulse	0.30	3
Sb	121	115	3	0.365	ppb	2.65	17,970.93	2.392E-03	Pulse	0.30	3
Ba	137	159	3	140.114	ppb	0.87	2,644,321.74	2.373E-01	Analog	0.30	3
Tl	205	209	3	0.010	ppb	23.37	6,687.33	1.185E-03	Pulse	0.30	3
Pb	208	209	3	0.045	ppb	2.38	7,123.89	1.262E-03	Pulse	0.30	3
U	238	209	3	5.273	ppb	0.52	773,201.60	1.370E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,870,637.82	0.18	72.8	Analog	0.30	3
2	Sc	45	176,505.80	1.65	86.6	Pulse	0.30	3
3	Sc	45	4,749,938.61	0.39	85.3	Analog	0.30	3
1	Ge	72	141,158.11	1.01	85.7	Pulse	0.30	3
2	Ge	72	115,540.95	1.99	85.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,956,967.18	0.34	81.0	Analog	0.30	3
3	Rh	103	6,826,732.61	0.52	80.5	Analog	0.30	3
3	In	115	7,512,862.90	0.47	85.0	Analog	0.30	3
3	Tb	159	11,144,472.05	0.36	89.8	Analog	0.30	3
3	Bi	209	5,643,594.22	0.79	81.3	Analog	0.30	3

Quantitation Report

File Name	A0226026.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:49
Sample Name	CCV1,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.105	ppb	0.69	260,039.71	1.172E-01	Pulse	0.30	3
B	11	6	3	203.641	ppb	1.17	2,656,763.79	1.198E+00	Analog	0.30	3
Na	23	45	2	<0.000	ppb	---	833,975.55	4.269E+00	Pulse	0.30	3
Mg	26	45	2	204.398	ppb	1.65	41,107.83	2.104E-01	Pulse	0.30	3
Al	27	45	2	18.826	ppb	1.48	8,819.67	4.514E-02	Pulse	0.30	3
K	39	45	2	198.632	ppb	1.49	207,764.38	1.063E+00	Pulse	0.30	3
Ca	44	45	3	196.878	ppb	0.44	503,932.04	1.019E-01	Pulse	0.30	3
V	51	45	2	20.081	ppb	0.81	224,682.92	1.150E+00	Pulse	0.30	3
Cr	52	45	2	20.243	ppb	0.99	283,947.43	1.453E+00	Pulse	0.30	3
Mn	55	45	2	20.070	ppb	0.56	158,817.50	8.129E-01	Pulse	0.30	3
Fe	56	45	2	20.041	ppb	0.98	251,154.15	1.286E+00	Pulse	0.30	3
Co	59	45	2	20.435	ppb	0.80	524,667.70	2.685E+00	Pulse	0.30	3
Ni	60	72	2	19.696	ppb	1.04	132,530.43	9.858E-01	Pulse	0.30	3
Cu	63	72	2	20.063	ppb	0.46	373,732.15	2.780E+00	Pulse	0.30	3
Zn	66	72	2	19.519	ppb	1.01	54,613.06	4.062E-01	Pulse	0.30	3
As	75	72	2	20.269	ppb	1.71	32,323.98	2.404E-01	Pulse	0.75	3
Se	78	72	1	20.131	ppb	1.29	14,464.76	8.674E-02	Pulse	0.30	3
Mo	95	103	2	19.888	ppb	1.67	176,632.58	4.856E-02	Pulse	0.30	3
Ag	107	103	3	20.436	ppb	1.34	1,450,051.44	1.764E-01	Analog	0.30	3
Cd	111	115	3	20.458	ppb	0.72	328,334.31	3.721E-02	Pulse	0.30	3
Sb	121	115	3	20.094	ppb	0.80	1,115,516.49	1.264E-01	Analog	0.30	3
Ba	137	159	3	21.008	ppb	0.94	451,738.43	3.567E-02	Pulse	0.30	3
Tl	205	209	3	20.074	ppb	0.66	2,634,114.74	3.607E-01	Analog	0.30	3
Pb	208	209	3	20.552	ppb	0.49	3,627,634.75	4.968E-01	Analog	0.30	3
U	238	209	3	19.930	ppb	0.82	3,781,263.00	5.178E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,218,317.17	0.43	86.4	Analog	0.30	3
2	Sc	45	195,379.15	1.19	95.8	Pulse	0.30	3
3	Sc	45	4,943,761.97	0.36	88.7	Analog	0.30	3
1	Ge	72	166,758.62	0.60	101.2	Pulse	0.30	3
2	Ge	72	134,446.31	0.55	99.4	Pulse	0.30	3
2	Rh	103	3,637,663.84	0.74	99.7	Analog	0.30	3
3	Rh	103	8,218,845.02	0.37	97.0	Analog	0.30	3
3	In	115	8,824,132.77	0.59	99.9	Analog	0.30	3
3	Tb	159	12,663,523.14	0.16	102.1	Analog	0.30	3
3	Bi	209	7,302,065.10	0.13	105.2	Analog	0.30	3

Quantitation Report

File Name	A0226027.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 21:54
Sample Name	CCB1,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	94.45	4.666E-05	Pulse	0.30	3
B	11	6	3	2.184	ppb	8.11	316,399.41	1.563E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	256,222.70	1.467E+00	Pulse	0.30	3
Mg	26	45	2	0.143	ppb	149.23	243.35	1.390E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	706.69	4.045E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	37,930.77	2.172E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	29,599.66	6.563E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,991.32	1.140E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	284.19	1.627E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	327.05	1.876E-03	Pulse	0.30	3
Fe	56	45	2	0.057	ppb	20.33	8,171.99	4.676E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	35.26	2.015E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	421.92	3.490E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,278.27	2.712E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,634.69	2.178E-02	Pulse	0.30	3
As	75	72	2	0.006	ppb	21.16	47.11	3.892E-04	Pulse	0.75	3
Se	78	72	1	0.019	ppb	48.04	16.67	1.151E-04	Pulse	0.30	3
Mo	95	103	2	0.108	ppb	5.59	1,347.90	4.094E-04	Pulse	0.30	3
Ag	107	103	3	0.804	ppb	13.54	58,698.77	7.714E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	3.78	-6.82	-8.489E-07	Pulse	0.30	3
Sb	121	115	3	0.058	ppb	4.88	3,728.38	4.644E-04	Pulse	0.30	3
Ba	137	159	3	0.005	ppb	123.10	1,417.82	1.212E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	2,590.32	3.912E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.004	ppb	11.29	1,840.88	2.780E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	7.94	607.48	9.177E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,023,920.58	0.59	78.8	Analog	0.30	3
2	Sc	45	174,751.10	1.98	85.7	Pulse	0.30	3
3	Sc	45	4,510,095.80	0.11	81.0	Analog	0.30	3
1	Ge	72	144,543.16	0.94	87.7	Pulse	0.30	3
2	Ge	72	120,968.79	1.88	89.5	Pulse	0.30	3
2	Rh	103	3,292,290.75	1.36	90.2	Analog	0.30	3
3	Rh	103	7,609,978.08	0.13	89.8	Analog	0.30	3
3	In	115	8,027,603.11	0.19	90.9	Analog	0.30	3
3	Tb	159	11,697,979.97	0.35	94.3	Analog	0.30	3
3	Bi	209	6,621,329.48	0.73	95.4	Analog	0.30	3

Quantitation Report

File Name	A0226028.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:00
Sample Name	N018833-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	103.34	5.607E-05	Pulse	0.30	3
B	11	6	3	129.399	ppb	1.03	1,501,317.84	8.139E-01	Analog	0.30	3
Na	23	45	2	116976.105	ppb	0.29	187,231,374.99	1.076E+03	Analog	0.30	3
Mg	26	45	2	27131.736	ppb	0.27	4,832,625.27	2.777E+01	Analog	0.30	3
Al	27	45	2	1.162	ppb	16.89	1,246.02	7.156E-03	Pulse	0.30	3
K	39	45	2	5000.185	ppb	0.89	3,696,679.84	2.124E+01	Analog	0.30	3
Ca	44	45	3	74883.027	ppb	0.65	167,935,995.27	3.613E+01	Analog	0.30	3
V	51	45	2	2.162	ppb	1.43	23,624.34	1.357E-01	Pulse	0.30	3
Cr	52	45	2	0.045	ppb	3.70	931.98	5.355E-03	Pulse	0.30	3
Mn	55	45	2	0.071	ppb	19.95	859.35	4.942E-03	Pulse	0.30	3
Fe	56	45	2	2.642	ppb	7.20	36,052.36	2.070E-01	Pulse	0.30	3
Co	59	45	2	0.031	ppb	17.99	765.25	4.402E-03	Pulse	0.30	3
Ni	60	72	2	0.644	ppb	4.89	4,376.62	3.800E-02	Pulse	0.30	3
Cu	63	72	2	0.057	ppb	12.23	4,572.43	3.967E-02	Pulse	0.30	3
Zn	66	72	2	0.227	ppb	49.08	3,236.43	2.806E-02	Pulse	0.30	3
As	75	72	2	2.356	ppb	2.79	3,249.88	2.822E-02	Pulse	0.75	3
Se	78	72	1	1.572	ppb	9.55	947.85	6.804E-03	Pulse	0.30	3
Mo	95	103	2	5.526	ppb	0.98	40,063.32	1.360E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,764.52	-4.031E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-441.57	-5.832E-05	Pulse	0.30	3
Sb	121	115	3	0.335	ppb	1.44	16,677.19	2.202E-03	Pulse	0.30	3
Ba	137	159	3	139.267	ppb	0.87	2,664,721.50	2.358E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	5,145.55	8.899E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-8,741.08	-1.512E-03	Pulse	0.30	3
U	238	209	3	5.147	ppb	0.58	773,385.46	1.338E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,844,695.70	0.92	71.8	Analog	0.30	3
2	Sc	45	174,045.08	1.75	85.3	Pulse	0.30	3
3	Sc	45	4,648,412.95	0.73	83.4	Analog	0.30	3
1	Ge	72	139,307.88	0.38	84.5	Pulse	0.30	3
2	Ge	72	115,206.93	2.35	85.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,946,250.58	1.42	80.7	Analog	0.30	3
3	Rh	103	6,859,751.08	0.59	80.9	Analog	0.30	3
3	In	115	7,572,312.99	0.52	85.7	Analog	0.30	3
3	Tb	159	11,298,122.61	0.48	91.1	Analog	0.30	3
3	Bi	209	5,782,373.46	0.59	83.3	Analog	0.30	3

Quantitation Report

File Name	A0226029.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:06
Sample Name	N018833-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	91.12	4.895E-05	Pulse	0.30	3
B	11	6	3	124.958	ppb	1.21	1,470,870.85	7.909E-01	Analog	0.30	3
Na	23	45	2	109992.629	ppb	0.36	180,292,950.65	1.012E+03	Analog	0.30	3
Mg	26	45	2	25585.549	ppb	0.50	4,665,484.03	2.619E+01	Analog	0.30	3
Al	27	45	2	9.046	ppb	32.39	4,286.60	2.411E-02	Pulse	0.30	3
K	39	45	2	4736.927	ppb	0.07	3,587,384.91	2.013E+01	Analog	0.30	3
Ca	44	45	3	70140.937	ppb	0.46	159,179,568.74	3.384E+01	Analog	0.30	3
V	51	45	2	2.038	ppb	1.45	22,934.51	1.287E-01	Pulse	0.30	3
Cr	52	45	2	0.056	ppb	7.31	1,086.75	6.101E-03	Pulse	0.30	3
Mn	55	45	2	6.834	ppb	1.90	49,564.85	2.781E-01	Pulse	0.30	3
Fe	56	45	2	9.970	ppb	6.97	117,757.04	6.612E-01	Pulse	0.30	3
Co	59	45	2	0.034	ppb	11.34	851.05	4.778E-03	Pulse	0.30	3
Ni	60	72	2	1.952	ppb	0.88	12,109.42	1.031E-01	Pulse	0.30	3
Cu	63	72	2	3.653	ppb	0.57	62,525.24	5.321E-01	Pulse	0.30	3
Zn	66	72	2	4.117	ppb	1.49	12,254.70	1.043E-01	Pulse	0.30	3
As	75	72	2	2.274	ppb	3.59	3,201.04	2.725E-02	Pulse	0.75	3
Se	78	72	1	1.528	ppb	11.34	955.63	6.616E-03	Pulse	0.30	3
Mo	95	103	2	5.224	ppb	2.04	38,792.46	1.286E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,580.18	-3.735E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-389.31	-5.136E-05	Pulse	0.30	3
Sb	121	115	3	0.304	ppb	2.24	15,234.65	2.011E-03	Pulse	0.30	3
Ba	137	159	3	132.415	ppb	0.43	2,532,181.22	2.243E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	4,882.12	8.409E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,868.07	-3.219E-04	Pulse	0.30	3
U	238	209	3	4.819	ppb	0.93	727,112.29	1.252E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,859,779.31	0.94	72.4	Analog	0.30	3
2	Sc	45	178,177.46	1.22	87.4	Pulse	0.30	3
3	Sc	45	4,703,734.44	0.21	84.4	Analog	0.30	3
1	Ge	72	144,423.73	0.34	87.7	Pulse	0.30	3
2	Ge	72	117,501.14	1.11	86.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,016,141.90	1.02	82.7	Analog	0.30	3
3	Rh	103	6,907,782.95	0.33	81.5	Analog	0.30	3
3	In	115	7,575,482.22	1.03	85.7	Analog	0.30	3
3	Tb	159	11,291,773.16	0.14	91.0	Analog	0.30	3
3	Bi	209	5,806,717.48	0.88	83.7	Analog	0.30	3

Quantitation Report

File Name	A0226030.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:11
Sample Name	N018833-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	86.67	4.780E-05	Pulse	0.30	3
B	11	6	3	129.508	ppb	1.50	1,477,551.79	8.144E-01	Analog	0.30	3
Na	23	45	2	113469.701	ppb	0.23	181,273,717.30	1.044E+03	Analog	0.30	3
Mg	26	45	2	26468.884	ppb	0.22	4,704,851.32	2.709E+01	Analog	0.30	3
Al	27	45	2	17.230	ppb	5.78	7,242.28	4.170E-02	Pulse	0.30	3
K	39	45	2	4904.137	ppb	0.69	3,618,888.76	2.084E+01	Analog	0.30	3
Ca	44	45	3	73465.261	ppb	0.35	162,741,358.69	3.544E+01	Analog	0.30	3
V	51	45	2	2.148	ppb	1.60	23,432.86	1.349E-01	Pulse	0.30	3
Cr	52	45	2	0.052	ppb	1.44	1,016.20	5.851E-03	Pulse	0.30	3
Mn	55	45	2	0.437	ppb	7.65	3,422.18	1.971E-02	Pulse	0.30	3
Fe	56	45	2	18.685	ppb	1.24	208,679.40	1.201E+00	Pulse	0.30	3
Co	59	45	2	0.035	ppb	5.50	868.12	4.996E-03	Pulse	0.30	3
Ni	60	72	2	0.672	ppb	4.90	4,518.95	3.937E-02	Pulse	0.30	3
Cu	63	72	2	0.123	ppb	18.40	5,595.17	4.872E-02	Pulse	0.30	3
Zn	66	72	2	0.957	ppb	7.27	4,863.61	4.236E-02	Pulse	0.30	3
As	75	72	2	2.395	ppb	1.06	3,292.06	2.868E-02	Pulse	0.75	3
Se	78	72	1	1.590	ppb	3.35	967.85	6.881E-03	Pulse	0.30	3
Mo	95	103	2	5.440	ppb	0.64	39,289.27	1.339E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,569.35	-3.803E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-432.64	-5.798E-05	Pulse	0.30	3
Sb	121	115	3	0.318	ppb	2.16	15,676.12	2.101E-03	Pulse	0.30	3
Ba	137	159	3	137.307	ppb	1.02	2,581,034.39	2.325E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	4,757.65	8.320E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,334.70	-5.831E-04	Pulse	0.30	3
U	238	209	3	5.017	ppb	0.44	745,742.38	1.304E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,814,136.79	0.27	70.6	Analog	0.30	3
2	Sc	45	173,685.00	1.50	85.2	Pulse	0.30	3
3	Sc	45	4,591,378.51	0.26	82.4	Analog	0.30	3
1	Ge	72	140,678.63	0.73	85.4	Pulse	0.30	3
2	Ge	72	114,780.04	1.34	84.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,934,750.41	1.15	80.4	Analog	0.30	3
3	Rh	103	6,756,226.15	0.29	79.7	Analog	0.30	3
3	In	115	7,460,893.59	0.47	84.4	Analog	0.30	3
3	Tb	159	11,100,113.72	0.73	89.5	Analog	0.30	3
3	Bi	209	5,720,191.30	1.06	82.4	Analog	0.30	3

Quantitation Report

File Name	A0226031.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:17
Sample Name	N018833-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	60.00	3.268E-05	Pulse	0.30	3
B	11	6	3	125.396	ppb	0.58	1,456,088.12	7.932E-01	Analog	0.30	3
Na	23	45	2	114115.103	ppb	1.34	180,101,726.20	1.050E+03	Analog	0.30	3
Mg	26	45	2	26642.072	ppb	1.68	4,678,351.25	2.727E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	597.95	3.482E-03	Pulse	0.30	3
K	39	45	2	4947.509	ppb	1.44	3,606,798.73	2.102E+01	Analog	0.30	3
Ca	44	45	3	73127.376	ppb	0.25	162,317,672.03	3.528E+01	Analog	0.30	3
V	51	45	2	2.125	ppb	3.30	22,926.67	1.337E-01	Pulse	0.30	3
Cr	52	45	2	0.023	ppb	20.70	640.37	3.735E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,951.92	-1.137E-02	Pulse	0.30	3
Fe	56	45	2	4.033	ppb	2.32	50,311.02	2.932E-01	Pulse	0.30	3
Co	59	45	2	0.028	ppb	10.51	689.59	4.014E-03	Pulse	0.30	3
Ni	60	72	2	0.610	ppb	1.17	4,144.98	3.628E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,185.89	2.787E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,538.04	1.347E-02	Pulse	0.30	3
As	75	72	2	2.361	ppb	1.16	3,231.67	2.828E-02	Pulse	0.75	3
Se	78	72	1	1.664	ppb	6.28	996.74	7.199E-03	Pulse	0.30	3
Mo	95	103	2	5.460	ppb	1.34	39,141.96	1.344E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,450.30	-3.631E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-428.97	-5.738E-05	Pulse	0.30	3
Sb	121	115	3	0.315	ppb	3.27	15,554.90	2.081E-03	Pulse	0.30	3
Ba	137	159	3	136.799	ppb	0.95	2,569,203.23	2.317E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	4,213.01	7.454E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,505.76	-1.682E-03	Pulse	0.30	3
U	238	209	3	5.079	ppb	0.45	745,933.30	1.320E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,835,697.68	0.75	71.5	Analog	0.30	3
2	Sc	45	171,625.61	2.51	84.2	Pulse	0.30	3
3	Sc	45	4,600,638.82	0.52	82.6	Analog	0.30	3
1	Ge	72	138,484.16	0.81	84.0	Pulse	0.30	3
2	Ge	72	114,249.91	1.99	84.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,912,824.92	0.49	79.8	Analog	0.30	3
3	Rh	103	6,748,889.27	0.49	79.6	Analog	0.30	3
3	In	115	7,474,523.32	1.15	84.6	Analog	0.30	3
3	Tb	159	11,090,078.73	0.60	89.4	Analog	0.30	3
3	Bi	209	5,651,863.46	0.50	81.5	Analog	0.30	3

Quantitation Report

File Name	A0226032.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:22
Sample Name	N018833-009B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	77.78	4.213E-05	Pulse	0.30	3
B	11	6	3	121.767	ppb	0.70	1,430,356.63	7.744E-01	Analog	0.30	3
Na	23	45	2	111184.110	ppb	0.48	180,502,823.98	1.023E+03	Analog	0.30	3
Mg	26	45	2	25976.636	ppb	0.12	4,691,964.69	2.659E+01	Analog	0.30	3
Al	27	45	2	0.287	ppb	103.68	931.11	5.273E-03	Pulse	0.30	3
K	39	45	2	4835.051	ppb	0.40	3,626,059.53	2.055E+01	Analog	0.30	3
Ca	44	45	3	72333.534	ppb	0.48	163,348,119.79	3.490E+01	Analog	0.30	3
V	51	45	2	2.097	ppb	1.28	23,309.36	1.321E-01	Pulse	0.30	3
Cr	52	45	2	0.007	ppb	62.81	458.96	2.603E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,113.63	-6.310E-03	Pulse	0.30	3
Fe	56	45	2	13.298	ppb	1.14	153,101.90	8.675E-01	Pulse	0.30	3
Co	59	45	2	0.029	ppb	7.12	727.61	4.120E-03	Pulse	0.30	3
Ni	60	72	2	0.737	ppb	4.95	4,970.48	4.260E-02	Pulse	0.30	3
Cu	63	72	2	0.435	ppb	3.75	10,677.12	9.149E-02	Pulse	0.30	3
Zn	66	72	2	0.263	ppb	26.87	3,354.39	2.875E-02	Pulse	0.30	3
As	75	72	2	2.330	ppb	2.22	3,256.53	2.791E-02	Pulse	0.75	3
Se	78	72	1	1.701	ppb	4.17	1,044.53	7.360E-03	Pulse	0.30	3
Mo	95	103	2	5.371	ppb	3.30	39,284.77	1.322E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,401.96	-3.468E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-425.83	-5.560E-05	Pulse	0.30	3
Sb	121	115	3	0.308	ppb	1.00	15,569.39	2.033E-03	Pulse	0.30	3
Ba	137	159	3	134.893	ppb	0.50	2,610,374.21	2.284E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,986.24	6.820E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,477.96	-1.279E-03	Pulse	0.30	3
U	238	209	3	4.935	ppb	0.76	749,579.12	1.282E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,846,995.59	0.98	71.9	Analog	0.30	3
2	Sc	45	176,487.19	1.43	86.5	Pulse	0.30	3
3	Sc	45	4,680,663.75	0.39	84.0	Analog	0.30	3
1	Ge	72	141,912.26	0.28	86.1	Pulse	0.30	3
2	Ge	72	116,684.53	1.17	86.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,971,967.32	1.03	81.4	Analog	0.30	3
3	Rh	103	6,926,033.16	0.54	81.7	Analog	0.30	3
3	In	115	7,658,896.66	0.50	86.7	Analog	0.30	3
3	Tb	159	11,426,788.30	0.35	92.1	Analog	0.30	3
3	Bi	209	5,844,826.65	0.20	84.2	Analog	0.30	3

Quantitation Report

File Name	A0226033.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:28
Sample Name	N018833-010B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	77.78	4.262E-05	Pulse	0.30	3
B	11	6	3	121.879	ppb	0.44	1,414,450.30	7.750E-01	Analog	0.30	3
Na	23	45	2	109746.579	ppb	1.18	174,870,495.17	1.010E+03	Analog	0.30	3
Mg	26	45	2	25546.481	ppb	1.02	4,528,297.82	2.615E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	702.92	4.054E-03	Pulse	0.30	3
K	39	45	2	4757.272	ppb	1.19	3,501,920.75	2.022E+01	Analog	0.30	3
Ca	44	45	3	71314.241	ppb	0.55	157,460,394.32	3.441E+01	Analog	0.30	3
V	51	45	2	2.014	ppb	0.53	22,066.65	1.274E-01	Pulse	0.30	3
Cr	52	45	2	0.105	ppb	11.42	1,674.54	9.665E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,038.19	-1.177E-02	Pulse	0.30	3
Fe	56	45	2	1.046	ppb	3.75	18,720.57	1.081E-01	Pulse	0.30	3
Co	59	45	2	0.032	ppb	4.84	786.87	4.544E-03	Pulse	0.30	3
Ni	60	72	2	0.764	ppb	4.57	5,086.67	4.397E-02	Pulse	0.30	3
Cu	63	72	2	0.475	ppb	1.51	11,209.23	9.692E-02	Pulse	0.30	3
Zn	66	72	2	4.007	ppb	0.85	11,813.75	1.021E-01	Pulse	0.30	3
As	75	72	2	2.213	ppb	3.99	3,067.20	2.653E-02	Pulse	0.75	3
Se	78	72	1	1.593	ppb	1.97	962.29	6.893E-03	Pulse	0.30	3
Mo	95	103	2	5.201	ppb	0.52	37,644.05	1.281E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,225.10	-3.274E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-390.08	-5.168E-05	Pulse	0.30	3
Sb	121	115	3	0.290	ppb	1.49	14,519.46	1.923E-03	Pulse	0.30	3
Ba	137	159	3	132.049	ppb	0.74	2,504,447.41	2.236E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,886.22	6.760E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,511.47	-1.307E-03	Pulse	0.30	3
U	238	209	3	4.838	ppb	0.32	722,557.02	1.257E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,825,065.14	0.72	71.1	Analog	0.30	3
2	Sc	45	173,223.47	2.08	84.9	Pulse	0.30	3
3	Sc	45	4,576,517.26	0.85	82.1	Analog	0.30	3
1	Ge	72	139,598.02	0.38	84.7	Pulse	0.30	3
2	Ge	72	115,659.12	1.07	85.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,939,254.29	0.76	80.5	Analog	0.30	3
3	Rh	103	6,795,337.40	0.32	80.2	Analog	0.30	3
3	In	115	7,548,848.85	0.98	85.4	Analog	0.30	3
3	Tb	159	11,199,010.39	0.78	90.3	Analog	0.30	3
3	Bi	209	5,748,001.44	1.10	82.8	Analog	0.30	3

Quantitation Report

SAMPLE REFERENCE

File Name	A0226034.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:34
Sample Name	N018834-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	72.23	4.091E-05	Pulse	0.30	3
B	11	6	3	123.161	ppb	0.35	1,380,564.90	7.816E-01	Analog	0.30	3
Na	23	45	2	112873.176	ppb	0.20	172,912,940.75	1.038E+03	Analog	0.30	3
Mg	26	45	2	26295.575	ppb	0.30	4,481,834.48	2.691E+01	Analog	0.30	3
Al	27	45	2	0.936	ppb	16.92	1,110.94	6.669E-03	Pulse	0.30	3
K	39	45	2	4908.990	ppb	0.45	3,473,460.68	2.086E+01	Analog	0.30	3
Ca	44	45	3	72510.264	ppb	0.29	156,328,508.78	3.498E+01	Analog	0.30	3
V	51	45	2	2.086	ppb	1.72	21,885.26	1.314E-01	Pulse	0.30	3
Cr	52	45	2	0.021	ppb	45.57	603.08	3.620E-03	Pulse	0.30	3
Mn	55	45	2	0.614	ppb	1.94	4,473.68	2.687E-02	Pulse	0.30	3
Fe	56	45	2	4.101	ppb	7.35	49,521.63	2.974E-01	Pulse	0.30	3
Co	59	45	2	0.030	ppb	18.25	715.99	4.299E-03	Pulse	0.30	3
Ni	60	72	2	0.587	ppb	3.00	3,911.28	3.513E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,265.27	2.933E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,573.47	1.413E-02	Pulse	0.30	3
As	75	72	2	2.271	ppb	1.50	3,031.34	2.722E-02	Pulse	0.75	3
Se	78	72	1	1.617	ppb	1.70	957.85	6.999E-03	Pulse	0.30	3
Mo	95	103	2	5.329	ppb	0.99	37,122.84	1.312E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,096.47	-3.167E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-431.76	-5.925E-05	Pulse	0.30	3
Sb	121	115	3	0.308	ppb	2.42	14,845.27	2.037E-03	Pulse	0.30	3
Ba	137	159	3	133.168	ppb	0.58	2,464,531.69	2.255E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,561.70	6.421E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-8,360.92	-1.507E-03	Pulse	0.30	3
U	238	209	3	5.020	ppb	0.45	723,494.54	1.304E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,766,233.52	0.63	68.8	Analog	0.30	3
2	Sc	45	166,541.93	1.27	81.7	Pulse	0.30	3
3	Sc	45	4,468,562.68	0.39	80.2	Analog	0.30	3
1	Ge	72	136,835.47	1.08	83.0	Pulse	0.30	3
2	Ge	72	111,358.18	1.50	82.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,830,123.60	1.51	77.6	Analog	0.30	3
3	Rh	103	6,620,605.67	0.52	78.1	Analog	0.30	3
3	In	115	7,287,267.86	0.28	82.5	Analog	0.30	3
3	Tb	159	10,928,022.06	0.54	88.1	Analog	0.30	3
3	Bi	209	5,546,279.36	0.79	79.9	Analog	0.30	3

Quantitation Report

File Name	A0226035.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:39
Sample Name	N018834-001B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.919	ppb	1.58	103,860.26	5.790E-02	Pulse	0.30	3
B	11	6	3	2028.857	ppb	1.11	19,072,750.50	1.063E+01	Analog	0.30	3
Na	23	45	2	115320.358	ppb	0.50	184,375,695.03	1.061E+03	Analog	0.30	3
Mg	26	45	2	26928.243	ppb	0.23	4,790,664.79	2.756E+01	Analog	0.30	3
Al	27	45	2	185.478	ppb	0.37	70,132.45	4.035E-01	Pulse	0.30	3
K	39	45	2	5116.943	ppb	1.04	3,777,477.31	2.173E+01	Analog	0.30	3
Ca	44	45	3	74355.942	ppb	0.16	167,534,294.17	3.587E+01	Analog	0.30	3
V	51	45	2	11.729	ppb	0.97	117,738.78	6.773E-01	Pulse	0.30	3
Cr	52	45	2	9.188	ppb	0.43	114,875.11	6.609E-01	Pulse	0.30	3
Mn	55	45	2	90.157	ppb	0.72	633,511.28	3.644E+00	Pulse	0.30	3
Fe	56	45	2	92.307	ppb	0.54	1,002,151.29	5.765E+00	Pulse	0.30	3
Co	59	45	2	8.617	ppb	1.46	196,882.67	1.133E+00	Pulse	0.30	3
Ni	60	72	2	9.583	ppb	0.73	55,647.06	4.827E-01	Pulse	0.30	3
Cu	63	72	2	8.641	ppb	1.17	140,127.39	1.215E+00	Pulse	0.30	3
Zn	66	72	2	86.905	ppb	0.57	199,115.70	1.727E+00	Pulse	0.30	3
As	75	72	2	12.020	ppb	1.40	16,452.33	1.427E-01	Pulse	0.75	3
Se	78	72	1	10.790	ppb	3.38	6,480.46	4.651E-02	Pulse	0.30	3
Mo	95	103	2	16.307	ppb	1.64	117,268.55	3.984E-02	Pulse	0.30	3
Ag	107	103	3	14.058	ppb	4.33	833,216.56	1.216E-01	Pulse	0.30	3
Cd	111	115	3	9.333	ppb	0.70	128,556.81	1.697E-02	Pulse	0.30	3
Sb	121	115	3	10.276	ppb	0.28	490,266.59	6.470E-02	Pulse	0.30	3
OLR Ba	137	159	3	235.623	ppb	0.27	4,491,258.91	3.989E-01	Analog	0.30	3
Tl	205	209	3	9.801	ppb	0.44	1,020,590.10	1.766E-01	Pulse	0.30	3
Pb	208	209	3	10.460	ppb	0.18	1,461,423.86	2.529E-01	Pulse	0.30	3
U	238	209	3	15.753	ppb	0.94	2,365,008.86	4.093E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,794,084.57	1.15	69.9	Analog	0.30	3
2	Sc	45	173,828.75	1.35	85.2	Pulse	0.30	3
3	Sc	45	4,670,014.69	0.04	83.8	Analog	0.30	3
1	Ge	72	139,359.39	0.71	84.6	Pulse	0.30	3
2	Ge	72	115,298.03	1.10	85.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,943,232.94	1.25	80.7	Analog	0.30	3
3	Rh	103	6,850,966.01	0.39	80.8	Analog	0.30	3
3	In	115	7,577,415.60	0.09	85.8	Analog	0.30	3
3	Tb	159	11,257,774.70	0.38	90.7	Analog	0.30	3
3	Bi	209	5,778,247.41	0.39	83.3	Analog	0.30	3

Quantitation Report

File Name	A0226036.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:45
Sample Name	N018834-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	66.67	3.768E-05	Pulse	0.30	3
B	11	6	3	155.179	ppb	1.67	1,675,921.34	9.471E-01	Analog	0.30	3
Na	23	45	2	120049.305	ppb	0.32	187,579,430.54	1.104E+03	Analog	0.30	3
Mg	26	45	2	28259.894	ppb	0.36	4,914,482.84	2.892E+01	Analog	0.30	3
Al	27	45	2	0.078	ppb	129.51	820.01	4.825E-03	Pulse	0.30	3
K	39	45	2	6543.266	ppb	0.38	4,711,023.20	2.772E+01	Analog	0.30	3
Ca	44	45	3	79572.704	ppb	0.12	173,639,795.19	3.839E+01	Analog	0.30	3
V	51	45	2	1.349	ppb	2.43	15,240.95	8.971E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	257.74	1.518E-03	Pulse	0.30	3
Mn	55	45	2	15.547	ppb	0.59	107,076.15	6.302E-01	Pulse	0.30	3
Fe	56	45	2	14.965	ppb	1.17	164,978.02	9.709E-01	Pulse	0.30	3
Co	59	45	2	0.046	ppb	6.39	1,077.84	6.343E-03	Pulse	0.30	3
Ni	60	72	2	0.755	ppb	3.03	4,876.50	4.352E-02	Pulse	0.30	3
Cu	63	72	2	0.301	ppb	6.52	8,187.65	7.309E-02	Pulse	0.30	3
Zn	66	72	2	1.268	ppb	2.48	5,429.40	4.846E-02	Pulse	0.30	3
As	75	72	2	2.274	ppb	1.63	3,053.60	2.725E-02	Pulse	0.75	3
Se	78	72	1	1.406	ppb	9.93	844.50	6.091E-03	Pulse	0.30	3
Mo	95	103	2	6.372	ppb	0.57	45,237.02	1.566E-02	Pulse	0.30	3
Ag	107	103	3	0.715	ppb	1.72	46,596.59	6.951E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-203.34	-2.742E-05	Pulse	0.30	3
Sb	121	115	3	0.304	ppb	3.51	14,930.96	2.013E-03	Pulse	0.30	3
Ba	137	159	3	117.236	ppb	1.25	2,205,996.19	1.986E-01	Analog	0.30	3
Tl	205	209	3	0.052	ppb	3.36	10,871.09	1.924E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,140.95	-7.327E-04	Pulse	0.30	3
U	238	209	3	5.747	ppb	0.65	843,814.31	1.493E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,769,470.47	0.04	68.9	Analog	0.30	3
2	Sc	45	169,921.76	1.43	83.3	Pulse	0.30	3
3	Sc	45	4,522,945.83	0.19	81.2	Analog	0.30	3
1	Ge	72	138,608.33	0.58	84.1	Pulse	0.30	3
2	Ge	72	112,053.56	0.93	82.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,889,236.00	1.74	79.2	Analog	0.30	3
3	Rh	103	6,703,915.39	0.07	79.1	Analog	0.30	3
3	In	115	7,418,890.87	0.54	84.0	Analog	0.30	3
3	Tb	159	11,111,072.34	1.06	89.6	Analog	0.30	3
3	Bi	209	5,650,688.11	0.71	81.4	Analog	0.30	3

Quantitation Report

File Name	A0226037.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:50
Sample Name	N018834-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	82.23	4.685E-05	Pulse	0.30	3
B	11	6	3	142.427	ppb	0.40	1,546,854.67	8.812E-01	Analog	0.30	3
Na	23	45	2	119282.999	ppb	0.06	185,362,601.68	1.097E+03	Analog	0.30	3
Mg	26	45	2	28034.445	ppb	0.79	4,848,232.81	2.869E+01	Analog	0.30	3
Al	27	45	2	1.133	ppb	37.59	1,198.18	7.093E-03	Pulse	0.30	3
K	39	45	2	6327.223	ppb	0.26	4,531,747.47	2.682E+01	Analog	0.30	3
Ca	44	45	3	79454.316	ppb	0.21	172,161,815.21	3.833E+01	Analog	0.30	3
V	51	45	2	1.250	ppb	0.87	14,208.86	8.409E-02	Pulse	0.30	3
Cr	52	45	2	0.051	ppb	27.54	972.67	5.765E-03	Pulse	0.30	3
Mn	55	45	2	12.391	ppb	0.98	84,944.14	5.027E-01	Pulse	0.30	3
Fe	56	45	2	17.864	ppb	1.29	194,406.47	1.151E+00	Pulse	0.30	3
Co	59	45	2	0.061	ppb	7.63	1,418.13	8.393E-03	Pulse	0.30	3
Ni	60	72	2	0.785	ppb	3.23	5,081.67	4.498E-02	Pulse	0.30	3
Cu	63	72	2	0.433	ppb	1.63	10,307.30	9.122E-02	Pulse	0.30	3
Zn	66	72	2	0.728	ppb	8.10	4,278.57	3.787E-02	Pulse	0.30	3
As	75	72	2	2.113	ppb	2.01	2,863.99	2.535E-02	Pulse	0.75	3
Se	78	72	1	1.241	ppb	8.19	742.27	5.377E-03	Pulse	0.30	3
Mo	95	103	2	5.838	ppb	0.99	41,211.67	1.436E-02	Pulse	0.30	3
Ag	107	103	3	0.138	ppb	4.25	13,183.68	1.988E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-423.84	-5.722E-05	Pulse	0.30	3
Sb	121	115	3	0.281	ppb	0.53	13,833.23	1.867E-03	Pulse	0.30	3
Ba	137	159	3	119.342	ppb	0.51	2,230,851.43	2.021E-01	Analog	0.30	3
Tl	205	209	3	0.004	ppb	60.15	5,988.11	1.069E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-6,813.18	-1.216E-03	Pulse	0.30	3
U	238	209	3	5.842	ppb	0.66	850,618.75	1.518E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,755,345.91	0.19	68.3	Analog	0.30	3
2	Sc	45	168,987.23	1.38	82.9	Pulse	0.30	3
3	Sc	45	4,491,137.23	0.41	80.6	Analog	0.30	3
1	Ge	72	138,027.56	0.34	83.8	Pulse	0.30	3
2	Ge	72	112,992.70	0.92	83.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,870,308.50	1.17	78.7	Analog	0.30	3
3	Rh	103	6,633,709.28	0.56	78.3	Analog	0.30	3
3	In	115	7,408,230.53	0.13	83.8	Analog	0.30	3
3	Tb	159	11,037,312.33	0.44	89.0	Analog	0.30	3
3	Bi	209	5,603,674.36	0.53	80.8	Analog	0.30	3

Quantitation Report

File Name	A0226038.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 22:56
Sample Name	CCV2,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	19.947	ppb	1.08	236,819.98	1.163E-01	Pulse	0.30	3
B	11	6	3	206.141	ppb	0.43	2,465,120.38	1.211E+00	Analog	0.30	3
Na	23	45	2	<0.000	ppb	---	731,767.06	4.075E+00	Pulse	0.30	3
Mg	26	45	2	203.670	ppb	1.01	37,661.90	2.097E-01	Pulse	0.30	3
Al	27	45	2	19.173	ppb	1.45	8,240.86	4.588E-02	Pulse	0.30	3
K	39	45	2	196.537	ppb	1.60	189,412.24	1.055E+00	Pulse	0.30	3
Ca	44	45	3	197.450	ppb	1.40	463,779.89	1.022E-01	Pulse	0.30	3
V	51	45	2	20.293	ppb	0.49	208,702.34	1.162E+00	Pulse	0.30	3
Cr	52	45	2	20.382	ppb	1.42	262,803.82	1.463E+00	Pulse	0.30	3
Mn	55	45	2	20.430	ppb	1.43	148,594.56	8.274E-01	Pulse	0.30	3
Fe	56	45	2	20.236	ppb	0.80	233,047.94	1.298E+00	Pulse	0.30	3
Co	59	45	2	20.651	ppb	0.89	487,422.05	2.714E+00	Pulse	0.30	3
Ni	60	72	2	19.541	ppb	0.37	123,525.49	9.780E-01	Pulse	0.30	3
Cu	63	72	2	19.857	ppb	0.34	347,509.28	2.751E+00	Pulse	0.30	3
Zn	66	72	2	19.516	ppb	1.12	51,295.25	4.061E-01	Pulse	0.30	3
As	75	72	2	20.100	ppb	0.93	30,111.38	2.384E-01	Pulse	0.75	3
Se	78	72	1	20.039	ppb	1.27	13,525.05	8.634E-02	Pulse	0.30	3
Mo	95	103	2	19.971	ppb	1.33	167,247.42	4.876E-02	Pulse	0.30	3
Ag	107	103	3	20.313	ppb	1.25	1,367,825.47	1.754E-01	Analog	0.30	3
Cd	111	115	3	20.522	ppb	0.58	313,581.51	3.733E-02	Pulse	0.30	3
Sb	121	115	3	20.614	ppb	0.55	1,089,476.24	1.297E-01	Pulse	0.30	3
Ba	137	159	3	20.882	ppb	0.72	435,771.09	3.546E-02	Pulse	0.30	3
Tl	205	209	3	20.003	ppb	0.68	2,539,061.82	3.595E-01	Analog	0.30	3
Pb	208	209	3	20.569	ppb	0.83	3,511,850.61	4.972E-01	Analog	0.30	3
U	238	209	3	20.000	ppb	0.13	3,670,515.82	5.197E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,036,426.70	1.14	79.3	Analog	0.30	3
2	Sc	45	179,607.10	1.15	88.1	Pulse	0.30	3
3	Sc	45	4,537,694.34	0.44	81.4	Analog	0.30	3
1	Ge	72	156,637.08	0.48	95.1	Pulse	0.30	3
2	Ge	72	126,298.50	0.16	93.4	Pulse	0.30	3
2	Rh	103	3,429,982.45	0.74	94.0	Analog	0.30	3
3	Rh	103	7,799,338.29	0.73	92.0	Analog	0.30	3
3	In	115	8,400,921.11	0.66	95.1	Analog	0.30	3
3	Tb	159	12,289,033.15	0.57	99.1	Analog	0.30	3
3	Bi	209	7,063,425.66	0.25	101.8	Analog	0.30	3

Quantitation Report

File Name	A0226039.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:01
Sample Name	CCB2,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	61.11	3.329E-05	Pulse	0.30	3
B	11	6	3	9.775	ppb	3.29	359,265.47	1.956E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	205,140.80	1.281E+00	Pulse	0.30	3
Mg	26	45	2	0.269	ppb	50.32	243.35	1.519E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	721.14	4.504E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	35,122.42	2.194E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	26,579.81	6.361E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,801.29	1.125E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	263.13	1.645E-03	Pulse	0.30	3
Mn	55	45	2	0.015	ppb	16.52	429.08	2.678E-03	Pulse	0.30	3
Fe	56	45	2	0.051	ppb	20.03	7,429.98	4.639E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	46.43	2.905E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	431.98	3.809E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,012.85	2.658E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,518.16	2.221E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	31.56	2.776E-04	Pulse	0.75	3
Se	78	72	1	0.007	ppb	195.95	8.89	6.503E-05	Pulse	0.30	3
Mo	95	103	2	0.107	ppb	12.11	1,265.66	4.071E-04	Pulse	0.30	3
Ag	107	103	3	0.783	ppb	13.26	54,092.73	7.536E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	4.36	-3.21	-4.188E-07	Pulse	0.30	3
Sb	121	115	3	0.057	ppb	3.54	3,489.43	4.563E-04	Pulse	0.30	3
Ba	137	159	3	0.008	ppb	27.49	1,420.89	1.263E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,909.10	2.977E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.003	ppb	25.49	1,565.69	2.441E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	11.71	570.41	8.895E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,836,982.98	0.32	71.5	Analog	0.30	3
2	Sc	45	160,161.68	1.48	78.5	Pulse	0.30	3
3	Sc	45	4,178,957.54	0.61	75.0	Analog	0.30	3
1	Ge	72	136,446.76	0.35	82.8	Pulse	0.30	3
2	Ge	72	113,420.90	2.02	83.9	Pulse	0.30	3
2	Rh	103	3,110,561.97	1.22	85.2	Analog	0.30	3
3	Rh	103	7,176,160.03	0.25	84.7	Analog	0.30	3
3	In	115	7,647,846.42	0.11	86.6	Analog	0.30	3
3	Tb	159	11,252,748.31	0.26	90.7	Analog	0.30	3
3	Bi	209	6,412,248.38	0.65	92.4	Analog	0.30	3

Quantitation Report

File Name	A0226040.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:07
Sample Name	N018834-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	48.89	2.915E-05	Pulse	0.30	3
B	11	6	3	138.933	ppb	0.40	1,447,950.86	8.632E-01	Analog	0.30	3
Na	23	45	2	116184.554	ppb	0.79	172,090,316.33	1.069E+03	Analog	0.30	3
Mg	26	45	2	27082.670	ppb	0.29	4,464,079.48	2.772E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	610.41	3.791E-03	Pulse	0.30	3
K	39	45	2	5034.683	ppb	0.60	3,444,282.34	2.139E+01	Analog	0.30	3
Ca	44	45	3	74584.590	ppb	0.53	154,050,026.60	3.598E+01	Analog	0.30	3
V	51	45	2	2.181	ppb	1.60	22,032.05	1.368E-01	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	281.84	1.756E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-3,334.14	-2.070E-02	Pulse	0.30	3
Fe	56	45	2	1.126	ppb	2.31	18,204.87	1.130E-01	Pulse	0.30	3
Co	59	45	2	0.028	ppb	7.15	646.66	4.015E-03	Pulse	0.30	3
Ni	60	72	2	0.652	ppb	2.74	4,132.19	3.840E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	1,931.85	1.793E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-284.91	-2.651E-03	Pulse	0.30	3
As	75	72	2	2.450	ppb	0.40	3,157.19	2.933E-02	Pulse	0.75	3
Se	78	72	1	1.782	ppb	1.37	983.40	7.708E-03	Pulse	0.30	3
Mo	95	103	2	5.425	ppb	0.85	37,366.77	1.335E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,646.20	-4.094E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-421.72	-5.872E-05	Pulse	0.30	3
Sb	121	115	3	0.332	ppb	1.71	15,690.58	2.185E-03	Pulse	0.30	3
Ba	137	159	3	138.974	ppb	0.37	2,555,584.59	2.354E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,759.52	6.766E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,213.03	-1.658E-03	Pulse	0.30	3
U	238	209	3	5.173	ppb	1.02	746,898.47	1.344E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,677,501.30	0.25	65.3	Analog	0.30	3
2	Sc	45	161,063.30	1.69	79.0	Pulse	0.30	3
3	Sc	45	4,280,956.99	0.24	76.8	Analog	0.30	3
1	Ge	72	127,590.54	0.68	77.4	Pulse	0.30	3
2	Ge	72	107,640.91	2.28	79.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,798,394.30	1.06	76.7	Analog	0.30	3
3	Rh	103	6,464,381.36	0.48	76.3	Analog	0.30	3
3	In	115	7,181,892.23	0.39	81.3	Analog	0.30	3
3	Tb	159	10,858,567.89	0.05	87.5	Analog	0.30	3
3	Bi	209	5,556,272.49	0.23	80.1	Analog	0.30	3

Quantitation Report

File Name	A0226041.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:13
Sample Name	~~N018834-005B,SAMP,1~~ N018861-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	81.11	6.406E-05	Pulse	0.30	3
B	11	6	3	802.697	ppb	1.21	5,427,402.05	4.294E+00	Analog	0.30	3
Na	23	45	2	1327402.306	ppb	0.77	1,946,513,570.99	1.215E+04	Analog	0.30	3
Mg	26	45	2	26629.565	ppb	1.04	4,365,483.72	2.725E+01	Analog	0.30	3
Al	27	45	2	2.485	ppb	15.39	1,600.40	1.000E-02	Pulse	0.30	3
K	39	45	2	17413.152	ppb	0.86	11,758,729.27	7.340E+01	Analog	0.30	3
Ca	44	45	3	198264.205	ppb	0.44	431,106,060.24	9.564E+01	Analog	0.30	3
V	51	45	2	0.902	ppb	3.36	10,320.31	6.444E-02	Pulse	0.30	3
OLR Cr	52	45	2	553.937	ppb	0.97	6,361,963.77	3.972E+01	Analog	0.30	3
Mn	55	45	2	2.303	ppb	0.93	15,233.79	9.510E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-75,911.69	-4.739E-01	Pulse	0.30	3
Co	59	45	2	0.530	ppb	0.70	11,211.23	6.999E-02	Pulse	0.30	3
Ni	60	72	2	2.007	ppb	3.46	10,423.38	1.058E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-37,254.17	-3.782E-01	Pulse	0.30	3
Zn	66	72	2	9.285	ppb	0.60	20,254.39	2.056E-01	Pulse	0.30	3
As	75	72	2	1.261	ppb	1.35	1,502.56	1.525E-02	Pulse	0.75	3
Se	78	72	1	3.805	ppb	1.27	1,883.53	1.642E-02	Pulse	0.30	3
Mo	95	103	2	14.501	ppb	0.55	84,095.09	3.544E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	288.67	5.110E-05	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-344.15	-5.447E-05	Pulse	0.30	3
Sb	121	115	3	0.077	ppb	2.91	3,693.91	5.844E-04	Pulse	0.30	3
Ba	137	159	3	37.667	ppb	0.28	600,026.91	6.387E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,054.88	7.048E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-35,734.05	-8.245E-03	Pulse	0.30	3
U	238	209	3	5.998	ppb	0.17	675,534.73	1.559E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,264,027.60	1.18	49.2	Analog	0.30	3
2	Sc	45	160,184.74	1.99	78.6	Pulse	0.30	3
3	Sc	45	4,507,334.83	0.36	80.9	Analog	0.30	3
1	Ge	72	114,696.39	0.85	69.6	Pulse	0.30	3
2	Ge	72	98,515.12	2.12	72.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,372,642.93	1.64	65.0	Analog	0.30	3
3	Rh	103	5,664,879.36	0.26	66.8	Analog	0.30	3
3	In	115	6,321,757.20	0.44	71.6	Analog	0.30	3
3	Tb	159	9,394,287.08	0.13	75.7	Analog	0.30	3
3	Bi	209	4,334,100.52	0.45	62.5	Analog	0.30	3

Quantitation Report

File Name	A0226042.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:18
Sample Name	~~N018834-006B,SAMP,1~~ **N018861-002B,SAMP,1**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	110.00	8.697E-05	Pulse	0.30	3
B	11	6	3	903.133	ppb	0.79	6,091,875.37	4.813E+00	Analog	0.30	3
Na	23	45	2	1590339.596	ppb	0.43	2,334,113,671.88	1.456E+04	Analog	0.30	3
Mg	26	45	2	22605.932	ppb	0.82	3,709,181.47	2.314E+01	Analog	0.30	3
Al	27	45	2	27.486	ppb	5.97	10,224.28	6.376E-02	Pulse	0.30	3
K	39	45	2	15344.758	ppb	1.06	10,374,844.22	6.471E+01	Analog	0.30	3
Ca	44	45	3	183991.249	ppb	0.15	412,521,336.08	8.876E+01	Analog	0.30	3
V	51	45	2	0.585	ppb	3.19	7,447.58	4.646E-02	Pulse	0.30	3
Cr	52	45	2	2.084	ppb	0.69	24,291.20	1.515E-01	Pulse	0.30	3
Mn	55	45	2	1.344	ppb	2.65	9,041.75	5.637E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-42,848.11	-2.672E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-2,249.41	-1.403E-02	Pulse	0.30	3
Ni	60	72	2	0.521	ppb	5.87	3,084.20	3.186E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-44,886.00	-4.638E-01	Pulse	0.30	3
Zn	66	72	2	0.192	ppb	163.26	2,656.43	2.736E-02	Pulse	0.30	3
As	75	72	2	1.534	ppb	1.42	1,789.01	1.849E-02	Pulse	0.75	3
Se	78	72	1	0.924	ppb	9.91	448.92	4.015E-03	Pulse	0.30	3
Mo	95	103	2	20.963	ppb	0.70	118,301.82	5.117E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	312.02	5.535E-05	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-876.03	-1.404E-04	Pulse	0.30	3
Sb	121	115	3	0.049	ppb	5.69	2,543.65	4.078E-04	Pulse	0.30	3
Ba	137	159	3	32.240	ppb	0.12	498,076.35	5.468E-02	Pulse	0.30	3
Tl	205	209	3	0.416	ppb	2.18	35,073.39	8.447E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-32,198.76	-7.754E-03	Pulse	0.30	3
U	238	209	3	8.675	ppb	0.31	935,906.95	2.254E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,265,652.53	0.32	49.3	Analog	0.30	3
2	Sc	45	160,340.06	2.07	78.6	Pulse	0.30	3
3	Sc	45	4,647,578.82	0.64	83.4	Analog	0.30	3
1	Ge	72	111,953.06	2.34	67.9	Pulse	0.30	3
2	Ge	72	96,796.19	2.00	71.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,311,667.00	1.91	63.3	Analog	0.30	3
3	Rh	103	5,626,252.41	0.44	66.4	Analog	0.30	3
3	In	115	6,238,976.53	0.57	70.6	Analog	0.30	3
3	Tb	159	9,108,159.17	0.16	73.4	Analog	0.30	3
3	Bi	209	4,152,291.26	0.07	59.8	Analog	0.30	3

Quantitation Report

File Name	A0226043.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:24
Sample Name	~~N018834-007B,SAMP,1~~ N018861-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.016	ppb	14.12	167.79	2.160E-04	Pulse	0.30	3
B	11	6	3	2441.476	ppb	0.42	9,915,415.07	1.276E+01	Analog	0.30	3
Na	23	45	2	3151262.463	ppb	0.70	4,244,854,763.42	2.884E+04	Analog	0.30	3
Mg	26	45	2	18860.155	ppb	0.44	2,840,987.94	1.930E+01	Analog	0.30	3
Al	27	45	2	66.852	ppb	6.01	21,851.03	1.484E-01	Pulse	0.30	3
K	39	45	2	29884.062	ppb	0.81	18,517,601.53	1.258E+02	Analog	0.30	3
Ca	44	45	3	335783.963	ppb	0.25	665,639,270.08	1.620E+02	Analog	0.30	3
V	51	45	2	0.036	ppb	7.65	2,262.48	1.537E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	-1,696.95	-1.153E-02	Pulse	0.30	3
OLR Mn	55	45	2	888.954	ppb	0.49	5,286,261.78	3.592E+01	Analog	0.30	3
Fe	56	45	2	133.316	ppb	1.90	1,222,494.21	8.307E+00	Analog	0.30	3
Co	59	45	2	0.587	ppb	4.06	11,410.71	7.753E-02	Pulse	0.30	3
Ni	60	72	2	0.484	ppb	9.51	2,519.24	3.004E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-99,489.67	-1.187E+00	Pulse	0.30	3
Zn	66	72	2	54.395	ppb	0.98	91,344.84	1.090E+00	Pulse	0.30	3
As	75	72	2	3.685	ppb	2.30	3,686.18	4.397E-02	Pulse	0.75	3
Se	78	72	1	0.097	ppb	51.37	43.33	4.521E-04	Pulse	0.30	3
Mo	95	103	2	71.799	ppb	1.66	341,454.67	1.749E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-7,430.08	-1.615E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,526.42	-2.958E-04	Pulse	0.30	3
Sb	121	115	3	0.123	ppb	6.53	4,497.49	8.717E-04	Pulse	0.30	3
Ba	137	159	3	151.133	ppb	0.58	1,951,132.36	2.559E-01	Analog	0.30	3
Tl	205	209	3	0.001	ppb	170.70	3,308.28	1.012E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-48,273.26	-1.476E-02	Pulse	0.30	3
U	238	209	3	1.195	ppb	0.49	101,613.94	3.108E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	776,806.71	0.64	30.2	Analog	0.30	3
2	Sc	45	147,189.32	1.54	72.2	Pulse	0.30	3
3	Sc	45	4,109,369.80	0.17	73.8	Analog	0.30	3
1	Ge	72	95,590.90	0.94	58.0	Pulse	0.30	3
2	Ge	72	83,820.54	1.02	62.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,952,100.58	1.00	53.5	Analog	0.30	3
3	Rh	103	4,600,682.64	0.14	54.3	Analog	0.30	3
3	In	115	5,160,015.69	0.57	58.4	Analog	0.30	3
3	Tb	159	7,623,611.62	0.24	61.4	Analog	0.30	3
3	Bi	209	3,269,540.44	0.38	47.1	Analog	0.30	3

Quantitation Report

File Name	A0226044.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:29
Sample Name	~~N018834-008B,SAMP,1~~ **N018861-004B,SAMP,1**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.041	ppb	21.11	258.90	3.619E-04	Pulse	0.30	3
B	11	6	3	3195.135	ppb	1.89	11,940,606.67	1.666E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-6.563E-05	Error	0.30	3
Mg	26	45	2	9196.440	ppb	0.99	1,434,507.67	9.413E+00	Analog	0.30	3
Al	27	45	2	81.488	ppb	1.06	27,409.82	1.799E-01	Pulse	0.30	3
K	39	45	2	29940.202	ppb	0.77	19,208,414.44	1.260E+02	Analog	0.30	3
Ca	44	45	3	315667.401	ppb	0.30	656,320,656.89	1.523E+02	Analog	0.30	3
V	51	45	2	2.625	ppb	1.86	24,679.14	1.619E-01	Pulse	0.30	3
Cr	52	45	2	110.928	ppb	0.66	1,212,287.74	7.955E+00	Analog	0.30	3
Mn	55	45	2	26.244	ppb	0.39	161,883.69	1.062E+00	Pulse	0.30	3
Fe	56	45	2	132.698	ppb	0.70	1,260,048.43	8.269E+00	Analog	0.30	3
Co	59	45	2	0.021	ppb	35.50	475.21	3.120E-03	Pulse	0.30	3
Ni	60	72	2	0.687	ppb	12.45	3,353.75	4.015E-02	Pulse	0.30	3
Cu	63	72	2	0.995	ppb	2.90	14,061.15	1.681E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,247.86	-1.496E-02	Pulse	0.30	3
As	75	72	2	10.575	ppb	1.09	10,502.76	1.256E-01	Pulse	0.75	3
Se	78	72	1	1.281	ppb	14.76	534.48	5.552E-03	Pulse	0.30	3
Mo	95	103	2	80.908	ppb	0.86	381,334.47	1.971E-01	Pulse	0.30	3
Ag	107	103	3	0.013	ppb	96.30	4,232.01	9.163E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,435.56	-2.748E-04	Pulse	0.30	3
Sb	121	115	3	0.067	ppb	2.26	2,718.14	5.202E-04	Pulse	0.30	3
Ba	137	159	3	57.642	ppb	0.58	753,387.44	9.768E-02	Pulse	0.30	3
Tl	205	209	3	0.236	ppb	2.94	16,790.13	5.225E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-46,524.82	-1.448E-02	Pulse	0.30	3
U	238	209	3	0.689	ppb	1.62	57,608.66	1.793E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	716,916.18	2.27	27.9	Analog	0.30	3
2	Sc	45	152,389.55	1.19	74.7	Pulse	0.30	3
3	Sc	45	4,310,058.06	0.33	77.4	Analog	0.30	3
1	Ge	72	96,271.58	0.28	58.4	Pulse	0.30	3
2	Ge	72	83,622.03	1.68	61.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,934,760.84	1.24	53.0	Analog	0.30	3
3	Rh	103	4,618,269.31	0.22	54.5	Analog	0.30	3
3	In	115	5,224,966.62	0.76	59.1	Analog	0.30	3
3	Tb	159	7,712,596.55	0.24	62.2	Analog	0.30	3
3	Bi	209	3,213,259.33	0.29	46.3	Analog	0.30	3

Quantitation Report

File Name	A0226045.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:35
Sample Name	~~N018834-009B,SAMP,1~~ N018861-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.027	ppb	25.26	287.80	2.787E-04	Pulse	0.30	3
B	11	6	3	1433.369	ppb	2.21	7,804,397.89	7.554E+00	Analog	0.30	3
Na	23	45	2	2288435.044	ppb	0.85	3,269,745,657.94	2.095E+04	Analog	0.30	3
Mg	26	45	2	35076.484	ppb	0.88	5,603,795.33	3.590E+01	Analog	0.30	3
Al	27	45	2	13.134	ppb	4.23	5,133.57	3.290E-02	Pulse	0.30	3
K	39	45	2	15747.752	ppb	0.46	10,366,308.11	6.640E+01	Analog	0.30	3
Ca	44	45	3	406377.750	ppb	1.15	892,039,462.26	1.960E+02	Analog	0.30	3
V	51	45	2	1.604	ppb	1.43	16,259.76	1.042E-01	Pulse	0.30	3
Cr	52	45	2	48.641	ppb	0.63	544,723.37	3.489E+00	Pulse	0.30	3
Mn	55	45	2	16.238	ppb	0.47	102,733.36	6.581E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-59,645.11	-3.821E-01	Pulse	0.30	3
Co	59	45	2	0.074	ppb	9.85	1,579.60	1.012E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,729.50	-1.965E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-65,667.59	-7.463E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-7,657.14	-8.701E-02	Pulse	0.30	3
As	75	72	2	1.537	ppb	1.19	1,629.97	1.852E-02	Pulse	0.75	3
Se	78	72	1	4.670	ppb	6.02	2,012.45	2.015E-02	Pulse	0.30	3
Mo	95	103	2	25.469	ppb	0.34	129,795.56	6.214E-02	Pulse	0.30	3
Ag	107	103	3	0.414	ppb	1.35	21,808.12	4.361E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,537.44	-4.543E-04	Pulse	0.30	3
Sb	121	115	3	0.103	ppb	4.67	4,164.05	7.454E-04	Pulse	0.30	3
Ba	137	159	3	77.130	ppb	2.22	1,076,966.60	1.307E-01	Mix	0.30	3
Tl	205	209	3	0.204	ppb	3.54	16,517.52	4.649E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-48,280.64	-1.359E-02	Pulse	0.30	3
U	238	209	3	3.292	ppb	0.41	303,994.04	8.556E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,033,398.41	1.63	40.2	Analog	0.30	3
2	Sc	45	156,122.63	2.08	76.6	Pulse	0.30	3
3	Sc	45	4,551,054.55	1.77	81.7	Analog	0.30	3
1	Ge	72	99,885.74	0.40	60.6	Pulse	0.30	3
2	Ge	72	88,008.93	2.12	65.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,088,705.14	1.05	57.2	Analog	0.30	3
3	Rh	103	5,000,877.67	0.73	59.0	Analog	0.30	3
3	In	115	5,585,549.68	0.50	63.2	Analog	0.30	3
3	Tb	159	8,241,870.36	0.31	66.4	Analog	0.30	3
3	Bi	209	3,553,025.33	0.16	51.2	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0226046.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:40
Sample Name	~~N018834-010B,SAMP,1~~ N018861-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.062	ppb	14.54	225.57	4.856E-04	Pulse	0.30	3
B	11	6	3	5226.757	ppb	1.75	12,610,714.45	2.716E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-7.360E-05	Error	0.30	3
Mg	26	45	2	6658.438	ppb	0.70	926,309.21	6.815E+00	Analog	0.30	3
Al	27	45	2	1.852	ppb	16.43	1,175.50	8.639E-03	Pulse	0.30	3
K	39	45	2	37154.992	ppb	0.26	21,252,435.38	1.564E+02	Analog	0.30	3
Ca	44	45	3	362235.225	ppb	0.19	680,477,172.08	1.747E+02	Analog	0.30	3
V	51	45	2	1.658	ppb	2.01	14,566.95	1.072E-01	Pulse	0.30	3
Cr	52	45	2	0.415	ppb	6.14	4,329.11	3.188E-02	Pulse	0.30	3
Mn	55	45	2	12.988	ppb	1.35	71,600.04	5.268E-01	Pulse	0.30	3
Fe	56	45	2	236.684	ppb	0.83	1,999,948.39	1.471E+01	Analog	0.30	3
Co	59	45	2	<0.000	ppb	---	-495.16	-3.640E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	301.00	4.093E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-4,436.29	-5.985E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,311.34	-3.122E-02	Pulse	0.30	3
As	75	72	2	6.753	ppb	3.00	5,945.52	8.031E-02	Pulse	0.75	3
Se	78	72	1	2.723	ppb	9.67	984.52	1.176E-02	Pulse	0.30	3
Mo	95	103	2	67.504	ppb	1.65	279,480.47	1.645E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-10,889.17	-2.684E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,729.55	-3.784E-04	Pulse	0.30	3
Sb	121	115	3	0.049	ppb	18.88	1,861.30	4.070E-04	Pulse	0.30	3
Ba	137	159	3	46.545	ppb	0.29	525,715.10	7.890E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	2,718.14	9.833E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-62,636.17	-2.266E-02	Pulse	0.30	3
U	238	209	3	0.164	ppb	1.47	11,861.78	4.291E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	464,355.88	1.18	18.1	Analog	0.30	3
2	Sc	45	135,921.51	2.32	66.7	Pulse	0.30	3
3	Sc	45	3,894,241.58	0.57	69.9	Analog	0.30	3
1	Ge	72	83,654.08	1.16	50.8	Pulse	0.30	3
2	Ge	72	74,083.15	3.46	54.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,699,196.75	1.04	46.6	Analog	0.30	3
3	Rh	103	4,056,056.61	0.40	47.9	Analog	0.30	3
3	In	115	4,571,469.31	0.52	51.7	Analog	0.30	3
3	Tb	159	6,663,079.00	0.11	53.7	Analog	0.30	3
3	Bi	209	2,764,209.92	0.26	39.8	Analog	0.30	3

Quantitation Report

File Name	A0226047.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:46
Sample Name	MB-56419,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	655.77	285.57	1.265E-04	Pulse	0.30	3
B	11	6	3	14.312	ppb	2.94	494,886.81	2.190E-01	Pulse	0.30	3
Na	23	45	2	942.157	ppb	9.50	2,742,572.77	1.402E+01	Analog	0.30	3
Mg	26	45	2	<0.000	ppb	---	154.45	7.899E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	322.22	1.647E-03	Pulse	0.30	3
K	39	45	2	15.324	ppb	25.14	57,352.32	2.932E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	33,499.85	6.339E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,198.99	6.127E-03	Pulse	0.30	3
Cr	52	45	2	0.010	ppb	79.39	553.96	2.831E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	246.81	1.260E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	4,938.22	2.524E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	37.22	1.906E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	350.63	2.631E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	1,708.31	1.282E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	699.63	5.251E-03	Pulse	0.30	3
As	75	72	2	0.004	ppb	201.76	48.00	3.604E-04	Pulse	0.75	3
Se	78	72	1	0.003	ppb	356.98	7.78	4.837E-05	Pulse	0.30	3
Mo	95	103	2	0.231	ppb	6.70	2,505.85	7.086E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	1,261.42	1.522E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-409.92	-4.710E-05	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	451.14	5.184E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-416.74	-3.433E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,546.81	2.296E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-396.84	-5.894E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	75.98	1.128E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,259,543.12	0.92	88.0	Analog	0.30	3
2	Sc	45	195,746.75	2.20	96.0	Pulse	0.30	3
3	Sc	45	5,286,026.21	0.57	94.9	Analog	0.30	3
1	Ge	72	160,968.36	0.67	97.7	Pulse	0.30	3
2	Ge	72	133,237.93	1.16	98.5	Pulse	0.30	3
2	Rh	103	3,536,710.92	1.19	96.9	Analog	0.30	3
3	Rh	103	8,289,393.21	0.24	97.8	Analog	0.30	3
3	In	115	8,703,926.55	0.41	98.5	Analog	0.30	3
3	Tb	159	12,140,690.93	0.27	97.9	Analog	0.30	3
3	Bi	209	6,736,174.48	0.44	97.1	Analog	0.30	3

Quantitation Report

File Name	A0226048.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:51
Sample Name	LCS-56419,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.321	ppb	0.45	121,185.41	5.441E-02	Pulse	0.30	3
B	11	6	3	1870.034	ppb	0.51	21,850,166.65	9.811E+00	Analog	0.30	3
Na	23	45	2	1083.634	ppb	2.45	3,044,234.88	1.532E+01	Analog	0.30	3
Mg	26	45	2	98.135	ppb	0.62	20,211.63	1.017E-01	Pulse	0.30	3
Al	27	45	2	192.315	ppb	0.93	83,123.57	4.182E-01	Pulse	0.30	3
K	39	45	2	109.008	ppb	2.19	136,520.78	6.869E-01	Pulse	0.30	3
Ca	44	45	3	140.495	ppb	0.73	395,026.75	7.474E-02	Pulse	0.30	3
V	51	45	2	9.283	ppb	0.47	107,101.97	5.388E-01	Pulse	0.30	3
Cr	52	45	2	9.628	ppb	0.64	137,627.87	6.924E-01	Pulse	0.30	3
Mn	55	45	2	94.670	ppb	0.79	760,621.22	3.827E+00	Pulse	0.30	3
Fe	56	45	2	98.953	ppb	0.61	1,227,812.58	6.177E+00	Analog	0.30	3
Co	59	45	2	9.155	ppb	0.82	239,172.61	1.203E+00	Pulse	0.30	3
Ni	60	72	2	9.819	ppb	1.21	65,722.81	4.944E-01	Pulse	0.30	3
Cu	63	72	2	9.480	ppb	0.94	176,837.69	1.330E+00	Pulse	0.30	3
Zn	66	72	2	91.404	ppb	0.60	241,303.32	1.815E+00	Pulse	0.30	3
As	75	72	2	9.181	ppb	0.63	14,500.34	1.091E-01	Pulse	0.75	3
Se	78	72	1	8.651	ppb	3.94	6,098.07	3.729E-02	Pulse	0.30	3
Mo	95	103	2	9.932	ppb	0.70	87,049.67	2.432E-02	Pulse	0.30	3
Ag	107	103	3	10.566	ppb	8.25	778,715.77	9.161E-02	Pulse	0.30	3
Cd	111	115	3	9.514	ppb	0.72	155,437.78	1.730E-02	Pulse	0.30	3
Sb	121	115	3	9.530	ppb	0.36	539,330.54	6.001E-02	Pulse	0.30	3
Ba	137	159	3	100.851	ppb	0.58	2,180,203.56	1.708E-01	Analog	0.30	3
Tl	205	209	3	9.282	ppb	1.78	1,184,593.70	1.673E-01	Analog	0.30	3
Pb	208	209	3	10.249	ppb	0.93	1,754,396.97	2.478E-01	Pulse	0.30	3
U	238	209	3	9.938	ppb	1.02	1,827,815.41	2.582E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,227,148.95	0.17	86.7	Analog	0.30	3
2	Sc	45	198,779.14	1.43	97.5	Pulse	0.30	3
3	Sc	45	5,285,697.73	0.22	94.9	Analog	0.30	3
1	Ge	72	163,545.18	0.85	99.3	Pulse	0.30	3
2	Ge	72	132,942.65	1.36	98.3	Pulse	0.30	3
2	Rh	103	3,578,821.89	1.46	98.1	Analog	0.30	3
3	Rh	103	8,499,225.91	0.45	100.3	Analog	0.30	3
3	In	115	8,987,390.19	0.48	101.7	Analog	0.30	3
3	Tb	159	12,763,121.75	0.60	102.9	Analog	0.30	3
3	Bi	209	7,079,074.83	0.61	102.0	Analog	0.30	3

Quantitation Report

File Name	A0226049.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/26/2016 23:57
Sample Name	~~N018834-011B,SAMP,1~~ **N018861-007B,SAMP,1**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.040	ppb	6.90	225.57	3.598E-04	Pulse	0.30	3
B	11	6	3	3978.154	ppb	0.81	12,984,936.77	2.071E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-6.896E-05	Error	0.30	3
Mg	26	45	2	3166.577	ppb	0.68	470,181.79	3.242E+00	Pulse	0.30	3
Al	27	45	2	15.536	ppb	5.78	5,517.09	3.806E-02	Pulse	0.30	3
K	39	45	2	31449.118	ppb	0.64	19,200,710.13	1.324E+02	Analog	0.30	3
Ca	44	45	3	258844.959	ppb	0.50	515,148,627.88	1.249E+02	Analog	0.30	3
V	51	45	2	2.707	ppb	1.14	24,155.02	1.666E-01	Pulse	0.30	3
Cr	52	45	2	5.576	ppb	1.46	58,293.29	4.019E-01	Pulse	0.30	3
Mn	55	45	2	18.343	ppb	0.17	107,781.40	7.431E-01	Pulse	0.30	3
Fe	56	45	2	8.258	ppb	2.28	80,506.23	5.551E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-430.61	-2.966E-03	Pulse	0.30	3
Ni	60	72	2	0.004	ppb	337.41	504.40	6.173E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-3,171.34	-3.876E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,535.25	-3.099E-02	Pulse	0.30	3
As	75	72	2	14.594	ppb	0.43	14,165.36	1.732E-01	Pulse	0.75	3
Se	78	72	1	0.250	ppb	18.33	102.23	1.109E-03	Pulse	0.30	3
Mo	95	103	2	86.489	ppb	0.81	389,641.91	2.107E-01	Pulse	0.30	3
Ag	107	103	3	0.844	ppb	35.41	35,459.10	8.056E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-936.90	-1.882E-04	Pulse	0.30	3
Sb	121	115	3	0.146	ppb	1.17	5,073.27	1.019E-03	Pulse	0.30	3
Ba	137	159	3	40.800	ppb	0.29	499,238.37	6.917E-02	Pulse	0.30	3
Tl	205	209	3	0.681	ppb	2.17	39,979.18	1.320E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-52,111.77	-1.720E-02	Pulse	0.30	3
U	238	209	3	0.095	ppb	1.88	7,520.03	2.482E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	627,120.21	1.48	24.4	Analog	0.30	3
2	Sc	45	145,037.43	1.85	71.1	Pulse	0.30	3
3	Sc	45	4,125,578.48	0.52	74.0	Analog	0.30	3
1	Ge	72	92,172.80	1.23	55.9	Pulse	0.30	3
2	Ge	72	81,790.27	1.42	60.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,849,419.41	1.94	50.7	Analog	0.30	3
3	Rh	103	4,407,443.62	0.72	52.0	Analog	0.30	3
3	In	115	4,977,972.00	0.66	56.3	Analog	0.30	3
3	Tb	159	7,217,173.99	0.30	58.2	Analog	0.30	3
3	Bi	209	3,029,727.70	0.78	43.7	Analog	0.30	3

Quantitation Report

File Name	A0226050.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:02
Sample Name	CCV3,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.483	ppb	0.21	296,904.48	1.194E-01	Pulse	0.30	3
B	11	6	3	221.373	ppb	0.26	3,205,360.47	1.289E+00	Analog	0.30	3
Na	23	45	2	798.706	ppb	8.44	2,776,406.10	1.271E+01	Analog	0.30	3
Mg	26	45	2	207.937	ppb	1.63	46,772.43	2.140E-01	Pulse	0.30	3
Al	27	45	2	19.142	ppb	0.86	10,012.02	4.582E-02	Pulse	0.30	3
K	39	45	2	211.305	ppb	0.94	244,026.32	1.117E+00	Pulse	0.30	3
Ca	44	45	3	207.992	ppb	0.57	633,281.16	1.073E-01	Pulse	0.30	3
V	51	45	2	19.950	ppb	0.42	249,682.97	1.143E+00	Pulse	0.30	3
Cr	52	45	2	20.164	ppb	0.06	316,361.90	1.448E+00	Pulse	0.30	3
Mn	55	45	2	20.009	ppb	0.26	177,095.08	8.104E-01	Pulse	0.30	3
Fe	56	45	2	19.924	ppb	0.33	279,330.87	1.278E+00	Pulse	0.30	3
Co	59	45	2	20.364	ppb	0.51	584,793.71	2.676E+00	Pulse	0.30	3
Ni	60	72	2	20.116	ppb	1.03	148,293.50	1.007E+00	Pulse	0.30	3
Cu	63	72	2	20.258	ppb	0.51	413,446.53	2.806E+00	Pulse	0.30	3
Zn	66	72	2	19.613	ppb	0.81	60,108.58	4.080E-01	Pulse	0.30	3
As	75	72	2	20.307	ppb	1.19	35,486.11	2.409E-01	Pulse	0.75	3
Se	78	72	1	20.198	ppb	3.00	15,691.52	8.703E-02	Pulse	0.30	3
Mo	95	103	2	20.366	ppb	0.56	193,699.16	4.972E-02	Pulse	0.30	3
Ag	107	103	3	19.696	ppb	1.26	1,567,338.16	1.701E-01	Analog	0.30	3
Cd	111	115	3	20.613	ppb	0.57	363,777.76	3.749E-02	Pulse	0.30	3
Sb	121	115	3	19.729	ppb	0.48	1,204,366.46	1.241E-01	Analog	0.30	3
Ba	137	159	3	21.533	ppb	0.31	493,441.79	3.656E-02	Pulse	0.30	3
Tl	205	209	3	20.082	ppb	0.73	2,719,234.13	3.609E-01	Analog	0.30	3
Pb	208	209	3	20.751	ppb	0.37	3,779,674.65	5.016E-01	Analog	0.30	3
U	238	209	3	19.771	ppb	0.51	3,870,827.86	5.137E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,486,158.45	0.30	96.8	Analog	0.30	3
2	Sc	45	218,523.13	1.08	107.2	Pulse	0.30	3
3	Sc	45	5,902,282.27	0.18	105.9	Analog	0.30	3
1	Ge	72	180,298.86	0.34	109.4	Pulse	0.30	3
2	Ge	72	147,319.63	0.98	109.0	Pulse	0.30	3
2	Rh	103	3,895,709.07	1.07	106.8	Analog	0.30	3
3	Rh	103	9,215,858.75	0.57	108.7	Analog	0.30	3
3	In	115	9,702,955.48	0.56	109.8	Analog	0.30	3
3	Tb	159	13,496,201.19	0.66	108.8	Analog	0.30	3
3	Bi	209	7,535,238.43	0.27	108.6	Analog	0.30	3

Quantitation Report

File Name	A0226051.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:08
Sample Name	CCB3,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	241.12	1.076E-04	Pulse	0.30	3
B	11	6	3	9.169	ppb	6.98	430,962.79	1.924E-01	Pulse	0.30	3
Na	23	45	2	156.465	ppb	25.91	1,327,312.01	6.833E+00	Analog	0.30	3
Mg	26	45	2	0.190	ppb	128.69	280.02	1.439E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	861.16	4.428E-03	Pulse	0.30	3
K	39	45	2	6.800	ppb	31.47	50,009.04	2.574E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	36,195.82	6.945E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,502.36	7.731E-03	Pulse	0.30	3
Cr	52	45	2	0.003	ppb	310.52	444.24	2.291E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	829.95	403.29	2.077E-03	Pulse	0.30	3
Fe	56	45	2	0.040	ppb	25.93	8,885.09	4.571E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	56.40	2.903E-04	Pulse	0.30	3
Ni	60	72	2	0.009	ppb	203.80	840.90	6.419E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,160.59	2.409E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,843.85	2.167E-02	Pulse	0.30	3
As	75	72	2	0.002	ppb	199.86	44.89	3.428E-04	Pulse	0.75	3
Se	78	72	1	0.005	ppb	287.87	8.89	5.580E-05	Pulse	0.30	3
Mo	95	103	2	0.167	ppb	16.46	1,936.86	5.528E-04	Pulse	0.30	3
Ag	107	103	3	0.649	ppb	14.83	52,583.80	6.382E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-176.08	-2.034E-05	Pulse	0.30	3
Sb	121	115	3	0.052	ppb	2.70	3,682.81	4.254E-04	Pulse	0.30	3
Ba	137	159	3	0.046	ppb	183.78	2,326.94	1.914E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	2,845.95	4.228E-04	Pulse	0.30	3
Pb	208	209	3	0.001	ppb	61.95	1,297.64	1.928E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	17.31	567.53	8.426E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,239,615.19	0.64	87.2	Analog	0.30	3
2	Sc	45	194,354.96	1.41	95.3	Pulse	0.30	3
3	Sc	45	5,211,265.24	0.42	93.5	Analog	0.30	3
1	Ge	72	158,917.78	0.75	96.4	Pulse	0.30	3
2	Ge	72	131,180.49	1.70	97.0	Pulse	0.30	3
2	Rh	103	3,505,563.00	0.92	96.1	Analog	0.30	3
3	Rh	103	8,235,864.95	0.59	97.2	Analog	0.30	3
3	In	115	8,657,173.87	0.08	98.0	Analog	0.30	3
3	Tb	159	12,186,571.49	0.52	98.2	Analog	0.30	3
3	Bi	209	6,733,107.05	0.55	97.0	Analog	0.30	3

Quantitation Report

File Name	A0226052.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:14
Sample Name	~~N018834-011B,SAMP,5~~ **N018861-007B,SAMP,5**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

dilution test

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	164.45	9.801E-05	Pulse	0.30	3
B	11	6	3	464.636	ppb	0.97	4,278,161.41	2.547E+00	Analog	0.30	3
Na	23	45	2	825846.417	ppb	0.20	1,283,763,669.76	7.562E+03	Analog	0.30	3
Mg	26	45	2	676.305	ppb	0.76	117,709.47	6.934E-01	Pulse	0.30	3
Al	27	45	2	1.914	ppb	7.42	1,489.51	8.772E-03	Pulse	0.30	3
K	39	45	2	6388.980	ppb	0.65	4,596,283.51	2.708E+01	Analog	0.30	3
Ca	44	45	3	55581.200	ppb	0.41	128,386,826.98	2.682E+01	Analog	0.30	3
V	51	45	2	0.458	ppb	1.91	6,672.74	3.930E-02	Pulse	0.30	3
Cr	52	45	2	1.110	ppb	2.23	13,873.12	8.171E-02	Pulse	0.30	3
Mn	55	45	2	4.763	ppb	0.67	33,012.45	1.945E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-84,395.57	-4.972E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,363.18	-8.031E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-706.04	-6.632E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-29,784.89	-2.792E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-3,692.20	-3.462E-02	Pulse	0.30	3
As	75	72	2	3.202	ppb	0.74	4,081.12	3.825E-02	Pulse	0.75	3
Se	78	72	1	0.078	ppb	20.65	46.67	3.699E-04	Pulse	0.30	3
Mo	95	103	2	16.160	ppb	0.96	103,876.40	3.948E-02	Pulse	0.30	3
Ag	107	103	3	0.007	ppb	151.08	5,444.60	8.686E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-201.46	-2.891E-05	Pulse	0.30	3
Sb	121	115	3	0.039	ppb	13.94	2,393.61	3.435E-04	Pulse	0.30	3
Ba	137	159	3	8.320	ppb	0.46	143,656.78	1.420E-02	Pulse	0.30	3
Tl	205	209	3	0.102	ppb	3.52	13,620.10	2.829E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,368.72	-2.569E-03	Pulse	0.30	3
U	238	209	3	0.021	ppb	5.11	2,767.44	5.748E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,679,953.90	0.72	65.4	Analog	0.30	3
2	Sc	45	169,755.10	1.46	83.2	Pulse	0.30	3
3	Sc	45	4,787,344.20	0.30	85.9	Analog	0.30	3
1	Ge	72	126,139.03	0.62	76.6	Pulse	0.30	3
2	Ge	72	106,697.14	1.85	78.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,630,783.54	1.24	72.1	Analog	0.30	3
3	Rh	103	6,267,475.53	0.33	73.9	Analog	0.30	3
3	In	115	6,968,742.16	0.19	78.9	Analog	0.30	3
3	Tb	159	10,119,104.85	0.15	81.6	Analog	0.30	3
3	Bi	209	4,814,065.62	0.12	69.4	Analog	0.30	3

Quantitation Report

File Name	A0226053.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:19
Sample Name	~~N018834-011B,PS,PS,1~~ **N018861-007B,PS,PS,1**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.812	ppb	2.77	79,485.43	1.097E-01	Pulse	0.30	3
B	11	6	3	6439.970	ppb	2.01	24,227,298.77	3.343E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-6.550E-05	Error	0.30	3
Mg	26	45	2	3046.189	ppb	0.28	476,132.29	3.119E+00	Pulse	0.30	3
Al	27	45	2	194.482	ppb	2.17	64,560.45	4.228E-01	Pulse	0.30	3
K	39	45	2	29328.852	ppb	1.07	18,851,609.99	1.235E+02	Analog	0.30	3
Ca	44	45	3	240854.117	ppb	0.41	504,279,085.82	1.162E+02	Analog	0.30	3
V	51	45	2	11.557	ppb	0.23	101,913.15	6.675E-01	Pulse	0.30	3
Cr	52	45	2	13.566	ppb	0.18	148,808.66	9.747E-01	Pulse	0.30	3
Mn	55	45	2	96.316	ppb	0.16	594,371.65	3.893E+00	Pulse	0.30	3
Fe	56	45	2	85.837	ppb	0.49	818,908.34	5.364E+00	Pulse	0.30	3
Co	59	45	2	7.220	ppb	0.53	144,886.67	9.490E-01	Pulse	0.30	3
Ni	60	72	2	8.710	ppb	0.93	37,123.51	4.392E-01	Pulse	0.30	3
Cu	63	72	2	7.622	ppb	0.92	90,918.34	1.076E+00	Pulse	0.30	3
Zn	66	72	2	72.457	ppb	0.97	122,027.15	1.444E+00	Pulse	0.30	3
As	75	72	2	23.057	ppb	0.57	23,112.48	2.734E-01	Pulse	0.75	3
Se	78	72	1	8.468	ppb	3.74	3,557.22	3.651E-02	Pulse	0.30	3
Mo	95	103	2	93.564	ppb	0.25	438,095.08	2.279E-01	Pulse	0.30	3
Ag	107	103	3	17.075	ppb	0.15	682,652.26	1.476E-01	Pulse	0.30	3
Cd	111	115	3	8.005	ppb	1.03	76,198.27	1.455E-02	Pulse	0.30	3
Sb	121	115	3	9.292	ppb	0.34	306,437.01	5.851E-02	Pulse	0.30	3
Ba	137	159	3	133.697	ppb	0.43	1,723,429.09	2.264E-01	Analog	0.30	3
Tl	205	209	3	8.589	ppb	1.29	492,660.39	1.549E-01	Pulse	0.30	3
Pb	208	209	3	10.350	ppb	0.31	795,927.65	2.503E-01	Pulse	0.30	3
U	238	209	3	12.299	ppb	0.63	1,016,221.29	3.196E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	724,814.48	1.52	28.2	Analog	0.30	3
2	Sc	45	152,670.04	0.88	74.9	Pulse	0.30	3
3	Sc	45	4,340,251.92	0.82	77.9	Analog	0.30	3
1	Ge	72	97,455.39	0.65	59.1	Pulse	0.30	3
2	Ge	72	84,520.72	1.19	62.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,922,403.93	1.14	52.7	Analog	0.30	3
3	Rh	103	4,626,551.60	0.07	54.6	Analog	0.30	3
3	In	115	5,236,955.87	0.25	59.3	Analog	0.30	3
3	Tb	159	7,611,565.44	0.52	61.4	Analog	0.30	3
3	Bi	209	3,180,193.29	0.39	45.8	Analog	0.30	3

Quantitation Report

File Name	A0226054.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:25
Sample Name	~~N018934-011B-MS,MS,~~1 **N018861-007B,MS,MS,1**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.328	ppb	3.27	81,267.22	1.185E-01	Pulse	0.30	3
B	11	6	3	7052.832	ppb	2.62	25,097,968.74	3.660E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-6.463E-05	Error	0.30	3
Mg	26	45	2	3149.818	ppb	0.66	498,960.37	3.225E+00	Pulse	0.30	3
Al	27	45	2	196.359	ppb	0.91	66,048.06	4.269E-01	Pulse	0.30	3
K	39	45	2	30391.965	ppb	0.93	19,796,516.23	1.279E+02	Analog	0.30	3
Ca	44	45	3	247863.584	ppb	0.27	529,508,361.00	1.196E+02	Analog	0.30	3
V	51	45	2	11.854	ppb	0.35	105,888.59	6.844E-01	Pulse	0.30	3
Cr	52	45	2	13.902	ppb	0.39	154,538.60	9.988E-01	Pulse	0.30	3
Mn	55	45	2	97.242	ppb	0.51	608,190.88	3.931E+00	Pulse	0.30	3
Fe	56	45	2	86.466	ppb	0.08	836,002.34	5.403E+00	Pulse	0.30	3
Co	59	45	2	7.336	ppb	0.56	149,207.69	9.643E-01	Pulse	0.30	3
Ni	60	72	2	8.954	ppb	0.35	38,877.64	4.514E-01	Pulse	0.30	3
Cu	63	72	2	7.669	ppb	1.32	93,221.33	1.082E+00	Pulse	0.30	3
Zn	66	72	2	72.523	ppb	0.25	124,469.51	1.445E+00	Pulse	0.30	3
As	75	72	2	23.245	ppb	0.29	23,742.62	2.757E-01	Pulse	0.75	3
Se	78	72	1	8.560	ppb	4.42	3,597.22	3.690E-02	Pulse	0.30	3
Mo	95	103	2	96.126	ppb	1.43	456,560.42	2.341E-01	Pulse	0.30	3
Ag	107	103	3	8.259	ppb	0.56	333,146.97	7.179E-02	Pulse	0.30	3
Cd	111	115	3	8.045	ppb	0.69	77,144.77	1.462E-02	Pulse	0.30	3
Sb	121	115	3	9.354	ppb	0.53	310,774.26	5.891E-02	Pulse	0.30	3
Ba	137	159	3	136.379	ppb	0.56	1,762,440.23	2.310E-01	Analog	0.30	3
Tl	205	209	3	9.085	ppb	1.26	520,566.03	1.638E-01	Pulse	0.30	3
Pb	208	209	3	10.433	ppb	0.17	801,698.67	2.523E-01	Pulse	0.30	3
U	238	209	3	12.341	ppb	0.13	1,019,002.95	3.207E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	686,051.84	2.65	26.7	Analog	0.30	3
2	Sc	45	154,727.33	1.01	75.9	Pulse	0.30	3
3	Sc	45	4,428,426.70	0.04	79.5	Analog	0.30	3
1	Ge	72	97,479.85	0.24	59.2	Pulse	0.30	3
2	Ge	72	86,130.19	0.97	63.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,950,059.99	1.33	53.4	Analog	0.30	3
3	Rh	103	4,640,791.80	0.05	54.8	Analog	0.30	3
3	In	115	5,275,780.86	0.16	59.7	Analog	0.30	3
3	Tb	159	7,630,944.47	0.43	61.5	Analog	0.30	3
3	Bi	209	3,177,817.80	0.08	45.8	Analog	0.30	3

Quantitation Report

File Name	A0226055.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:30
Sample Name	~~N018834-011B-MSD,MSD,1~~ **N018861-007B,MSD,MSD,1**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.071	ppb	1.63	81,767.34	1.170E-01	Pulse	0.30	3
B	11	6	3	6968.660	ppb	0.38	25,269,731.29	3.616E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-6.388E-05	Error	0.30	3
Mg	26	45	2	3139.935	ppb	0.39	503,286.36	3.215E+00	Pulse	0.30	3
Al	27	45	2	194.373	ppb	0.89	66,162.50	4.226E-01	Pulse	0.30	3
K	39	45	2	30303.824	ppb	1.19	19,973,302.62	1.276E+02	Analog	0.30	3
Ca	44	45	3	246900.749	ppb	0.15	536,993,103.11	1.191E+02	Analog	0.30	3
V	51	45	2	11.664	ppb	0.30	105,456.11	6.736E-01	Pulse	0.30	3
Cr	52	45	2	13.707	ppb	1.02	154,188.22	9.848E-01	Pulse	0.30	3
Mn	55	45	2	97.130	ppb	0.83	614,691.68	3.926E+00	Pulse	0.30	3
Fe	56	45	2	85.499	ppb	0.24	836,508.58	5.343E+00	Pulse	0.30	3
Co	59	45	2	7.220	ppb	0.38	148,583.71	9.490E-01	Pulse	0.30	3
Ni	60	72	2	8.942	ppb	1.77	38,691.96	4.508E-01	Pulse	0.30	3
Cu	63	72	2	7.678	ppb	0.68	92,998.82	1.083E+00	Pulse	0.30	3
Zn	66	72	2	72.557	ppb	0.94	124,098.64	1.446E+00	Pulse	0.30	3
As	75	72	2	23.437	ppb	0.35	23,856.56	2.779E-01	Pulse	0.75	3
Se	78	72	1	8.252	ppb	5.17	3,474.96	3.557E-02	Pulse	0.30	3
Mo	95	103	2	95.141	ppb	1.54	454,314.17	2.317E-01	Pulse	0.30	3
Ag	107	103	3	8.187	ppb	0.26	333,387.65	7.116E-02	Pulse	0.30	3
Cd	111	115	3	7.999	ppb	1.54	76,904.79	1.454E-02	Pulse	0.30	3
Sb	121	115	3	9.318	ppb	0.88	310,378.37	5.868E-02	Pulse	0.30	3
Ba	137	159	3	135.871	ppb	0.87	1,762,107.22	2.301E-01	Analog	0.30	3
Tl	205	209	3	9.103	ppb	1.73	518,804.01	1.641E-01	Pulse	0.30	3
Pb	208	209	3	10.336	ppb	0.18	790,042.43	2.499E-01	Pulse	0.30	3
U	238	209	3	12.326	ppb	0.45	1,012,428.90	3.203E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	698,749.62	0.46	27.2	Analog	0.30	3
2	Sc	45	156,559.83	0.74	76.8	Pulse	0.30	3
3	Sc	45	4,508,526.46	0.35	80.9	Analog	0.30	3
1	Ge	72	97,669.09	0.38	59.3	Pulse	0.30	3
2	Ge	72	85,834.34	0.28	63.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,960,540.06	1.23	53.7	Analog	0.30	3
3	Rh	103	4,684,764.97	0.40	55.3	Analog	0.30	3
3	In	115	5,289,845.76	0.37	59.9	Analog	0.30	3
3	Tb	159	7,658,131.90	0.59	61.7	Analog	0.30	3
3	Bi	209	3,161,134.81	0.10	45.6	Analog	0.30	3

Quantitation Report

File Name	A0226056.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:36
Sample Name	N018843-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	369.24	291.13	1.346E-04	Pulse	0.30	3
B	11	6	3	157.237	ppb	1.42	2,071,921.84	9.578E-01	Analog	0.30	3
Na	23	45	2	116011.891	ppb	0.13	211,271,552.41	1.067E+03	Analog	0.30	3
Mg	26	45	2	26378.036	ppb	0.78	5,345,536.76	2.700E+01	Analog	0.30	3
Al	27	45	2	2.622	ppb	21.50	2,037.39	1.029E-02	Pulse	0.30	3
K	39	45	2	4960.120	ppb	0.46	4,172,341.43	2.107E+01	Analog	0.30	3
Ca	44	45	3	72641.066	ppb	0.20	196,581,305.96	3.505E+01	Analog	0.30	3
V	51	45	2	2.035	ppb	1.14	25,459.24	1.286E-01	Pulse	0.30	3
Cr	52	45	2	0.058	ppb	15.33	1,235.99	6.243E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-846.17	-4.270E-03	Pulse	0.30	3
Fe	56	45	2	7.369	ppb	0.19	99,007.92	5.000E-01	Pulse	0.30	3
Co	59	45	2	0.037	ppb	5.77	1,020.93	5.157E-03	Pulse	0.30	3
Ni	60	72	2	1.195	ppb	2.55	8,336.89	6.538E-02	Pulse	0.30	3
Cu	63	72	2	0.724	ppb	5.88	16,701.03	1.310E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,229.62	1.748E-02	Pulse	0.30	3
As	75	72	2	2.297	ppb	1.24	3,508.85	2.752E-02	Pulse	0.75	3
Se	78	72	1	1.692	ppb	9.90	1,131.20	7.320E-03	Pulse	0.30	3
Mo	95	103	2	5.805	ppb	1.68	45,701.79	1.428E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-1,592.21	-2.077E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-474.26	-5.608E-05	Pulse	0.30	3
Sb	121	115	3	0.301	ppb	1.52	16,831.83	1.991E-03	Pulse	0.30	3
Ba	137	159	3	136.604	ppb	0.24	2,802,410.90	2.313E-01	Analog	0.30	3
Tl	205	209	3	0.589	ppb	1.90	69,381.70	1.155E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,101.49	-6.829E-04	Pulse	0.30	3
U	238	209	3	4.785	ppb	0.64	746,991.43	1.243E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,163,327.78	0.54	84.2	Analog	0.30	3
2	Sc	45	198,008.58	0.82	97.1	Pulse	0.30	3
3	Sc	45	5,609,047.14	0.19	100.7	Analog	0.30	3
1	Ge	72	154,505.04	0.87	93.8	Pulse	0.30	3
2	Ge	72	127,497.75	0.72	94.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,201,090.09	0.09	87.7	Analog	0.30	3
3	Rh	103	7,665,778.57	0.07	90.4	Analog	0.30	3
3	In	115	8,456,513.61	0.69	95.7	Analog	0.30	3
3	Tb	159	12,113,796.76	0.20	97.6	Analog	0.30	3
3	Bi	209	6,007,565.67	0.49	86.6	Analog	0.30	3

Quantitation Report

File Name	A0226057.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:41
Sample Name	N018843-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	201.12	9.810E-05	Pulse	0.30	3
B	11	6	3	149.318	ppb	1.70	1,877,843.63	9.168E-01	Analog	0.30	3
Na	23	45	2	119446.825	ppb	0.84	211,941,332.40	1.098E+03	Analog	0.30	3
Mg	26	45	2	27415.941	ppb	0.75	5,413,973.53	2.806E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	566.83	2.936E-03	Pulse	0.30	3
K	39	45	2	5148.390	ppb	0.67	4,218,626.60	2.186E+01	Analog	0.30	3
Ca	44	45	3	75417.891	ppb	0.22	194,719,457.10	3.639E+01	Analog	0.30	3
V	51	45	2	2.155	ppb	2.40	26,113.54	1.354E-01	Pulse	0.30	3
Cr	52	45	2	0.014	ppb	31.64	597.97	3.096E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-3,730.66	-1.933E-02	Pulse	0.30	3
Fe	56	45	2	0.052	ppb	131.66	8,951.82	4.644E-02	Pulse	0.30	3
Co	59	45	2	0.023	ppb	4.17	657.08	3.404E-03	Pulse	0.30	3
Ni	60	72	2	0.667	ppb	1.89	4,905.58	3.913E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,170.28	1.734E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-806.27	-6.435E-03	Pulse	0.30	3
As	75	72	2	2.357	ppb	1.94	3,540.65	2.824E-02	Pulse	0.75	3
Se	78	72	1	1.827	ppb	3.35	1,208.99	7.903E-03	Pulse	0.30	3
Mo	95	103	2	5.629	ppb	1.47	42,687.94	1.385E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-1,907.28	-2.597E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-524.55	-6.484E-05	Pulse	0.30	3
Sb	121	115	3	0.314	ppb	1.62	16,782.86	2.075E-03	Pulse	0.30	3
Ba	137	159	3	143.082	ppb	0.59	2,806,436.07	2.423E-01	Analog	0.30	3
Tl	205	209	3	0.229	ppb	0.84	29,367.90	5.111E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,074.06	-2.275E-03	Pulse	0.30	3
U	238	209	3	5.065	ppb	0.39	756,311.96	1.316E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,048,342.09	0.97	79.8	Analog	0.30	3
2	Sc	45	192,972.99	1.85	94.6	Pulse	0.30	3
3	Sc	45	5,351,385.20	0.05	96.1	Analog	0.30	3
1	Ge	72	153,001.88	0.49	92.9	Pulse	0.30	3
2	Ge	72	125,360.16	1.56	92.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,082,537.63	1.51	84.5	Analog	0.30	3
3	Rh	103	7,344,469.20	0.45	86.7	Analog	0.30	3
3	In	115	8,088,849.50	0.38	91.6	Analog	0.30	3
3	Tb	159	11,582,577.19	0.92	93.4	Analog	0.30	3
3	Bi	209	5,746,194.84	0.43	82.8	Analog	0.30	3

Quantitation Report

File Name	A0226058.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:47
Sample Name	N018843-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	161.12	7.747E-05	Pulse	0.30	3
B	11	6	3	131.991	ppb	0.97	1,720,393.61	8.273E-01	Analog	0.30	3
Na	23	45	2	113372.648	ppb	0.68	199,510,574.80	1.043E+03	Analog	0.30	3
Mg	26	45	2	26174.311	ppb	0.77	5,125,057.70	2.679E+01	Analog	0.30	3
Al	27	45	2	2.844	ppb	7.65	2,061.60	1.077E-02	Pulse	0.30	3
K	39	45	2	4950.608	ppb	0.92	4,023,853.62	2.103E+01	Analog	0.30	3
Ca	44	45	3	72480.074	ppb	0.30	186,119,783.89	3.497E+01	Analog	0.30	3
V	51	45	2	1.995	ppb	2.64	24,157.19	1.263E-01	Pulse	0.30	3
Cr	52	45	2	0.058	ppb	9.39	1,198.30	6.261E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-274.70	-1.420E-03	Pulse	0.30	3
Fe	56	45	2	1.624	ppb	4.85	27,514.32	1.439E-01	Pulse	0.30	3
Co	59	45	2	0.040	ppb	9.28	1,062.69	5.554E-03	Pulse	0.30	3
Ni	60	72	2	1.260	ppb	1.85	8,638.91	6.863E-02	Pulse	0.30	3
Cu	63	72	2	0.725	ppb	0.79	16,502.75	1.311E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,860.17	2.273E-02	Pulse	0.30	3
As	75	72	2	2.293	ppb	3.16	3,457.95	2.748E-02	Pulse	0.75	3
Se	78	72	1	1.580	ppb	4.26	1,043.42	6.838E-03	Pulse	0.30	3
Mo	95	103	2	5.400	ppb	0.53	41,048.16	1.329E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,028.70	-2.747E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-500.61	-6.154E-05	Pulse	0.30	3
Sb	121	115	3	0.293	ppb	0.22	15,767.38	1.938E-03	Pulse	0.30	3
Ba	137	159	3	136.647	ppb	0.56	2,719,066.79	2.314E-01	Analog	0.30	3
Tl	205	209	3	0.127	ppb	1.55	19,150.77	3.276E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-6,606.90	-1.130E-03	Pulse	0.30	3
U	238	209	3	4.824	ppb	1.35	732,671.34	1.254E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,079,533.67	0.38	81.0	Analog	0.30	3
2	Sc	45	191,316.21	1.44	93.8	Pulse	0.30	3
3	Sc	45	5,322,382.42	0.56	95.5	Analog	0.30	3
1	Ge	72	152,606.61	0.73	92.6	Pulse	0.30	3
2	Ge	72	125,853.54	1.18	93.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,088,205.72	1.15	84.6	Analog	0.30	3
3	Rh	103	7,384,101.97	0.54	87.1	Analog	0.30	3
3	In	115	8,134,154.74	0.62	92.1	Analog	0.30	3
3	Tb	159	11,749,852.19	0.58	94.7	Analog	0.30	3
3	Bi	209	5,845,498.73	1.16	84.3	Analog	0.30	3

Quantitation Report

File Name	A0226059.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:52
Sample Name	N018843-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	193.34	9.724E-05	Pulse	0.30	3
B	11	6	3	131.654	ppb	1.38	1,641,542.80	8.255E-01	Analog	0.30	3
Na	23	45	2	113066.626	ppb	0.60	194,131,719.33	1.040E+03	Analog	0.30	3
Mg	26	45	2	26086.541	ppb	0.32	4,983,639.47	2.670E+01	Analog	0.30	3
Al	27	45	2	6.414	ppb	7.95	3,445.16	1.845E-02	Pulse	0.30	3
K	39	45	2	4942.661	ppb	0.31	3,919,720.77	2.100E+01	Analog	0.30	3
Ca	44	45	3	72535.400	ppb	0.48	179,465,037.33	3.500E+01	Analog	0.30	3
V	51	45	2	2.062	ppb	1.51	24,281.94	1.301E-01	Pulse	0.30	3
Cr	52	45	2	0.028	ppb	24.28	766.21	4.109E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,615.58	-8.654E-03	Pulse	0.30	3
Fe	56	45	2	7.581	ppb	0.76	95,785.20	5.132E-01	Pulse	0.30	3
Co	59	45	2	0.031	ppb	6.40	825.99	4.424E-03	Pulse	0.30	3
Ni	60	72	2	0.657	ppb	1.20	4,742.94	3.865E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,774.03	3.076E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	379.45	3.089E-03	Pulse	0.30	3
As	75	72	2	2.276	ppb	1.83	3,347.23	2.727E-02	Pulse	0.75	3
Se	78	72	1	1.724	ppb	9.73	1,105.64	7.458E-03	Pulse	0.30	3
Mo	95	103	2	5.255	ppb	2.46	39,357.35	1.294E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,047.31	-2.837E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-358.89	-4.519E-05	Pulse	0.30	3
Sb	121	115	3	0.290	ppb	1.40	15,283.56	1.925E-03	Pulse	0.30	3
Ba	137	159	3	137.174	ppb	0.93	2,652,806.71	2.323E-01	Analog	0.30	3
Tl	205	209	3	0.084	ppb	2.95	14,219.58	2.511E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-8,432.10	-1.489E-03	Pulse	0.30	3
U	238	209	3	4.848	ppb	1.26	713,305.47	1.260E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,988,440.24	0.03	77.4	Analog	0.30	3
2	Sc	45	186,670.04	1.40	91.5	Pulse	0.30	3
3	Sc	45	5,128,263.54	1.02	92.0	Analog	0.30	3
1	Ge	72	148,205.71	0.43	89.9	Pulse	0.30	3
2	Ge	72	122,724.48	0.92	90.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,041,807.14	0.37	83.4	Analog	0.30	3
3	Rh	103	7,215,718.36	0.46	85.1	Analog	0.30	3
3	In	115	7,940,707.30	0.23	89.9	Analog	0.30	3
3	Tb	159	11,419,882.19	0.77	92.0	Analog	0.30	3
3	Bi	209	5,662,871.51	0.99	81.6	Analog	0.30	3

Quantitation Report

File Name	A0226060.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 00:58
Sample Name	N018843-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	131.12	6.630E-05	Pulse	0.30	3
B	11	6	3	138.985	ppb	1.66	1,706,989.02	8.634E-01	Analog	0.30	3
Na	23	45	2	122314.957	ppb	0.52	211,182,399.08	1.125E+03	Analog	0.30	3
Mg	26	45	2	28301.229	ppb	0.15	5,438,581.59	2.896E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	532.15	2.832E-03	Pulse	0.30	3
K	39	45	2	5352.296	ppb	0.60	4,266,275.84	2.272E+01	Analog	0.30	3
Ca	44	45	3	78404.865	ppb	0.32	196,397,390.41	3.783E+01	Analog	0.30	3
V	51	45	2	2.223	ppb	1.29	26,137.12	1.392E-01	Pulse	0.30	3
Cr	52	45	2	0.096	ppb	6.52	1,682.61	8.960E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-4,090.10	-2.178E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	7,605.96	4.051E-02	Pulse	0.30	3
Co	59	45	2	0.025	ppb	4.11	686.93	3.658E-03	Pulse	0.30	3
Ni	60	72	2	0.721	ppb	0.41	5,078.32	4.182E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,560.82	2.110E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-765.54	-6.304E-03	Pulse	0.30	3
As	75	72	2	2.518	ppb	3.28	3,659.27	3.014E-02	Pulse	0.75	3
Se	78	72	1	1.858	ppb	4.15	1,203.43	8.038E-03	Pulse	0.30	3
Mo	95	103	2	5.843	ppb	1.49	43,511.37	1.437E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,457.71	-3.410E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-523.64	-6.599E-05	Pulse	0.30	3
Sb	121	115	3	0.315	ppb	1.99	16,502.62	2.080E-03	Pulse	0.30	3
Ba	137	159	3	147.874	ppb	0.60	2,882,013.48	2.504E-01	Analog	0.30	3
Tl	205	209	3	0.047	ppb	2.65	10,537.50	1.843E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,060.31	-2.284E-03	Pulse	0.30	3
U	238	209	3	5.295	ppb	0.39	786,822.61	1.376E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,977,104.22	0.65	77.0	Analog	0.30	3
2	Sc	45	187,770.65	1.06	92.1	Pulse	0.30	3
3	Sc	45	5,191,915.30	0.10	93.2	Analog	0.30	3
1	Ge	72	149,713.38	1.02	90.9	Pulse	0.30	3
2	Ge	72	121,427.06	1.31	89.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,027,730.65	1.15	83.0	Analog	0.30	3
3	Rh	103	7,208,311.56	0.65	85.0	Analog	0.30	3
3	In	115	7,935,667.31	0.54	89.8	Analog	0.30	3
3	Tb	159	11,509,084.83	0.75	92.8	Analog	0.30	3
3	Bi	209	5,718,476.44	0.57	82.4	Analog	0.30	3

Quantitation Report

File Name	A0226061.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:03
Sample Name	N018843-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	115.56	5.916E-05	Pulse	0.30	3
B	11	6	3	120.119	ppb	0.70	1,495,470.40	7.659E-01	Analog	0.30	3
Na	23	45	2	110084.937	ppb	0.80	187,475,730.54	1.013E+03	Analog	0.30	3
Mg	26	45	2	25470.454	ppb	0.36	4,825,761.49	2.607E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	679.99	3.668E-03	Pulse	0.30	3
K	39	45	2	4805.715	ppb	1.38	3,780,464.53	2.042E+01	Analog	0.30	3
Ca	44	45	3	70843.251	ppb	0.09	172,460,144.10	3.418E+01	Analog	0.30	3
V	51	45	2	1.993	ppb	1.34	23,361.69	1.262E-01	Pulse	0.30	3
Cr	52	45	2	0.017	ppb	37.37	623.30	3.362E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-3,298.24	-1.781E-02	Pulse	0.30	3
Fe	56	45	2	0.286	ppb	11.75	11,281.25	6.096E-02	Pulse	0.30	3
Co	59	45	2	0.021	ppb	11.14	576.61	3.118E-03	Pulse	0.30	3
Ni	60	72	2	0.606	ppb	4.90	4,353.93	3.609E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,153.31	1.784E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-619.99	-5.132E-03	Pulse	0.30	3
As	75	72	2	2.273	ppb	2.00	3,289.03	2.724E-02	Pulse	0.75	3
Se	78	72	1	1.690	ppb	6.77	1,071.19	7.314E-03	Pulse	0.30	3
Mo	95	103	2	5.131	ppb	1.10	37,916.88	1.264E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,234.52	-3.141E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-479.31	-6.085E-05	Pulse	0.30	3
Sb	121	115	3	0.280	ppb	0.92	14,641.74	1.859E-03	Pulse	0.30	3
Ba	137	159	3	133.750	ppb	0.87	2,578,511.74	2.265E-01	Analog	0.30	3
Tl	205	209	3	0.036	ppb	6.00	9,293.30	1.641E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-11,456.20	-2.023E-03	Pulse	0.30	3
U	238	209	3	4.762	ppb	0.59	700,815.50	1.237E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,952,506.65	0.24	76.0	Analog	0.30	3
2	Sc	45	185,135.37	1.87	90.8	Pulse	0.30	3
3	Sc	45	5,045,639.82	0.04	90.6	Analog	0.30	3
1	Ge	72	146,394.41	1.02	88.8	Pulse	0.30	3
2	Ge	72	120,717.90	2.20	89.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,000,338.53	0.81	82.2	Analog	0.30	3
3	Rh	103	7,114,121.21	0.52	83.9	Analog	0.30	3
3	In	115	7,877,460.18	0.51	89.2	Analog	0.30	3
3	Tb	159	11,383,850.80	0.32	91.8	Analog	0.30	3
3	Bi	209	5,663,344.15	0.32	81.6	Analog	0.30	3

Quantitation Report

File Name	A0226062.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:09
Sample Name	CCV4,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.083	ppb	0.26	262,425.61	1.171E-01	Pulse	0.30	3
B	11	6	3	196.828	ppb	0.09	2,605,055.61	1.162E+00	Analog	0.30	3
Na	23	45	2	126.616	ppb	22.52	1,325,294.31	6.560E+00	Analog	0.30	3
Mg	26	45	2	206.951	ppb	0.36	43,049.21	2.130E-01	Pulse	0.30	3
Al	27	45	2	19.440	ppb	0.45	9,387.63	4.646E-02	Pulse	0.30	3
K	39	45	2	207.996	ppb	0.57	222,851.49	1.103E+00	Pulse	0.30	3
Ca	44	45	3	200.511	ppb	0.99	542,791.21	1.037E-01	Pulse	0.30	3
V	51	45	2	20.068	ppb	0.61	232,243.63	1.149E+00	Pulse	0.30	3
Cr	52	45	2	20.098	ppb	1.07	291,567.46	1.443E+00	Pulse	0.30	3
Mn	55	45	2	20.005	ppb	0.87	163,730.86	8.103E-01	Pulse	0.30	3
Fe	56	45	2	19.792	ppb	0.33	256,648.22	1.270E+00	Pulse	0.30	3
Co	59	45	2	20.335	ppb	0.33	540,022.78	2.672E+00	Pulse	0.30	3
Ni	60	72	2	19.872	ppb	0.62	137,219.74	9.945E-01	Pulse	0.30	3
Cu	63	72	2	19.821	ppb	0.71	378,950.81	2.747E+00	Pulse	0.30	3
Zn	66	72	2	19.664	ppb	1.16	56,435.92	4.090E-01	Pulse	0.30	3
As	75	72	2	20.372	ppb	0.54	33,341.59	2.416E-01	Pulse	0.75	3
Se	78	72	1	20.800	ppb	2.25	15,524.67	8.962E-02	Pulse	0.30	3
Mo	95	103	2	20.039	ppb	1.18	178,131.63	4.892E-02	Pulse	0.30	3
Ag	107	103	3	19.918	ppb	0.09	1,449,389.59	1.720E-01	Analog	0.30	3
Cd	111	115	3	20.620	ppb	0.33	336,827.97	3.751E-02	Pulse	0.30	3
Sb	121	115	3	19.909	ppb	0.29	1,124,885.93	1.253E-01	Analog	0.30	3
Ba	137	159	3	21.433	ppb	0.60	460,154.90	3.639E-02	Pulse	0.30	3
Tl	205	209	3	20.036	ppb	1.20	2,585,939.93	3.601E-01	Analog	0.30	3
Pb	208	209	3	20.532	ppb	0.64	3,564,591.34	4.963E-01	Analog	0.30	3
U	238	209	3	19.697	ppb	0.97	3,675,701.94	5.118E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,241,077.09	0.46	87.3	Analog	0.30	3
2	Sc	45	202,073.89	0.76	99.1	Pulse	0.30	3
3	Sc	45	5,235,068.29	0.36	94.0	Analog	0.30	3
1	Ge	72	173,239.73	0.69	105.1	Pulse	0.30	3
2	Ge	72	137,979.74	1.01	102.1	Pulse	0.30	3
2	Rh	103	3,640,848.97	0.40	99.8	Analog	0.30	3
3	Rh	103	8,427,365.08	0.41	99.4	Analog	0.30	3
3	In	115	8,980,747.41	0.33	101.6	Analog	0.30	3
3	Tb	159	12,644,594.26	0.42	101.9	Analog	0.30	3
3	Bi	209	7,182,358.85	0.38	103.5	Analog	0.30	3

Quantitation Report

File Name	A0226063.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:15
Sample Name	CCB4,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	72.23	3.571E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	261,411.25	1.293E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	687,440.86	3.813E+00	Pulse	0.30	3
Mg	26	45	2	0.213	ppb	93.54	263.35	1.462E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	827.82	4.587E-03	Pulse	0.30	3
K	39	45	2	2.709	ppb	121.83	43,300.63	2.402E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	31,175.46	6.627E-03	Pulse	0.30	3
V	51	45	2	0.021	ppb	43.75	2,625.89	1.456E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	345.98	1.920E-03	Pulse	0.30	3
Mn	55	45	2	0.013	ppb	45.07	465.33	2.582E-03	Pulse	0.30	3
Fe	56	45	2	0.065	ppb	11.22	8,526.69	4.726E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	39.27	2.180E-04	Pulse	0.30	3
Ni	60	72	2	0.000	ppb	2844.49	733.75	5.963E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,100.18	2.517E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,545.64	2.067E-02	Pulse	0.30	3
As	75	72	2	0.001	ppb	56.32	40.44	3.284E-04	Pulse	0.75	3
Se	78	72	1	0.006	ppb	179.56	8.89	5.968E-05	Pulse	0.30	3
Mo	95	103	2	0.107	ppb	0.73	1,333.45	4.071E-04	Pulse	0.30	3
Ag	107	103	3	0.658	ppb	15.02	49,423.12	6.464E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	27.12	-77.62	-9.568E-06	Pulse	0.30	3
Sb	121	115	3	0.050	ppb	5.72	3,336.05	4.110E-04	Pulse	0.30	3
Ba	137	159	3	0.008	ppb	108.52	1,472.00	1.270E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,617.27	5.578E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.003	ppb	13.94	1,560.50	2.406E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	9.96	559.94	8.636E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,022,238.41	0.93	78.7	Analog	0.30	3
2	Sc	45	180,430.11	2.37	88.5	Pulse	0.30	3
3	Sc	45	4,704,332.60	0.25	84.4	Analog	0.30	3
1	Ge	72	148,965.29	0.26	90.4	Pulse	0.30	3
2	Ge	72	123,115.43	1.40	91.1	Pulse	0.30	3
2	Rh	103	3,275,233.39	1.01	89.8	Analog	0.30	3
3	Rh	103	7,642,868.36	0.39	90.2	Analog	0.30	3
3	In	115	8,115,910.02	0.28	91.9	Analog	0.30	3
3	Tb	159	11,591,555.94	0.39	93.4	Analog	0.30	3
3	Bi	209	6,485,678.79	0.73	93.5	Analog	0.30	3

Quantitation Report

File Name	A0226064.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:20
Sample Name	LLCCV1,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.497	ppb	5.02	6,379.23	3.019E-03	Pulse	0.30	3
B	11	6	3	45.109	ppb	1.04	799,061.44	3.782E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	620,248.84	3.276E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	173.34	9.173E-04	Pulse	0.30	3
Al	27	45	2	9.090	ppb	5.48	4,581.92	2.420E-02	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	39,833.01	2.104E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	16,555.61	3.365E-03	Pulse	0.30	3
V	51	45	2	1.034	ppb	1.71	13,615.02	7.190E-02	Pulse	0.30	3
Cr	52	45	2	1.014	ppb	2.92	14,165.93	7.481E-02	Pulse	0.30	3
Mn	55	45	2	0.492	ppb	5.23	4,152.64	2.193E-02	Pulse	0.30	3
Fe	56	45	2	10.026	ppb	0.94	125,881.81	6.647E-01	Pulse	0.30	3
Co	59	45	2	0.505	ppb	1.10	12,621.27	6.665E-02	Pulse	0.30	3
Ni	60	72	2	0.967	ppb	1.04	6,999.89	5.408E-02	Pulse	0.30	3
Cu	63	72	2	0.890	ppb	1.66	19,897.04	1.537E-01	Pulse	0.30	3
Zn	66	72	2	9.585	ppb	1.54	27,374.56	2.115E-01	Pulse	0.30	3
As	75	72	2	0.098	ppb	16.56	190.23	1.470E-03	Pulse	0.75	3
Se	78	72	1	0.495	ppb	13.31	337.80	2.167E-03	Pulse	0.30	3
Mo	95	103	2	0.498	ppb	2.06	4,686.45	1.360E-03	Pulse	0.30	3
Ag	107	103	3	0.447	ppb	0.67	37,263.19	4.646E-03	Pulse	0.30	3
Cd	111	115	3	0.542	ppb	1.47	8,299.51	9.698E-04	Pulse	0.30	3
Sb	121	115	3	0.549	ppb	1.14	30,362.47	3.548E-03	Pulse	0.30	3
Ba	137	159	3	1.039	ppb	0.58	22,763.22	1.871E-03	Pulse	0.30	3
Tl	205	209	3	0.396	ppb	1.42	55,324.18	8.091E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	1.097	ppb	0.09	182,482.61	2.669E-02	Pulse	0.30	3
U	238	209	3	0.519	ppb	0.96	92,346.16	1.350E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,112,876.10	1.13	82.3	Analog	0.30	3
2	Sc	45	189,391.98	1.48	92.9	Pulse	0.30	3
3	Sc	45	4,919,623.09	0.44	88.3	Analog	0.30	3
1	Ge	72	155,869.71	0.51	94.6	Pulse	0.30	3
2	Ge	72	129,440.70	0.76	95.7	Pulse	0.30	3
2	Rh	103	3,446,043.77	0.55	94.4	Analog	0.30	3
3	Rh	103	8,019,630.30	0.90	94.6	Analog	0.30	3
3	In	115	8,557,370.72	0.36	96.9	Analog	0.30	3
3	Tb	159	12,162,976.62	0.33	98.0	Analog	0.30	3
3	Bi	209	6,838,324.48	0.40	98.6	Analog	0.30	3

Quantitation Report

File Name	A0226065.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:26
Sample Name	ICSA2,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	92.22	4.200E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	180,965.49	8.244E-02	Pulse	0.30	3
Na	23	45	2	124273.392	ppb	1.22	237,319,185.35	1.143E+03	Analog	0.30	3
Mg	26	45	2	100742.769	ppb	1.04	21,415,186.49	1.031E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	473.41	2.287E-03	Pulse	0.30	3
K	39	45	2	106863.793	ppb	0.38	93,336,178.61	4.493E+02	Analog	0.30	3
Ca	44	45	3	97866.145	ppb	0.24	273,703,587.04	4.722E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	1,255.66	6.036E-03	Pulse	0.30	3
Cr	52	45	2	0.163	ppb	5.75	2,868.86	1.380E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-23,208.86	-1.117E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	1,965.61	9.380E-03	Pulse	0.30	3
Co	59	45	2	0.006	ppb	24.26	225.84	1.084E-03	Pulse	0.30	3
Ni	60	72	2	0.262	ppb	10.92	2,475.55	1.898E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-7,121.13	-5.457E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,433.09	-1.865E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	-2.45	-1.898E-05	Pulse	0.75	3
Se	78	72	1	0.023	ppb	80.00	20.00	1.324E-04	Pulse	0.30	3
Mo	95	103	2	0.002	ppb	196.18	486.70	1.516E-04	Pulse	0.30	3
Ag	107	103	3	0.089	ppb	18.11	12,275.96	1.567E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-655.46	-7.730E-05	Pulse	0.30	3
Sb	121	115	3	0.019	ppb	3.39	1,871.30	2.206E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-29,036.19	-2.408E-03	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	3,503.91	6.137E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,351.80	-5.872E-04	Pulse	0.30	3
U	238	209	3	0.001	ppb	12.04	289.22	5.065E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,195,086.70	0.42	85.5	Analog	0.30	3
2	Sc	45	207,757.06	3.05	101.9	Pulse	0.30	3
3	Sc	45	5,796,963.46	0.47	104.0	Analog	0.30	3
1	Ge	72	150,867.59	1.03	91.6	Pulse	0.30	3
2	Ge	72	130,512.12	2.68	96.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,213,929.36	2.45	88.1	Analog	0.30	3
3	Rh	103	7,831,988.63	0.08	92.4	Analog	0.30	3
3	In	115	8,481,373.06	0.46	96.0	Analog	0.30	3
3	Tb	159	12,058,001.90	0.21	97.2	Analog	0.30	3
3	Bi	209	5,709,291.16	0.45	82.3	Analog	0.30	3

Quantitation Report

File Name	A0226066.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:31
Sample Name	ICSAB2,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.259	ppb	1.14	261,574.30	1.181E-01	Pulse	0.30	3
B	11	6	3	192.663	ppb	1.19	2,526,536.53	1.141E+00	Analog	0.30	3
Na	23	45	2	122447.303	ppb	0.98	239,444,947.54	1.126E+03	Analog	0.30	3
Mg	26	45	2	97833.093	ppb	0.69	21,294,299.40	1.001E+02	Analog	0.30	3
Al	27	45	2	20.890	ppb	0.35	10,544.84	4.957E-02	Pulse	0.30	3
K	39	45	2	103821.981	ppb	0.33	92,840,640.84	4.365E+02	Analog	0.30	3
Ca	44	45	3	95447.872	ppb	0.56	267,507,273.79	4.605E+01	Analog	0.30	3
V	51	45	2	20.408	ppb	0.83	248,518.68	1.169E+00	Pulse	0.30	3
Cr	52	45	2	19.744	ppb	0.54	301,514.65	1.418E+00	Pulse	0.30	3
Mn	55	45	2	16.347	ppb	1.29	140,884.19	6.625E-01	Pulse	0.30	3
Fe	56	45	2	19.434	ppb	0.55	265,432.55	1.248E+00	Pulse	0.30	3
Co	59	45	2	18.803	ppb	0.64	525,560.82	2.471E+00	Pulse	0.30	3
Ni	60	72	2	19.687	ppb	0.06	130,332.20	9.853E-01	Pulse	0.30	3
Cu	63	72	2	18.223	ppb	0.17	334,340.52	2.528E+00	Pulse	0.30	3
Zn	66	72	2	17.147	ppb	0.57	47,576.95	3.597E-01	Pulse	0.30	3
As	75	72	2	20.372	ppb	0.37	31,962.33	2.416E-01	Pulse	0.75	3
Se	78	72	1	19.506	ppb	1.44	13,302.63	8.405E-02	Pulse	0.30	3
Mo	95	103	2	23.232	ppb	0.89	182,839.63	5.670E-02	Pulse	0.30	3
Ag	107	103	3	19.284	ppb	0.32	1,289,543.58	1.665E-01	Analog	0.30	3
Cd	111	115	3	19.575	ppb	0.07	299,076.75	3.560E-02	Pulse	0.30	3
Sb	121	115	3	20.589	ppb	0.67	1,088,110.73	1.295E-01	Analog	0.30	3
Ba	137	159	3	20.879	ppb	0.34	424,817.70	3.545E-02	Pulse	0.30	3
Tl	205	209	3	22.275	ppb	0.18	2,258,674.34	4.002E-01	Analog	0.30	3
Pb	208	209	3	22.369	ppb	0.69	3,051,822.32	5.407E-01	Analog	0.30	3
U	238	209	3	22.842	ppb	0.42	3,349,728.51	5.935E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,214,594.99	0.74	86.2	Analog	0.30	3
2	Sc	45	212,702.17	1.88	104.3	Pulse	0.30	3
3	Sc	45	5,809,322.48	0.60	104.3	Analog	0.30	3
1	Ge	72	158,271.80	0.15	96.1	Pulse	0.30	3
2	Ge	72	132,273.36	1.66	97.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,224,762.21	0.66	88.4	Analog	0.30	3
3	Rh	103	7,743,418.08	0.35	91.4	Analog	0.30	3
3	In	115	8,400,232.68	0.32	95.1	Analog	0.30	3
3	Tb	159	11,982,098.43	0.15	96.6	Analog	0.30	3
3	Bi	209	5,644,314.78	0.58	81.4	Analog	0.30	3

Quantitation Report

File Name	A0226067.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:37
Sample Name	N018843-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	104.45	5.416E-05	Pulse	0.30	3
B	11	6	3	113.031	ppb	0.88	1,407,291.52	7.293E-01	Analog	0.30	3
Na	23	45	2	112180.229	ppb	0.87	188,343,628.30	1.032E+03	Analog	0.30	3
Mg	26	45	2	25918.640	ppb	1.11	4,841,220.62	2.653E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	708.38	3.879E-03	Pulse	0.30	3
K	39	45	2	4888.524	ppb	1.13	3,790,937.86	2.077E+01	Analog	0.30	3
Ca	44	45	3	71983.429	ppb	0.20	173,310,744.08	3.473E+01	Analog	0.30	3
V	51	45	2	2.001	ppb	1.65	23,110.32	1.266E-01	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	364.62	1.993E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-3,054.36	-1.674E-02	Pulse	0.30	3
Fe	56	45	2	0.744	ppb	5.85	16,317.51	8.936E-02	Pulse	0.30	3
Co	59	45	2	0.024	ppb	20.38	631.22	3.466E-03	Pulse	0.30	3
Ni	60	72	2	0.607	ppb	4.20	4,292.23	3.613E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,541.93	2.982E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-557.66	-4.688E-03	Pulse	0.30	3
As	75	72	2	2.319	ppb	1.26	3,300.99	2.779E-02	Pulse	0.75	3
Se	78	72	1	1.738	ppb	5.65	1,075.64	7.521E-03	Pulse	0.30	3
Mo	95	103	2	5.328	ppb	1.65	39,283.47	1.312E-02	Pulse	0.30	3
Ag	107	103	3	0.019	ppb	28.87	6,848.68	9.714E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-472.23	-6.091E-05	Pulse	0.30	3
Sb	121	115	3	0.346	ppb	0.96	17,646.16	2.276E-03	Pulse	0.30	3
Ba	137	159	3	136.255	ppb	0.16	2,620,935.44	2.307E-01	Analog	0.30	3
Tl	205	209	3	0.004	ppb	37.43	6,055.93	1.064E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,182.80	-1.789E-03	Pulse	0.30	3
U	238	209	3	4.827	ppb	0.85	713,884.70	1.254E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,929,730.51	0.67	75.1	Analog	0.30	3
2	Sc	45	182,536.81	2.12	89.5	Pulse	0.30	3
3	Sc	45	4,990,223.16	0.09	89.6	Analog	0.30	3
1	Ge	72	142,975.79	0.61	86.8	Pulse	0.30	3
2	Ge	72	118,808.48	1.23	87.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,995,327.28	1.25	82.1	Analog	0.30	3
3	Rh	103	7,051,389.96	0.46	83.2	Analog	0.30	3
3	In	115	7,753,174.67	0.53	87.8	Analog	0.30	3
3	Tb	159	11,358,387.33	0.31	91.6	Analog	0.30	3
3	Bi	209	5,692,210.47	0.49	82.0	Analog	0.30	3

Quantitation Report

File Name	A0226068.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:42
Sample Name	N018843-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	76.67	4.200E-05	Pulse	0.30	3
B	11	6	3	120.844	ppb	1.76	1,405,141.95	7.697E-01	Analog	0.30	3
Na	23	45	2	114980.035	ppb	1.04	187,087,383.88	1.058E+03	Analog	0.30	3
Mg	26	45	2	26657.647	ppb	0.47	4,826,366.11	2.728E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	455.65	2.570E-03	Pulse	0.30	3
K	39	45	2	5061.018	ppb	1.66	3,802,952.48	2.150E+01	Analog	0.30	3
Ca	44	45	3	74347.863	ppb	0.71	172,613,975.21	3.587E+01	Analog	0.30	3
V	51	45	2	2.109	ppb	0.47	23,478.60	1.327E-01	Pulse	0.30	3
Cr	52	45	2	0.023	ppb	17.34	665.89	3.762E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-3,429.14	-1.939E-02	Pulse	0.30	3
Fe	56	45	2	0.318	ppb	9.16	11,125.76	6.290E-02	Pulse	0.30	3
Co	59	45	2	0.024	ppb	12.06	623.95	3.529E-03	Pulse	0.30	3
Ni	60	72	2	0.620	ppb	3.73	4,241.39	3.681E-02	Pulse	0.30	3
Cu	63	72	2	0.060	ppb	19.26	4,618.01	4.009E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	6.41	5.382E-05	Pulse	0.30	3
As	75	72	2	2.414	ppb	2.52	3,329.03	2.891E-02	Pulse	0.75	3
Se	78	72	1	1.679	ppb	6.45	1,025.63	7.264E-03	Pulse	0.30	3
Mo	95	103	2	5.525	ppb	2.91	39,066.47	1.360E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	2,165.67	3.146E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-466.50	-6.143E-05	Pulse	0.30	3
Sb	121	115	3	0.320	ppb	0.72	16,026.51	2.110E-03	Pulse	0.30	3
Ba	137	159	3	140.093	ppb	0.09	2,634,657.39	2.372E-01	Analog	0.30	3
Tl	205	209	3	0.002	ppb	28.46	5,729.13	1.027E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-11,272.41	-2.022E-03	Pulse	0.30	3
U	238	209	3	4.978	ppb	0.61	721,259.64	1.293E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,825,682.09	0.30	71.1	Analog	0.30	3
2	Sc	45	176,908.78	0.94	86.8	Pulse	0.30	3
3	Sc	45	4,812,324.79	0.87	86.4	Analog	0.30	3
1	Ge	72	141,168.53	1.17	85.7	Pulse	0.30	3
2	Ge	72	115,177.07	2.12	85.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,872,974.61	1.26	78.7	Analog	0.30	3
3	Rh	103	6,884,263.86	0.19	81.2	Analog	0.30	3
3	In	115	7,594,564.47	0.65	86.0	Analog	0.30	3
3	Tb	159	11,105,175.39	0.50	89.5	Analog	0.30	3
3	Bi	209	5,576,374.78	0.85	80.4	Analog	0.30	3

Quantitation Report

File Name	A0226069.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:48
Sample Name	N018843-009B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	58.89	3.209E-05	Pulse	0.30	3
B	11	6	3	117.602	ppb	2.01	1,379,897.71	7.529E-01	Analog	0.30	3
Na	23	45	2	113725.988	ppb	0.90	186,252,577.23	1.046E+03	Analog	0.30	3
Mg	26	45	2	26489.621	ppb	0.72	4,827,139.02	2.711E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	388.64	2.182E-03	Pulse	0.30	3
K	39	45	2	5042.287	ppb	0.08	3,813,702.17	2.142E+01	Analog	0.30	3
Ca	44	45	3	73773.486	ppb	0.96	171,894,757.44	3.559E+01	Analog	0.30	3
V	51	45	2	2.080	ppb	1.88	23,345.04	1.311E-01	Pulse	0.30	3
Cr	52	45	2	0.007	ppb	81.59	463.30	2.603E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,518.78	-8.540E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	7,289.88	4.094E-02	Pulse	0.30	3
Co	59	45	2	0.027	ppb	1.45	689.11	3.871E-03	Pulse	0.30	3
Ni	60	72	2	0.602	ppb	2.06	4,200.62	3.591E-02	Pulse	0.30	3
Cu	63	72	2	0.024	ppb	66.56	4,113.81	3.516E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-444.92	-3.804E-03	Pulse	0.30	3
As	75	72	2	2.308	ppb	3.00	3,233.90	2.765E-02	Pulse	0.75	3
Se	78	72	1	1.606	ppb	7.92	984.52	6.950E-03	Pulse	0.30	3
Mo	95	103	2	5.455	ppb	0.54	39,197.87	1.342E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-68.21	-9.827E-06	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-472.93	-6.148E-05	Pulse	0.30	3
Sb	121	115	3	0.302	ppb	0.78	15,364.71	1.997E-03	Pulse	0.30	3
Ba	137	159	3	138.103	ppb	0.69	2,626,186.79	2.339E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	5,082.22	8.993E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-11,364.65	-2.011E-03	Pulse	0.30	3
U	238	209	3	4.954	ppb	0.92	727,546.03	1.287E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,832,939.80	1.02	71.4	Analog	0.30	3
2	Sc	45	178,067.74	1.68	87.3	Pulse	0.30	3
3	Sc	45	4,829,547.26	0.53	86.7	Analog	0.30	3
1	Ge	72	141,702.94	0.76	86.0	Pulse	0.30	3
2	Ge	72	116,983.21	0.84	86.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,919,941.87	0.87	80.0	Analog	0.30	3
3	Rh	103	6,949,177.47	0.66	82.0	Analog	0.30	3
3	In	115	7,693,786.24	0.63	87.1	Analog	0.30	3
3	Tb	159	11,229,134.97	0.57	90.5	Analog	0.30	3
3	Bi	209	5,652,187.69	0.96	81.5	Analog	0.30	3

Quantitation Report

File Name	A0226070.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:53
Sample Name	N018843-010B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	80.00	4.365E-05	Pulse	0.30	3
B	11	6	3	112.900	ppb	0.84	1,333,889.59	7.286E-01	Analog	0.30	3
Na	23	45	2	109257.820	ppb	0.34	179,474,668.44	1.005E+03	Analog	0.30	3
Mg	26	45	2	25374.236	ppb	0.17	4,636,658.92	2.597E+01	Analog	0.30	3
Al	27	45	2	2.304	ppb	15.26	1,715.61	9.611E-03	Pulse	0.30	3
K	39	45	2	4841.324	ppb	0.36	3,673,037.10	2.057E+01	Analog	0.30	3
Ca	44	45	3	71746.948	ppb	0.64	166,983,614.18	3.462E+01	Analog	0.30	3
V	51	45	2	2.066	ppb	1.59	23,262.71	1.303E-01	Pulse	0.30	3
Cr	52	45	2	0.037	ppb	25.97	847.41	4.752E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-113.21	-6.203E-04	Pulse	0.30	3
Fe	56	45	2	4.706	ppb	1.10	59,790.23	3.349E-01	Pulse	0.30	3
Co	59	45	2	0.029	ppb	7.24	746.24	4.181E-03	Pulse	0.30	3
Ni	60	72	2	0.628	ppb	5.54	4,403.51	3.717E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,878.00	2.431E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-25.42	-2.080E-04	Pulse	0.30	3
As	75	72	2	2.210	ppb	1.89	3,137.56	2.650E-02	Pulse	0.75	3
Se	78	72	1	1.585	ppb	9.04	977.85	6.859E-03	Pulse	0.30	3
Mo	95	103	2	5.252	ppb	0.92	38,045.97	1.293E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-773.97	-1.109E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-442.74	-5.721E-05	Pulse	0.30	3
Sb	121	115	3	0.296	ppb	1.36	15,184.58	1.962E-03	Pulse	0.30	3
Ba	137	159	3	133.230	ppb	0.92	2,562,807.49	2.256E-01	Analog	0.30	3
Tl	205	209	3	<0.000	ppb	---	4,688.70	8.196E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,841.50	-1.720E-03	Pulse	0.30	3
U	238	209	3	4.763	ppb	0.18	708,058.93	1.238E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,830,789.21	0.83	71.3	Analog	0.30	3
2	Sc	45	178,547.18	1.76	87.6	Pulse	0.30	3
3	Sc	45	4,823,996.14	0.52	86.6	Analog	0.30	3
1	Ge	72	142,570.50	0.05	86.5	Pulse	0.30	3
2	Ge	72	118,426.23	1.31	87.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,942,353.91	2.16	80.6	Analog	0.30	3
3	Rh	103	6,978,600.10	0.19	82.3	Analog	0.30	3
3	In	115	7,738,585.20	0.30	87.6	Analog	0.30	3
3	Tb	159	11,359,082.33	0.94	91.6	Analog	0.30	3
3	Bi	209	5,720,939.71	0.98	82.5	Analog	0.30	3

Quantitation Report

File Name	A0226071.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 01:59
Sample Name	N018843-010B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.829	ppb	0.62	104,450.18	5.737E-02	Pulse	0.30	3
B	11	6	3	2038.113	ppb	0.66	19,442,696.65	1.068E+01	Analog	0.30	3
Na	23	45	2	110134.674	ppb	1.06	181,427,212.85	1.013E+03	Analog	0.30	3
Mg	26	45	2	25631.703	ppb	1.52	4,697,723.51	2.623E+01	Analog	0.30	3
Al	27	45	2	188.551	ppb	2.24	73,430.60	4.101E-01	Pulse	0.30	3
K	39	45	2	4934.199	ppb	1.42	3,753,672.38	2.096E+01	Analog	0.30	3
Ca	44	45	3	71764.950	ppb	0.20	169,322,943.03	3.462E+01	Analog	0.30	3
V	51	45	2	11.669	ppb	1.53	120,662.82	6.739E-01	Pulse	0.30	3
Cr	52	45	2	9.217	ppb	0.74	118,703.22	6.629E-01	Pulse	0.30	3
Mn	55	45	2	90.378	ppb	1.06	654,161.88	3.653E+00	Pulse	0.30	3
Fe	56	45	2	94.224	ppb	0.69	1,053,632.22	5.884E+00	Mix	0.30	3
Co	59	45	2	8.635	ppb	1.82	203,210.80	1.135E+00	Pulse	0.30	3
Ni	60	72	2	9.700	ppb	0.75	57,270.19	4.885E-01	Pulse	0.30	3
Cu	63	72	2	8.877	ppb	3.11	146,308.82	1.248E+00	Pulse	0.30	3
Zn	66	72	2	85.741	ppb	0.57	199,790.16	1.704E+00	Pulse	0.30	3
As	75	72	2	12.001	ppb	0.62	16,703.99	1.425E-01	Pulse	0.75	3
Se	78	72	1	10.696	ppb	1.47	6,548.27	4.610E-02	Pulse	0.30	3
Mo	95	103	2	16.093	ppb	0.54	115,302.30	3.932E-02	Pulse	0.30	3
Ag	107	103	3	4.895	ppb	7.04	298,565.32	4.288E-02	Pulse	0.30	3
Cd	111	115	3	9.400	ppb	0.30	132,254.53	1.709E-02	Pulse	0.30	3
Sb	121	115	3	10.251	ppb	0.32	499,491.65	6.454E-02	Pulse	0.30	3
OLR Ba	137	159	3	236.560	ppb	0.57	4,501,648.87	4.005E-01	Analog	0.30	3
Tl	205	209	3	9.910	ppb	0.59	1,011,072.41	1.786E-01	Pulse	0.30	3
Pb	208	209	3	10.621	ppb	0.25	1,453,967.76	2.568E-01	Pulse	0.30	3
U	238	209	3	15.584	ppb	0.48	2,292,291.29	4.049E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,820,584.53	0.59	70.9	Analog	0.30	3
2	Sc	45	179,079.00	1.62	87.8	Pulse	0.30	3
3	Sc	45	4,890,273.58	0.47	87.8	Analog	0.30	3
1	Ge	72	142,060.06	1.98	86.2	Pulse	0.30	3
2	Ge	72	117,237.36	1.10	86.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,932,205.34	1.88	80.4	Analog	0.30	3
3	Rh	103	6,961,337.74	0.85	82.1	Analog	0.30	3
3	In	115	7,739,376.75	0.16	87.6	Analog	0.30	3
3	Tb	159	11,239,051.78	0.60	90.6	Analog	0.30	3
3	Bi	209	5,661,373.32	0.58	81.6	Analog	0.30	3

Quantitation Report

File Name	A0226072.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:04
Sample Name	N018844-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	93.34	5.267E-05	Pulse	0.30	3
B	11	6	3	129.796	ppb	0.43	1,445,724.92	8.159E-01	Analog	0.30	3
Na	23	45	2	111480.569	ppb	0.50	177,348,250.69	1.026E+03	Analog	0.30	3
Mg	26	45	2	25905.723	ppb	0.84	4,584,832.85	2.651E+01	Analog	0.30	3
Al	27	45	2	11.053	ppb	5.15	4,913.65	2.842E-02	Pulse	0.30	3
K	39	45	2	4948.120	ppb	0.54	3,635,390.95	2.102E+01	Analog	0.30	3
Ca	44	45	3	72302.714	ppb	0.10	164,694,074.21	3.488E+01	Analog	0.30	3
V	51	45	2	2.075	ppb	2.35	22,623.02	1.308E-01	Pulse	0.30	3
Cr	52	45	2	0.027	ppb	18.20	703.32	4.068E-03	Pulse	0.30	3
Mn	55	45	2	0.402	ppb	5.47	3,169.36	1.831E-02	Pulse	0.30	3
Fe	56	45	2	13.715	ppb	15.01	154,610.89	8.933E-01	Pulse	0.30	3
Co	59	45	2	0.028	ppb	19.77	697.63	4.043E-03	Pulse	0.30	3
Ni	60	72	2	0.657	ppb	4.14	4,425.99	3.863E-02	Pulse	0.30	3
Cu	63	72	2	0.050	ppb	19.28	4,437.26	3.871E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-172.85	-1.507E-03	Pulse	0.30	3
As	75	72	2	2.331	ppb	2.17	3,200.84	2.793E-02	Pulse	0.75	3
Se	78	72	1	1.588	ppb	5.07	961.18	6.875E-03	Pulse	0.30	3
Mo	95	103	2	5.354	ppb	1.04	37,907.98	1.318E-02	Pulse	0.30	3
Ag	107	103	3	0.503	ppb	1.98	35,083.80	5.127E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-419.34	-5.504E-05	Pulse	0.30	3
Sb	121	115	3	0.303	ppb	3.45	15,284.69	2.006E-03	Pulse	0.30	3
Ba	137	159	3	136.688	ppb	0.68	2,559,480.58	2.315E-01	Analog	0.30	3
Tl	205	209	3	0.060	ppb	6.73	11,576.08	2.077E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-6,878.59	-1.234E-03	Pulse	0.30	3
U	238	209	3	4.834	ppb	0.31	700,119.06	1.256E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,771,885.69	0.69	69.0	Analog	0.30	3
2	Sc	45	172,947.32	1.91	84.8	Pulse	0.30	3
3	Sc	45	4,721,194.17	0.32	84.7	Analog	0.30	3
1	Ge	72	139,722.84	1.78	84.8	Pulse	0.30	3
2	Ge	72	114,601.47	1.37	84.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,876,373.08	1.18	78.8	Analog	0.30	3
3	Rh	103	6,842,464.76	0.29	80.7	Analog	0.30	3
3	In	115	7,619,848.02	0.33	86.2	Analog	0.30	3
3	Tb	159	11,057,081.50	0.42	89.1	Analog	0.30	3
3	Bi	209	5,573,291.38	0.11	80.3	Analog	0.30	3

Quantitation Report

File Name	A0226073.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:10
Sample Name	N018845-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	125.56	1.165E-04	Pulse	0.30	3
B	11	6	3	1834.314	ppb	0.79	10,378,079.06	9.626E+00	Analog	0.30	3
Na	23	45	2	2088564.067	ppb	0.85	2,904,377,485.61	1.912E+04	Analog	0.30	3
Mg	26	45	2	1791.530	ppb	0.54	278,750.19	1.835E+00	Pulse	0.30	3
Al	27	45	2	2.444	ppb	4.18	1,505.67	9.911E-03	Pulse	0.30	3
K	39	45	2	20850.413	ppb	0.84	13,345,760.08	8.784E+01	Analog	0.30	3
Ca	44	45	3	74553.481	ppb	0.63	153,104,939.94	3.597E+01	Analog	0.30	3
V	51	45	2	2.810	ppb	1.21	26,196.00	1.724E-01	Pulse	0.30	3
Cr	52	45	2	7.197	ppb	0.92	78,709.69	5.181E-01	Pulse	0.30	3
Mn	55	45	2	9.438	ppb	1.29	58,239.36	3.833E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-204,649.98	-1.347E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-2,151.11	-1.416E-02	Pulse	0.30	3
Ni	60	72	2	0.206	ppb	23.45	1,478.07	1.620E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-66,455.39	-7.278E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-8,356.91	-9.153E-02	Pulse	0.30	3
As	75	72	2	5.863	ppb	0.31	6,370.28	6.976E-02	Pulse	0.75	3
Se	78	72	1	0.458	ppb	13.82	217.79	2.004E-03	Pulse	0.30	3
Mo	95	103	2	61.989	ppb	1.06	321,477.03	1.510E-01	Pulse	0.30	3
Ag	107	103	3	0.537	ppb	20.53	27,623.74	5.420E-03	Pulse	0.30	3
Cd	111	115	3	0.026	ppb	4.13	179.34	3.098E-05	Pulse	0.30	3
Sb	121	115	3	0.022	ppb	15.25	1,357.89	2.346E-04	Pulse	0.30	3
Ba	137	159	3	54.104	ppb	0.31	777,118.07	9.169E-02	Pulse	0.30	3
Tl	205	209	3	0.086	ppb	3.73	9,641.29	2.548E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-27,602.98	-7.297E-03	Pulse	0.30	3
U	238	209	3	3.239	ppb	0.21	318,380.14	8.416E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,078,123.64	0.62	42.0	Analog	0.30	3
2	Sc	45	151,931.72	1.50	74.5	Pulse	0.30	3
3	Sc	45	4,256,478.82	0.21	76.4	Analog	0.30	3
1	Ge	72	108,610.41	0.88	65.9	Pulse	0.30	3
2	Ge	72	91,318.06	1.34	67.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,128,330.64	1.42	58.3	Analog	0.30	3
3	Rh	103	5,098,585.93	0.74	60.2	Analog	0.30	3
3	In	115	5,789,415.75	0.25	65.5	Analog	0.30	3
3	Tb	159	8,475,282.58	0.67	68.3	Analog	0.30	3
3	Bi	209	3,783,021.82	0.63	54.5	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0226074.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:15
Sample Name	N018845-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	95.56	1.149E-04	Pulse	0.30	3
B	11	6	3	2461.675	ppb	1.12	10,699,132.41	1.287E+01	Analog	0.30	3
Na	23	45	2	2916790.563	ppb	0.38	3,781,679,481.43	2.670E+04	Analog	0.30	3
Mg	26	45	2	5799.036	ppb	0.42	840,896.52	5.936E+00	Pulse	0.30	3
Al	27	45	2	1.932	ppb	8.20	1,248.46	8.810E-03	Pulse	0.30	3
K	39	45	2	24486.094	ppb	0.51	14,609,291.73	1.031E+02	Analog	0.30	3
Ca	44	45	3	157138.787	ppb	0.09	306,120,897.66	7.581E+01	Analog	0.30	3
V	51	45	2	0.197	ppb	15.94	3,471.64	2.452E-02	Pulse	0.30	3
Cr	52	45	2	0.403	ppb	2.97	4,395.71	3.103E-02	Pulse	0.30	3
Mn	55	45	2	73.686	ppb	0.55	421,982.48	2.979E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-91,436.29	-6.453E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,687.30	-2.603E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-2,002.03	-2.419E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-81,752.96	-9.875E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-9,798.48	-1.184E-01	Pulse	0.30	3
As	75	72	2	5.006	ppb	2.06	4,934.75	5.961E-02	Pulse	0.75	3
Se	78	72	1	0.656	ppb	16.86	274.46	2.859E-03	Pulse	0.30	3
Mo	95	103	2	82.239	ppb	0.60	389,115.87	2.003E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-3,618.41	-7.709E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-274.38	-5.147E-05	Pulse	0.30	3
Sb	121	115	3	0.098	ppb	2.43	3,809.51	7.142E-04	Pulse	0.30	3
Ba	137	159	3	46.062	ppb	0.58	599,585.99	7.808E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,856.87	5.551E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-35,322.02	-1.056E-02	Pulse	0.30	3
U	238	209	3	1.434	ppb	0.88	124,661.31	3.727E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	831,484.88	1.56	32.4	Analog	0.30	3
2	Sc	45	141,662.40	1.67	69.5	Pulse	0.30	3
3	Sc	45	4,038,163.48	0.39	72.5	Analog	0.30	3
1	Ge	72	95,869.51	1.30	58.2	Pulse	0.30	3
2	Ge	72	82,787.63	1.56	61.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,942,286.15	1.80	53.2	Analog	0.30	3
3	Rh	103	4,692,835.24	0.57	55.4	Analog	0.30	3
3	In	115	5,333,812.13	0.45	60.4	Analog	0.30	3
3	Tb	159	7,679,156.69	0.69	61.9	Analog	0.30	3
3	Bi	209	3,344,924.22	0.36	48.2	Analog	0.30	3

Quantitation Report

File Name	A0226075.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:21
Sample Name	N018845-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	180.01	1.082E-04	Pulse	0.30	3
B	11	6	3	1552.949	ppb	0.76	13,596,416.06	8.172E+00	Analog	0.30	3
Na	23	45	2	793874.517	ppb	1.66	1,282,730,363.11	7.270E+03	Analog	0.30	3
Mg	26	45	2	11752.971	ppb	1.39	2,122,578.13	1.203E+01	Analog	0.30	3
Al	27	45	2	3.674	ppb	8.94	2,214.18	1.256E-02	Pulse	0.30	3
K	39	45	2	9656.066	ppb	1.26	7,200,347.18	4.080E+01	Analog	0.30	3
Ca	44	45	3	105246.069	ppb	0.29	264,579,713.83	5.078E+01	Analog	0.30	3
V	51	45	2	5.693	ppb	2.34	59,208.79	3.356E-01	Pulse	0.30	3
OLR Cr	52	45	2	625.829	ppb	1.16	7,917,942.81	4.487E+01	Analog	0.30	3
Mn	55	45	2	2.038	ppb	2.39	14,889.60	8.440E-02	Pulse	0.30	3
Fe	56	45	2	3.223	ppb	1.37	42,890.09	2.430E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-675.08	-3.832E-03	Pulse	0.30	3
Ni	60	72	2	1.186	ppb	3.05	7,172.16	6.495E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-24,923.02	-2.256E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-3,215.48	-2.911E-02	Pulse	0.30	3
As	75	72	2	2.383	ppb	1.91	3,151.77	2.854E-02	Pulse	0.75	3
Se	78	72	1	12.257	ppb	3.03	6,788.34	5.283E-02	Pulse	0.30	3
Mo	95	103	2	90.827	ppb	1.63	586,164.17	2.212E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-5,865.54	-9.059E-04	Pulse	0.30	3
Cd	111	115	3	0.026	ppb	23.22	214.80	3.002E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	12.63	1,376.79	1.926E-04	Pulse	0.30	3
Ba	137	159	3	22.931	ppb	0.77	403,483.84	3.893E-02	Pulse	0.30	3
Tl	205	209	3	0.099	ppb	1.60	13,385.40	2.777E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-22,426.63	-4.652E-03	Pulse	0.30	3
U	238	209	3	12.024	ppb	0.48	1,506,106.55	3.124E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,663,811.60	0.19	64.8	Analog	0.30	3
2	Sc	45	176,500.71	2.83	86.6	Pulse	0.30	3
3	Sc	45	5,210,905.62	0.94	93.5	Analog	0.30	3
1	Ge	72	128,511.77	0.75	78.0	Pulse	0.30	3
2	Ge	72	110,473.10	2.62	81.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,649,370.41	1.08	72.6	Analog	0.30	3
3	Rh	103	6,474,572.82	0.35	76.4	Analog	0.30	3
3	In	115	7,150,382.20	0.86	80.9	Analog	0.30	3
3	Tb	159	10,365,132.13	0.65	83.5	Analog	0.30	3
3	Bi	209	4,820,678.36	0.53	69.5	Analog	0.30	3

Quantitation Report

File Name	A0226076.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:27
Sample Name	N018845-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	155.56	9.949E-05	Pulse	0.30	3
B	11	6	3	1583.390	ppb	0.82	13,007,714.21	8.329E+00	Analog	0.30	3
Na	23	45	2	789397.576	ppb	0.74	1,239,927,128.19	7.229E+03	Analog	0.30	3
Mg	26	45	2	11749.100	ppb	1.34	2,062,668.51	1.203E+01	Analog	0.30	3
Al	27	45	2	3.800	ppb	4.74	2,200.13	1.283E-02	Pulse	0.30	3
K	39	45	2	9579.505	ppb	0.55	6,943,830.31	4.048E+01	Analog	0.30	3
Ca	44	45	3	106008.222	ppb	0.16	254,649,296.21	5.114E+01	Analog	0.30	3
V	51	45	2	5.678	ppb	0.59	57,420.47	3.348E-01	Pulse	0.30	3
OLR Cr	52	45	2	625.711	ppb	0.67	7,694,523.71	4.486E+01	Analog	0.30	3
Mn	55	45	2	1.976	ppb	1.46	14,044.50	8.189E-02	Pulse	0.30	3
Fe	56	45	2	7.666	ppb	1.18	88,910.83	5.184E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-536.99	-3.133E-03	Pulse	0.30	3
Ni	60	72	2	1.206	ppb	1.92	6,978.92	6.596E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-24,614.08	-2.326E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,861.05	-2.704E-02	Pulse	0.30	3
As	75	72	2	2.335	ppb	1.31	2,959.91	2.798E-02	Pulse	0.75	3
Se	78	72	1	11.789	ppb	1.35	6,354.85	5.081E-02	Pulse	0.30	3
Mo	95	103	2	92.850	ppb	0.49	578,409.70	2.262E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-5,323.72	-8.544E-04	Pulse	0.30	3
Cd	111	115	3	0.032	ppb	36.89	279.98	4.063E-05	Pulse	0.30	3
Sb	121	115	3	0.018	ppb	1.48	1,457.91	2.117E-04	Pulse	0.30	3
Ba	137	159	3	23.305	ppb	0.20	392,309.43	3.956E-02	Pulse	0.30	3
Tl	205	209	3	0.104	ppb	1.99	13,217.49	2.858E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-21,125.23	-4.567E-03	Pulse	0.30	3
U	238	209	3	12.190	ppb	0.17	1,465,013.89	3.167E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,561,739.93	0.83	60.8	Analog	0.30	3
2	Sc	45	171,517.63	1.20	84.1	Pulse	0.30	3
3	Sc	45	4,979,177.11	0.31	89.4	Analog	0.30	3
1	Ge	72	125,067.92	1.24	75.9	Pulse	0.30	3
2	Ge	72	105,804.53	0.93	78.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,557,456.80	1.60	70.1	Analog	0.30	3
3	Rh	103	6,230,716.99	0.47	73.5	Analog	0.30	3
3	In	115	6,885,882.31	0.27	77.9	Analog	0.30	3
3	Tb	159	9,916,790.89	0.45	79.9	Analog	0.30	3
3	Bi	209	4,625,388.86	0.37	66.7	Analog	0.30	3

Quantitation Report

File Name	A0226077.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:32
Sample Name	CCV5,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.375	ppb	0.94	267,068.64	1.188E-01	Pulse	0.30	3
B	11	6	3	209.624	ppb	1.23	2,761,816.87	1.229E+00	Analog	0.30	3
Na	23	45	2	278.850	ppb	10.11	1,697,796.97	7.953E+00	Analog	0.30	3
Mg	26	45	2	202.283	ppb	1.28	44,462.81	2.083E-01	Pulse	0.30	3
Al	27	45	2	19.111	ppb	3.80	9,766.57	4.575E-02	Pulse	0.30	3
K	39	45	2	213.955	ppb	1.22	240,804.78	1.128E+00	Pulse	0.30	3
Ca	44	45	3	202.051	ppb	0.59	580,908.16	1.044E-01	Pulse	0.30	3
V	51	45	2	19.889	ppb	0.94	243,213.94	1.139E+00	Pulse	0.30	3
Cr	52	45	2	20.090	ppb	0.90	307,952.03	1.442E+00	Pulse	0.30	3
Mn	55	45	2	19.891	ppb	0.53	172,010.64	8.056E-01	Pulse	0.30	3
Fe	56	45	2	19.720	ppb	0.58	270,218.47	1.266E+00	Pulse	0.30	3
Co	59	45	2	20.197	ppb	0.73	566,684.62	2.654E+00	Pulse	0.30	3
Ni	60	72	2	19.924	ppb	1.02	143,428.85	9.971E-01	Pulse	0.30	3
Cu	63	72	2	19.824	ppb	0.48	395,141.48	2.747E+00	Pulse	0.30	3
Zn	66	72	2	19.425	ppb	1.60	58,161.69	4.043E-01	Pulse	0.30	3
As	75	72	2	20.621	ppb	1.48	35,181.47	2.446E-01	Pulse	0.75	3
Se	78	72	1	20.453	ppb	2.34	15,834.98	8.813E-02	Pulse	0.30	3
Mo	95	103	2	20.187	ppb	0.37	184,764.24	4.928E-02	Pulse	0.30	3
Ag	107	103	3	19.758	ppb	0.89	1,494,601.20	1.706E-01	Analog	0.30	3
Cd	111	115	3	20.298	ppb	0.72	345,670.27	3.692E-02	Pulse	0.30	3
Sb	121	115	3	19.774	ppb	0.83	1,164,782.50	1.244E-01	Analog	0.30	3
Ba	137	159	3	21.550	ppb	0.64	474,049.95	3.659E-02	Pulse	0.30	3
Tl	205	209	3	20.000	ppb	0.74	2,588,161.40	3.594E-01	Analog	0.30	3
Pb	208	209	3	20.632	ppb	0.11	3,591,490.80	4.987E-01	Analog	0.30	3
U	238	209	3	19.754	ppb	0.44	3,696,173.14	5.133E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,248,114.45	0.61	87.5	Analog	0.30	3
2	Sc	45	213,508.14	0.48	104.7	Pulse	0.30	3
3	Sc	45	5,562,831.17	0.79	99.8	Analog	0.30	3
1	Ge	72	179,680.26	0.70	109.0	Pulse	0.30	3
2	Ge	72	143,851.33	0.70	106.4	Pulse	0.30	3
2	Rh	103	3,748,949.57	0.31	102.7	Analog	0.30	3
3	Rh	103	8,760,423.13	0.11	103.4	Analog	0.30	3
3	In	115	9,362,865.16	0.29	106.0	Analog	0.30	3
3	Tb	159	12,956,268.97	1.19	104.4	Analog	0.30	3
3	Bi	209	7,201,423.50	0.34	103.8	Analog	0.30	3

Quantitation Report

File Name	A0226078.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:40
Sample Name	CCB5,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	68.89	3.432E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	289,088.30	1.441E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	784,744.76	4.126E+00	Pulse	0.30	3
Mg	26	45	2	0.347	ppb	40.35	304.46	1.599E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	815.59	4.284E-03	Pulse	0.30	3
K	39	45	2	8.103	ppb	28.33	49,999.07	2.629E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	33,681.63	6.886E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,664.60	8.745E-03	Pulse	0.30	3
Cr	52	45	2	0.032	ppb	17.27	839.26	4.414E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	387.81	2.040E-03	Pulse	0.30	3
Fe	56	45	2	0.085	ppb	21.25	9,227.19	4.849E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	56.95	2.991E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	650.30	5.076E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,311.04	2.585E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,832.04	2.210E-02	Pulse	0.30	3
As	75	72	2	0.000	ppb	4234.47	40.45	3.159E-04	Pulse	0.75	3
Se	78	72	1	0.005	ppb	290.48	8.89	5.582E-05	Pulse	0.30	3
Mo	95	103	2	0.124	ppb	1.08	1,507.92	4.482E-04	Pulse	0.30	3
Ag	107	103	3	0.573	ppb	14.57	44,986.54	5.732E-03	Pulse	0.30	3
Cd	111	115	3	0.003	ppb	30.92	-88.34	-1.064E-05	Pulse	0.30	3
Sb	121	115	3	0.026	ppb	2.81	2,169.13	2.612E-04	Pulse	0.30	3
Ba	137	159	3	0.004	ppb	118.02	1,388.73	1.191E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,775.74	2.735E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.002	ppb	41.67	1,381.00	2.126E-04	Pulse	0.30	3
U	238	209	3	0.001	ppb	7.22	363.57	5.597E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,006,942.27	1.29	78.1	Analog	0.30	3
2	Sc	45	190,287.02	1.75	93.3	Pulse	0.30	3
3	Sc	45	4,891,596.00	0.09	87.8	Analog	0.30	3
1	Ge	72	159,505.69	0.85	96.8	Pulse	0.30	3
2	Ge	72	128,120.66	1.45	94.8	Pulse	0.30	3
2	Rh	103	3,364,377.38	0.77	92.2	Analog	0.30	3
3	Rh	103	7,847,353.28	0.76	92.6	Analog	0.30	3
3	In	115	8,305,292.43	0.69	94.0	Analog	0.30	3
3	Tb	159	11,661,632.19	0.30	94.0	Analog	0.30	3
3	Bi	209	6,494,413.38	0.49	93.6	Analog	0.30	3

Quantitation Report

File Name	A0226079.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:45
Sample Name	N018845-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	63.34	4.055E-05	Pulse	0.30	3
B	11	6	3	920.197	ppb	1.04	7,656,908.82	4.901E+00	Analog	0.30	3
Na	23	45	2	592570.900	ppb	0.69	924,517,488.45	5.428E+03	Analog	0.30	3
Mg	26	45	2	28730.448	ppb	0.72	5,008,392.88	2.940E+01	Analog	0.30	3
Al	27	45	2	7.604	ppb	10.37	3,576.57	2.101E-02	Pulse	0.30	3
K	39	45	2	12550.770	ppb	1.29	9,022,458.41	5.297E+01	Analog	0.30	3
Ca	44	45	3	199464.201	ppb	0.25	473,080,788.51	9.622E+01	Analog	0.30	3
V	51	45	2	1.760	ppb	4.24	19,249.33	1.130E-01	Pulse	0.30	3
Cr	52	45	2	146.963	ppb	1.27	1,795,041.96	1.054E+01	Analog	0.30	3
Mn	55	45	2	8.029	ppb	1.41	55,606.63	3.264E-01	Pulse	0.30	3
Fe	56	45	2	47.291	ppb	0.30	506,679.91	2.975E+00	Pulse	0.30	3
Co	59	45	2	1.165	ppb	2.35	26,129.17	1.534E-01	Pulse	0.30	3
Ni	60	72	2	100.012	ppb	0.95	533,477.62	4.981E+00	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-3,446.52	-3.221E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,960.99	1.832E-02	Pulse	0.30	3
As	75	72	2	0.553	ppb	4.90	735.23	6.869E-03	Pulse	0.75	3
Se	78	72	1	7.109	ppb	5.76	3,833.97	3.065E-02	Pulse	0.30	3
Mo	95	103	2	32.585	ppb	0.79	204,667.41	7.946E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-5,402.92	-8.701E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,132.64	-1.631E-04	Pulse	0.30	3
Sb	121	115	3	0.069	ppb	5.53	3,720.59	5.357E-04	Pulse	0.30	3
Ba	137	159	3	46.059	ppb	0.28	785,074.80	7.808E-02	Pulse	0.30	3
Tl	205	209	3	0.440	ppb	0.71	42,115.21	8.887E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-31,454.64	-6.637E-03	Pulse	0.30	3
U	238	209	3	8.117	ppb	0.68	999,472.20	2.109E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,562,241.26	0.38	60.8	Analog	0.30	3
2	Sc	45	170,328.04	0.76	83.5	Pulse	0.30	3
3	Sc	45	4,916,479.89	0.14	88.2	Analog	0.30	3
1	Ge	72	125,078.39	0.69	75.9	Pulse	0.30	3
2	Ge	72	107,112.87	2.41	79.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,575,526.25	1.58	70.6	Analog	0.30	3
3	Rh	103	6,209,834.21	0.20	73.3	Analog	0.30	3
3	In	115	6,944,440.57	0.21	78.6	Analog	0.30	3
3	Tb	159	10,055,342.76	0.62	81.0	Analog	0.30	3
3	Bi	209	4,739,204.58	0.36	68.3	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0226080.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:51
Sample Name	N018845-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	50.00	6.263E-05	Pulse	0.30	3
B	11	6	3	2575.273	ppb	2.53	10,715,373.68	1.346E+01	Analog	0.30	3
Na	23	45	2	2623594.347	ppb	0.70	3,413,965,815.80	2.401E+04	Analog	0.30	3
Mg	26	45	2	19224.895	ppb	1.02	2,797,361.70	1.968E+01	Analog	0.30	3
Al	27	45	2	1.447	ppb	51.25	1,104.58	7.768E-03	Pulse	0.30	3
K	39	45	2	28826.310	ppb	1.00	17,254,265.02	1.214E+02	Analog	0.30	3
Ca	44	45	3	307593.598	ppb	0.39	608,899,537.59	1.484E+02	Analog	0.30	3
V	51	45	2	4.824	ppb	0.61	40,716.45	2.864E-01	Pulse	0.30	3
Cr	52	45	2	475.681	ppb	1.03	4,848,830.83	3.410E+01	Analog	0.30	3
Mn	55	45	2	26.674	ppb	1.06	153,504.14	1.080E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-250,659.52	-1.763E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-2,792.35	-1.964E-02	Pulse	0.30	3
Ni	60	72	2	1.095	ppb	1.04	5,002.83	6.042E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-81,648.81	-9.862E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-6,212.11	-7.504E-02	Pulse	0.30	3
As	75	72	2	2.094	ppb	5.48	2,078.89	2.512E-02	Pulse	0.75	3
Se	78	72	1	4.423	ppb	4.03	1,849.07	1.909E-02	Pulse	0.30	3
Mo	95	103	2	38.822	ppb	0.97	180,524.91	9.464E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-6,954.44	-1.500E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,595.16	-3.011E-04	Pulse	0.30	3
Sb	121	115	3	0.041	ppb	8.51	1,896.85	3.581E-04	Pulse	0.30	3
Ba	137	159	3	39.764	ppb	1.12	518,284.43	6.742E-02	Pulse	0.30	3
Tl	205	209	3	2.080	ppb	2.12	127,110.32	3.827E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-53,620.28	-1.614E-02	Pulse	0.30	3
U	238	209	3	4.175	ppb	0.59	360,345.74	1.085E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	796,605.76	2.15	31.0	Analog	0.30	3
2	Sc	45	142,169.31	0.53	69.7	Pulse	0.30	3
3	Sc	45	4,103,588.10	0.17	73.7	Analog	0.30	3
1	Ge	72	96,905.57	0.98	58.8	Pulse	0.30	3
2	Ge	72	82,802.28	2.12	61.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,907,283.20	1.23	52.3	Analog	0.30	3
3	Rh	103	4,634,889.55	0.31	54.7	Analog	0.30	3
3	In	115	5,297,630.48	0.17	60.0	Analog	0.30	3
3	Tb	159	7,687,576.97	0.59	62.0	Analog	0.30	3
3	Bi	209	3,321,531.48	0.43	47.9	Analog	0.30	3

Quantitation Report

File Name	A0226081.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 02:56
Sample Name	N018845-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	71.12	3.923E-05	Pulse	0.30	3
B	11	6	3	921.103	ppb	0.56	8,883,687.60	4.906E+00	Analog	0.30	3
Na	23	45	2	360996.668	ppb	0.17	582,586,369.10	3.309E+03	Analog	0.30	3
Mg	26	45	2	4940.371	ppb	0.43	890,405.55	5.057E+00	Pulse	0.30	3
Al	27	45	2	1.760	ppb	20.02	1,485.78	8.441E-03	Pulse	0.30	3
K	39	45	2	4430.510	ppb	0.20	3,318,446.65	1.885E+01	Analog	0.30	3
Ca	44	45	3	22771.191	ppb	0.61	56,131,235.27	1.099E+01	Analog	0.30	3
V	51	45	2	0.817	ppb	0.93	10,491.54	5.959E-02	Pulse	0.30	3
Cr	52	45	2	0.271	ppb	4.60	3,794.68	2.156E-02	Pulse	0.30	3
OLR Mn	55	45	2	210.864	ppb	0.24	1,500,380.30	8.521E+00	Analog	0.30	3
Fe	56	45	2	35.727	ppb	1.20	397,527.34	2.258E+00	Pulse	0.30	3
Co	59	45	2	0.021	ppb	20.77	549.07	3.125E-03	Pulse	0.30	3
Ni	60	72	2	0.292	ppb	6.69	2,328.12	2.049E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-12,013.42	-1.057E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,221.48	1.075E-02	Pulse	0.30	3
As	75	72	2	14.205	ppb	1.47	19,150.54	1.686E-01	Pulse	0.75	3
Se	78	72	1	0.076	ppb	34.29	48.89	3.599E-04	Pulse	0.30	3
Mo	95	103	2	41.681	ppb	1.16	284,994.16	1.016E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,335.76	-3.414E-04	Pulse	0.30	3
Cd	111	115	3	0.036	ppb	10.35	360.84	4.776E-05	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	2.44	1,526.81	2.021E-04	Pulse	0.30	3
Ba	137	159	3	34.760	ppb	0.70	640,002.11	5.895E-02	Pulse	0.30	3
Tl	205	209	3	0.109	ppb	5.46	15,583.20	2.943E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-6,490.88	-1.226E-03	Pulse	0.30	3
U	238	209	3	0.563	ppb	0.78	77,508.58	1.464E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,810,795.42	0.68	70.5	Analog	0.30	3
2	Sc	45	176,078.25	1.76	86.3	Pulse	0.30	3
3	Sc	45	5,107,042.84	0.68	91.7	Analog	0.30	3
1	Ge	72	135,908.14	0.65	82.5	Pulse	0.30	3
2	Ge	72	113,615.56	1.72	84.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,804,713.78	1.25	76.9	Analog	0.30	3
3	Rh	103	6,840,874.06	0.38	80.7	Analog	0.30	3
3	In	115	7,555,858.73	0.30	85.5	Analog	0.30	3
3	Tb	159	10,856,750.39	0.18	87.5	Analog	0.30	3
3	Bi	209	5,294,635.62	0.50	76.3	Analog	0.30	3

Quantitation Report

File Name	A0226082.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 03:02
Sample Name	N018845-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	48.89	3.390E-05	Pulse	0.30	3
B	11	6	3	415.798	ppb	0.76	3,306,636.75	2.294E+00	Analog	0.30	3
Na	23	45	2	705911.912	ppb	0.44	1,028,286,446.90	6.465E+03	Analog	0.30	3
Mg	26	45	2	49340.751	ppb	0.09	8,031,761.83	5.050E+01	Analog	0.30	3
Al	27	45	2	2.015	ppb	12.96	1,430.34	8.990E-03	Pulse	0.30	3
K	39	45	2	16612.984	ppb	0.70	11,140,002.61	7.004E+01	Analog	0.30	3
Ca	44	45	3	416992.009	ppb	0.12	909,477,142.00	2.012E+02	Analog	0.30	3
V	51	45	2	6.221	ppb	0.35	58,139.46	3.655E-01	Pulse	0.30	3
OLR Cr	52	45	2	36331.981	ppb	0.50	414,303,574.57	2.605E+03	Analog	0.30	3
Mn	55	45	2	<0.000	ppb	---	-11,991.83	-7.538E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-31,985.70	-2.011E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,853.85	-1.166E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-2,439.08	-2.474E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-30,420.23	-3.086E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-8,120.74	-8.237E-02	Pulse	0.30	3
As	75	72	2	2.741	ppb	1.76	3,230.96	3.278E-02	Pulse	0.75	3
Se	78	72	1	17.310	ppb	2.37	8,789.38	7.459E-02	Pulse	0.30	3
Mo	95	103	2	56.777	ppb	0.94	329,499.20	1.384E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-10,948.02	-1.908E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,441.69	-3.835E-04	Pulse	0.30	3
Sb	121	115	3	0.026	ppb	4.63	1,664.61	2.614E-04	Pulse	0.30	3
Ba	137	159	3	36.612	ppb	0.88	579,377.92	6.209E-02	Pulse	0.30	3
Tl	205	209	3	0.135	ppb	2.97	14,548.77	3.419E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-53,125.74	-1.248E-02	Pulse	0.30	3
U	238	209	3	1.635	ppb	0.51	180,846.89	4.250E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,441,330.28	0.62	56.1	Analog	0.30	3
2	Sc	45	159,059.07	0.92	78.0	Pulse	0.30	3
3	Sc	45	4,521,290.90	0.31	81.2	Analog	0.30	3
1	Ge	72	117,850.09	0.75	71.5	Pulse	0.30	3
2	Ge	72	98,587.65	1.51	72.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,381,565.03	0.47	65.3	Analog	0.30	3
3	Rh	103	5,739,568.73	0.49	67.7	Analog	0.30	3
3	In	115	6,367,261.34	0.23	72.1	Analog	0.30	3
3	Tb	159	9,332,018.40	0.86	75.2	Analog	0.30	3
3	Bi	209	4,255,574.49	0.94	61.3	Analog	0.30	3

Quantitation Report

File Name	A0226083.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 03:08
Sample Name	CCV6,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.108	ppb	1.10	240,671.54	1.172E-01	Pulse	0.30	3
B	11	6	3	198.473	ppb	1.04	2,403,652.36	1.171E+00	Analog	0.30	3
Na	23	45	2	60.499	ppb	36.34	1,135,372.28	5.955E+00	Analog	0.30	3
Mg	26	45	2	203.663	ppb	0.20	39,989.38	2.097E-01	Pulse	0.30	3
Al	27	45	2	19.105	ppb	1.40	8,723.08	4.574E-02	Pulse	0.30	3
K	39	45	2	209.925	ppb	1.22	211,869.33	1.111E+00	Pulse	0.30	3
Ca	44	45	3	208.266	ppb	1.16	546,043.04	1.074E-01	Pulse	0.30	3
V	51	45	2	20.079	ppb	0.59	219,306.04	1.150E+00	Pulse	0.30	3
Cr	52	45	2	27.922	ppb	1.98	382,127.09	2.004E+00	Pulse	0.30	3
Mn	55	45	2	20.085	ppb	1.63	155,133.60	8.135E-01	Pulse	0.30	3
Fe	56	45	2	19.886	ppb	0.78	243,326.65	1.276E+00	Pulse	0.30	3
Co	59	45	2	20.307	ppb	0.66	508,976.63	2.669E+00	Pulse	0.30	3
Ni	60	72	2	19.894	ppb	0.85	129,528.45	9.956E-01	Pulse	0.30	3
Cu	63	72	2	19.884	ppb	0.56	358,453.26	2.755E+00	Pulse	0.30	3
Zn	66	72	2	19.426	ppb	0.99	52,608.94	4.044E-01	Pulse	0.30	3
As	75	72	2	20.385	ppb	0.54	31,457.00	2.418E-01	Pulse	0.75	3
Se	78	72	1	20.607	ppb	0.84	14,315.76	8.879E-02	Pulse	0.30	3
Mo	95	103	2	20.162	ppb	0.61	169,387.37	4.922E-02	Pulse	0.30	3
Ag	107	103	3	19.844	ppb	0.76	1,404,946.00	1.713E-01	Analog	0.30	3
Cd	111	115	3	20.325	ppb	0.90	326,174.39	3.697E-02	Pulse	0.30	3
Sb	121	115	3	19.721	ppb	1.17	1,094,716.65	1.241E-01	Analog	0.30	3
Ba	137	159	3	21.639	ppb	0.65	450,003.85	3.674E-02	Pulse	0.30	3
Tl	205	209	3	20.041	ppb	0.73	2,485,770.17	3.601E-01	Analog	0.30	3
Pb	208	209	3	20.520	ppb	0.22	3,423,455.42	4.960E-01	Analog	0.30	3
U	238	209	3	19.616	ppb	0.10	3,517,684.65	5.097E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	2,052,877.91	0.66	79.9	Analog	0.30	3
2	Sc	45	190,726.05	1.34	93.5	Pulse	0.30	3
3	Sc	45	5,083,128.81	0.56	91.2	Analog	0.30	3
1	Ge	72	161,230.31	0.87	97.9	Pulse	0.30	3
2	Ge	72	130,106.48	1.29	96.2	Pulse	0.30	3
2	Rh	103	3,441,226.16	1.50	94.3	Analog	0.30	3
3	Rh	103	8,199,374.88	0.18	96.7	Analog	0.30	3
3	In	115	8,823,316.27	0.65	99.9	Analog	0.30	3
3	Tb	159	12,248,258.15	0.29	98.7	Analog	0.30	3
3	Bi	209	6,902,078.79	0.10	99.5	Analog	0.30	3

Quantitation Report

File Name	A0226084.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 03:14
Sample Name	CCB6,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	80.00	4.279E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	235,425.84	1.259E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	557,448.47	3.175E+00	Pulse	0.30	3
Mg	26	45	2	0.206	ppb	23.79	255.57	1.455E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	787.80	4.485E-03	Pulse	0.30	3
K	39	45	2	6.816	ppb	26.32	45,211.03	2.575E-01	Pulse	0.30	3
Ca	44	45	3	1.109	ppb	18.86	34,632.59	7.500E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,066.75	6.070E-03	Pulse	0.30	3
Cr	52	45	2	4.053	ppb	14.04	51,350.85	2.927E-01	Pulse	0.30	3
Mn	55	45	2	0.003	ppb	114.36	383.74	2.184E-03	Pulse	0.30	3
Fe	56	45	2	0.092	ppb	19.94	8,595.53	4.895E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	47.18	2.697E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	561.63	4.705E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,816.40	2.360E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	2,348.16	1.967E-02	Pulse	0.30	3
As	75	72	2	0.005	ppb	292.01	44.44	3.742E-04	Pulse	0.75	3
Se	78	72	1	0.024	ppb	63.98	20.00	1.357E-04	Pulse	0.30	3
Mo	95	103	2	0.142	ppb	21.96	1,567.92	4.935E-04	Pulse	0.30	3
Ag	107	103	3	0.653	ppb	15.01	48,336.62	6.414E-03	Pulse	0.30	3
Cd	111	115	3	0.007	ppb	2.43	-34.54	-4.306E-06	Pulse	0.30	3
Sb	121	115	3	0.053	ppb	7.44	3,467.19	4.323E-04	Pulse	0.30	3
Ba	137	159	3	0.006	ppb	33.46	1,389.89	1.239E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	2,464.75	3.956E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.003	ppb	13.85	1,550.49	2.488E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	12.98	556.41	8.926E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,869,262.15	0.53	72.8	Analog	0.30	3
2	Sc	45	175,642.96	1.29	86.1	Pulse	0.30	3
3	Sc	45	4,617,878.51	0.48	82.9	Analog	0.30	3
1	Ge	72	146,286.44	2.39	88.8	Pulse	0.30	3
2	Ge	72	119,420.74	2.05	88.3	Pulse	0.30	3
2	Rh	103	3,180,107.35	1.24	87.1	Analog	0.30	3
3	Rh	103	7,532,948.29	0.42	88.9	Analog	0.30	3
3	In	115	8,020,109.29	0.30	90.8	Analog	0.30	3
3	Tb	159	11,214,394.00	0.43	90.4	Analog	0.30	3
3	Bi	209	6,231,911.71	0.55	89.8	Analog	0.30	3

Quantitation Report

File Name	A0226085.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 03:19
Sample Name	LLCCV2,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.511	ppb	4.35	6,093.57	3.101E-03	Pulse	0.30	3
B	11	6	3	44.753	ppb	0.64	739,543.67	3.764E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	515,309.61	2.766E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	161.13	8.665E-04	Pulse	0.30	3
Al	27	45	2	8.440	ppb	2.99	4,249.59	2.280E-02	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	41,641.74	2.235E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	18,442.09	3.788E-03	Pulse	0.30	3
V	51	45	2	0.904	ppb	1.93	12,027.08	6.455E-02	Pulse	0.30	3
Cr	52	45	2	3.027	ppb	7.16	40,816.30	2.192E-01	Pulse	0.30	3
Mn	55	45	2	0.481	ppb	4.33	4,003.34	2.148E-02	Pulse	0.30	3
Fe	56	45	2	10.025	ppb	0.26	123,847.68	6.646E-01	Pulse	0.30	3
Co	59	45	2	0.503	ppb	3.73	12,377.85	6.643E-02	Pulse	0.30	3
Ni	60	72	2	0.974	ppb	2.70	6,946.68	5.438E-02	Pulse	0.30	3
Cu	63	72	2	0.897	ppb	1.71	19,770.39	1.548E-01	Pulse	0.30	3
Zn	66	72	2	9.421	ppb	2.70	26,598.91	2.083E-01	Pulse	0.30	3
As	75	72	2	0.083	ppb	24.88	165.78	1.296E-03	Pulse	0.75	3
Se	78	72	1	0.504	ppb	3.60	340.02	2.203E-03	Pulse	0.30	3
Mo	95	103	2	0.524	ppb	3.95	4,782.02	1.421E-03	Pulse	0.30	3
Ag	107	103	3	0.440	ppb	1.77	36,343.63	4.583E-03	Pulse	0.30	3
Cd	111	115	3	0.543	ppb	1.86	8,225.43	9.712E-04	Pulse	0.30	3
Sb	121	115	3	0.543	ppb	0.56	29,765.65	3.515E-03	Pulse	0.30	3
Ba	137	159	3	1.070	ppb	1.63	22,792.37	1.924E-03	Pulse	0.30	3
Tl	205	209	3	0.382	ppb	1.34	51,891.93	7.846E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	1.090	ppb	0.30	175,382.15	2.652E-02	Pulse	0.30	3
U	238	209	3	0.516	ppb	0.63	88,789.37	1.342E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,964,975.20	0.51	76.5	Analog	0.30	3
2	Sc	45	186,336.88	1.05	91.4	Pulse	0.30	3
3	Sc	45	4,868,427.88	0.42	87.4	Analog	0.30	3
1	Ge	72	154,368.00	0.91	93.7	Pulse	0.30	3
2	Ge	72	127,750.77	1.64	94.5	Pulse	0.30	3
2	Rh	103	3,364,031.96	0.95	92.2	Analog	0.30	3
3	Rh	103	7,930,750.16	0.24	93.6	Analog	0.30	3
3	In	115	8,469,162.62	0.41	95.9	Analog	0.30	3
3	Tb	159	11,845,429.55	0.53	95.5	Analog	0.30	3
3	Bi	209	6,614,191.36	0.41	95.3	Analog	0.30	3

Quantitation Report

File Name	A0226086.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 03:25
Sample Name	ICSA3,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	82.23	4.204E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	140,662.92	7.191E-02	Pulse	0.30	3
Na	23	45	2	122525.944	ppb	1.28	217,896,245.64	1.127E+03	Analog	0.30	3
Mg	26	45	2	99344.124	ppb	1.14	19,664,810.82	1.017E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	596.85	3.071E-03	Pulse	0.30	3
K	39	45	2	107022.867	ppb	1.30	87,028,619.82	4.500E+02	Analog	0.30	3
Ca	44	45	3	97810.012	ppb	0.28	252,193,907.35	4.719E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	1,156.77	5.977E-03	Pulse	0.30	3
Cr	52	45	2	1.585	ppb	10.41	22,347.08	1.157E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-20,623.56	-1.066E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,854.41	1.981E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	55.53	287.03	1.476E-03	Pulse	0.30	3
Ni	60	72	2	0.244	ppb	6.38	2,236.94	1.810E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-6,587.54	-5.330E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,186.57	-1.770E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	-5.65	-4.552E-05	Pulse	0.75	3
Se	78	72	1	0.024	ppb	100.78	20.00	1.361E-04	Pulse	0.30	3
Mo	95	103	2	0.017	ppb	76.32	566.70	1.886E-04	Pulse	0.30	3
Ag	107	103	3	0.085	ppb	17.74	11,321.88	1.533E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-585.01	-7.264E-05	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	11.21	1,619.04	2.010E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-25,233.67	-2.205E-03	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	2,434.75	4.480E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,474.28	-4.554E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	12.77	324.01	5.961E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,956,242.50	0.37	76.2	Analog	0.30	3
2	Sc	45	193,457.11	2.73	94.9	Pulse	0.30	3
3	Sc	45	5,344,454.23	0.23	95.9	Analog	0.30	3
1	Ge	72	146,304.18	1.10	88.8	Pulse	0.30	3
2	Ge	72	123,555.88	1.16	91.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,007,549.16	1.32	82.4	Analog	0.30	3
3	Rh	103	7,381,777.95	0.72	87.1	Analog	0.30	3
3	In	115	8,055,225.75	0.57	91.2	Analog	0.30	3
3	Tb	159	11,441,629.55	0.51	92.2	Analog	0.30	3
3	Bi	209	5,434,279.64	0.50	78.3	Analog	0.30	3

Quantitation Report

File Name	A0226087.D
File Path	C:\ICPMH\1\DATA\160226A1.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	02/27/2016 03:30
Sample Name	ICSAB3,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/01/2016 15:47
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.277	ppb	0.64	234,973.24	1.182E-01	Pulse	0.30	3
B	11	6	3	190.213	ppb	0.79	2,242,420.07	1.128E+00	Analog	0.30	3
Na	23	45	2	120095.146	ppb	0.46	218,069,827.86	1.104E+03	Analog	0.30	3
Mg	26	45	2	96470.476	ppb	0.24	19,495,612.49	9.873E+01	Analog	0.30	3
Al	27	45	2	20.669	ppb	2.95	9,697.86	4.910E-02	Pulse	0.30	3
K	39	45	2	103623.616	ppb	0.52	86,034,816.50	4.357E+02	Analog	0.30	3
Ca	44	45	3	95855.270	ppb	0.46	248,136,685.19	4.625E+01	Analog	0.30	3
V	51	45	2	20.383	ppb	0.99	230,459.60	1.167E+00	Pulse	0.30	3
Cr	52	45	2	20.664	ppb	1.27	292,930.21	1.484E+00	Pulse	0.30	3
Mn	55	45	2	16.506	ppb	1.12	132,073.71	6.689E-01	Pulse	0.30	3
Fe	56	45	2	19.533	ppb	0.78	247,609.65	1.254E+00	Pulse	0.30	3
Co	59	45	2	18.847	ppb	0.71	489,070.13	2.477E+00	Pulse	0.30	3
Ni	60	72	2	19.347	ppb	0.90	120,101.45	9.684E-01	Pulse	0.30	3
Cu	63	72	2	18.087	ppb	0.46	311,163.29	2.509E+00	Pulse	0.30	3
Zn	66	72	2	16.804	ppb	1.19	43,775.58	3.530E-01	Pulse	0.30	3
As	75	72	2	20.348	ppb	0.75	29,929.29	2.413E-01	Pulse	0.75	3
Se	78	72	1	19.192	ppb	1.78	12,286.29	8.270E-02	Pulse	0.30	3
Mo	95	103	2	23.406	ppb	0.92	171,486.69	5.712E-02	Pulse	0.30	3
Ag	107	103	3	19.361	ppb	0.80	1,223,138.97	1.672E-01	Analog	0.30	3
Cd	111	115	3	19.476	ppb	0.16	284,905.24	3.542E-02	Pulse	0.30	3
Sb	121	115	3	20.845	ppb	0.32	1,054,747.90	1.311E-01	Pulse	0.30	3
Ba	137	159	3	21.142	ppb	0.70	410,083.47	3.590E-02	Pulse	0.30	3
Tl	205	209	3	22.124	ppb	0.85	2,150,032.34	3.975E-01	Analog	0.30	3
Pb	208	209	3	22.277	ppb	0.82	2,912,640.81	5.385E-01	Analog	0.30	3
U	238	209	3	22.645	ppb	0.48	3,182,587.08	5.884E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,987,540.70	0.46	77.4	Analog	0.30	3
2	Sc	45	197,474.61	1.79	96.8	Pulse	0.30	3
3	Sc	45	5,365,735.61	0.42	96.3	Analog	0.30	3
1	Ge	72	148,570.47	0.82	90.2	Pulse	0.30	3
2	Ge	72	124,020.14	1.76	91.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	3,002,123.88	1.23	82.3	Analog	0.30	3
3	Rh	103	7,315,413.50	0.61	86.3	Analog	0.30	3
3	In	115	8,042,935.44	0.22	91.0	Analog	0.30	3
3	Tb	159	11,422,788.03	0.62	92.1	Analog	0.30	3
3	Bi	209	5,409,262.14	0.43	78.0	Analog	0.30	3

RAW DATA

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307001.D	RINSE	RINSE	1	03/07/16 7:37 PM
A0307002.D	Cal Blank	IBLK	1	03/07/16 7:42 PM
A0307003.D	Std1-0.1/1 ppb	ICAL	1	03/07/16 7:48 PM
A0307004.D	Std2-0.5/5 ppb	ICAL	1	03/07/16 7:54 PM
A0307005.D	Std3-5/50 ppb	ICAL	1	03/07/16 7:59 PM
A0307006.D	Std4-10/100 ppb	ICAL	1	03/07/16 8:05 PM
A0307007.D	Std5-20/200 ppb	ICAL	1	03/07/16 8:10 PM
A0307008.D	Std6-40/400 ppb	ICAL	1	03/07/16 8:16 PM
A0307009.D	Std7-100/1000 ppb	ICAL	1	03/07/16 8:21 PM
A0307010.D	Std8-200/2000 ppb	ICAL	1	03/07/16 8:27 PM
A0307011.D	ICV	ICV	1	03/07/16 8:32 PM
A0307012.D	ICB	ICB	1	03/07/16 8:38 PM
A0307013.D	LLICV	CCV1	1	03/07/16 8:43 PM
A0307014.D	ICSA1	ICSA	1	03/07/16 8:49 PM
A0307015.D	ICSAB1	ICSAB	1	03/07/16 8:54 PM
A0307016.D	LLICV	CCV1	1	03/07/16 9:00 PM
A0307017.D	N018396-002B	SAMP	5	03/07/16 9:05 PM
A0307018.D	MB-56426	MBLK	1	03/07/16 9:11 PM
A0307019.D	LCS-56426	LCS	1	03/07/16 9:17 PM
A0307020.D	N018845-009B	SAMP	1	03/07/16 9:22 PM
A0307021.D	N018845-009B	SAMP	5	03/07/16 9:28 PM
A0307022.D	N018845-009B-PS	PS	1	03/07/16 9:33 PM
A0307023.D	N018845-009B-MS	MS	1	03/07/16 9:39 PM
A0307024.D	N018845-009B-MSD	MSD	1	03/07/16 9:44 PM
A0307025.D	N018845-010B	SAMP	1	03/07/16 9:50 PM
A0307026.D	N018855-001B	SAMP	1	03/07/16 9:55 PM
A0307027.D	CCV1	CCV	1	03/07/16 10:01 PM
A0307028.D	CCB1	CCB	1	03/07/16 10:06 PM
A0307029.D	N018855-002B	SAMP	1	03/07/16 10:12 PM
A0307030.D	N018855-003B	SAMP	1	03/07/16 10:17 PM
A0307031.D	N018855-004B	SAMP	1	03/07/16 10:23 PM
A0307032.D	N018857-019B	SAMP	1	03/07/16 10:29 PM
A0307033.D	N018833-001B	SAMP	25	03/07/16 10:34 PM
A0307034.D	N018833-001B-PS	PS	5	03/07/16 10:40 PM
A0307035.D	N018833-001B-MS	MS	5	03/07/16 10:45 PM
A0307036.D	N018833-001B-MSD	MSD	5	03/07/16 10:51 PM
A0307037.D	N018834-001B	SAMP	5	03/07/16 10:56 PM
A0307038.D	N018834-001B-MS	MS	5	03/07/16 11:02 PM
A0307039.D	CCV2	CCV	1	03/07/16 11:07 PM
A0307040.D	CCB2	CCB	1	03/07/16 11:13 PM
A0307041.D	LLCCV1	CCV2	1	03/07/16 11:18 PM
A0307042.D	ICSA2	ICSA	1	03/07/16 11:24 PM

Nancy 3/9/201

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307043.D	ICSAB	ICSAB	1	03/07/16 11:27 PM
A0307044.D	N018861-001B	SAMP	1	03/07/16 11:35 PM
A0307045.D	N018861-001B	SAMP	5	03/07/16 11:40 PM
A0307046.D	N018861-002B	SAMP	1	03/07/16 11:46 PM
A0307047.D	N018861-002B	SAMP	5	03/07/16 11:52 PM
A0307048.D	N018861-003B	SAMP	1	03/07/16 11:57 PM
A0307049.D	N018861-003B	SAMP	5	03/08/16 12:03 AM
A0307050.D	N018861-003B	SAMP	10	03/08/16 12:08 AM
A0307051.D	N018861-004B	SAMP	1	03/08/16 12:14 AM
A0307052.D	N018861-004B	SAMP	5	03/08/16 12:19 AM
A0307053.D	N018861-005B	SAMP	1	03/08/16 12:25 AM
A0307054.D	CCV3	CCV	1	03/08/16 12:30 AM
A0307055.D	CCB3	CCB	1	03/08/16 12:36 AM
A0307056.D	N018861-005B	SAMP	5	03/08/16 12:41 AM
A0307057.D	N018861-006B	SAMP	1	03/08/16 12:47 AM
A0307058.D	N018861-006B	SAMP	5	03/08/16 12:53 AM
A0307059.D	MB-56419	MBLK	1	03/08/16 12:58 AM
A0307060.D	LCS-56419	LCS	1	03/08/16 1:04 AM
A0307061.D	N018861-007B	SAMP	1	03/08/16 1:09 AM
A0307062.D	N018861-007B	SAMP	5	03/08/16 1:15 AM
A0307063.D	N018861-007B	SAMP	25	03/08/16 1:20 AM
A0307064.D	N018861-007B-PS	PS	1	03/08/16 1:26 AM
A0307065.D	N018861-007B-PS	PS	5	03/08/16 1:31 AM
A0307066.D	CCV4	CCV	1	03/08/16 1:37 AM
A0307067.D	CCB4	CCB	1	03/08/16 1:42 AM
A0307068.D	N018861-007B-MS	MS	1	03/08/16 1:48 AM
A0307069.D	N018861-007B-MS	MS	5	03/08/16 1:53 AM
A0307070.D	N018861-007B-MSD	MSD	1	03/08/16 1:59 AM
A0307071.D	N018861-007B-MSD	MSD	5	03/08/16 2:05 AM
A0307072.D	N018843-001B	SAMP	1	03/08/16 2:10 AM
A0307073.D	N018843-002B	SAMP	1	03/08/16 2:16 AM
A0307074.D	N018843-003B	SAMP	1	03/08/16 2:21 AM
A0307075.D	N018843-004B	SAMP	1	03/08/16 2:27 AM
A0307076.D	N018843-005B	SAMP	1	03/08/16 2:32 AM
A0307077.D	N018843-006B	SAMP	1	03/08/16 2:38 AM
A0307078.D	CCV5	CCV	1	03/08/16 2:43 AM
A0307079.D	CCB5	CCB	1	03/08/16 2:49 AM
A0307080.D	N018843-007B	SAMP	1	03/08/16 2:54 AM
A0307081.D	N018843-008B	SAMP	1	03/08/16 3:00 AM
A0307082.D	N018843-009B	SAMP	1	03/08/16 3:05 AM
A0307083.D	N018843-010B	SAMP	1	03/08/16 3:11 AM
A0307084.D	N018843-010B	SAMP	5	03/08/16 3:17 AM

INJECTION LOG: 160307A3

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0307085.D	N018843-010B-MS	MS	1	03/08/16 3:22 AM
A0307086.D	N018843-010B-MS	MSD	5	03/08/16 3:28 AM
A0307087.D	N018844-001B	SAMP	1	03/08/16 3:33 AM
A0307088.D	N018845-001B	SAMP	1	03/08/16 3:39 AM
A0307089.D	N018845-001B	SAMP	5	03/08/16 3:44 AM
A0307090.D	CCV6	CCV	1	03/08/16 3:50 AM
A0307091.D	CCB6	CCB	1	03/08/16 3:55 AM
A0307092.D	LLCCV2	CCV2	1	03/08/16 4:01 AM
A0307093.D	ICSA3	ICSA	1	03/08/16 4:06 AM
A0307094.D	ICSAB3	ICSAB	1	03/08/16 4:09 AM
A0307095.D	N018845-002B	SAMP	1	03/08/16 4:18 AM
A0307096.D	N018845-002B	SAMP	5	03/08/16 4:23 AM

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0307001	RINSE,RINSE,1	rinse	1.000				
2	C:\ICPMH\1\METHODS\DEFAULT.M	CalBlk	1101	A0307002	Cal Blank,IBLK,1	initial blank	Level 1				
3	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1102	A0307003	Std-0.1/1 ppb	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H	Level 2				
4	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1103	A0307004	Std-0.5/5 ppb	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H	Level 3				
5	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1104	A0307005	Std-5/50 ppb	5/50 ug/L, 1.25<50mL of 2MWST- 151207H	Level 4				
6	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1105	A0307006	Std-10/100 ppb	10/100 ug/L,2.5<50mL of 2MWST- 151207H	Level 5				
7	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1106	A0307007	Std-20/200 ppb	20/200 ug/L,5<50mL of 2MWST- 151207H	Level 6				
8	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1107	A0307008	Std-40/400 ppb	40/400 ug/L, 10<50mL of 2MWST- 151207H	Level 7				
9	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1206	A0307009	Std-100/1000 ppb	100/1000ug/L,10<20mL of 2MWST- 151207H	Level 8				
10	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1207	A0307010	Std-200/2000 ppb	200/2000ug/L, 2MWST- 151207H	Level 9				
11	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICV	1301	A0307011	ICV,ICV,1	10/100 ug/L,200mL of 2MWST- 151207I	1.000				
12	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1302	A0307012	ICB,ICB,1		1.000				
13	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307013	LLICV,CCV1,1	2MWST- 151207J	1.000				
14	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0307014	ICSA1,ICSA,1	2MWST- 151207K	1.000				
15	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0307015	ICSAB1,ICSAB,1	2MWST- 151207L	1.000				
16	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307016	LLICV,CCV1,1	2MWST- 151207J	1.000				
17	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3501	A0307017	N018396-002B,SAMP,5		1.000				
18	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3101	A0307018	MB-56426,MBLK,1		1.000				
19	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3102	A0307019	LCS-56426,LCS,1		1.000				
20	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3103	A0307020	N018845-009B,SAMP,1		1.000				
21	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3104	A0307021	N018845-009B,SAMP,5		1.000				
22	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3105	A0307022	N018845-009B-PS,PS,1		1.000				
23	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3106	A0307023	N018845-009B-MS,MS,1		1.000				
24	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3107	A0307024	N018845-009B-MSD,MSD,1		1.000				
25	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3108	A0307025	N018845-010B,SAMP,1		1.000				
26	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3109	A0307026	N018855-001B,SAMP,1		1.000				
27	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307027	CCV1,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
28	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307028	CCB1,CCB,1		1.000				
29	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3110	A0307029	N018855-002B,SAMP,1		1.000				
30	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3111	A0307030	N018855-003B,SAMP,1		1.000				
31	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3112	A0307031	N018855-004B,SAMP,1		1.000				
32	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3201	A0307032	N018857-019B,SAMP,1		1.000				
33	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2101	A0307033	N018833-001B,SAMP,25		1.000				
34	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2102	A0307034	N018833-001B-PS,PS,5		1.000				
35	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2103	A0307035	N018833-001B-MS,MS,5		1.000				
36	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2104	A0307036	N018833-001B-MSD,MSD,5		1.000				
37	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2105	A0307037	N018834-001B,SAMP,5		1.000				
38	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2106	A0307038	N018834-001B-MS,MS,5		1.000				
39	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307039	CCV2,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
40	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307040	CCB2,CCB,1		1.000				
41	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307041	LLCCV1,CCV2,1	2MWST- 151207J	1.000				
42	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0307042	ICSA2,ICSA,1	2MWST- 151207K	1.000				
43	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0307043	ICSAB,ICSAB,1	2MWST- 151207L	1.000				
44	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2107	A0307044	N018834-005B,SAMP,1		1.000				
45	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2108	A0307045	N018834-005B,SAMP,5		1.000				
46	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2109	A0307046	N018834-006B,SAMP,1		1.000				
47	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2110	A0307047	N018834-006B,SAMP,5		1.000				
48	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2111	A0307048	N018834-007B,SAMP,1		1.000				
49	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2112	A0307049	N018834-007B,SAMP,5		1.000				
50	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2201	A0307050	N018834-007B,SAMP,10		1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
51	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2202	A0307051	N018834-008B,SAMP,1		1.000				
52	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2203	A0307052	N018834-008B,SAMP,5		1.000				
53	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2204	A0307053	N018834-009B,SAMP,1		1.000				
54	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307054	CCV3,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
55	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307055	CCB3,CCB,1		1.000				
56	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2205	A0307056	N018834-009B,SAMP,5		1.000				
57	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2206	A0307057	N018834-010B,SAMP,1		1.000				
58	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2207	A0307058	N018834-010B,SAMP,5		1.000				
59	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2208	A0307059	MB-56419,MBLK,1		1.000				
60	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2209	A0307060	LCS-56419,LCS,1		1.000				
61	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2210	A0307061	N018834-011B,SAMP,1		1.000				
62	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2211	A0307062	N018834-011B,SAMP,5		1.000				
63	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2212	A0307063	N018834-011B,SAMP,25		1.000				
64	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2301	A0307064	N018834-011B-PS,PS,1		1.000				
65	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2302	A0307065	N018834-011B-PS,PS,5		1.000				
66	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307066	CCV4,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
67	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307067	CCB4,CCB,1		1.000				
68	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2303	A0307068	N018834-011B-MS,MS,1		1.000				
69	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2304	A0307069	N018834-011B-MS,MS,5		1.000				
70	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2305	A0307070	N018834-011B-MSD,MSD,1		1.000				
71	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2306	A0307071	N018834-011B-MSD,MSD,5		1.000				
72	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2307	A0307072	N018843-001B,SAMP,1		1.000				
73	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2308	A0307073	N018843-002B,SAMP,1		1.000				
74	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2309	A0307074	N018843-003B,SAMP,1		1.000				
75	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2310	A0307075	N018843-004B,SAMP,1		1.000				
76	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2311	A0307076	N018843-005B,SAMP,1		1.000				
77	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2312	A0307077	N018843-006B,SAMP,1		1.000				
78	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307078	CCV5,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
79	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307079	CCB5,CCB,1		1.000				
80	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2401	A0307080	N018843-007B,SAMP,1		1.000				
81	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2402	A0307081	N018843-008B,SAMP,1		1.000				
82	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2403	A0307082	N018843-009B,SAMP,1		1.000				
83	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2404	A0307083	N018843-010B,SAMP,1		1.000				
84	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2405	A0307084	N018843-010B,SAMP,5		1.000				
85	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2406	A0307085	N018843-010B-MS,MS,1		1.000				
86	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2407	A0307086	~~N018843-010B-MSD,MSD,1~~	N018843-010B,MS,MS,5	1.000				
87	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2408	A0307087	N018844-001B,SAMP,1		1.000				
88	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2409	A0307088	N018845-001B,SAMP,1		1.000				
89	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2410	A0307089	N018845-001B,SAMP,5		1.000				
90	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0307090	CCV6,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
91	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0307091	CCB6,CCB,1		1.000				
92	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0307092	LLCCV2,CCV2,1	2MWST- 151207J	1.000				
93	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0307093	ICSA3,ICSA,1	2MWST- 151207K	1.000				
94	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0307094	ICSAB3,ICSAB,1	2MWST- 151207L	1.000				

Quantitation Report

File Name	A0307002.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:42
Sample Name	Cal Blank,IBLK,1
Sample Type	CalBlk
Comment	initial blank
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	---	20.00	1.092E-05	Pulse	0.30	3
B	11	6	3	0.000	ppb	---	104,979.44	5.735E-02	Pulse	0.30	3
Na	23	45	2	0.000	ppb	---	624,203.47	3.632E+00	Pulse	0.30	3
Mg	26	45	2	0.000	ppb	---	462.25	2.687E-03	Pulse	0.30	3
Al	27	45	2	0.000	ppb	---	1,921.26	1.118E-02	Pulse	0.30	3
K	39	45	2	0.000	ppb	---	39,054.19	2.273E-01	Pulse	0.30	3
Ca	44	45	3	0.000	ppb	---	21,969.73	5.201E-03	Pulse	0.30	3
V	51	45	2	0.000	ppb	---	1,291.22	7.511E-03	Pulse	0.30	3
Cr	52	45	2	0.000	ppb	---	240.47	1.399E-03	Pulse	0.30	3
Mn	55	45	2	0.000	ppb	---	160.11	9.308E-04	Pulse	0.30	3
Fe	56	45	2	0.000	ppb	---	4,673.28	2.719E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	---	10.46	6.065E-05	Pulse	0.30	3
Ni	60	72	2	0.000	ppb	---	127.09	1.108E-03	Pulse	0.30	3
Cu	63	72	2	0.000	ppb	---	9,027.59	7.865E-02	Pulse	0.30	3
Zn	66	72	2	0.000	ppb	---	1,511.28	1.317E-02	Pulse	0.30	3
As	75	72	2	0.000	ppb	---	24.45	2.129E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	4.44	2.947E-05	Pulse	0.30	3
Mo	95	103	2	0.000	ppb	---	136.67	4.462E-05	Pulse	0.30	3
Ag	107	103	3	0.000	ppb	---	13,681.05	1.969E-03	Pulse	0.30	3
Cd	111	115	3	0.000	ppb	---	-76.73	-1.034E-05	Pulse	0.30	3
Sb	121	115	3	0.000	ppb	---	528.92	7.131E-05	Pulse	0.30	3
Ba	137	159	3	0.000	ppb	---	290.83	2.829E-05	Pulse	0.30	3
Tl	205	209	3	0.000	ppb	---	2,065.78	3.577E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.000	ppb	---	538.19	9.320E-05	Pulse	0.30	3
U	238	209	3	0.000	ppb	---	126.27	2.188E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,830,416.41	0.20	100.0	Analog	0.30	3
2	Sc	45	171,872.12	1.06	100.0	Pulse	0.30	3
3	Sc	45	4,224,494.69	0.57	100.0	Analog	0.30	3
1	Ge	72	151,771.98	0.89	100.0	Pulse	0.30	3
2	Ge	72	114,739.29	0.95	100.0	Pulse	0.30	3
2	Rh	103	3,065,661.73	1.14	100.0	Analog	0.30	3
3	Rh	103	6,947,484.41	0.39	100.0	Analog	0.30	3
3	In	115	7,417,364.54	0.14	100.0	Analog	0.30	3
3	Tb	159	10,274,792.62	0.47	100.0	Analog	0.30	3
3	Bi	209	5,774,529.99	0.40	100.0	Analog	0.30	3

Quantitation Report

FOR As ONLY

File Name	A0307003.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:48
Sample Name	Std-0.1/1 ppb
Sample Type	CalStd
Comment	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.088	ppb	7.45	908.95	5.174E-04	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	90,617.11	5.156E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	456,980.12	2.741E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	400.02	2.403E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	432.22	2.591E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	36,403.98	2.182E-01	Pulse	0.30	3
Ca	44	45	3	1.210	ppb	38.13	23,733.36	5.797E-03	Pulse	0.30	3
V	51	45	2	0.097	ppb	8.36	2,120.22	1.271E-02	Pulse	0.30	3
Cr	52	45	2	0.091	ppb	12.56	1,248.50	7.492E-03	Pulse	0.30	3
Mn	55	45	2	0.113	ppb	11.33	894.17	5.352E-03	Pulse	0.30	3
Fe	56	45	2	0.425	ppb	12.24	8,704.19	5.212E-02	Pulse	0.30	3
Co	59	45	2	0.084	ppb	3.51	1,694.11	1.015E-02	Pulse	0.30	3
Ni	60	72	2	0.093	ppb	2.71	610.62	5.396E-03	Pulse	0.30	3
Cu	63	72	2	0.249	ppb	17.23	12,428.37	1.098E-01	Pulse	0.30	3
Zn	66	72	2	0.392	ppb	8.28	2,346.33	2.074E-02	Pulse	0.30	3
As	75	72	2	0.090	ppb	7.61	144.00	1.272E-03	Pulse	0.75	3
Se	78	72	1	0.080	ppb	14.54	55.56	3.783E-04	Pulse	0.30	3
Mo	95	103	2	0.084	ppb	7.04	741.16	2.459E-04	Pulse	0.30	3
Ag	107	103	3	0.010	ppb	52.22	13,946.25	2.057E-03	Pulse	0.30	3
Cd	111	115	3	0.100	ppb	12.42	1,199.24	1.649E-04	Pulse	0.30	3
Sb	121	115	3	0.092	ppb	1.93	4,514.16	6.203E-04	Pulse	0.30	3
Ba	137	159	3	0.140	ppb	2.88	2,737.11	2.733E-04	Pulse	0.30	3
Tl	205	209	3	0.076	ppb	3.18	9,715.75	1.706E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.101	ppb	3.85	14,281.71	2.508E-03	Pulse	0.30	3
U	238	209	3	0.090	ppb	0.25	13,254.33	2.327E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,758,319.05	1.90	96.1	Analog	0.30	3
2	Sc	45	166,885.56	2.06	97.1	Pulse	0.30	3
3	Sc	45	4,094,618.03	0.63	96.9	Analog	0.30	3
1	Ge	72	146,962.51	0.89	96.8	Pulse	0.30	3
2	Ge	72	113,154.88	1.12	98.6	Pulse	0.30	3
2	Rh	103	3,012,633.50	1.27	98.3	Analog	0.30	3
3	Rh	103	6,781,455.94	0.65	97.6	Analog	0.30	3
3	In	115	7,277,204.05	0.80	98.1	Analog	0.30	3
3	Tb	159	10,013,811.80	0.03	97.5	Analog	0.30	3
3	Bi	209	5,695,357.69	0.25	98.6	Analog	0.30	3

Quantitation Report

File Name	A0307004.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:54
Sample Name	Std-0.5/5 ppb
Sample Type	CalStd
Comment	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.450	ppb	5.36	4,485.21	2.609E-03	Pulse	0.30	3
B	11	6	3	1.170	ppb	6.79	109,191.54	6.352E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	399,149.07	2.429E+00	Pulse	0.30	3
Mg	26	45	2	4.012	ppb	20.12	1,077.86	6.560E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	578.82	3.517E-03	Pulse	0.30	3
K	39	45	2	0.964	ppb	316.99	38,026.36	2.314E-01	Pulse	0.30	3
Ca	44	45	3	5.623	ppb	7.15	32,208.63	7.971E-03	Pulse	0.30	3
V	51	45	2	0.441	ppb	4.40	5,126.56	3.115E-02	Pulse	0.30	3
Cr	52	45	2	0.470	ppb	3.70	5,391.73	3.280E-02	Pulse	0.30	3
Mn	55	45	2	0.470	ppb	5.13	3,182.55	1.936E-02	Pulse	0.30	3
Fe	56	45	2	0.994	ppb	2.15	14,063.46	8.552E-02	Pulse	0.30	3
Co	59	45	2	0.465	ppb	0.53	9,210.25	5.600E-02	Pulse	0.30	3
Ni	60	72	2	0.463	ppb	2.42	2,480.81	2.238E-02	Pulse	0.30	3
Cu	63	72	2	0.707	ppb	7.01	18,506.44	1.669E-01	Pulse	0.30	3
Zn	66	72	2	0.326	ppb	14.95	2,158.58	1.947E-02	Pulse	0.30	3
As	75	72	2	0.460	ppb	5.78	626.25	5.651E-03	Pulse	0.75	3
Se	78	72	1	0.454	ppb	21.93	294.46	2.013E-03	Pulse	0.30	3
Mo	95	103	2	0.441	ppb	2.87	3,299.36	1.101E-03	Pulse	0.30	3
Ag	107	103	3	0.248	ppb	6.06	27,487.75	4.073E-03	Pulse	0.30	3
Cd	111	115	3	0.464	ppb	1.64	5,813.63	8.028E-04	Pulse	0.30	3
Sb	121	115	3	0.466	ppb	0.61	20,641.98	2.850E-03	Pulse	0.30	3
Ba	137	159	3	0.504	ppb	2.16	9,176.23	9.122E-04	Pulse	0.30	3
Tl	205	209	3	0.424	ppb	0.26	44,846.49	7.854E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.475	ppb	0.78	65,066.98	1.140E-02	Pulse	0.30	3
U	238	209	3	0.457	ppb	1.55	66,672.36	1.168E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,718,892.88	0.65	93.9	Analog	0.30	3
2	Sc	45	164,481.09	2.52	95.7	Pulse	0.30	3
3	Sc	45	4,040,943.59	0.41	95.7	Analog	0.30	3
1	Ge	72	146,301.75	0.65	96.4	Pulse	0.30	3
2	Ge	72	110,851.39	1.07	96.6	Pulse	0.30	3
2	Rh	103	2,997,102.73	1.02	97.8	Analog	0.30	3
3	Rh	103	6,748,689.13	0.61	97.1	Analog	0.30	3
3	In	115	7,241,837.75	0.62	97.6	Analog	0.30	3
3	Tb	159	10,060,154.78	0.42	97.9	Analog	0.30	3
3	Bi	209	5,709,728.25	0.46	98.9	Analog	0.30	3

Quantitation Report

File Name	A0307005.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 19:59
Sample Name	Std-5/50 ppb
Sample Type	CalStd
Comment	5/50 ug/L, 1.25<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	4.625	ppb	2.08	45,206.16	2.672E-02	Pulse	0.30	3
B	11	6	3	40.762	ppb	1.33	460,805.73	2.724E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	470,003.11	2.899E+00	Pulse	0.30	3
Mg	26	45	2	47.250	ppb	1.45	7,835.47	4.831E-02	Pulse	0.30	3
Al	27	45	2	0.734	ppb	2.36	2,059.44	1.269E-02	Pulse	0.30	3
K	39	45	2	41.659	ppb	6.91	65,748.78	4.055E-01	Pulse	0.30	3
Ca	44	45	3	51.276	ppb	1.58	120,385.86	3.046E-02	Pulse	0.30	3
V	51	45	2	4.665	ppb	1.84	41,736.77	2.573E-01	Pulse	0.30	3
Cr	52	45	2	4.771	ppb	0.77	51,963.48	3.203E-01	Pulse	0.30	3
Mn	55	45	2	4.832	ppb	2.70	30,919.32	1.906E-01	Pulse	0.30	3
Fe	56	45	2	5.460	ppb	4.91	56,388.03	3.476E-01	Pulse	0.30	3
Co	59	45	2	4.825	ppb	1.67	94,206.56	5.807E-01	Pulse	0.30	3
Ni	60	72	2	4.663	ppb	0.19	23,642.58	2.152E-01	Pulse	0.30	3
Cu	63	72	2	5.053	ppb	1.34	77,996.77	7.098E-01	Pulse	0.30	3
Zn	66	72	2	4.599	ppb	2.21	11,210.84	1.020E-01	Pulse	0.30	3
As	75	72	2	4.612	ppb	0.53	6,010.06	5.470E-02	Pulse	0.75	3
Se	78	72	1	4.889	ppb	5.20	3,074.87	2.138E-02	Pulse	0.30	3
Mo	95	103	2	4.727	ppb	0.66	33,462.48	1.137E-02	Pulse	0.30	3
Ag	107	103	3	4.328	ppb	1.51	257,115.86	3.875E-02	Pulse	0.30	3
Cd	111	115	3	4.788	ppb	0.43	60,156.45	8.374E-03	Pulse	0.30	3
Sb	121	115	3	4.811	ppb	0.79	206,526.88	2.875E-02	Pulse	0.30	3
Ba	137	159	3	4.879	ppb	0.92	85,385.84	8.584E-03	Pulse	0.30	3
Tl	205	209	3	4.642	ppb	1.30	465,956.98	8.235E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	4.851	ppb	1.04	654,327.03	1.156E-01	Pulse	0.30	3
U	238	209	3	4.723	ppb	0.38	681,797.17	1.205E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,691,833.27	0.60	92.4	Analog	0.30	3
2	Sc	45	162,231.68	2.22	94.4	Pulse	0.30	3
3	Sc	45	3,952,353.90	0.06	93.6	Analog	0.30	3
1	Ge	72	143,870.91	0.52	94.8	Pulse	0.30	3
2	Ge	72	109,870.69	1.77	95.8	Pulse	0.30	3
2	Rh	103	2,941,755.20	1.00	96.0	Analog	0.30	3
3	Rh	103	6,636,086.50	0.67	95.5	Analog	0.30	3
3	In	115	7,183,775.19	0.17	96.9	Analog	0.30	3
3	Tb	159	9,947,741.45	0.20	96.8	Analog	0.30	3
3	Bi	209	5,658,838.74	0.62	98.0	Analog	0.30	3

Quantitation Report

File Name	A0307006.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:05
Sample Name	Std-10/100 ppb
Sample Type	CalStd
Comment	10/100 ug/L,2.5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.347	ppb	1.34	89,155.86	5.399E-02	Pulse	0.30	3
B	11	6	3	87.617	ppb	1.20	857,920.32	5.196E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	480,403.30	3.026E+00	Pulse	0.30	3
Mg	26	45	2	96.574	ppb	3.06	15,232.93	9.593E-02	Pulse	0.30	3
Al	27	45	2	5.447	ppb	3.96	3,562.34	2.243E-02	Pulse	0.30	3
K	39	45	2	90.693	ppb	2.83	97,688.18	6.152E-01	Pulse	0.30	3
Ca	44	45	3	95.733	ppb	0.59	203,921.77	5.236E-02	Pulse	0.30	3
V	51	45	2	9.572	ppb	1.09	82,600.81	5.201E-01	Pulse	0.30	3
Cr	52	45	2	9.670	ppb	0.96	102,895.91	6.479E-01	Pulse	0.30	3
Mn	55	45	2	9.847	ppb	1.16	61,544.97	3.875E-01	Pulse	0.30	3
Fe	56	45	2	10.301	ppb	5.27	100,250.11	6.316E-01	Pulse	0.30	3
Co	59	45	2	9.946	ppb	1.10	190,094.03	1.197E+00	Pulse	0.30	3
Ni	60	72	2	9.535	ppb	1.37	47,347.24	4.388E-01	Pulse	0.30	3
Cu	63	72	2	9.952	ppb	0.70	142,605.21	1.322E+00	Pulse	0.30	3
Zn	66	72	2	9.421	ppb	2.26	21,057.04	1.952E-01	Pulse	0.30	3
As	75	72	2	9.344	ppb	0.24	11,933.78	1.106E-01	Pulse	0.75	3
Se	78	72	1	9.385	ppb	1.53	5,837.97	4.101E-02	Pulse	0.30	3
Mo	95	103	2	9.507	ppb	1.54	66,703.60	2.283E-02	Pulse	0.30	3
Ag	107	103	3	9.427	ppb	0.36	538,934.31	8.208E-02	Pulse	0.30	3
Cd	111	115	3	9.758	ppb	0.55	122,005.56	1.707E-02	Pulse	0.30	3
Sb	121	115	3	9.739	ppb	0.44	415,325.47	5.812E-02	Pulse	0.30	3
Ba	137	159	3	9.733	ppb	0.32	169,393.16	1.709E-02	Pulse	0.30	3
Tl	205	209	3	9.395	ppb	1.15	948,290.58	1.663E-01	Analog	0.30	3
Pb	208	209	3	9.642	ppb	0.55	1,310,204.11	2.298E-01	Pulse	0.30	3
U	238	209	3	9.406	ppb	0.23	1,368,086.23	2.399E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,651,295.73	0.35	90.2	Analog	0.30	3
2	Sc	45	158,833.70	1.99	92.4	Pulse	0.30	3
3	Sc	45	3,894,717.51	0.31	92.2	Analog	0.30	3
1	Ge	72	142,366.71	0.29	93.8	Pulse	0.30	3
2	Ge	72	107,890.97	0.67	94.0	Pulse	0.30	3
2	Rh	103	2,921,619.19	1.07	95.3	Analog	0.30	3
3	Rh	103	6,566,045.25	0.24	94.5	Analog	0.30	3
3	In	115	7,145,449.07	0.33	96.3	Analog	0.30	3
3	Tb	159	9,909,177.56	0.36	96.4	Analog	0.30	3
3	Bi	209	5,702,456.51	0.61	98.8	Analog	0.30	3

Quantitation Report

File Name	A0307007.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:10
Sample Name	Std-20/200 ppb
Sample Type	CalStd
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.653	ppb	1.07	177,761.11	1.077E-01	Pulse	0.30	3
B	11	6	3	184.020	ppb	2.17	1,696,281.79	1.028E+00	Analog	0.30	3
Na	23	45	2	28.448	ppb	32.96	623,955.62	3.904E+00	Pulse	0.30	3
Mg	26	45	2	192.464	ppb	0.85	30,132.14	1.885E-01	Pulse	0.30	3
Al	27	45	2	15.696	ppb	0.81	6,972.05	4.361E-02	Pulse	0.30	3
K	39	45	2	184.119	ppb	0.46	162,204.88	1.015E+00	Pulse	0.30	3
Ca	44	45	3	188.906	ppb	0.84	378,087.34	9.826E-02	Pulse	0.30	3
V	51	45	2	19.149	ppb	0.34	165,126.87	1.033E+00	Pulse	0.30	3
Cr	52	45	2	19.432	ppb	0.53	207,876.32	1.300E+00	Pulse	0.30	3
Mn	55	45	2	19.441	ppb	0.57	122,150.44	7.642E-01	Pulse	0.30	3
Fe	56	45	2	19.825	ppb	0.75	190,277.82	1.190E+00	Pulse	0.30	3
Co	59	45	2	19.770	ppb	0.82	380,290.77	2.379E+00	Pulse	0.30	3
Ni	60	72	2	19.143	ppb	1.24	94,144.73	8.799E-01	Pulse	0.30	3
Cu	63	72	2	19.964	ppb	0.53	275,255.68	2.572E+00	Pulse	0.30	3
Zn	66	72	2	19.062	ppb	1.25	40,814.16	3.814E-01	Pulse	0.30	3
As	75	72	2	19.074	ppb	0.36	24,136.58	2.256E-01	Pulse	0.75	3
Se	78	72	1	18.964	ppb	1.43	11,748.01	8.283E-02	Pulse	0.30	3
Mo	95	103	2	18.966	ppb	0.25	133,183.95	4.550E-02	Pulse	0.30	3
Ag	107	103	3	19.289	ppb	0.37	1,084,446.28	1.659E-01	Analog	0.30	3
Cd	111	115	3	19.316	ppb	0.50	239,872.38	3.381E-02	Pulse	0.30	3
Sb	121	115	3	19.608	ppb	0.37	829,659.36	1.169E-01	Pulse	0.30	3
Ba	137	159	3	19.657	ppb	0.31	339,221.47	3.449E-02	Pulse	0.30	3
Tl	205	209	3	19.083	ppb	0.73	1,917,515.13	3.374E-01	Analog	0.30	3
Pb	208	209	3	19.253	ppb	0.59	2,606,643.84	4.587E-01	Analog	0.30	3
U	238	209	3	18.828	ppb	0.75	2,728,985.01	4.802E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,650,071.21	0.89	90.1	Analog	0.30	3
2	Sc	45	159,849.37	1.31	93.0	Pulse	0.30	3
3	Sc	45	3,848,103.62	0.46	91.1	Analog	0.30	3
1	Ge	72	141,838.35	0.31	93.5	Pulse	0.30	3
2	Ge	72	107,005.23	0.96	93.3	Pulse	0.30	3
2	Rh	103	2,927,018.46	1.30	95.5	Analog	0.30	3
3	Rh	103	6,537,289.14	0.54	94.1	Analog	0.30	3
3	In	115	7,094,465.11	0.25	95.6	Analog	0.30	3
3	Tb	159	9,833,876.52	0.41	95.7	Analog	0.30	3
3	Bi	209	5,682,730.68	0.17	98.4	Analog	0.30	3

Quantitation Report

File Name	A0307008.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:16
Sample Name	Std-40/400 ppb
Sample Type	CalStd
Comment	40/400 ug/L, 10<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	38.546	ppb	0.90	358,924.61	2.226E-01	Pulse	0.30	3
B	11	6	3	386.274	ppb	1.23	3,377,651.35	2.095E+00	Analog	0.30	3
Na	23	45	2	242.684	ppb	3.55	940,509.53	5.951E+00	Pulse	0.30	3
Mg	26	45	2	393.697	ppb	1.54	60,511.04	3.828E-01	Pulse	0.30	3
Al	27	45	2	36.868	ppb	0.54	13,809.04	8.737E-02	Pulse	0.30	3
K	39	45	2	383.568	ppb	0.72	295,222.23	1.868E+00	Pulse	0.30	3
Ca	44	45	3	390.263	ppb	1.04	755,659.39	1.974E-01	Pulse	0.30	3
V	51	45	2	38.992	ppb	0.57	331,232.09	2.096E+00	Pulse	0.30	3
Cr	52	45	2	39.610	ppb	0.32	418,756.52	2.649E+00	Pulse	0.30	3
Mn	55	45	2	39.610	ppb	0.77	245,945.43	1.556E+00	Pulse	0.30	3
Fe	56	45	2	40.322	ppb	0.74	378,220.22	2.393E+00	Pulse	0.30	3
Co	59	45	2	40.082	ppb	0.32	762,373.75	4.823E+00	Pulse	0.30	3
Ni	60	72	2	39.381	ppb	0.43	191,975.21	1.809E+00	Pulse	0.30	3
Cu	63	72	2	40.075	ppb	0.63	539,591.27	5.085E+00	Pulse	0.30	3
Zn	66	72	2	39.686	ppb	1.18	82,768.08	7.799E-01	Pulse	0.30	3
As	75	72	2	38.765	ppb	1.44	48,627.96	4.582E-01	Pulse	0.75	3
Se	78	72	1	38.135	ppb	1.73	23,003.71	1.665E-01	Pulse	0.30	3
Mo	95	103	2	38.985	ppb	0.19	270,430.46	9.348E-02	Pulse	0.30	3
Ag	107	103	3	39.613	ppb	0.57	2,202,776.01	3.386E-01	Analog	0.30	3
Cd	111	115	3	39.518	ppb	0.31	490,520.75	6.918E-02	Pulse	0.30	3
Sb	121	115	3	38.775	ppb	0.28	1,639,196.36	2.312E-01	Analog	0.30	3
Ba	137	159	3	39.404	ppb	0.39	683,027.85	6.912E-02	Pulse	0.30	3
Tl	205	209	3	38.571	ppb	0.21	3,887,252.10	6.816E-01	Analog	0.30	3
Pb	208	209	3	39.132	ppb	0.46	5,316,003.14	9.322E-01	Analog	0.30	3
U	238	209	3	38.217	ppb	0.39	5,558,616.41	9.747E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,612,314.43	0.87	88.1	Analog	0.30	3
2	Sc	45	158,058.06	1.10	92.0	Pulse	0.30	3
3	Sc	45	3,827,436.12	0.80	90.6	Analog	0.30	3
1	Ge	72	138,142.03	0.27	91.0	Pulse	0.30	3
2	Ge	72	106,125.14	0.59	92.5	Pulse	0.30	3
2	Rh	103	2,892,832.25	1.28	94.4	Analog	0.30	3
3	Rh	103	6,505,681.92	0.28	93.6	Analog	0.30	3
3	In	115	7,090,260.27	0.29	95.6	Analog	0.30	3
3	Tb	159	9,881,767.63	0.51	96.2	Analog	0.30	3
3	Bi	209	5,702,757.41	0.40	98.8	Analog	0.30	3

Quantitation Report

File Name	A0307009.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:21
Sample Name	Std-100/1000 ppb
Sample Type	CalStd
Comment	100/1000ug/L,10<20mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	97.684	ppb	0.58	883,119.72	5.642E-01	Pulse	0.30	3
B	11	6	3	982.033	ppb	1.15	8,198,921.64	5.238E+00	Analog	0.30	3
Na	23	45	2	911.999	ppb	0.66	1,911,521.62	1.235E+01	Analog	0.30	3
Mg	26	45	2	990.511	ppb	1.17	148,489.34	9.590E-01	Pulse	0.30	3
Al	27	45	2	97.416	ppb	1.34	32,902.58	2.125E-01	Pulse	0.30	3
K	39	45	2	974.675	ppb	0.65	680,636.85	4.396E+00	Pulse	0.30	3
Ca	44	45	3	1002.641	ppb	1.02	1,885,478.58	4.991E-01	Analog	0.30	3
V	51	45	2	98.683	ppb	0.75	819,393.62	5.292E+00	Pulse	0.30	3
Cr	52	45	2	98.963	ppb	1.42	1,024,609.30	6.617E+00	Mix	0.30	3
Mn	55	45	2	99.778	ppb	0.59	606,643.26	3.918E+00	Pulse	0.30	3
Fe	56	45	2	100.767	ppb	0.62	919,640.87	5.940E+00	Pulse	0.30	3
Co	59	45	2	99.346	ppb	1.16	1,851,028.70	1.196E+01	Analog	0.30	3
Ni	60	72	2	98.786	ppb	0.72	471,542.14	4.536E+00	Pulse	0.30	3
Cu	63	72	2	99.919	ppb	0.75	1,305,770.78	1.256E+01	Analog	0.30	3
Zn	66	72	2	99.174	ppb	0.58	200,548.08	1.929E+00	Pulse	0.30	3
As	75	72	2	98.111	ppb	0.15	120,525.20	1.159E+00	Pulse	0.75	3
Se	78	72	1	99.737	ppb	1.33	59,319.31	4.355E-01	Pulse	0.30	3
Mo	95	103	2	98.951	ppb	0.32	677,899.59	2.372E-01	Pulse	0.30	3
Ag	107	103	3	100.389	ppb	0.23	5,457,912.83	8.551E-01	Analog	0.30	3
Cd	111	115	3	99.524	ppb	0.78	1,214,166.09	1.743E-01	Analog	0.30	3
Sb	121	115	3	98.208	ppb	0.10	4,079,344.35	5.854E-01	Analog	0.30	3
Ba	137	159	3	98.858	ppb	0.29	1,704,303.23	1.734E-01	Analog	0.30	3
Tl	205	209	3	98.250	ppb	0.38	9,745,785.34	1.736E+00	Analog	0.30	3
Pb	208	209	3	98.449	ppb	0.42	13,166,901.68	2.345E+00	Analog	0.30	3
U	238	209	3	98.383	ppb	0.19	14,088,312.79	2.509E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,565,385.86	0.47	85.5	Analog	0.30	3
2	Sc	45	154,833.49	0.54	90.1	Pulse	0.30	3
3	Sc	45	3,777,836.23	0.24	89.4	Analog	0.30	3
1	Ge	72	136,219.51	0.28	89.8	Pulse	0.30	3
2	Ge	72	103,960.23	1.07	90.6	Pulse	0.30	3
2	Rh	103	2,857,868.46	1.10	93.2	Analog	0.30	3
3	Rh	103	6,383,017.34	0.34	91.9	Analog	0.30	3
3	In	115	6,967,901.38	0.18	93.9	Analog	0.30	3
3	Tb	159	9,830,372.84	0.42	95.7	Analog	0.30	3
3	Bi	209	5,614,682.48	0.43	97.2	Analog	0.30	3

Quantitation Report

File Name	A0307010.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:27
Sample Name	Std-200/2000 ppb
Sample Type	CalStd
Comment	200/2000ug/L, 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	201.626	ppb	0.66	1,795,972.68	1.164E+00	Analog	0.30	3
B	11	6	3	2014.177	ppb	0.64	16,477,073.84	1.068E+01	Analog	0.30	3
Na	23	45	2	2044.000	ppb	0.69	3,537,346.68	2.316E+01	Analog	0.30	3
Mg	26	45	2	2006.999	ppb	0.32	296,355.49	1.940E+00	Pulse	0.30	3
Al	27	45	2	202.683	ppb	0.24	65,679.67	4.300E-01	Pulse	0.30	3
K	39	45	2	2018.211	ppb	0.91	1,353,004.72	8.859E+00	Analog	0.30	3
Ca	44	45	3	2001.918	ppb	0.34	3,690,619.53	9.913E-01	Analog	0.30	3
V	51	45	2	200.975	ppb	0.97	1,644,917.44	1.077E+01	Analog	0.30	3
Cr	52	45	2	200.676	ppb	1.06	2,049,143.54	1.342E+01	Analog	0.30	3
Mn	55	45	2	200.257	ppb	0.45	1,200,838.68	7.863E+00	Analog	0.30	3
Fe	56	45	2	199.543	ppb	1.21	1,792,241.41	1.174E+01	Analog	0.30	3
Co	59	45	2	200.341	ppb	0.52	3,682,030.54	2.411E+01	Analog	0.30	3
Ni	60	72	2	200.848	ppb	0.70	936,297.50	9.221E+00	Pulse	0.30	3
Cu	63	72	2	200.030	ppb	0.75	2,544,971.21	2.506E+01	Analog	0.30	3
Zn	66	72	2	200.608	ppb	0.29	394,871.65	3.889E+00	Pulse	0.30	3
As	75	72	2	201.327	ppb	0.41	241,541.14	2.379E+00	Pulse	0.75	3
Se	78	72	1	200.642	ppb	0.52	116,263.32	8.760E-01	Pulse	0.30	3
Mo	95	103	2	200.863	ppb	0.08	1,347,873.14	4.815E-01	Analog	0.30	3
Ag	107	103	3	198.163	ppb	1.93	10,547,982.11	1.686E+00	Analog	0.30	3
Cd	111	115	3	200.420	ppb	0.36	2,408,483.12	3.509E-01	Analog	0.30	3
Sb	121	115	3	201.198	ppb	0.71	8,231,888.00	1.199E+00	Analog	0.30	3
Ba	137	159	3	200.741	ppb	0.64	3,407,686.26	3.520E-01	Analog	0.30	3
Tl	205	209	3	201.292	ppb	0.69	19,616,619.01	3.556E+00	Analog	0.30	3
Pb	208	209	3	201.045	ppb	0.45	26,421,094.35	4.789E+00	Analog	0.30	3
U	238	209	3	201.319	ppb	0.61	28,326,398.20	5.134E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,542,379.91	0.82	84.3	Analog	0.30	3
2	Sc	45	152,727.74	1.10	88.9	Pulse	0.30	3
3	Sc	45	3,722,836.30	0.68	88.1	Analog	0.30	3
1	Ge	72	132,719.86	0.64	87.4	Pulse	0.30	3
2	Ge	72	101,544.28	1.78	88.5	Pulse	0.30	3
2	Rh	103	2,799,519.47	0.81	91.3	Analog	0.30	3
3	Rh	103	6,256,698.24	1.18	90.1	Analog	0.30	3
3	In	115	6,863,724.07	1.32	92.5	Analog	0.30	3
3	Tb	159	9,680,702.63	1.30	94.2	Analog	0.30	3
3	Bi	209	5,517,059.16	1.20	95.5	Analog	0.30	3

Quantitation Report

File Name	A0307011.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:32
Sample Name	ICV,ICV,1
Sample Type	6-ICV
Comment	10/100 ug/L,200mL of 2MWST- 151207I
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.033	ppb	1.46	99,424.06	5.796E-02	Pulse	0.30	3
B	11	6	3	2000.453	ppb	0.14	18,202,378.57	1.061E+01	Analog	0.30	3
Na	23	45	2	45.183	ppb	10.97	689,479.95	4.064E+00	Pulse	0.30	3
Mg	26	45	2	99.170	ppb	1.27	16,699.95	9.844E-02	Pulse	0.30	3
Al	27	45	2	194.929	ppb	1.43	70,246.19	4.140E-01	Pulse	0.30	3
K	39	45	2	88.451	ppb	1.36	102,744.63	6.056E-01	Pulse	0.30	3
Ca	44	45	3	139.895	ppb	1.20	304,943.38	7.411E-02	Pulse	0.30	3
V	51	45	2	10.100	ppb	1.41	93,038.97	5.484E-01	Pulse	0.30	3
Cr	52	45	2	10.303	ppb	1.34	117,095.03	6.902E-01	Pulse	0.30	3
Mn	55	45	2	100.893	ppb	0.77	672,185.84	3.962E+00	Pulse	0.30	3
Fe	56	45	2	103.478	ppb	2.45	1,034,619.42	6.099E+00	Mix	0.30	3
Co	59	45	2	9.962	ppb	1.20	203,400.00	1.199E+00	Pulse	0.30	3
Ni	60	72	2	10.507	ppb	0.49	55,080.19	4.834E-01	Pulse	0.30	3
Cu	63	72	2	10.963	ppb	0.36	164,979.85	1.448E+00	Pulse	0.30	3
Zn	66	72	2	102.367	ppb	0.70	226,826.88	1.991E+00	Pulse	0.30	3
As	75	72	2	10.187	ppb	0.55	13,735.66	1.206E-01	Pulse	0.75	3
Se	78	72	1	10.160	ppb	0.99	6,437.09	4.439E-02	Pulse	0.30	3
Mo	95	103	2	10.973	ppb	2.03	82,142.15	2.634E-02	Pulse	0.30	3
Ag	107	103	3	10.996	ppb	0.45	670,585.92	9.541E-02	Pulse	0.30	3
Cd	111	115	3	10.494	ppb	0.74	140,186.44	1.836E-02	Pulse	0.30	3
Sb	121	115	3	10.791	ppb	0.27	491,563.73	6.439E-02	Pulse	0.30	3
Ba	137	159	3	104.058	ppb	0.53	1,949,945.44	1.825E-01	Analog	0.30	3
Tl	205	209	3	8.311	ppb	0.63	895,871.18	1.472E-01	Pulse	0.30	3
Pb	208	209	3	10.474	ppb	0.39	1,519,272.70	2.496E-01	Pulse	0.30	3
U	238	209	3	10.037	ppb	1.44	1,558,503.82	2.560E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,715,553.98	1.32	93.7	Analog	0.30	3
2	Sc	45	169,671.34	1.31	98.7	Pulse	0.30	3
3	Sc	45	4,114,926.78	1.12	97.4	Analog	0.30	3
1	Ge	72	145,029.53	1.18	95.6	Pulse	0.30	3
2	Ge	72	113,930.76	1.02	99.3	Pulse	0.30	3
2	Rh	103	3,118,126.41	1.24	101.7	Analog	0.30	3
3	Rh	103	7,028,448.44	0.42	101.2	Analog	0.30	3
3	In	115	7,633,829.56	0.31	102.9	Analog	0.30	3
3	Tb	159	10,685,283.73	0.24	104.0	Analog	0.30	3
3	Bi	209	6,087,674.15	0.57	105.4	Analog	0.30	3

Quantitation Report

File Name	A0307012.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:38
Sample Name	ICB,ICB,1
Sample Type	6-ICB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.007	ppb	40.46	82.23	5.038E-05	Pulse	0.30	3
B	11	6	3	24.968	ppb	3.63	308,745.24	1.891E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	216,020.49	1.340E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	134.45	8.328E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,005.62	6.240E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	31,202.31	1.935E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	12,425.03	3.185E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	892.29	5.531E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	178.67	1.109E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	473.09	157.16	9.765E-04	Pulse	0.30	3
Fe	56	45	2	0.013	ppb	114.63	4,509.92	2.796E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	49.29	38.66	2.402E-04	Pulse	0.30	3
Ni	60	72	2	0.013	ppb	18.06	186.43	1.696E-03	Pulse	0.30	3
Cu	63	72	2	0.472	ppb	0.35	15,114.56	1.376E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	653.58	5.941E-03	Pulse	0.30	3
As	75	72	2	0.013	ppb	36.76	40.44	3.676E-04	Pulse	0.75	3
Se	78	72	1	0.002	ppb	513.46	5.55	3.893E-05	Pulse	0.30	3
Mo	95	103	2	0.234	ppb	5.02	1,816.85	6.056E-04	Pulse	0.30	3
Ag	107	103	3	0.849	ppb	9.20	61,759.81	9.186E-03	Pulse	0.30	3
Cd	111	115	3	0.006	ppb	9.19	6.54	9.089E-07	Pulse	0.30	3
Sb	121	115	3	0.088	ppb	6.62	4,292.98	5.955E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	246.86	2.464E-05	Pulse	0.30	3
Tl	205	209	3	0.171	ppb	3.06	19,344.36	3.385E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.012	ppb	10.86	2,142.68	3.749E-04	Pulse	0.30	3
U	238	209	3	0.006	ppb	7.61	959.91	1.679E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,632,968.80	0.26	89.2	Analog	0.30	3
2	Sc	45	161,352.01	1.80	93.9	Pulse	0.30	3
3	Sc	45	3,901,077.90	0.40	92.3	Analog	0.30	3
1	Ge	72	142,122.44	0.46	93.6	Pulse	0.30	3
2	Ge	72	109,872.11	1.90	95.8	Pulse	0.30	3
2	Rh	103	3,000,190.31	1.01	97.9	Analog	0.30	3
3	Rh	103	6,724,302.05	0.43	96.8	Analog	0.30	3
3	In	115	7,207,802.99	0.50	97.2	Analog	0.30	3
3	Tb	159	10,017,451.51	0.26	97.5	Analog	0.30	3
3	Bi	209	5,714,959.43	0.36	99.0	Analog	0.30	3

Quantitation Report

File Name	A0307013.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:43
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.468	ppb	3.52	4,461.89	2.716E-03	Pulse	0.30	3
B	11	6	3	65.184	ppb	0.92	658,962.10	4.012E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	225,005.29	1.384E+00	Pulse	0.30	3
Mg	26	45	2	3.170	ppb	10.52	934.51	5.748E-03	Pulse	0.30	3
Al	27	45	2	36.900	ppb	2.32	14,219.74	8.743E-02	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	34,224.89	2.105E-01	Pulse	0.30	3
Ca	44	45	3	13.455	ppb	1.30	46,260.77	1.183E-02	Pulse	0.30	3
V	51	45	2	0.906	ppb	1.37	9,115.13	5.604E-02	Pulse	0.30	3
Cr	52	45	2	0.985	ppb	2.35	10,937.10	6.724E-02	Pulse	0.30	3
Mn	55	45	2	0.515	ppb	2.72	3,437.86	2.113E-02	Pulse	0.30	3
Fe	56	45	2	12.329	ppb	26.47	121,825.63	7.506E-01	Pulse	0.30	3
Co	59	45	2	0.469	ppb	1.03	9,184.75	5.647E-02	Pulse	0.30	3
Ni	60	72	2	1.013	ppb	1.81	5,089.34	4.762E-02	Pulse	0.30	3
Cu	63	72	2	1.560	ppb	1.18	29,238.94	2.736E-01	Pulse	0.30	3
Zn	66	72	2	11.029	ppb	0.29	24,181.30	2.262E-01	Pulse	0.30	3
As	75	72	2	0.112	ppb	9.27	164.00	1.533E-03	Pulse	0.75	3
Se	78	72	1	0.468	ppb	3.67	287.80	2.071E-03	Pulse	0.30	3
Mo	95	103	2	0.548	ppb	3.11	4,090.68	1.357E-03	Pulse	0.30	3
Ag	107	103	3	0.276	ppb	2.70	29,078.03	4.317E-03	Pulse	0.30	3
Cd	111	115	3	0.511	ppb	2.45	6,495.52	8.843E-04	Pulse	0.30	3
Sb	121	115	3	0.561	ppb	1.41	25,082.89	3.415E-03	Pulse	0.30	3
Ba	137	159	3	1.090	ppb	1.77	19,887.46	1.939E-03	Pulse	0.30	3
Tl	205	209	3	0.441	ppb	2.10	47,510.43	8.144E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	1.005	ppb	1.19	140,250.17	2.404E-02	Pulse	0.30	3
U	238	209	3	0.474	ppb	0.19	70,710.23	1.212E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,642,479.07	0.69	89.7	Analog	0.30	3
2	Sc	45	162,638.91	1.25	94.6	Pulse	0.30	3
3	Sc	45	3,910,683.48	0.33	92.6	Analog	0.30	3
1	Ge	72	138,927.85	1.85	91.5	Pulse	0.30	3
2	Ge	72	106,883.60	2.00	93.2	Pulse	0.30	3
2	Rh	103	3,013,514.05	0.61	98.3	Analog	0.30	3
3	Rh	103	6,735,864.90	0.83	97.0	Analog	0.30	3
3	In	115	7,345,185.97	0.34	99.0	Analog	0.30	3
3	Tb	159	10,255,095.75	0.26	99.8	Analog	0.30	3
3	Bi	209	5,834,229.98	0.49	101.0	Analog	0.30	3

not reported

Quantitation Report

File Name	A0307014.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:49
Sample Name	ICSA1,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	35.71	42.23	2.470E-05	Pulse	0.30	3
B	11	6	3	4.364	ppb	0.07	137,410.67	8.037E-02	Pulse	0.30	3
Na	23	45	2	115118.978	ppb	0.42	182,976,806.16	1.104E+03	Analog	0.30	3
Mg	26	45	2	100727.094	ppb	0.77	16,125,282.95	9.725E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,724.48	1.042E-02	Pulse	0.30	3
K	39	45	2	104682.835	ppb	0.21	74,281,124.45	4.480E+02	Analog	0.30	3
Ca	44	45	3	94669.000	ppb	0.93	204,458,143.62	4.664E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	772.27	4.662E-03	Pulse	0.30	3
Cr	52	45	2	0.177	ppb	11.48	2,197.89	1.325E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-16,350.62	-9.868E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-9,426.66	-5.686E-02	Pulse	0.30	3
Co	59	45	2	0.004	ppb	55.40	85.94	5.158E-04	Pulse	0.30	3
Ni	60	72	2	0.294	ppb	8.54	1,529.35	1.462E-02	Pulse	0.30	3
Cu	63	72	2	0.035	ppb	244.41	8,697.70	8.300E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,679.69	-1.606E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	9.41	9.224E-05	Pulse	0.75	3
Se	78	72	1	0.012	ppb	69.51	11.11	8.397E-05	Pulse	0.30	3
Mo	95	103	2	0.085	ppb	13.41	651.16	2.483E-04	Pulse	0.30	3
Ag	107	103	3	0.116	ppb	5.96	18,392.09	2.953E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-470.17	-6.878E-05	Pulse	0.30	3
Sb	121	115	3	0.046	ppb	10.15	2,370.28	3.466E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-20,656.93	-2.161E-03	Pulse	0.30	3
Tl	205	209	3	0.050	ppb	1.22	5,726.90	1.234E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,767.17	-3.809E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	6.79	486.50	1.049E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,709,621.11	0.16	93.4	Analog	0.30	3
2	Sc	45	165,823.93	2.67	96.5	Pulse	0.30	3
3	Sc	45	4,384,284.13	1.60	103.8	Analog	0.30	3
1	Ge	72	132,052.72	0.76	87.0	Pulse	0.30	3
2	Ge	72	104,594.67	2.35	91.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,625,999.53	2.01	85.7	Analog	0.30	3
3	Rh	103	6,228,150.74	0.87	89.6	Analog	0.30	3
3	In	115	6,837,207.99	0.61	92.2	Analog	0.30	3
3	Tb	159	9,560,743.19	0.68	93.1	Analog	0.30	3
3	Bi	209	4,639,394.45	0.18	80.3	Analog	0.30	3

Quantitation Report

File Name	A0307015.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 20:54
Sample Name	ICSAB1,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.620	ppb	1.51	184,022.97	1.191E-01	Pulse	0.30	3
B	11	6	3	208.313	ppb	0.97	1,786,604.24	1.156E+00	Analog	0.30	3
Na	23	45	2	115911.029	ppb	1.30	173,007,608.53	1.111E+03	Analog	0.30	3
Mg	26	45	2	102123.911	ppb	1.07	15,354,096.58	9.860E+01	Analog	0.30	3
Al	27	45	2	17.452	ppb	5.63	7,355.82	4.724E-02	Pulse	0.30	3
K	39	45	2	104201.751	ppb	1.29	69,437,807.86	4.459E+02	Analog	0.30	3
Ca	44	45	3	94199.416	ppb	0.19	184,450,888.37	4.641E+01	Analog	0.30	3
V	51	45	2	21.647	ppb	0.85	181,683.80	1.167E+00	Pulse	0.30	3
Cr	52	45	2	21.112	ppb	0.63	220,009.21	1.413E+00	Pulse	0.30	3
Mn	55	45	2	17.818	ppb	1.49	109,084.77	7.004E-01	Pulse	0.30	3
Fe	56	45	2	19.539	ppb	2.07	182,730.63	1.174E+00	Pulse	0.30	3
Co	59	45	2	20.423	ppb	1.43	382,677.93	2.458E+00	Pulse	0.30	3
Ni	60	72	2	21.061	ppb	0.90	94,611.68	9.679E-01	Pulse	0.30	3
Cu	63	72	2	19.975	ppb	0.92	251,575.46	2.574E+00	Pulse	0.30	3
Zn	66	72	2	17.341	ppb	1.00	34,033.67	3.482E-01	Pulse	0.30	3
As	75	72	2	20.824	ppb	0.43	24,067.92	2.462E-01	Pulse	0.75	3
Se	78	72	1	19.099	ppb	0.85	10,399.25	8.342E-02	Pulse	0.30	3
Mo	95	103	2	23.941	ppb	1.37	139,524.86	5.743E-02	Pulse	0.30	3
Ag	107	103	3	19.152	ppb	0.39	924,407.40	1.647E-01	Pulse	0.30	3
Cd	111	115	3	20.677	ppb	0.44	221,796.82	3.619E-02	Pulse	0.30	3
Sb	121	115	3	21.902	ppb	0.37	800,465.09	1.306E-01	Pulse	0.30	3
Ba	137	159	3	20.721	ppb	0.17	311,206.24	3.636E-02	Pulse	0.30	3
Tl	205	209	3	22.754	ppb	1.23	1,676,161.78	4.023E-01	Analog	0.30	3
Pb	208	209	3	22.692	ppb	0.25	2,252,568.36	5.406E-01	Analog	0.30	3
U	238	209	3	23.613	ppb	0.46	2,509,448.02	6.022E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,545,235.34	0.85	84.4	Analog	0.30	3
2	Sc	45	155,734.64	2.23	90.6	Pulse	0.30	3
3	Sc	45	3,974,601.09	0.10	94.1	Analog	0.30	3
1	Ge	72	124,666.63	0.61	82.1	Pulse	0.30	3
2	Ge	72	97,742.55	0.82	85.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,429,414.31	1.30	79.2	Analog	0.30	3
3	Rh	103	5,611,888.11	0.22	80.8	Analog	0.30	3
3	In	115	6,128,173.45	0.20	82.6	Analog	0.30	3
3	Tb	159	8,558,570.57	0.65	83.3	Analog	0.30	3
3	Bi	209	4,166,778.75	0.29	72.2	Analog	0.30	3

Quantitation Report

File Name	A0307016.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:00
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.493	ppb	2.84	4,998.71	2.860E-03	Pulse	0.30	3
B	11	6	3	57.951	ppb	0.56	634,492.19	3.631E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	249,976.56	1.412E+00	Pulse	0.30	3
Mg	26	45	2	4.510	ppb	6.40	1,246.77	7.042E-03	Pulse	0.30	3
Al	27	45	2	36.548	ppb	2.89	15,351.83	8.671E-02	Pulse	0.30	3
K	39	45	2	3.026	ppb	81.82	42,524.91	2.402E-01	Pulse	0.30	3
Ca	44	45	3	14.179	ppb	1.55	50,719.24	1.219E-02	Pulse	0.30	3
V	51	45	2	0.956	ppb	1.21	10,399.24	5.873E-02	Pulse	0.30	3
Cr	52	45	2	0.945	ppb	2.68	11,439.61	6.461E-02	Pulse	0.30	3
Mn	55	45	2	0.510	ppb	1.89	3,711.69	2.096E-02	Pulse	0.30	3
Fe	56	45	2	10.894	ppb	7.13	118,043.59	6.664E-01	Pulse	0.30	3
Co	59	45	2	0.478	ppb	1.51	10,198.68	5.760E-02	Pulse	0.30	3
Ni	60	72	2	1.041	ppb	1.37	5,595.03	4.892E-02	Pulse	0.30	3
Cu	63	72	2	1.755	ppb	2.25	34,067.34	2.978E-01	Pulse	0.30	3
Zn	66	72	2	10.914	ppb	0.06	25,622.09	2.240E-01	Pulse	0.30	3
As	75	72	2	0.118	ppb	13.99	184.45	1.613E-03	Pulse	0.75	3
Se	78	72	1	0.528	ppb	9.27	352.24	2.336E-03	Pulse	0.30	3
Mo	95	103	2	0.555	ppb	3.24	4,318.52	1.374E-03	Pulse	0.30	3
Ag	107	103	3	0.789	ppb	9.43	60,203.59	8.674E-03	Pulse	0.30	3
Cd	111	115	3	0.519	ppb	1.71	6,729.88	8.986E-04	Pulse	0.30	3
Sb	121	115	3	0.549	ppb	1.26	25,051.78	3.345E-03	Pulse	0.30	3
Ba	137	159	3	1.074	ppb	0.71	19,811.09	1.912E-03	Pulse	0.30	3
Tl	205	209	3	0.395	ppb	1.93	42,836.09	7.332E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	1.002	ppb	0.74	140,010.24	2.397E-02	Pulse	0.30	3
U	238	209	3	0.478	ppb	0.56	71,379.94	1.222E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,747,633.05	0.12	95.5	Analog	0.30	3
2	Sc	45	177,090.13	1.26	103.0	Pulse	0.30	3
3	Sc	45	4,162,334.07	0.80	98.5	Analog	0.30	3
1	Ge	72	150,707.08	0.89	99.3	Pulse	0.30	3
2	Ge	72	114,372.36	1.18	99.7	Pulse	0.30	3
2	Rh	103	3,143,402.42	0.64	102.5	Analog	0.30	3
3	Rh	103	6,939,974.20	0.56	99.9	Analog	0.30	3
3	In	115	7,489,293.95	0.68	101.0	Analog	0.30	3
3	Tb	159	10,361,934.50	0.14	100.8	Analog	0.30	3
3	Bi	209	5,841,544.43	0.59	101.2	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307017.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:05
Sample Name	N018396-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.008	ppb	18.09	90.00	5.680E-05	Pulse	0.30	3
B	11	6	3	33.551	ppb	2.37	370,770.56	2.343E-01	Pulse	0.30	3
Na	23	45	2	26823.140	ppb	0.35	43,082,720.19	2.599E+02	Analog	0.30	3
Mg	26	45	2	6541.348	ppb	0.70	1,047,292.76	6.318E+00	Analog	0.30	3
Al	27	45	2	296.478	ppb	0.69	103,414.53	6.239E-01	Pulse	0.30	3
K	39	45	2	1313.308	ppb	0.25	968,771.87	5.844E+00	Pulse	0.30	3
Ca	44	45	3	16783.868	ppb	0.69	32,150,555.91	8.273E+00	Analog	0.30	3
V	51	45	2	1.290	ppb	1.05	12,697.56	7.661E-02	Pulse	0.30	3
Cr	52	45	2	1.207	ppb	0.92	13,606.38	8.208E-02	Pulse	0.30	3
Mn	55	45	2	9.950	ppb	0.85	64,900.45	3.915E-01	Pulse	0.30	3
Fe	56	45	2	629.549	ppb	0.69	6,127,320.96	3.697E+01	Analog	0.30	3
Co	59	45	2	0.249	ppb	3.61	4,966.44	2.997E-02	Pulse	0.30	3
Ni	60	72	2	1.603	ppb	3.64	8,141.47	7.469E-02	Pulse	0.30	3
Cu	63	72	2	17.111	ppb	0.82	241,603.93	2.216E+00	Pulse	0.30	3
Zn	66	72	2	128.098	ppb	0.15	271,257.23	2.488E+00	Pulse	0.30	3
As	75	72	2	0.523	ppb	0.22	697.33	6.396E-03	Pulse	0.75	3
Se	78	72	1	0.268	ppb	14.21	175.57	1.201E-03	Pulse	0.30	3
Mo	95	103	2	1.521	ppb	3.08	10,751.79	3.691E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,035.90	1.100E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-4,890.50	-6.839E-04	Pulse	0.30	3
Sb	121	115	3	0.446	ppb	0.98	19,527.22	2.731E-03	Pulse	0.30	3
Ba	137	159	3	42.642	ppb	0.16	763,815.26	7.480E-02	Pulse	0.30	3
Tl	205	209	3	0.063	ppb	7.18	8,112.56	1.475E-03	Pulse	0.30	3
Pb	208	209	3	8.358	ppb	1.07	1,095,415.56	1.992E-01	Pulse	0.30	3
U	238	209	3	1.121	ppb	1.14	157,308.43	2.860E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,582,482.08	1.62	86.5	Analog	0.30	3
2	Sc	45	165,761.71	1.04	96.4	Pulse	0.30	3
3	Sc	45	3,886,363.79	0.60	92.0	Analog	0.30	3
1	Ge	72	146,172.77	0.19	96.3	Pulse	0.30	3
2	Ge	72	109,029.35	0.97	95.0	Pulse	0.30	3
2	Rh	103	2,912,453.91	1.13	95.0	Analog	0.30	3
3	Rh	103	6,395,116.71	0.56	92.0	Analog	0.30	3
3	In	115	7,150,780.77	0.58	96.4	Analog	0.30	3
3	Tb	159	10,211,613.60	0.34	99.4	Analog	0.30	3
3	Bi	209	5,499,970.89	0.77	95.2	Analog	0.30	3

Quantitation Report

File Name	A0307018.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:11
Sample Name	MB-56426,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	101.82	28.89	1.823E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	90,152.02	5.684E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	222,732.92	1.469E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	127.78	8.395E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	274.46	1.806E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	32,515.97	2.143E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	10,662.76	2.874E-03	Pulse	0.30	3
V	51	45	2	0.011	ppb	64.41	1,227.88	8.088E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	206.45	1.360E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	73.86	4.885E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,523.23	2.320E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	28.68	29.77	1.953E-04	Pulse	0.30	3
Ni	60	72	2	0.002	ppb	489.81	124.20	1.210E-03	Pulse	0.30	3
Cu	63	72	2	0.426	ppb	11.05	13,609.65	1.318E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	423.55	4.102E-03	Pulse	0.30	3
As	75	72	2	0.002	ppb	82.31	24.89	2.409E-04	Pulse	0.75	3
Se	78	72	1	0.007	ppb	98.45	7.78	5.870E-05	Pulse	0.30	3
Mo	95	103	2	0.007	ppb	14.38	172.23	6.104E-05	Pulse	0.30	3
Ag	107	103	3	0.205	ppb	7.81	23,492.09	3.708E-03	Pulse	0.30	3
Cd	111	115	3	0.006	ppb	11.05	4.55	6.557E-07	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	23.82	903.40	1.310E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	78.07	8.096E-06	Pulse	0.30	3
Tl	205	209	3	0.004	ppb	67.20	2,335.83	4.252E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.005	ppb	2.53	1,137.76	2.072E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	81.12	156.44	2.847E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,585,973.44	0.37	86.6	Analog	0.30	3
2	Sc	45	151,858.77	2.83	88.4	Pulse	0.30	3
3	Sc	45	3,710,453.38	0.52	87.8	Analog	0.30	3
1	Ge	72	132,096.04	0.90	87.0	Pulse	0.30	3
2	Ge	72	103,204.36	1.97	89.9	Pulse	0.30	3
2	Rh	103	2,822,782.42	1.78	92.1	Analog	0.30	3
3	Rh	103	6,336,960.74	0.45	91.2	Analog	0.30	3
3	In	115	6,899,909.73	0.50	93.0	Analog	0.30	3
3	Tb	159	9,650,104.86	0.30	93.9	Analog	0.30	3
3	Bi	209	5,492,566.65	0.49	95.1	Analog	0.30	3

Quantitation Report

File Name	A0307019.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:17
Sample Name	LCS-56426,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.028	ppb	2.44	97,235.10	5.792E-02	Pulse	0.30	3
B	11	6	3	1949.354	ppb	1.39	17,361,076.54	1.034E+01	Analog	0.30	3
Na	23	45	2	25.268	ppb	35.79	634,666.69	3.874E+00	Pulse	0.30	3
Mg	26	45	2	102.824	ppb	1.47	16,707.73	1.020E-01	Pulse	0.30	3
Al	27	45	2	197.997	ppb	0.45	68,886.52	4.204E-01	Pulse	0.30	3
K	39	45	2	89.789	ppb	2.65	100,161.79	6.113E-01	Pulse	0.30	3
Ca	44	45	3	143.433	ppb	0.57	302,188.09	7.586E-02	Pulse	0.30	3
V	51	45	2	10.250	ppb	1.34	91,171.82	5.564E-01	Pulse	0.30	3
Cr	52	45	2	10.370	ppb	0.54	113,833.37	6.947E-01	Pulse	0.30	3
Mn	55	45	2	100.802	ppb	1.85	648,550.77	3.958E+00	Pulse	0.30	3
Fe	56	45	2	104.147	ppb	2.06	1,005,642.11	6.138E+00	Mix	0.30	3
Co	59	45	2	10.024	ppb	1.00	197,665.28	1.206E+00	Pulse	0.30	3
Ni	60	72	2	10.645	ppb	0.52	53,537.26	4.898E-01	Pulse	0.30	3
Cu	63	72	2	11.306	ppb	1.06	162,963.20	1.491E+00	Pulse	0.30	3
Zn	66	72	2	103.662	ppb	0.37	220,350.33	2.016E+00	Pulse	0.30	3
As	75	72	2	10.266	ppb	0.87	13,281.52	1.215E-01	Pulse	0.75	3
Se	78	72	1	10.099	ppb	4.92	6,178.13	4.412E-02	Pulse	0.30	3
Mo	95	103	2	10.293	ppb	0.24	74,359.40	2.472E-02	Pulse	0.30	3
Ag	107	103	3	9.996	ppb	0.48	590,934.01	8.691E-02	Pulse	0.30	3
Cd	111	115	3	10.415	ppb	0.29	135,955.10	1.823E-02	Pulse	0.30	3
Sb	121	115	3	10.480	ppb	0.70	466,491.33	6.254E-02	Pulse	0.30	3
Ba	137	159	3	103.886	ppb	1.80	1,898,242.76	1.822E-01	Analog	0.30	3
Tl	205	209	3	8.301	ppb	0.83	879,539.55	1.470E-01	Pulse	0.30	3
Pb	208	209	3	10.451	ppb	0.57	1,490,172.69	2.490E-01	Pulse	0.30	3
U	238	209	3	9.946	ppb	0.63	1,518,057.88	2.537E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,679,155.71	1.76	91.7	Analog	0.30	3
2	Sc	45	163,882.05	1.92	95.4	Pulse	0.30	3
3	Sc	45	3,983,777.06	0.34	94.3	Analog	0.30	3
1	Ge	72	140,038.79	0.44	92.3	Pulse	0.30	3
2	Ge	72	109,307.77	0.27	95.3	Pulse	0.30	3
2	Rh	103	3,008,646.03	1.43	98.1	Analog	0.30	3
3	Rh	103	6,799,095.11	0.13	97.9	Analog	0.30	3
3	In	115	7,459,746.87	0.39	100.6	Analog	0.30	3
3	Tb	159	10,419,985.82	0.66	101.4	Analog	0.30	3
3	Bi	209	5,983,783.38	0.38	103.6	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0307020.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:22
Sample Name	N018845-009B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	91.49	33.33	3.909E-05	Pulse	0.30	3
B	11	6	3	1179.731	ppb	0.49	5,365,760.50	6.281E+00	Analog	0.30	3
Na	23	45	2	1389422.430	ppb	0.44	1,801,015,493.16	1.328E+04	Analog	0.30	3
Mg	26	45	2	26225.217	ppb	0.21	3,434,588.53	2.532E+01	Analog	0.30	3
Al	27	45	2	1.427	ppb	13.78	1,915.49	1.413E-02	Pulse	0.30	3
K	39	45	2	20409.022	ppb	0.72	11,870,827.60	8.752E+01	Analog	0.30	3
Ca	44	45	3	406197.097	ppb	0.46	722,893,038.12	2.001E+02	Analog	0.30	3
V	51	45	2	2.763	ppb	2.22	21,084.12	1.555E-01	Pulse	0.30	3
Cr	52	45	2	4.465	ppb	0.95	40,670.86	2.999E-01	Pulse	0.30	3
OLR Mn	55	45	2	350.234	ppb	0.54	1,865,033.19	1.375E+01	Analog	0.30	3
Fe	56	45	2	<0.000	ppb	---	-26,337.61	-1.941E-01	Pulse	0.30	3
Co	59	45	2	0.107	ppb	5.67	1,760.85	1.299E-02	Pulse	0.30	3
Ni	60	72	2	1.183	ppb	1.06	4,383.35	5.543E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-31,719.47	-4.010E-01	Pulse	0.30	3
Zn	66	72	2	39.012	ppb	0.09	60,645.60	7.669E-01	Pulse	0.30	3
As	75	72	2	1.401	ppb	2.43	1,325.77	1.676E-02	Pulse	0.75	3
Se	78	72	1	1.089	ppb	16.91	473.36	4.782E-03	Pulse	0.30	3
Mo	95	103	2	27.249	ppb	0.63	124,854.19	6.535E-02	Pulse	0.30	3
Ag	107	103	3	0.313	ppb	15.09	20,550.47	4.626E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,153.95	-4.248E-04	Pulse	0.30	3
Sb	121	115	3	0.106	ppb	1.30	3,560.56	7.023E-04	Pulse	0.30	3
Ba	137	159	3	150.013	ppb	0.42	1,923,699.68	2.631E-01	Analog	0.30	3
Tl	205	209	3	0.878	ppb	1.34	52,590.57	1.586E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-44,538.64	-1.343E-02	Pulse	0.30	3
U	238	209	3	1.948	ppb	0.11	164,821.35	4.970E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	854,326.79	0.45	46.7	Analog	0.30	3
2	Sc	45	135,633.88	1.64	78.9	Pulse	0.30	3
3	Sc	45	3,612,741.75	0.12	85.5	Analog	0.30	3
1	Ge	72	99,103.80	1.12	65.3	Pulse	0.30	3
2	Ge	72	79,083.66	1.70	68.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,910,375.82	0.97	62.3	Analog	0.30	3
3	Rh	103	4,442,968.20	0.37	64.0	Analog	0.30	3
3	In	115	5,069,887.93	0.54	68.4	Analog	0.30	3
3	Tb	159	7,312,644.13	0.57	71.2	Analog	0.30	3
3	Bi	209	3,316,573.63	0.78	57.4	Analog	0.30	3

SAMPLE REFERENCE

File Name	A0307021.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:28
Sample Name	N018845-009B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	71.22	40.00	2.885E-05	Pulse	0.30	3
B	11	6	3	206.054	ppb	0.77	1,587,021.12	1.144E+00	Analog	0.30	3
Na	23	45	2	298075.554	ppb	0.42	412,829,607.18	2.852E+03	Analog	0.30	3
Mg	26	45	2	5696.973	ppb	0.21	796,692.78	5.503E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	736.24	5.094E-03	Pulse	0.30	3
K	39	45	2	4300.940	ppb	0.33	2,696,081.61	1.862E+01	Analog	0.30	3
Ca	44	45	3	88621.483	ppb	0.13	161,538,708.70	4.366E+01	Analog	0.30	3
V	51	45	2	0.564	ppb	2.31	5,460.02	3.772E-02	Pulse	0.30	3
Cr	52	45	2	0.964	ppb	1.03	9,535.74	6.586E-02	Pulse	0.30	3
Mn	55	45	2	77.156	ppb	0.45	438,635.16	3.030E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-183.70	-1.233E-03	Pulse	0.30	3
Co	59	45	2	0.029	ppb	7.08	520.44	3.593E-03	Pulse	0.30	3
Ni	60	72	2	0.256	ppb	8.18	1,195.50	1.286E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-933.05	-1.012E-02	Pulse	0.30	3
Zn	66	72	2	8.973	ppb	2.92	17,352.74	1.865E-01	Pulse	0.30	3
As	75	72	2	0.306	ppb	14.02	355.85	3.830E-03	Pulse	0.75	3
Se	78	72	1	0.273	ppb	12.87	146.67	1.221E-03	Pulse	0.30	3
Mo	95	103	2	5.336	ppb	0.89	30,505.38	1.283E-02	Pulse	0.30	3
Ag	107	103	3	0.011	ppb	59.25	11,107.42	2.063E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-442.96	-7.268E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	9.17	1,444.58	2.371E-04	Pulse	0.30	3
Ba	137	159	3	32.137	ppb	0.86	497,273.89	5.638E-02	Pulse	0.30	3
Tl	205	209	3	0.179	ppb	2.19	15,622.06	3.513E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,147.29	-2.057E-03	Pulse	0.30	3
U	238	209	3	0.381	ppb	0.76	43,263.08	9.730E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,386,853.16	0.21	75.8	Analog	0.30	3
2	Sc	45	144,770.49	1.27	84.2	Pulse	0.30	3
3	Sc	45	3,699,948.04	0.30	87.6	Analog	0.30	3
1	Ge	72	120,113.67	0.92	79.1	Pulse	0.30	3
2	Ge	72	93,027.48	1.76	81.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,376,910.02	0.57	77.5	Analog	0.30	3
3	Rh	103	5,384,290.68	0.62	77.5	Analog	0.30	3
3	In	115	6,094,422.26	0.56	82.2	Analog	0.30	3
3	Tb	159	8,820,337.16	0.40	85.8	Analog	0.30	3
3	Bi	209	4,446,402.82	0.18	77.0	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307022.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:33
Sample Name	N018845-009B-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	12.692	ppb	0.68	68,462.96	7.331E-02	Pulse	0.30	3
B	11	6	3	3269.040	ppb	1.54	16,156,618.46	1.730E+01	Analog	0.30	3
Na	23	45	2	1375429.736	ppb	0.42	1,801,630,390.93	1.314E+04	Analog	0.30	3
Mg	26	45	2	25979.850	ppb	1.18	3,438,273.73	2.509E+01	Analog	0.30	3
Al	27	45	2	202.059	ppb	0.28	58,764.58	4.288E-01	Pulse	0.30	3
K	39	45	2	20146.302	ppb	0.55	11,841,424.96	8.639E+01	Analog	0.30	3
Ca	44	45	3	397513.984	ppb	0.43	728,254,638.04	1.958E+02	Analog	0.30	3
V	51	45	2	12.491	ppb	1.63	92,711.67	6.764E-01	Pulse	0.30	3
Cr	52	45	2	13.414	ppb	0.65	123,101.51	8.982E-01	Pulse	0.30	3
Mn	55	45	2	423.617	ppb	0.38	2,279,506.80	1.663E+01	Analog	0.30	3
Fe	56	45	2	80.943	ppb	0.53	654,618.13	4.776E+00	Pulse	0.30	3
Co	59	45	2	8.288	ppb	0.66	136,701.42	9.974E-01	Pulse	0.30	3
Ni	60	72	2	10.357	ppb	1.07	38,181.99	4.765E-01	Pulse	0.30	3
Cu	63	72	2	4.757	ppb	0.27	53,912.75	6.729E-01	Pulse	0.30	3
Zn	66	72	2	114.470	ppb	0.51	178,249.86	2.225E+00	Pulse	0.30	3
As	75	72	2	10.701	ppb	0.49	10,147.20	1.266E-01	Pulse	0.75	3
Se	78	72	1	9.399	ppb	1.17	4,074.00	4.106E-02	Pulse	0.30	3
Mo	95	103	2	39.075	ppb	1.00	179,615.49	9.370E-02	Pulse	0.30	3
Ag	107	103	3	8.451	ppb	1.21	329,980.76	7.379E-02	Pulse	0.30	3
Cd	111	115	3	8.336	ppb	1.47	73,937.51	1.459E-02	Pulse	0.30	3
Sb	121	115	3	9.890	ppb	0.50	299,209.86	5.902E-02	Pulse	0.30	3
Ba	137	159	3	242.817	ppb	0.17	3,136,219.10	4.258E-01	Analog	0.30	3
Tl	205	209	3	9.414	ppb	0.35	556,317.25	1.666E-01	Pulse	0.30	3
Pb	208	209	3	10.297	ppb	0.67	819,151.63	2.454E-01	Pulse	0.30	3
U	238	209	3	14.799	ppb	1.01	1,260,111.29	3.775E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	933,937.27	1.68	51.0	Analog	0.30	3
2	Sc	45	137,056.55	1.30	79.7	Pulse	0.30	3
3	Sc	45	3,719,079.56	0.59	88.0	Analog	0.30	3
1	Ge	72	99,195.71	1.89	65.4	Pulse	0.30	3
2	Ge	72	80,124.01	0.50	69.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,916,926.31	0.67	62.5	Analog	0.30	3
3	Rh	103	4,472,004.69	0.10	64.4	Analog	0.30	3
3	In	115	5,069,480.12	0.56	68.3	Analog	0.30	3
3	Tb	159	7,365,535.86	0.24	71.7	Analog	0.30	3
3	Bi	209	3,338,439.99	0.33	57.8	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307023.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:39
Sample Name	N018845-009B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	13.162	ppb	2.84	68,220.86	7.602E-02	Pulse	0.30	3
B	11	6	3	3440.214	ppb	2.85	16,336,566.25	1.821E+01	Analog	0.30	3
Na	23	45	2	1425904.269	ppb	0.46	1,850,551,759.09	1.363E+04	Analog	0.30	3
Mg	26	45	2	26831.450	ppb	0.95	3,518,459.39	2.591E+01	Analog	0.30	3
Al	27	45	2	191.039	ppb	0.63	55,131.17	4.060E-01	Pulse	0.30	3
K	39	45	2	20692.989	ppb	0.56	12,049,830.80	8.873E+01	Analog	0.30	3
Ca	44	45	3	408758.707	ppb	0.40	746,103,393.33	2.014E+02	Analog	0.30	3
V	51	45	2	12.548	ppb	1.04	92,267.10	6.795E-01	Pulse	0.30	3
Cr	52	45	2	14.761	ppb	0.56	134,196.24	9.882E-01	Pulse	0.30	3
Mn	55	45	2	433.750	ppb	0.80	2,312,465.82	1.703E+01	Analog	0.30	3
Fe	56	45	2	85.164	ppb	1.31	682,218.15	5.024E+00	Pulse	0.30	3
Co	59	45	2	8.246	ppb	0.92	134,756.92	9.924E-01	Pulse	0.30	3
Ni	60	72	2	10.735	ppb	1.96	38,191.44	4.939E-01	Pulse	0.30	3
Cu	63	72	2	4.616	ppb	3.06	50,666.69	6.553E-01	Pulse	0.30	3
Zn	66	72	2	117.123	ppb	1.48	175,997.78	2.276E+00	Pulse	0.30	3
As	75	72	2	11.085	ppb	1.20	10,146.53	1.312E-01	Pulse	0.75	3
Se	78	72	1	9.352	ppb	1.69	4,001.77	4.086E-02	Pulse	0.30	3
Mo	95	103	2	40.330	ppb	0.36	180,205.48	9.670E-02	Pulse	0.30	3
Ag	107	103	3	8.707	ppb	0.75	331,873.82	7.596E-02	Pulse	0.30	3
Cd	111	115	3	8.354	ppb	0.29	72,146.95	1.462E-02	Pulse	0.30	3
Sb	121	115	3	9.974	ppb	0.48	293,779.93	5.952E-02	Pulse	0.30	3
Ba	137	159	3	248.870	ppb	0.25	3,113,687.16	4.364E-01	Analog	0.30	3
Tl	205	209	3	9.602	ppb	0.52	548,152.24	1.700E-01	Pulse	0.30	3
Pb	208	209	3	10.266	ppb	0.10	788,940.10	2.446E-01	Pulse	0.30	3
U	238	209	3	14.771	ppb	0.07	1,215,016.85	3.767E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	897,906.31	3.31	49.1	Analog	0.30	3
2	Sc	45	135,797.41	0.91	79.0	Pulse	0.30	3
3	Sc	45	3,705,338.31	0.63	87.7	Analog	0.30	3
1	Ge	72	97,937.65	1.02	64.5	Pulse	0.30	3
2	Ge	72	77,343.18	1.77	67.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,863,429.67	0.63	60.8	Analog	0.30	3
3	Rh	103	4,369,199.00	0.49	62.9	Analog	0.30	3
3	In	115	4,935,844.75	0.56	66.5	Analog	0.30	3
3	Tb	159	7,134,803.99	0.87	69.4	Analog	0.30	3
3	Bi	209	3,224,988.43	0.65	55.8	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307024.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:44
Sample Name	N018845-009B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	13.094	ppb	0.71	70,155.26	7.563E-02	Pulse	0.30	3
B	11	6	3	3421.234	ppb	0.46	16,794,326.24	1.811E+01	Analog	0.30	3
Na	23	45	2	1433410.864	ppb	0.08	1,868,187,012.16	1.370E+04	Analog	0.30	3
Mg	26	45	2	27001.021	ppb	0.44	3,555,727.76	2.607E+01	Analog	0.30	3
Al	27	45	2	193.485	ppb	0.21	56,056.17	4.110E-01	Pulse	0.30	3
K	39	45	2	20890.701	ppb	0.30	12,216,484.82	8.958E+01	Analog	0.30	3
Ca	44	45	3	410674.867	ppb	0.89	774,460,832.91	2.023E+02	Analog	0.30	3
V	51	45	2	12.648	ppb	1.08	93,402.25	6.848E-01	Pulse	0.30	3
Cr	52	45	2	14.745	ppb	1.12	134,606.16	9.871E-01	Pulse	0.30	3
Mn	55	45	2	435.200	ppb	0.40	2,330,056.59	1.709E+01	Analog	0.30	3
Fe	56	45	2	85.558	ppb	0.86	688,256.74	5.047E+00	Pulse	0.30	3
Co	59	45	2	8.315	ppb	0.65	136,457.88	1.001E+00	Pulse	0.30	3
Ni	60	72	2	10.632	ppb	0.83	38,407.64	4.892E-01	Pulse	0.30	3
Cu	63	72	2	4.510	ppb	1.08	50,405.31	6.421E-01	Pulse	0.30	3
Zn	66	72	2	116.742	ppb	0.50	178,103.80	2.269E+00	Pulse	0.30	3
As	75	72	2	10.839	ppb	1.66	10,069.03	1.283E-01	Pulse	0.75	3
Se	78	72	1	9.679	ppb	4.43	4,125.15	4.229E-02	Pulse	0.30	3
Mo	95	103	2	40.447	ppb	0.93	180,607.56	9.699E-02	Pulse	0.30	3
Ag	107	103	3	8.779	ppb	0.05	342,175.05	7.658E-02	Pulse	0.30	3
Cd	111	115	3	8.427	ppb	0.49	74,749.07	1.474E-02	Pulse	0.30	3
Sb	121	115	3	9.867	ppb	0.30	298,528.58	5.888E-02	Pulse	0.30	3
Ba	137	159	3	249.632	ppb	0.20	3,182,889.75	4.377E-01	Analog	0.30	3
Tl	205	209	3	9.588	ppb	1.18	557,635.19	1.697E-01	Pulse	0.30	3
Pb	208	209	3	10.256	ppb	0.25	803,086.00	2.444E-01	Pulse	0.30	3
U	238	209	3	14.784	ppb	0.71	1,239,017.37	3.771E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	927,609.18	0.45	50.7	Analog	0.30	3
2	Sc	45	136,375.41	1.58	79.3	Pulse	0.30	3
3	Sc	45	3,828,432.72	0.85	90.6	Analog	0.30	3
1	Ge	72	97,537.76	0.36	64.3	Pulse	0.30	3
2	Ge	72	78,509.65	0.88	68.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,862,138.74	0.54	60.7	Analog	0.30	3
3	Rh	103	4,468,443.51	0.27	64.3	Analog	0.30	3
3	In	115	5,069,692.98	0.21	68.3	Analog	0.30	3
3	Tb	159	7,271,163.16	0.63	70.8	Analog	0.30	3
3	Bi	209	3,286,005.82	0.54	56.9	Analog	0.30	3

Quantitation Report

File Name	A0307025.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:50
Sample Name	N018845-010B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	0.007	ppb	35.98	70.00	4.993E-05	Pulse	0.30	3
	B	11	6	3	925.548	ppb	1.12	6,911,682.78	4.940E+00	Analog	0.30	3
	Na	23	45	2	334666.615	ppb	0.90	463,654,548.65	3.201E+03	Analog	0.30	3
	Mg	26	45	2	4950.291	ppb	0.45	692,688.02	4.782E+00	Pulse	0.30	3
	Al	27	45	2	0.608	ppb	67.55	1,802.40	1.243E-02	Pulse	0.30	3
	K	39	45	2	4378.077	ppb	0.21	2,745,375.52	1.895E+01	Analog	0.30	3
	Ca	44	45	3	22297.756	ppb	0.05	41,858,058.26	1.099E+01	Analog	0.30	3
	V	51	45	2	0.812	ppb	4.80	7,384.16	5.100E-02	Pulse	0.30	3
	Cr	52	45	2	0.099	ppb	11.24	1,159.33	7.996E-03	Pulse	0.30	3
OLR	Mn	55	45	2	216.809	ppb	0.52	1,233,020.82	8.513E+00	Analog	0.30	3
	Fe	56	45	2	40.949	ppb	0.86	351,946.41	2.430E+00	Pulse	0.30	3
	Co	59	45	2	0.028	ppb	15.23	505.19	3.484E-03	Pulse	0.30	3
	Ni	60	72	2	0.348	ppb	6.00	1,572.70	1.710E-02	Pulse	0.30	3
	Cu	63	72	2	<0.000	ppb	---	-6,121.74	-6.650E-02	Pulse	0.30	3
	Zn	66	72	2	0.120	ppb	103.76	1,421.19	1.548E-02	Pulse	0.30	3
	As	75	72	2	14.164	ppb	0.83	15,422.27	1.675E-01	Pulse	0.75	3
	Se	78	72	1	0.073	ppb	17.82	41.12	3.484E-04	Pulse	0.30	3
	Mo	95	103	2	43.207	ppb	0.91	239,267.24	1.036E-01	Pulse	0.30	3
	Ag	107	103	3	0.052	ppb	21.91	12,814.11	2.411E-03	Pulse	0.30	3
	Cd	111	115	3	0.033	ppb	14.49	285.34	4.772E-05	Pulse	0.30	3
	Sb	121	115	3	0.036	ppb	6.62	1,720.16	2.878E-04	Pulse	0.30	3
	Ba	137	159	3	34.155	ppb	0.30	511,593.37	5.992E-02	Pulse	0.30	3
	Tl	205	209	3	0.471	ppb	4.55	36,801.00	8.681E-03	Pulse	0.30	3
	Pb	208	209	3	<0.000	ppb	---	-4,032.77	-9.511E-04	Pulse	0.30	3
	U	238	209	3	0.584	ppb	0.76	63,235.61	1.491E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,399,297.34	1.25	76.4	Analog	0.30	3
2	Sc	45	144,856.25	1.89	84.3	Pulse	0.30	3
3	Sc	45	3,809,096.47	0.39	90.2	Analog	0.30	3
1	Ge	72	117,935.30	1.06	77.7	Pulse	0.30	3
2	Ge	72	92,055.44	2.53	80.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,309,358.47	1.17	75.3	Analog	0.30	3
3	Rh	103	5,315,322.63	0.28	76.5	Analog	0.30	3
3	In	115	5,976,639.89	0.39	80.6	Analog	0.30	3
3	Tb	159	8,538,235.08	0.77	83.1	Analog	0.30	3
3	Bi	209	4,240,070.25	0.83	73.4	Analog	0.30	3

Quantitation Report

File Name	A0307026.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 21:55
Sample Name	N018855-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	0.006	ppb	36.80	28.89	4.672E-05	Pulse	0.30	3
	B	11	6	3	2695.084	ppb	3.09	8,882,040.18	1.427E+01	Analog	0.30	3
	Na	23	45	2	OR	ppb	---	OR	-8.571E-05	Error	0.30	3
	Mg	26	45	2	2942.416	ppb	0.85	331,846.25	2.844E+00	Pulse	0.30	3
	Al	27	45	2	5.510	ppb	3.44	2,632.80	2.256E-02	Pulse	0.30	3
	K	39	45	2	31780.354	ppb	0.58	15,888,669.07	1.362E+02	Analog	0.30	3
	Ca	44	45	3	89425.586	ppb	0.51	141,851,505.67	4.406E+01	Analog	0.30	3
	V	51	45	2	2.817	ppb	1.53	18,482.12	1.584E-01	Pulse	0.30	3
	Cr	52	45	2	17.833	ppb	0.32	139,281.60	1.194E+00	Pulse	0.30	3
	Mn	55	45	2	9.976	ppb	1.74	45,807.34	3.926E-01	Pulse	0.30	3
	Fe	56	45	2	11.236	ppb	0.84	80,095.01	6.864E-01	Pulse	0.30	3
	Co	59	45	2	0.013	ppb	11.56	190.09	1.629E-03	Pulse	0.30	3
	Ni	60	72	2	0.290	ppb	2.30	914.50	1.442E-02	Pulse	0.30	3
	Cu	63	72	2	0.054	ppb	41.27	5,411.19	8.534E-02	Pulse	0.30	3
	Zn	66	72	2	<0.000	ppb	---	552.04	8.707E-03	Pulse	0.30	3
	As	75	72	2	1.999	ppb	2.45	1,510.66	2.383E-02	Pulse	0.75	3
	Se	78	72	1	0.542	ppb	18.42	191.12	2.396E-03	Pulse	0.30	3
OLR	Mo	95	103	2	202.466	ppb	0.57	704,022.20	4.853E-01	Pulse	0.30	3
	Ag	107	103	3	0.255	ppb	27.26	14,681.18	4.138E-03	Pulse	0.30	3
	Cd	111	115	3	0.102	ppb	12.61	689.11	1.675E-04	Pulse	0.30	3
	Sb	121	115	3	0.091	ppb	2.27	2,526.98	6.141E-04	Pulse	0.30	3
	Ba	137	159	3	30.255	ppb	0.42	305,179.54	5.308E-02	Pulse	0.30	3
	Tl	205	209	3	0.627	ppb	1.26	27,996.08	1.143E-02	Pulse	0.30	3
	Pb	208	209	3	<0.000	ppb	---	-31,183.19	-1.273E-02	Pulse	0.30	3
	U	238	209	3	0.077	ppb	2.05	4,872.54	1.990E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	622,738.43	4.00	34.0	Analog	0.30	3
2	Sc	45	116,691.36	1.50	67.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	3,219,898.46	1.44	76.2	Analog	0.30	3
1	Ge	72	79,742.35	0.49	52.5	Pulse	0.30	3
2	Ge	72	63,395.80	1.21	55.3	Pulse	0.30	3
2	Rh	103	1,450,590.14	1.57	47.3	Analog	0.30	3
3	Rh	103	3,551,209.63	1.27	51.1	Analog	0.30	3
3	In	115	4,115,827.97	1.02	55.5	Analog	0.30	3
3	Tb	159	5,749,450.61	0.55	56.0	Analog	0.30	3
3	Bi	209	2,448,789.16	0.86	42.4	Analog	0.30	3

Quantitation Report

File Name	A0307027.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:01
Sample Name	CCV1,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.645	ppb	0.79	192,268.70	1.077E-01	Pulse	0.30	3
B	11	6	3	208.007	ppb	1.44	2,061,429.51	1.155E+00	Analog	0.30	3
Na	23	45	2	1167.962	ppb	5.25	2,452,810.03	1.479E+01	Analog	0.30	3
Mg	26	45	2	195.359	ppb	0.93	31,736.38	1.913E-01	Pulse	0.30	3
Al	27	45	2	15.250	ppb	2.67	7,081.94	4.269E-02	Pulse	0.30	3
K	39	45	2	224.800	ppb	2.22	197,173.63	1.189E+00	Pulse	0.30	3
Ca	44	45	3	192.510	ppb	0.79	419,533.31	1.000E-01	Pulse	0.30	3
V	51	45	2	19.080	ppb	0.38	170,747.64	1.029E+00	Pulse	0.30	3
Cr	52	45	2	19.346	ppb	1.66	214,769.76	1.295E+00	Pulse	0.30	3
Mn	55	45	2	19.158	ppb	0.86	124,916.42	7.530E-01	Pulse	0.30	3
Fe	56	45	2	19.791	ppb	1.08	197,138.59	1.188E+00	Pulse	0.30	3
Co	59	45	2	19.610	ppb	0.77	391,485.98	2.360E+00	Pulse	0.30	3
Ni	60	72	2	19.506	ppb	0.31	98,146.19	8.966E-01	Pulse	0.30	3
Cu	63	72	2	19.360	ppb	0.80	273,348.20	2.497E+00	Pulse	0.30	3
Zn	66	72	2	19.073	ppb	0.25	41,779.88	3.817E-01	Pulse	0.30	3
As	75	72	2	18.950	ppb	0.74	24,530.50	2.241E-01	Pulse	0.75	3
Se	78	72	1	19.014	ppb	0.87	11,879.20	8.305E-02	Pulse	0.30	3
Mo	95	103	2	19.830	ppb	0.38	138,661.15	4.757E-02	Pulse	0.30	3
Ag	107	103	3	18.643	ppb	1.21	1,074,369.43	1.604E-01	Analog	0.30	3
Cd	111	115	3	19.492	ppb	0.97	246,749.89	3.412E-02	Pulse	0.30	3
Sb	121	115	3	19.506	ppb	0.52	841,387.48	1.163E-01	Pulse	0.30	3
Ba	137	159	3	19.874	ppb	0.82	342,089.51	3.488E-02	Pulse	0.30	3
Tl	205	209	3	18.965	ppb	0.26	1,871,411.86	3.353E-01	Analog	0.30	3
Pb	208	209	3	19.262	ppb	0.32	2,560,957.28	4.589E-01	Analog	0.30	3
U	238	209	3	18.755	ppb	0.46	2,669,435.30	4.783E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,785,504.23	1.05	97.5	Analog	0.30	3
2	Sc	45	165,901.84	1.85	96.5	Pulse	0.30	3
3	Sc	45	4,194,122.89	0.35	99.3	Analog	0.30	3
1	Ge	72	143,042.88	0.27	94.2	Pulse	0.30	3
2	Ge	72	109,469.21	1.53	95.4	Pulse	0.30	3
2	Rh	103	2,914,783.74	1.24	95.1	Analog	0.30	3
3	Rh	103	6,698,385.67	0.35	96.4	Analog	0.30	3
3	In	115	7,232,289.44	0.27	97.5	Analog	0.30	3
3	Tb	159	9,809,066.03	0.96	95.5	Analog	0.30	3
3	Bi	209	5,580,486.03	0.19	96.6	Analog	0.30	3

Quantitation Report

File Name	A0307028.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:06
Sample Name	CCB1,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	29.39	40.00	2.242E-05	Pulse	0.30	3
B	11	6	3	13.305	ppb	3.38	227,722.00	1.275E-01	Pulse	0.30	3
Na	23	45	2	410.735	ppb	10.90	1,236,914.78	7.557E+00	Analog	0.30	3
Mg	26	45	2	<0.000	ppb	---	204.45	1.248E-03	Pulse	0.30	3
Al	27	45	2	0.404	ppb	35.12	1,967.96	1.201E-02	Pulse	0.30	3
K	39	45	2	17.633	ppb	21.05	49,549.70	3.027E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	12,980.04	3.140E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,138.98	6.960E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	206.54	1.265E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	124.23	7.592E-04	Pulse	0.30	3
Fe	56	45	2	0.016	ppb	90.85	4,604.64	2.812E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	375.42	10.96	6.672E-05	Pulse	0.30	3
Ni	60	72	2	0.009	ppb	31.32	165.42	1.512E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	8,551.68	7.818E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	997.28	9.114E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	22.22	2.029E-04	Pulse	0.75	3
Se	78	72	1	0.002	ppb	134.48	5.56	3.947E-05	Pulse	0.30	3
Mo	95	103	2	0.190	ppb	4.59	1,446.79	4.994E-04	Pulse	0.30	3
Ag	107	103	3	0.683	ppb	14.23	51,992.11	7.776E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-171.27	-2.380E-05	Pulse	0.30	3
Sb	121	115	3	0.033	ppb	16.40	1,916.86	2.663E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	193.40	1.973E-05	Pulse	0.30	3
Tl	205	209	3	0.056	ppb	4.64	7,492.19	1.346E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	222.96	4.006E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	10.05	405.82	7.293E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,785,606.07	0.78	97.6	Analog	0.30	3
2	Sc	45	163,804.78	1.95	95.3	Pulse	0.30	3
3	Sc	45	4,133,842.61	0.53	97.9	Analog	0.30	3
1	Ge	72	140,510.09	0.97	92.6	Pulse	0.30	3
2	Ge	72	109,342.17	0.94	95.3	Pulse	0.30	3
2	Rh	103	2,897,606.97	1.15	94.5	Analog	0.30	3
3	Rh	103	6,685,239.69	0.27	96.2	Analog	0.30	3
3	In	115	7,198,451.90	0.50	97.0	Analog	0.30	3
3	Tb	159	9,801,052.91	0.19	95.4	Analog	0.30	3
3	Bi	209	5,565,970.61	0.57	96.4	Analog	0.30	3

Quantitation Report

File Name	A0307029.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:12
Sample Name	N018855-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.007	ppb	10.50	44.45	5.043E-05	Pulse	0.30	3
B	11	6	3	2051.313	ppb	1.77	9,584,633.68	1.088E+01	Analog	0.30	3
Na	23	45	2	2989546.856	ppb	1.00	3,871,522,964.53	2.857E+04	Analog	0.30	3
Mg	26	45	2	8581.196	ppb	1.13	1,123,232.45	8.288E+00	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,392.70	1.029E-02	Pulse	0.30	3
K	39	45	2	23645.610	ppb	0.72	13,738,074.51	1.014E+02	Analog	0.30	3
Ca	44	45	3	83270.043	ppb	0.62	155,203,885.47	4.102E+01	Analog	0.30	3
V	51	45	2	1.106	ppb	2.25	9,043.94	6.674E-02	Pulse	0.30	3
Cr	52	45	2	31.295	ppb	0.27	283,759.20	2.094E+00	Pulse	0.30	3
Mn	55	45	2	33.463	ppb	1.28	178,153.31	1.315E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-173,679.23	-1.282E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,047.72	-2.249E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,471.81	-1.951E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-86,384.78	-1.146E+00	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,353.40	-7.098E-02	Pulse	0.30	3
As	75	72	2	1.806	ppb	1.10	1,624.74	2.155E-02	Pulse	0.75	3
Se	78	72	1	0.065	ppb	38.64	28.89	3.117E-04	Pulse	0.30	3
Mo	95	103	2	73.948	ppb	1.40	308,404.61	1.773E-01	Pulse	0.30	3
Ag	107	103	3	0.069	ppb	19.36	10,867.38	2.552E-03	Pulse	0.30	3
Cd	111	115	3	0.017	ppb	64.76	95.47	1.940E-05	Pulse	0.30	3
Sb	121	115	3	0.167	ppb	5.02	5,235.53	1.069E-03	Pulse	0.30	3
Ba	137	159	3	17.028	ppb	0.21	204,674.54	2.989E-02	Pulse	0.30	3
Tl	205	209	3	0.287	ppb	0.21	16,061.53	5.420E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-29,312.69	-9.892E-03	Pulse	0.30	3
U	238	209	3	5.647	ppb	0.48	426,787.07	1.440E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	881,095.92	0.46	48.1	Analog	0.30	3
2	Sc	45	135,547.84	2.90	78.9	Pulse	0.30	3
3	Sc	45	3,783,477.72	1.35	89.6	Analog	0.30	3
1	Ge	72	92,660.14	0.49	61.1	Pulse	0.30	3
2	Ge	72	75,376.60	2.65	65.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,739,512.58	0.81	56.7	Analog	0.30	3
3	Rh	103	4,258,329.00	0.89	61.3	Analog	0.30	3
3	In	115	4,897,022.02	1.00	66.0	Analog	0.30	3
3	Tb	159	6,848,631.50	0.85	66.7	Analog	0.30	3
3	Bi	209	2,963,115.55	0.87	51.3	Analog	0.30	3

Quantitation Report

File Name	A0307030.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:17
Sample Name	N018855-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	80.52	45.56	4.733E-05	Pulse	0.30	3
B	11	6	3	1913.603	ppb	0.54	9,777,614.02	1.015E+01	Analog	0.30	3
Na	23	45	2	2640113.958	ppb	1.10	3,526,240,267.45	2.523E+04	Analog	0.30	3
Mg	26	45	2	6204.747	ppb	1.17	837,712.81	5.993E+00	Pulse	0.30	3
Al	27	45	2	1.075	ppb	31.15	1,872.20	1.340E-02	Pulse	0.30	3
K	39	45	2	17711.193	ppb	0.56	10,621,310.67	7.598E+01	Analog	0.30	3
Ca	44	45	3	92544.557	ppb	0.13	181,472,932.85	4.559E+01	Analog	0.30	3
V	51	45	2	6.505	ppb	2.04	49,738.79	3.559E-01	Pulse	0.30	3
Cr	52	45	2	28.431	ppb	0.65	265,892.60	1.902E+00	Pulse	0.30	3
Mn	55	45	2	5.510	ppb	2.30	30,361.12	2.173E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-230,950.95	-1.652E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,469.82	-2.482E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,716.71	-2.204E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-77,624.63	-9.958E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-442.34	-5.673E-03	Pulse	0.30	3
As	75	72	2	5.628	ppb	2.58	5,198.39	6.670E-02	Pulse	0.75	3
Se	78	72	1	0.126	ppb	17.68	56.67	5.815E-04	Pulse	0.30	3
Mo	95	103	2	100.935	ppb	0.95	438,475.70	2.420E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,458.80	1.893E-03	Pulse	0.30	3
Cd	111	115	3	0.024	ppb	33.77	160.93	3.171E-05	Pulse	0.30	3
Sb	121	115	3	0.031	ppb	6.35	1,300.11	2.561E-04	Pulse	0.30	3
Ba	137	159	3	18.654	ppb	0.65	230,135.26	3.274E-02	Pulse	0.30	3
Tl	205	209	3	0.092	ppb	1.00	6,073.70	1.979E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-24,725.08	-8.058E-03	Pulse	0.30	3
U	238	209	3	1.290	ppb	0.81	101,036.78	3.293E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	963,140.17	1.10	52.6	Analog	0.30	3
2	Sc	45	139,798.64	2.30	81.3	Pulse	0.30	3
3	Sc	45	3,980,330.46	0.76	94.2	Analog	0.30	3
1	Ge	72	97,353.51	1.05	64.1	Pulse	0.30	3
2	Ge	72	77,954.63	1.74	67.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,812,153.22	1.27	59.1	Analog	0.30	3
3	Rh	103	4,469,000.38	0.61	64.3	Analog	0.30	3
3	In	115	5,075,186.39	0.72	68.4	Analog	0.30	3
3	Tb	159	7,029,950.38	0.62	68.4	Analog	0.30	3
3	Bi	209	3,068,563.46	0.54	53.1	Analog	0.30	3

Quantitation Report

File Name	A0307031.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:23
Sample Name	N018855-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	40.45	45.56	4.569E-05	Pulse	0.30	3
B	11	6	3	1836.616	ppb	0.75	9,724,038.64	9.746E+00	Analog	0.30	3
Na	23	45	2	2526022.218	ppb	0.62	3,535,889,796.20	2.414E+04	Analog	0.30	3
Mg	26	45	2	5947.255	ppb	0.92	841,468.69	5.745E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,546.25	1.055E-02	Pulse	0.30	3
K	39	45	2	16996.774	ppb	0.19	10,682,904.63	7.292E+01	Analog	0.30	3
Ca	44	45	3	90094.724	ppb	0.36	182,054,532.84	4.439E+01	Analog	0.30	3
V	51	45	2	6.203	ppb	1.66	49,758.94	3.397E-01	Pulse	0.30	3
Cr	52	45	2	27.242	ppb	0.83	266,977.57	1.823E+00	Pulse	0.30	3
Mn	55	45	2	5.326	ppb	0.82	30,767.90	2.100E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-234,905.86	-1.604E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,506.86	-2.394E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,336.37	-1.653E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-78,276.12	-9.685E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,251.01	-1.550E-02	Pulse	0.30	3
As	75	72	2	5.468	ppb	1.05	5,238.40	6.481E-02	Pulse	0.75	3
Se	78	72	1	0.169	ppb	4.53	76.67	7.677E-04	Pulse	0.30	3
Mo	95	103	2	98.384	ppb	1.52	441,177.15	2.358E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,770.48	1.471E-03	Pulse	0.30	3
Cd	111	115	3	0.024	ppb	26.37	166.71	3.192E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	14.34	1,245.66	2.384E-04	Pulse	0.30	3
Ba	137	159	3	18.047	ppb	0.25	228,409.44	3.167E-02	Pulse	0.30	3
Tl	205	209	3	0.078	ppb	1.88	5,426.75	1.731E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-25,005.15	-7.978E-03	Pulse	0.30	3
U	238	209	3	1.254	ppb	0.76	100,338.23	3.201E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	997,772.99	0.60	54.5	Analog	0.30	3
2	Sc	45	146,499.20	2.46	85.2	Pulse	0.30	3
3	Sc	45	4,101,690.15	0.16	97.1	Analog	0.30	3
1	Ge	72	99,865.21	0.03	65.8	Pulse	0.30	3
2	Ge	72	80,828.92	2.62	70.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,870,497.25	1.34	61.0	Analog	0.30	3
3	Rh	103	4,601,569.20	0.25	66.2	Analog	0.30	3
3	In	115	5,224,144.39	0.23	70.4	Analog	0.30	3
3	Tb	159	7,211,431.21	0.78	70.2	Analog	0.30	3
3	Bi	209	3,134,416.20	0.44	54.3	Analog	0.30	3

Quantitation Report

File Name	A0307032.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:29
Sample Name	N018857-019B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	26.12	32.22	2.083E-05	Pulse	0.30	3
B	11	6	3	544.372	ppb	1.21	4,532,484.17	2.929E+00	Analog	0.30	3
Na	23	45	2	164048.358	ppb	0.50	255,305,927.31	1.571E+03	Analog	0.30	3
Mg	26	45	2	165125.331	ppb	0.51	25,909,387.67	1.594E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-987.15	-6.074E-03	Pulse	0.30	3
K	39	45	2	11790.251	ppb	0.81	8,232,097.72	5.065E+01	Analog	0.30	3
Ca	44	45	3	231616.537	ppb	0.62	500,390,748.10	1.141E+02	Analog	0.30	3
V	51	45	2	3.272	ppb	1.74	29,698.56	1.827E-01	Pulse	0.30	3
Cr	52	45	2	31.228	ppb	1.18	339,507.20	2.089E+00	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-33,418.08	-2.056E-01	Pulse	0.30	3
Fe	56	45	2	2.553	ppb	3.00	28,762.22	1.770E-01	Pulse	0.30	3
Co	59	45	2	0.176	ppb	6.42	3,450.47	2.123E-02	Pulse	0.30	3
Ni	60	72	2	0.166	ppb	12.25	855.50	8.721E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-9,962.22	-1.015E-01	Pulse	0.30	3
Zn	66	72	2	2.459	ppb	5.56	5,954.20	6.067E-02	Pulse	0.30	3
As	75	72	2	1.244	ppb	1.37	1,463.27	1.491E-02	Pulse	0.75	3
Se	78	72	1	14.220	ppb	2.48	7,930.04	6.211E-02	Pulse	0.30	3
Mo	95	103	2	3.437	ppb	1.83	20,124.44	8.283E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,523.02	-4.483E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,505.22	-2.335E-04	Pulse	0.30	3
Sb	121	115	3	0.085	ppb	4.12	3,720.60	5.774E-04	Pulse	0.30	3
Ba	137	159	3	16.772	ppb	0.50	269,732.65	2.944E-02	Pulse	0.30	3
Tl	205	209	3	0.054	ppb	0.80	5,851.41	1.319E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-37,035.28	-8.350E-03	Pulse	0.30	3
U	238	209	3	11.196	ppb	1.23	1,266,634.46	2.856E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,547,504.60	0.68	84.5	Analog	0.30	3
2	Sc	45	162,512.72	0.18	94.6	Pulse	0.30	3
3	Sc	45	4,385,822.47	1.22	103.8	Analog	0.30	3
1	Ge	72	127,660.91	0.65	84.1	Pulse	0.30	3
2	Ge	72	98,131.33	0.56	85.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,429,739.82	0.15	79.3	Analog	0.30	3
3	Rh	103	5,626,517.42	0.87	81.0	Analog	0.30	3
3	In	115	6,444,381.06	0.64	86.9	Analog	0.30	3
3	Tb	159	9,163,337.71	0.32	89.2	Analog	0.30	3
3	Bi	209	4,435,390.52	0.16	76.8	Analog	0.30	3

Quantitation Report

DILUTION TEST - Ba

File Name	A0307033.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:34
Sample Name	N018833-001B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	14.44	8.344E-06	Pulse	0.30	3
B	11	6	3	18.003	ppb	3.64	263,055.66	1.523E-01	Pulse	0.30	3
Na	23	45	2	4987.728	ppb	0.77	8,347,644.46	5.129E+01	Analog	0.30	3
Mg	26	45	2	1154.735	ppb	0.48	181,908.24	1.118E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	170.75	1.050E-03	Pulse	0.30	3
K	39	45	2	217.793	ppb	1.40	188,606.80	1.159E+00	Pulse	0.30	3
Ca	44	45	3	3114.316	ppb	0.18	6,335,876.85	1.539E+00	Analog	0.30	3
V	51	45	2	0.143	ppb	18.12	2,466.96	1.515E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	206.11	1.268E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	5.29	3.244E-05	Pulse	0.30	3
Fe	56	45	2	0.048	ppb	3.76	4,883.85	3.000E-02	Pulse	0.30	3
Co	59	45	2	0.002	ppb	27.92	46.51	2.862E-04	Pulse	0.30	3
Ni	60	72	2	0.038	ppb	8.40	310.76	2.869E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	7,126.49	6.574E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	680.87	6.284E-03	Pulse	0.30	3
As	75	72	2	0.108	ppb	10.14	161.24	1.487E-03	Pulse	0.75	3
Se	78	72	1	0.058	ppb	39.41	40.00	2.830E-04	Pulse	0.30	3
Mo	95	103	2	0.298	ppb	7.05	2,163.56	7.593E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	11,205.61	1.714E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,527.49	-2.138E-04	Pulse	0.30	3
Sb	121	115	3	0.011	ppb	18.26	978.96	1.370E-04	Pulse	0.30	3
Ba	137	159	3	5.817	ppb	1.19	100,212.14	1.023E-02	Pulse	0.30	3
Tl	205	209	3	0.007	ppb	7.52	2,657.01	4.872E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,822.89	-5.177E-04	Pulse	0.30	3
U	238	209	3	0.185	ppb	1.38	25,807.34	4.732E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,727,203.07	0.87	94.4	Analog	0.30	3
2	Sc	45	162,773.21	0.95	94.7	Pulse	0.30	3
3	Sc	45	4,116,083.93	0.05	97.4	Analog	0.30	3
1	Ge	72	140,035.01	4.38	92.3	Pulse	0.30	3
2	Ge	72	108,379.02	1.33	94.5	Pulse	0.30	3
2	Rh	103	2,850,081.80	0.78	93.0	Analog	0.30	3
3	Rh	103	6,537,421.50	0.21	94.1	Analog	0.30	3
3	In	115	7,144,725.78	0.12	96.3	Analog	0.30	3
3	Tb	159	9,797,954.23	0.80	95.4	Analog	0.30	3
3	Bi	209	5,453,571.93	0.58	94.4	Analog	0.30	3

Quantitation Report

File Name	A0307034.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:40
Sample Name	N018833-001B-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.054	ppb	0.83	20,015.71	1.188E-02	Pulse	0.30	3
B	11	6	3	422.638	ppb	0.49	3,854,416.62	2.287E+00	Analog	0.30	3
Na	23	45	2	22379.781	ppb	0.69	35,315,470.03	2.175E+02	Analog	0.30	3
Mg	26	45	2	5634.791	ppb	0.79	883,979.68	5.443E+00	Pulse	0.30	3
Al	27	45	2	35.355	ppb	2.63	13,682.40	8.424E-02	Pulse	0.30	3
K	39	45	2	1041.237	ppb	0.83	760,175.68	4.681E+00	Pulse	0.30	3
Ca	44	45	3	15467.872	ppb	0.11	31,280,484.26	7.625E+00	Analog	0.30	3
V	51	45	2	2.586	ppb	3.44	23,716.69	1.460E-01	Pulse	0.30	3
Cr	52	45	2	2.042	ppb	0.57	22,395.96	1.379E-01	Pulse	0.30	3
Mn	55	45	2	19.743	ppb	1.12	126,032.16	7.760E-01	Pulse	0.30	3
Fe	56	45	2	21.075	ppb	0.84	205,234.21	1.264E+00	Pulse	0.30	3
Co	59	45	2	1.933	ppb	0.46	37,785.45	2.327E-01	Pulse	0.30	3
Ni	60	72	2	2.204	ppb	2.07	10,841.57	1.023E-01	Pulse	0.30	3
Cu	63	72	2	2.126	ppb	1.63	36,480.20	3.443E-01	Pulse	0.30	3
Zn	66	72	2	19.900	ppb	0.83	42,129.12	3.976E-01	Pulse	0.30	3
As	75	72	2	2.571	ppb	2.47	3,241.27	3.058E-02	Pulse	0.75	3
Se	78	72	1	2.422	ppb	9.05	1,450.13	1.060E-02	Pulse	0.30	3
Mo	95	103	2	3.276	ppb	1.79	21,549.59	7.897E-03	Pulse	0.30	3
Ag	107	103	3	3.446	ppb	3.05	198,947.74	3.125E-02	Pulse	0.30	3
Cd	111	115	3	1.509	ppb	2.06	18,566.78	2.633E-03	Pulse	0.30	3
Sb	121	115	3	2.191	ppb	0.85	92,593.44	1.313E-02	Pulse	0.30	3
Ba	137	159	3	50.647	ppb	0.56	866,763.83	8.883E-02	Pulse	0.30	3
Tl	205	209	3	2.105	ppb	0.06	197,754.68	3.753E-02	Pulse	0.30	3
Pb	208	209	3	2.013	ppb	0.78	253,117.19	4.804E-02	Pulse	0.30	3
U	238	209	3	3.181	ppb	0.33	427,510.78	8.114E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,685,489.22	0.68	92.1	Analog	0.30	3
2	Sc	45	162,399.93	0.74	94.5	Pulse	0.30	3
3	Sc	45	4,102,590.60	0.73	97.1	Analog	0.30	3
1	Ge	72	136,738.07	0.61	90.1	Pulse	0.30	3
2	Ge	72	105,957.47	1.36	92.3	Pulse	0.30	3
2	Rh	103	2,728,286.11	1.49	89.0	Analog	0.30	3
3	Rh	103	6,365,013.58	0.72	91.6	Analog	0.30	3
3	In	115	7,052,683.95	0.85	95.1	Analog	0.30	3
3	Tb	159	9,757,272.21	0.67	95.0	Analog	0.30	3
3	Bi	209	5,268,848.71	0.60	91.2	Analog	0.30	3

Quantitation Report

File Name	A0307035.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:45
Sample Name	N018833-001B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.050	ppb	1.68	20,092.44	1.185E-02	Pulse	0.30	3
B	11	6	3	421.412	ppb	0.86	3,865,872.00	2.280E+00	Analog	0.30	3
Na	23	45	2	22592.971	ppb	0.64	35,394,104.75	2.195E+02	Analog	0.30	3
Mg	26	45	2	5693.593	ppb	0.72	886,853.10	5.500E+00	Pulse	0.30	3
Al	27	45	2	36.668	ppb	1.51	14,022.36	8.696E-02	Pulse	0.30	3
K	39	45	2	1052.549	ppb	0.89	762,560.35	4.729E+00	Pulse	0.30	3
Ca	44	45	3	15294.536	ppb	0.47	30,935,073.43	7.539E+00	Analog	0.30	3
V	51	45	2	2.602	ppb	0.52	23,682.14	1.468E-01	Pulse	0.30	3
Cr	52	45	2	2.059	ppb	0.96	22,423.38	1.391E-01	Pulse	0.30	3
Mn	55	45	2	20.051	ppb	0.96	127,081.07	7.881E-01	Pulse	0.30	3
Fe	56	45	2	21.272	ppb	1.15	205,646.44	1.275E+00	Pulse	0.30	3
Co	59	45	2	1.992	ppb	0.69	38,672.81	2.398E-01	Pulse	0.30	3
Ni	60	72	2	2.269	ppb	2.74	11,242.28	1.053E-01	Pulse	0.30	3
Cu	63	72	2	2.181	ppb	0.81	37,490.68	3.511E-01	Pulse	0.30	3
Zn	66	72	2	19.644	ppb	0.39	41,935.94	3.927E-01	Pulse	0.30	3
As	75	72	2	2.599	ppb	1.73	3,302.61	3.092E-02	Pulse	0.75	3
Se	78	72	1	2.382	ppb	6.25	1,429.01	1.043E-02	Pulse	0.30	3
Mo	95	103	2	3.246	ppb	2.33	21,599.71	7.825E-03	Pulse	0.30	3
Ag	107	103	3	3.899	ppb	0.52	224,468.58	3.510E-02	Pulse	0.30	3
Cd	111	115	3	1.531	ppb	0.65	18,892.39	2.670E-03	Pulse	0.30	3
Sb	121	115	3	2.179	ppb	0.68	92,413.96	1.306E-02	Pulse	0.30	3
Ba	137	159	3	50.171	ppb	0.23	861,040.51	8.800E-02	Pulse	0.30	3
Tl	205	209	3	2.074	ppb	0.92	196,728.82	3.700E-02	Pulse	0.30	3
Pb	208	209	3	1.996	ppb	0.10	253,290.82	4.763E-02	Pulse	0.30	3
U	238	209	3	3.143	ppb	0.35	426,384.58	8.019E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,695,303.14	0.57	92.6	Analog	0.30	3
2	Sc	45	161,266.07	1.93	93.8	Pulse	0.30	3
3	Sc	45	4,103,282.44	0.49	97.1	Analog	0.30	3
1	Ge	72	137,008.66	0.38	90.3	Pulse	0.30	3
2	Ge	72	106,792.72	1.88	93.1	Pulse	0.30	3
2	Rh	103	2,760,205.89	1.01	90.0	Analog	0.30	3
3	Rh	103	6,394,845.11	0.20	92.0	Analog	0.30	3
3	In	115	7,075,662.06	0.43	95.4	Analog	0.30	3
3	Tb	159	9,784,496.24	0.10	95.2	Analog	0.30	3
3	Bi	209	5,317,466.87	0.32	92.1	Analog	0.30	3

Quantitation Report

File Name	A0307036.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:51
Sample Name	N018833-001B-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	1.968	ppb	1.32	19,163.63	1.138E-02	Pulse	0.30	3
B	11	6	3	427.858	ppb	0.94	3,898,079.01	2.314E+00	Analog	0.30	3
Na	23	45	2	22538.731	ppb	0.57	35,490,140.03	2.190E+02	Analog	0.30	3
Mg	26	45	2	5644.498	ppb	0.64	883,698.63	5.452E+00	Pulse	0.30	3
Al	27	45	2	36.274	ppb	2.39	13,960.43	8.614E-02	Pulse	0.30	3
K	39	45	2	1035.771	ppb	0.61	754,840.31	4.657E+00	Pulse	0.30	3
Ca	44	45	3	15329.138	ppb	0.54	30,855,168.43	7.556E+00	Analog	0.30	3
V	51	45	2	2.559	ppb	0.43	23,426.26	1.445E-01	Pulse	0.30	3
Cr	52	45	2	2.068	ppb	1.92	22,631.62	1.397E-01	Pulse	0.30	3
Mn	55	45	2	19.892	ppb	1.67	126,706.16	7.819E-01	Pulse	0.30	3
Fe	56	45	2	21.258	ppb	0.32	206,564.43	1.274E+00	Pulse	0.30	3
Co	59	45	2	1.963	ppb	1.61	38,292.88	2.363E-01	Pulse	0.30	3
Ni	60	72	2	2.218	ppb	3.80	10,953.59	1.029E-01	Pulse	0.30	3
Cu	63	72	2	2.233	ppb	1.74	38,061.29	3.576E-01	Pulse	0.30	3
Zn	66	72	2	19.702	ppb	0.94	41,907.25	3.938E-01	Pulse	0.30	3
As	75	72	2	2.561	ppb	1.95	3,242.61	3.047E-02	Pulse	0.75	3
Se	78	72	1	2.435	ppb	4.36	1,481.24	1.066E-02	Pulse	0.30	3
Mo	95	103	2	3.253	ppb	2.71	21,866.71	7.840E-03	Pulse	0.30	3
Ag	107	103	3	3.958	ppb	0.34	226,468.09	3.560E-02	Pulse	0.30	3
Cd	111	115	3	1.496	ppb	3.67	18,484.37	2.609E-03	Pulse	0.30	3
Sb	121	115	3	2.189	ppb	0.65	92,934.22	1.312E-02	Pulse	0.30	3
Ba	137	159	3	50.004	ppb	0.05	864,820.98	8.771E-02	Pulse	0.30	3
Tl	205	209	3	2.084	ppb	0.75	198,340.72	3.716E-02	Pulse	0.30	3
Pb	208	209	3	2.009	ppb	0.33	255,833.35	4.794E-02	Pulse	0.30	3
U	238	209	3	3.160	ppb	0.55	430,255.34	8.062E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,684,324.76	0.57	92.0	Analog	0.30	3
2	Sc	45	162,080.62	1.36	94.3	Pulse	0.30	3
3	Sc	45	4,083,429.35	0.27	96.7	Analog	0.30	3
1	Ge	72	138,935.63	0.22	91.5	Pulse	0.30	3
2	Ge	72	106,418.16	0.95	92.7	Pulse	0.30	3
2	Rh	103	2,788,916.10	1.20	91.0	Analog	0.30	3
3	Rh	103	6,360,940.95	0.40	91.6	Analog	0.30	3
3	In	115	7,084,030.98	0.33	95.5	Analog	0.30	3
3	Tb	159	9,860,356.87	0.48	96.0	Analog	0.30	3
3	Bi	209	5,336,896.24	0.15	92.4	Analog	0.30	3

Quantitation Report

File Name	A0307037.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 22:56
Sample Name	N018834-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

SAMPLE REFERENCE

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	165.96	22.22	1.340E-05	Pulse	0.30	3
B	11	6	3	34.259	ppb	0.27	394,398.28	2.381E-01	Pulse	0.30	3
Na	23	45	2	21980.630	ppb	0.86	33,909,394.22	2.136E+02	Analog	0.30	3
Mg	26	45	2	5480.090	ppb	0.40	840,241.75	5.294E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	417.34	2.627E-03	Pulse	0.30	3
K	39	45	2	998.120	ppb	0.90	713,664.88	4.496E+00	Pulse	0.30	3
Ca	44	45	3	14832.948	ppb	0.56	29,392,413.73	7.312E+00	Analog	0.30	3
V	51	45	2	0.501	ppb	3.65	5,447.78	3.432E-02	Pulse	0.30	3
Cr	52	45	2	0.007	ppb	110.59	292.29	1.839E-03	Pulse	0.30	3
Mn	55	45	2	0.199	ppb	4.38	1,386.36	8.732E-03	Pulse	0.30	3
Fe	56	45	2	1.679	ppb	4.02	19,949.48	1.257E-01	Pulse	0.30	3
Co	59	45	2	0.009	ppb	38.62	172.72	1.088E-03	Pulse	0.30	3
Ni	60	72	2	0.149	ppb	3.16	836.03	7.942E-03	Pulse	0.30	3
Cu	63	72	2	0.143	ppb	12.05	10,161.92	9.653E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	458.80	4.360E-03	Pulse	0.30	3
As	75	72	2	0.481	ppb	6.79	620.61	5.894E-03	Pulse	0.75	3
Se	78	72	1	0.357	ppb	10.36	213.35	1.587E-03	Pulse	0.30	3
Mo	95	103	2	1.063	ppb	4.05	7,094.07	2.593E-03	Pulse	0.30	3
Ag	107	103	3	0.462	ppb	11.07	37,208.78	5.895E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-6,332.46	-9.054E-04	Pulse	0.30	3
Sb	121	115	3	0.068	ppb	4.91	3,343.84	4.780E-04	Pulse	0.30	3
Ba	137	159	3	27.797	ppb	0.27	474,658.26	4.877E-02	Pulse	0.30	3
Tl	205	209	3	0.006	ppb	29.53	2,450.31	4.670E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,392.25	-2.553E-03	Pulse	0.30	3
U	238	209	3	0.932	ppb	1.61	124,805.27	2.379E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,656,591.80	0.47	90.5	Analog	0.30	3
2	Sc	45	158,726.38	0.84	92.4	Pulse	0.30	3
3	Sc	45	4,019,896.99	0.40	95.2	Analog	0.30	3
1	Ge	72	134,463.34	0.53	88.6	Pulse	0.30	3
2	Ge	72	105,262.73	0.77	91.7	Pulse	0.30	3
2	Rh	103	2,736,397.21	0.61	89.3	Analog	0.30	3
3	Rh	103	6,310,846.99	0.55	90.8	Analog	0.30	3
3	In	115	6,994,417.44	0.65	94.3	Analog	0.30	3
3	Tb	159	9,733,044.58	0.58	94.7	Analog	0.30	3
3	Bi	209	5,245,621.97	0.83	90.8	Analog	0.30	3

Quantitation Report

File Name	A0307038.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:02
Sample Name	N018834-001B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	1.946	ppb	1.41	18,545.15	1.125E-02	Pulse	0.30	3
B	11	6	3	415.363	ppb	0.79	3,706,811.78	2.248E+00	Analog	0.30	3
Na	23	45	2	23593.979	ppb	0.58	35,911,988.08	2.291E+02	Analog	0.30	3
Mg	26	45	2	5937.780	ppb	0.82	899,210.83	5.736E+00	Pulse	0.30	3
Al	27	45	2	36.560	ppb	2.46	13,600.80	8.673E-02	Pulse	0.30	3
K	39	45	2	1086.063	ppb	0.44	763,930.74	4.872E+00	Pulse	0.30	3
Ca	44	45	3	16123.983	ppb	0.75	31,166,536.20	7.948E+00	Analog	0.30	3
V	51	45	2	2.581	ppb	0.87	22,847.62	1.457E-01	Pulse	0.30	3
Cr	52	45	2	2.031	ppb	1.87	21,509.64	1.372E-01	Pulse	0.30	3
Mn	55	45	2	20.066	ppb	1.07	123,655.64	7.887E-01	Pulse	0.30	3
Fe	56	45	2	21.078	ppb	0.13	198,167.72	1.264E+00	Pulse	0.30	3
Co	59	45	2	1.976	ppb	2.07	37,300.67	2.379E-01	Pulse	0.30	3
Ni	60	72	2	2.249	ppb	2.52	10,799.32	1.043E-01	Pulse	0.30	3
Cu	63	72	2	2.216	ppb	2.28	36,793.34	3.555E-01	Pulse	0.30	3
Zn	66	72	2	19.960	ppb	2.46	41,273.04	3.988E-01	Pulse	0.30	3
As	75	72	2	2.691	ppb	2.36	3,312.80	3.200E-02	Pulse	0.75	3
Se	78	72	1	2.455	ppb	1.47	1,432.35	1.075E-02	Pulse	0.30	3
Mo	95	103	2	3.284	ppb	2.29	21,402.77	7.917E-03	Pulse	0.30	3
Ag	107	103	3	3.675	ppb	2.97	204,367.00	3.320E-02	Pulse	0.30	3
Cd	111	115	3	1.525	ppb	1.96	18,330.48	2.659E-03	Pulse	0.30	3
Sb	121	115	3	2.185	ppb	0.15	90,264.81	1.309E-02	Pulse	0.30	3
Ba	137	159	3	50.620	ppb	0.45	859,409.26	8.879E-02	Pulse	0.30	3
Tl	205	209	3	2.081	ppb	1.01	194,261.49	3.712E-02	Pulse	0.30	3
Pb	208	209	3	2.019	ppb	0.86	252,183.00	4.819E-02	Pulse	0.30	3
U	238	209	3	3.227	ppb	0.76	430,846.01	8.233E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,648,590.44	0.32	90.1	Analog	0.30	3
2	Sc	45	156,788.78	1.26	91.2	Pulse	0.30	3
3	Sc	45	3,921,512.27	0.67	92.8	Analog	0.30	3
1	Ge	72	133,253.39	1.07	87.8	Pulse	0.30	3
2	Ge	72	103,521.11	1.57	90.2	Pulse	0.30	3
2	Rh	103	2,703,355.20	0.60	88.2	Analog	0.30	3
3	Rh	103	6,155,828.52	0.26	88.6	Analog	0.30	3
3	In	115	6,893,315.50	0.65	92.9	Analog	0.30	3
3	Tb	159	9,679,385.06	0.23	94.2	Analog	0.30	3
3	Bi	209	5,233,363.33	0.41	90.6	Analog	0.30	3

Quantitation Report

File Name	A0307039.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:07
Sample Name	CCV2,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.291	ppb	1.27	175,072.60	1.056E-01	Pulse	0.30	3
B	11	6	3	192.935	ppb	0.88	1,781,658.54	1.075E+00	Analog	0.30	3
Na	23	45	2	144.251	ppb	10.98	779,317.91	5.011E+00	Pulse	0.30	3
Mg	26	45	2	192.453	ppb	0.97	29,321.84	1.885E-01	Pulse	0.30	3
Al	27	45	2	15.300	ppb	4.86	6,656.46	4.280E-02	Pulse	0.30	3
K	39	45	2	190.610	ppb	0.35	162,170.14	1.043E+00	Pulse	0.30	3
Ca	44	45	3	189.538	ppb	0.23	382,328.57	9.857E-02	Pulse	0.30	3
V	51	45	2	19.185	ppb	0.76	160,987.13	1.035E+00	Pulse	0.30	3
Cr	52	45	2	19.460	ppb	0.25	202,589.72	1.302E+00	Pulse	0.30	3
Mn	55	45	2	19.158	ppb	0.67	117,142.78	7.530E-01	Pulse	0.30	3
Fe	56	45	2	19.735	ppb	2.06	184,351.90	1.185E+00	Pulse	0.30	3
Co	59	45	2	19.606	ppb	0.89	367,016.91	2.359E+00	Pulse	0.30	3
Ni	60	72	2	19.721	ppb	1.01	92,661.33	9.064E-01	Pulse	0.30	3
Cu	63	72	2	20.311	ppb	0.37	267,406.46	2.616E+00	Pulse	0.30	3
Zn	66	72	2	19.190	ppb	0.88	39,246.70	3.839E-01	Pulse	0.30	3
As	75	72	2	19.304	ppb	0.33	23,337.61	2.283E-01	Pulse	0.75	3
Se	78	72	1	18.795	ppb	2.04	10,561.60	8.209E-02	Pulse	0.30	3
Mo	95	103	2	18.928	ppb	0.68	127,420.77	4.541E-02	Pulse	0.30	3
Ag	107	103	3	19.197	ppb	0.95	1,054,132.17	1.651E-01	Analog	0.30	3
Cd	111	115	3	19.204	ppb	0.27	234,564.09	3.361E-02	Pulse	0.30	3
Sb	121	115	3	19.418	ppb	0.10	808,160.64	1.158E-01	Pulse	0.30	3
Ba	137	159	3	19.668	ppb	0.61	330,678.37	3.451E-02	Pulse	0.30	3
Tl	205	209	3	18.811	ppb	1.20	1,831,603.41	3.326E-01	Analog	0.30	3
Pb	208	209	3	19.093	ppb	0.30	2,504,871.74	4.549E-01	Analog	0.30	3
U	238	209	3	18.710	ppb	0.20	2,627,855.10	4.772E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,657,212.63	0.61	90.5	Analog	0.30	3
2	Sc	45	155,556.28	0.76	90.5	Pulse	0.30	3
3	Sc	45	3,878,891.40	0.45	91.8	Analog	0.30	3
1	Ge	72	128,575.52	5.72	84.7	Pulse	0.30	3
2	Ge	72	102,231.91	0.90	89.1	Pulse	0.30	3
2	Rh	103	2,805,985.06	0.52	91.5	Analog	0.30	3
3	Rh	103	6,384,832.96	0.40	91.9	Analog	0.30	3
3	In	115	6,978,204.41	0.15	94.1	Analog	0.30	3
3	Tb	159	9,581,000.69	0.55	93.2	Analog	0.30	3
3	Bi	209	5,506,724.15	0.29	95.4	Analog	0.30	3

Quantitation Report

File Name	A0307040.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:13
Sample Name	CCB2,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	223.83	26.67	1.587E-05	Pulse	0.30	3
B	11	6	3	5.223	ppb	4.19	142,951.64	8.490E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	389,523.82	2.481E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	184.45	1.174E-03	Pulse	0.30	3
Al	27	45	2	0.244	ppb	90.84	1,835.72	1.168E-02	Pulse	0.30	3
K	39	45	2	1.515	ppb	123.96	36,711.25	2.338E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	10,452.60	2.640E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	1,147.87	7.304E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	195.17	1.241E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	109.92	6.993E-04	Pulse	0.30	3
Fe	56	45	2	0.047	ppb	47.91	4,701.38	2.994E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	166.40	19.60	1.239E-04	Pulse	0.30	3
Ni	60	72	2	0.009	ppb	114.57	160.71	1.537E-03	Pulse	0.30	3
Cu	63	72	2	0.391	ppb	6.45	13,336.45	1.275E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	870.87	8.324E-03	Pulse	0.30	3
As	75	72	2	0.002	ppb	492.88	24.45	2.342E-04	Pulse	0.75	3
Se	78	72	1	0.001	ppb	1086.09	4.44	3.294E-05	Pulse	0.30	3
Mo	95	103	2	0.072	ppb	6.68	615.59	2.163E-04	Pulse	0.30	3
Ag	107	103	3	0.637	ppb	12.85	48,602.25	7.385E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	29.70	-26.08	-3.666E-06	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	4.99	1,725.73	2.427E-04	Pulse	0.30	3
Ba	137	159	3	0.001	ppb	366.62	293.93	3.015E-05	Pulse	0.30	3
Tl	205	209	3	0.011	ppb	7.45	3,052.67	5.518E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.000	ppb	105.49	570.31	1.031E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	8.42	393.47	7.111E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,683,791.61	0.69	92.0	Analog	0.30	3
2	Sc	45	157,102.78	1.56	91.4	Pulse	0.30	3
3	Sc	45	3,960,132.96	0.84	93.7	Analog	0.30	3
1	Ge	72	134,516.78	0.38	88.6	Pulse	0.30	3
2	Ge	72	104,574.20	0.97	91.1	Pulse	0.30	3
2	Rh	103	2,846,550.34	0.91	92.9	Analog	0.30	3
3	Rh	103	6,580,633.24	0.06	94.7	Analog	0.30	3
3	In	115	7,109,602.09	0.21	95.9	Analog	0.30	3
3	Tb	159	9,738,744.02	0.63	94.8	Analog	0.30	3
3	Bi	209	5,532,247.35	0.44	95.8	Analog	0.30	3

Quantitation Report

File Name	A0307041.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:18
Sample Name	LLCCV1,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.479	ppb	1.32	4,603.03	2.778E-03	Pulse	0.30	3
B	11	6	3	55.887	ppb	0.66	583,647.04	3.522E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	360,279.52	2.283E+00	Pulse	0.30	3
Mg	26	45	2	3.348	ppb	14.17	934.51	5.920E-03	Pulse	0.30	3
Al	27	45	2	37.238	ppb	2.29	13,912.86	8.813E-02	Pulse	0.30	3
K	39	45	2	3.894	ppb	40.72	38,500.81	2.439E-01	Pulse	0.30	3
Ca	44	45	3	14.118	ppb	3.65	48,075.74	1.216E-02	Pulse	0.30	3
V	51	45	2	0.941	ppb	0.80	9,139.52	5.790E-02	Pulse	0.30	3
Cr	52	45	2	0.972	ppb	0.43	10,481.06	6.640E-02	Pulse	0.30	3
Mn	55	45	2	0.520	ppb	4.17	3,371.70	2.136E-02	Pulse	0.30	3
Fe	56	45	2	10.385	ppb	1.10	100,471.27	6.365E-01	Pulse	0.30	3
Co	59	45	2	0.473	ppb	0.12	8,992.29	5.697E-02	Pulse	0.30	3
Ni	60	72	2	1.023	ppb	3.46	4,942.54	4.809E-02	Pulse	0.30	3
Cu	63	72	2	1.661	ppb	2.04	29,407.19	2.862E-01	Pulse	0.30	3
Zn	66	72	2	10.849	ppb	1.83	22,890.15	2.228E-01	Pulse	0.30	3
As	75	72	2	0.101	ppb	16.55	144.89	1.409E-03	Pulse	0.75	3
Se	78	72	1	0.529	ppb	10.86	312.24	2.338E-03	Pulse	0.30	3
Mo	95	103	2	0.498	ppb	3.56	3,508.31	1.237E-03	Pulse	0.30	3
Ag	107	103	3	0.135	ppb	4.18	20,360.07	3.116E-03	Pulse	0.30	3
Cd	111	115	3	0.511	ppb	3.11	6,347.46	8.852E-04	Pulse	0.30	3
Sb	121	115	3	0.512	ppb	0.53	22,387.71	3.122E-03	Pulse	0.30	3
Ba	137	159	3	1.092	ppb	2.00	19,243.08	1.944E-03	Pulse	0.30	3
Tl	205	209	3	0.374	ppb	1.52	38,719.25	6.962E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.999	ppb	0.48	132,909.12	2.390E-02	Pulse	0.30	3
U	238	209	3	0.471	ppb	0.90	66,905.88	1.203E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,657,279.16	0.41	90.5	Analog	0.30	3
2	Sc	45	157,849.65	0.63	91.8	Pulse	0.30	3
3	Sc	45	3,955,381.47	0.56	93.6	Analog	0.30	3
1	Ge	72	133,473.67	0.60	87.9	Pulse	0.30	3
2	Ge	72	102,750.82	1.01	89.6	Pulse	0.30	3
2	Rh	103	2,835,229.02	0.89	92.5	Analog	0.30	3
3	Rh	103	6,533,794.49	0.15	94.0	Analog	0.30	3
3	In	115	7,170,845.73	0.40	96.7	Analog	0.30	3
3	Tb	159	9,901,281.24	0.47	96.4	Analog	0.30	3
3	Bi	209	5,561,440.61	0.29	96.3	Analog	0.30	3

Quantitation Report

File Name	A0307042.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:24
Sample Name	ICSA2,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	89.35	31.11	1.812E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	88,619.30	5.149E-02	Pulse	0.30	3
Na	23	45	2	114651.757	ppb	1.03	185,933,177.23	1.099E+03	Analog	0.30	3
Mg	26	45	2	100012.478	ppb	0.69	16,337,787.54	9.656E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,547.69	9.164E-03	Pulse	0.30	3
K	39	45	2	105273.123	ppb	0.22	76,227,959.42	4.505E+02	Analog	0.30	3
Ca	44	45	3	94726.435	ppb	0.58	218,313,407.86	4.667E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	836.73	4.953E-03	Pulse	0.30	3
Cr	52	45	2	0.185	ppb	2.73	2,327.19	1.375E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-16,522.85	-9.763E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-9,383.86	-5.544E-02	Pulse	0.30	3
Co	59	45	2	0.006	ppb	37.78	136.59	8.083E-04	Pulse	0.30	3
Ni	60	72	2	0.330	ppb	6.61	1,725.54	1.626E-02	Pulse	0.30	3
Cu	63	72	2	0.084	ppb	24.16	9,452.58	8.913E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,803.41	-1.701E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	12.33	1.180E-04	Pulse	0.75	3
Se	78	72	1	0.007	ppb	125.66	7.78	6.055E-05	Pulse	0.30	3
Mo	95	103	2	0.039	ppb	21.64	358.91	1.384E-04	Pulse	0.30	3
Ag	107	103	3	0.004	ppb	134.91	12,880.10	2.001E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-536.58	-7.708E-05	Pulse	0.30	3
Sb	121	115	3	0.018	ppb	2.77	1,223.43	1.757E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-21,760.15	-2.290E-03	Pulse	0.30	3
Tl	205	209	3	0.015	ppb	5.19	2,854.84	6.294E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,585.25	-7.905E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	42.67	295.56	6.515E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,721,220.59	0.95	94.0	Analog	0.30	3
2	Sc	45	169,212.60	3.04	98.5	Pulse	0.30	3
3	Sc	45	4,678,240.63	0.97	110.7	Analog	0.30	3
1	Ge	72	127,789.05	1.21	84.2	Pulse	0.30	3
2	Ge	72	106,011.59	2.92	92.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,600,319.23	2.65	84.8	Analog	0.30	3
3	Rh	103	6,435,576.50	0.44	92.6	Analog	0.30	3
3	In	115	6,962,286.58	0.76	93.9	Analog	0.30	3
3	Tb	159	9,501,460.69	0.34	92.5	Analog	0.30	3
3	Bi	209	4,536,030.56	0.32	78.6	Analog	0.30	3

Quantitation Report

File Name	A0307043.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:27
Sample Name	ICSAB,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.263	ppb	0.48	199,424.09	1.170E-01	Pulse	0.30	3
B	11	6	3	218.910	ppb	1.61	2,065,505.16	1.212E+00	Analog	0.30	3
Na	23	45	2	55084.278	ppb	0.34	80,925,519.91	5.299E+02	Analog	0.30	3
Mg	26	45	2	48535.100	ppb	0.64	7,156,835.10	4.686E+01	Analog	0.30	3
Al	27	45	2	16.400	ppb	1.58	6,882.68	4.507E-02	Pulse	0.30	3
K	39	45	2	47861.570	ppb	0.98	31,300,115.37	2.049E+02	Analog	0.30	3
Ca	44	45	3	43909.477	ppb	0.57	97,913,382.99	2.163E+01	Analog	0.30	3
V	51	45	2	22.904	ppb	0.36	188,468.92	1.234E+00	Pulse	0.30	3
Cr	52	45	2	22.967	ppb	0.87	234,670.02	1.537E+00	Pulse	0.30	3
Mn	55	45	2	19.579	ppb	0.58	117,519.69	7.696E-01	Pulse	0.30	3
Fe	56	45	2	20.695	ppb	0.62	189,600.71	1.241E+00	Pulse	0.30	3
Co	59	45	2	21.679	ppb	0.27	398,394.59	2.609E+00	Pulse	0.30	3
Ni	60	72	2	21.581	ppb	0.85	97,766.93	9.918E-01	Pulse	0.30	3
Cu	63	72	2	21.100	ppb	0.67	267,557.66	2.714E+00	Pulse	0.30	3
Zn	66	72	2	18.344	ppb	1.78	36,235.90	3.676E-01	Pulse	0.30	3
As	75	72	2	21.494	ppb	0.75	25,052.59	2.541E-01	Pulse	0.75	3
Se	78	72	1	21.101	ppb	2.79	10,516.03	9.216E-02	Pulse	0.30	3
Mo	95	103	2	23.538	ppb	0.75	150,642.17	5.646E-02	Pulse	0.30	3
Ag	107	103	3	19.762	ppb	0.84	1,167,772.73	1.699E-01	Analog	0.30	3
Cd	111	115	3	19.060	ppb	0.57	262,414.70	3.336E-02	Pulse	0.30	3
Sb	121	115	3	21.957	ppb	0.77	1,029,973.19	1.309E-01	Analog	0.30	3
Ba	137	159	3	18.841	ppb	0.67	368,749.09	3.307E-02	Pulse	0.30	3
Tl	205	209	3	23.343	ppb	0.63	2,282,678.94	4.127E-01	Analog	0.30	3
Pb	208	209	3	22.215	ppb	0.37	2,927,562.56	5.293E-01	Analog	0.30	3
U	238	209	3	23.704	ppb	0.71	3,344,145.69	6.046E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,704,003.75	0.57	93.1	Analog	0.30	3
2	Sc	45	152,714.62	2.07	88.9	Pulse	0.30	3
3	Sc	45	4,525,751.18	0.66	107.1	Analog	0.30	3
1	Ge	72	114,090.22	1.05	75.2	Pulse	0.30	3
2	Ge	72	98,577.60	1.92	85.9	Pulse	0.30	3
2	Rh	103	2,667,953.57	1.66	87.0	Analog	0.30	3
3	Rh	103	6,873,100.31	0.33	98.9	Analog	0.30	3
3	In	115	7,865,610.57	1.02	106.0	Analog	0.30	3
3	Tb	159	11,152,296.36	0.90	108.5	Analog	0.30	3
3	Bi	209	5,531,535.89	0.39	95.8	Analog	0.30	3

Quantitation Report

File Name	A0307044.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:35
Sample Name	N018861-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	68.97	44.45	4.169E-05	Pulse	0.30	3
B	11	6	3	755.061	ppb	1.45	4,302,606.19	4.040E+00	Analog	0.30	3
Na	23	45	2	1252648.737	ppb	0.61	1,716,529,841.09	1.197E+04	Analog	0.30	3
Mg	26	45	2	26940.389	ppb	0.58	3,729,618.21	2.601E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,524.90	1.064E-02	Pulse	0.30	3
K	39	45	2	17395.382	ppb	0.63	10,700,339.15	7.463E+01	Analog	0.30	3
Ca	44	45	3	196808.270	ppb	0.50	379,209,732.13	9.695E+01	Analog	0.30	3
V	51	45	2	1.034	ppb	1.50	9,019.47	6.289E-02	Pulse	0.30	3
OLR Cr	52	45	2	559.897	ppb	0.95	5,366,692.94	3.743E+01	Analog	0.30	3
Mn	55	45	2	2.478	ppb	1.23	14,085.22	9.822E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-65,648.89	-4.578E-01	Pulse	0.30	3
Co	59	45	2	0.533	ppb	2.20	9,212.69	6.424E-02	Pulse	0.30	3
Ni	60	72	2	2.176	ppb	1.25	8,490.21	1.010E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-28,528.11	-3.394E-01	Pulse	0.30	3
Zn	66	72	2	9.228	ppb	3.03	16,090.98	1.914E-01	Pulse	0.30	3
As	75	72	2	1.226	ppb	2.34	1,235.10	1.469E-02	Pulse	0.75	3
Se	78	72	1	3.674	ppb	3.32	1,701.28	1.607E-02	Pulse	0.30	3
Mo	95	103	2	14.852	ppb	0.71	71,364.59	3.564E-02	Pulse	0.30	3
Ag	107	103	3	0.758	ppb	11.31	39,997.36	8.408E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-341.73	-6.344E-05	Pulse	0.30	3
Sb	121	115	3	0.097	ppb	5.06	3,497.20	6.496E-04	Pulse	0.30	3
Ba	137	159	3	37.638	ppb	0.13	499,629.55	6.603E-02	Pulse	0.30	3
Tl	205	209	3	0.036	ppb	8.21	3,451.65	9.931E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-32,063.37	-9.226E-03	Pulse	0.30	3
U	238	209	3	5.970	ppb	0.25	529,252.14	1.523E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,065,013.63	1.40	58.2	Analog	0.30	3
2	Sc	45	143,382.88	1.78	83.4	Pulse	0.30	3
3	Sc	45	3,911,422.44	0.85	92.6	Analog	0.30	3
1	Ge	72	105,853.38	0.91	69.7	Pulse	0.30	3
2	Ge	72	84,043.98	0.70	73.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,002,174.87	1.20	65.3	Analog	0.30	3
3	Rh	103	4,756,149.45	0.41	68.5	Analog	0.30	3
3	In	115	5,383,843.00	0.56	72.6	Analog	0.30	3
3	Tb	159	7,567,248.36	0.73	73.6	Analog	0.30	3
3	Bi	209	3,475,378.87	0.69	60.2	Analog	0.30	3

Quantitation Report

File Name	A0307045.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:40
Sample Name	N018861-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	83.89	30.00	2.051E-05	Pulse	0.30	3
B	11	6	3	147.084	ppb	1.73	1,221,038.58	8.333E-01	Analog	0.30	3
Na	23	45	2	272703.921	ppb	0.64	392,232,016.38	2.609E+03	Analog	0.30	3
Mg	26	45	2	5954.024	ppb	0.25	864,631.68	5.751E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	545.00	3.629E-03	Pulse	0.30	3
K	39	45	2	3768.329	ppb	0.46	2,457,264.58	1.634E+01	Analog	0.30	3
Ca	44	45	3	43173.780	ppb	0.48	81,998,273.22	2.127E+01	Analog	0.30	3
V	51	45	2	0.179	ppb	4.28	2,568.09	1.708E-02	Pulse	0.30	3
Cr	52	45	2	123.470	ppb	0.17	1,241,155.47	8.256E+00	Analog	0.30	3
Mn	55	45	2	0.539	ppb	3.43	3,323.40	2.211E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-11,299.72	-7.521E-02	Pulse	0.30	3
Co	59	45	2	0.121	ppb	4.51	2,201.15	1.464E-02	Pulse	0.30	3
Ni	60	72	2	0.473	ppb	5.40	2,187.63	2.282E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	941.52	9.787E-03	Pulse	0.30	3
Zn	66	72	2	2.025	ppb	5.32	5,013.60	5.229E-02	Pulse	0.30	3
As	75	72	2	0.289	ppb	6.11	347.20	3.625E-03	Pulse	0.75	3
Se	78	72	1	0.797	ppb	9.32	430.02	3.509E-03	Pulse	0.30	3
Mo	95	103	2	2.853	ppb	1.57	16,473.53	6.882E-03	Pulse	0.30	3
Ag	107	103	3	0.137	ppb	2.35	17,118.25	3.136E-03	Pulse	0.30	3
Cd	111	115	3	0.005	ppb	125.24	-5.68	-8.764E-07	Pulse	0.30	3
Sb	121	115	3	0.019	ppb	16.40	1,107.86	1.825E-04	Pulse	0.30	3
Ba	137	159	3	7.925	ppb	0.47	117,508.18	1.392E-02	Pulse	0.30	3
Tl	205	209	3	0.003	ppb	34.62	1,784.63	4.172E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-6,649.15	-1.555E-03	Pulse	0.30	3
U	238	209	3	1.149	ppb	0.50	125,459.50	2.934E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,465,423.32	0.67	80.1	Analog	0.30	3
2	Sc	45	150,341.78	1.64	87.5	Pulse	0.30	3
3	Sc	45	3,854,664.56	0.42	91.2	Analog	0.30	3
1	Ge	72	122,636.97	1.43	80.8	Pulse	0.30	3
2	Ge	72	95,849.71	2.06	83.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,393,634.30	0.99	78.1	Analog	0.30	3
3	Rh	103	5,458,659.57	0.61	78.6	Analog	0.30	3
3	In	115	6,067,657.25	0.97	81.8	Analog	0.30	3
3	Tb	159	8,439,432.72	0.88	82.1	Analog	0.30	3
3	Bi	209	4,276,428.20	1.25	74.1	Analog	0.30	3

Quantitation Report

File Name	A0307046.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:46
Sample Name	N018861-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.009	ppb	20.82	64.45	6.230E-05	Pulse	0.30	3
B	11	6	3	823.129	ppb	1.31	4,553,671.44	4.400E+00	Analog	0.30	3
Na	23	45	2	1489512.652	ppb	0.86	1,921,118,033.60	1.423E+04	Analog	0.30	3
Mg	26	45	2	22864.702	ppb	0.61	2,979,662.08	2.208E+01	Analog	0.30	3
Al	27	45	2	25.760	ppb	6.37	8,698.92	6.441E-02	Pulse	0.30	3
K	39	45	2	15418.069	ppb	0.91	8,930,809.38	6.617E+01	Analog	0.30	3
Ca	44	45	3	182526.823	ppb	0.49	336,985,830.53	8.992E+01	Analog	0.30	3
V	51	45	2	0.711	ppb	1.27	6,153.61	4.561E-02	Pulse	0.30	3
Cr	52	45	2	2.096	ppb	1.55	19,099.38	1.415E-01	Pulse	0.30	3
Mn	55	45	2	1.432	ppb	1.75	7,708.03	5.713E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-23,296.15	-1.725E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,870.51	-1.386E-02	Pulse	0.30	3
Ni	60	72	2	0.606	ppb	4.87	2,282.15	2.894E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-32,294.54	-4.096E-01	Pulse	0.30	3
Zn	66	72	2	0.492	ppb	33.06	1,786.52	2.268E-02	Pulse	0.30	3
As	75	72	2	1.481	ppb	3.95	1,395.59	1.771E-02	Pulse	0.75	3
Se	78	72	1	0.860	ppb	3.20	365.57	3.785E-03	Pulse	0.30	3
Mo	95	103	2	21.675	ppb	2.50	96,266.92	5.200E-02	Pulse	0.30	3
Ag	107	103	3	0.075	ppb	16.35	11,652.93	2.607E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-728.06	-1.440E-04	Pulse	0.30	3
Sb	121	115	3	0.056	ppb	2.36	2,049.10	4.055E-04	Pulse	0.30	3
Ba	137	159	3	32.195	ppb	0.36	401,926.55	5.648E-02	Pulse	0.30	3
Tl	205	209	3	0.524	ppb	2.51	30,901.91	9.609E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-27,367.99	-8.511E-03	Pulse	0.30	3
U	238	209	3	8.767	ppb	0.02	719,058.70	2.236E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,035,073.20	0.52	56.5	Analog	0.30	3
2	Sc	45	134,950.81	2.42	78.5	Pulse	0.30	3
3	Sc	45	3,747,852.96	0.99	88.7	Analog	0.30	3
1	Ge	72	96,574.26	0.61	63.6	Pulse	0.30	3
2	Ge	72	78,860.56	3.00	68.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,851,126.90	1.27	60.4	Analog	0.30	3
3	Rh	103	4,469,025.52	0.18	64.3	Analog	0.30	3
3	In	115	5,053,791.02	0.48	68.1	Analog	0.30	3
3	Tb	159	7,116,247.67	0.62	69.3	Analog	0.30	3
3	Bi	209	3,215,622.49	0.45	55.7	Analog	0.30	3

Quantitation Report

File Name	A0307047.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:52
Sample Name	N018861-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	99.79	32.22	2.185E-05	Pulse	0.30	3
B	11	6	3	160.637	ppb	1.43	1,338,247.60	9.048E-01	Analog	0.30	3
Na	23	45	2	312605.505	ppb	0.77	446,805,646.67	2.990E+03	Analog	0.30	3
Mg	26	45	2	4824.699	ppb	0.66	696,420.43	4.661E+00	Pulse	0.30	3
Al	27	45	2	1.812	ppb	44.26	2,227.51	1.492E-02	Pulse	0.30	3
K	39	45	2	3207.179	ppb	0.97	2,083,605.64	1.394E+01	Analog	0.30	3
Ca	44	45	3	38966.865	ppb	0.47	74,546,508.89	1.920E+01	Analog	0.30	3
V	51	45	2	0.108	ppb	4.75	1,986.87	1.330E-02	Pulse	0.30	3
Cr	52	45	2	0.462	ppb	3.52	4,823.17	3.229E-02	Pulse	0.30	3
Mn	55	45	2	0.304	ppb	5.28	1,920.88	1.286E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	649.59	4.361E-03	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-437.82	-2.931E-03	Pulse	0.30	3
Ni	60	72	2	0.160	ppb	9.33	794.59	8.437E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,703.99	-1.811E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	1,165.80	1.237E-02	Pulse	0.30	3
As	75	72	2	0.339	ppb	6.44	397.48	4.218E-03	Pulse	0.75	3
Se	78	72	1	0.179	ppb	6.73	96.67	8.122E-04	Pulse	0.30	3
Mo	95	103	2	4.059	ppb	0.52	22,884.88	9.772E-03	Pulse	0.30	3
Ag	107	103	3	0.026	ppb	12.21	11,932.99	2.193E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-123.46	-2.030E-05	Pulse	0.30	3
Sb	121	115	3	0.008	ppb	9.84	707.82	1.164E-04	Pulse	0.30	3
Ba	137	159	3	6.504	ppb	0.64	97,269.27	1.143E-02	Pulse	0.30	3
Tl	205	209	3	0.092	ppb	1.98	8,438.27	1.978E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-5,782.43	-1.355E-03	Pulse	0.30	3
U	238	209	3	1.648	ppb	0.40	179,476.84	4.206E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,479,258.36	0.95	80.8	Analog	0.30	3
2	Sc	45	149,429.05	1.68	86.9	Pulse	0.30	3
3	Sc	45	3,882,652.58	0.32	91.9	Analog	0.30	3
1	Ge	72	119,050.11	0.78	78.4	Pulse	0.30	3
2	Ge	72	94,206.31	0.60	82.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,341,764.29	1.33	76.4	Analog	0.30	3
3	Rh	103	5,440,725.48	0.38	78.3	Analog	0.30	3
3	In	115	6,079,641.66	0.17	82.0	Analog	0.30	3
3	Tb	159	8,507,889.67	0.47	82.8	Analog	0.30	3
3	Bi	209	4,266,842.37	0.15	73.9	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0307048.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/07/2016 23:57
Sample Name	N018861-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.012	ppb	12.04	50.00	7.960E-05	Pulse	0.30	3
B	11	6	3	2244.236	ppb	2.80	7,452,813.11	1.190E+01	Analog	0.30	3
Na	23	45	2	2953953.784	ppb	0.88	3,322,825,052.71	2.823E+04	Analog	0.30	3
Mg	26	45	2	19105.595	ppb	0.50	2,171,788.70	1.845E+01	Analog	0.30	3
Al	27	45	2	70.331	ppb	9.39	18,418.00	1.565E-01	Pulse	0.30	3
K	39	45	2	29562.796	ppb	0.95	14,911,412.69	1.267E+02	Analog	0.30	3
Ca	44	45	3	332666.856	ppb	0.79	534,194,636.48	1.639E+02	Analog	0.30	3
V	51	45	2	0.128	ppb	10.10	1,693.49	1.438E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	-1,560.60	-1.325E-02	Pulse	0.30	3
Mn	55	45	2	890.386	ppb	1.25	4,114,903.84	3.496E+01	Analog	0.30	3
Fe	56	45	2	136.499	ppb	1.05	945,994.56	8.036E+00	Analog	0.30	3
Co	59	45	2	0.569	ppb	1.58	8,064.61	6.851E-02	Pulse	0.30	3
Ni	60	72	2	0.487	ppb	12.20	1,498.53	2.345E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-74,653.86	-1.167E+00	Pulse	0.30	3
Zn	66	72	2	54.554	ppb	1.42	68,283.47	1.067E+00	Pulse	0.30	3
As	75	72	2	3.641	ppb	2.31	2,766.66	4.323E-02	Pulse	0.75	3
Se	78	72	1	0.082	ppb	51.92	30.00	3.877E-04	Pulse	0.30	3
Mo	95	103	2	74.338	ppb	0.86	266,642.00	1.782E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,186.26	1.437E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,250.03	-3.004E-04	Pulse	0.30	3
Sb	121	115	3	0.117	ppb	2.45	3,187.12	7.660E-04	Pulse	0.30	3
Ba	137	159	3	153.334	ppb	0.42	1,577,704.75	2.689E-01	Analog	0.30	3
Tl	205	209	3	0.036	ppb	6.32	2,500.31	9.862E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-39,598.53	-1.562E-02	Pulse	0.30	3
U	238	209	3	1.193	ppb	1.97	77,163.68	3.044E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	626,892.21	3.51	34.2	Analog	0.30	3
2	Sc	45	117,721.86	0.93	68.5	Pulse	0.30	3
3	Sc	45	3,259,843.39	0.55	77.2	Analog	0.30	3
1	Ge	72	78,173.80	4.18	51.5	Pulse	0.30	3
2	Ge	72	64,001.47	2.11	55.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,496,164.75	0.45	48.8	Analog	0.30	3
3	Rh	103	3,609,648.32	0.38	52.0	Analog	0.30	3
3	In	115	4,160,813.56	0.30	56.1	Analog	0.30	3
3	Tb	159	5,867,477.14	0.26	57.1	Analog	0.30	3
3	Bi	209	2,535,210.86	0.42	43.9	Analog	0.30	3

Quantitation Report

File Name	A0307049.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:03
Sample Name	N018861-003B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

	Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
	Be	9	6	3	0.002	ppb	52.76	31.11	2.224E-05	Pulse	0.30	3
	B	11	6	3	326.319	ppb	0.61	2,487,906.86	1.779E+00	Analog	0.30	3
	Na	23	45	2	614309.903	ppb	0.83	849,117,969.57	5.873E+03	Analog	0.30	3
	Mg	26	45	2	3989.208	ppb	0.50	557,256.05	3.854E+00	Pulse	0.30	3
	Al	27	45	2	12.855	ppb	15.41	5,455.82	3.774E-02	Pulse	0.30	3
	K	39	45	2	6078.212	ppb	0.82	3,791,592.55	2.622E+01	Analog	0.30	3
	Ca	44	45	3	71081.638	ppb	0.29	136,449,924.63	3.502E+01	Analog	0.30	3
	V	51	45	2	<0.000	ppb	---	876.73	6.065E-03	Pulse	0.30	3
	Cr	52	45	2	<0.000	ppb	---	-108.99	-7.541E-04	Pulse	0.30	3
OLR	Mn	55	45	2	194.169	ppb	0.48	1,102,247.18	7.624E+00	Analog	0.30	3
	Fe	56	45	2	32.125	ppb	4.97	276,483.92	1.912E+00	Pulse	0.30	3
	Co	59	45	2	0.134	ppb	5.89	2,331.68	1.613E-02	Pulse	0.30	3
	Ni	60	72	2	0.133	ppb	22.17	642.34	7.216E-03	Pulse	0.30	3
	Cu	63	72	2	<0.000	ppb	---	-15,066.05	-1.693E-01	Pulse	0.30	3
	Zn	66	72	2	11.803	ppb	0.96	21,460.22	2.412E-01	Pulse	0.30	3
	As	75	72	2	0.811	ppb	3.37	871.70	9.799E-03	Pulse	0.75	3
	Se	78	72	1	0.012	ppb	89.68	8.89	8.068E-05	Pulse	0.30	3
	Mo	95	103	2	14.004	ppb	0.68	73,124.69	3.361E-02	Pulse	0.30	3
	Ag	107	103	3	<0.000	ppb	---	6,961.85	1.344E-03	Pulse	0.30	3
	Cd	111	115	3	<0.000	ppb	---	-278.01	-4.803E-05	Pulse	0.30	3
	Sb	121	115	3	0.022	ppb	5.97	1,156.76	1.998E-04	Pulse	0.30	3
	Ba	137	159	3	31.795	ppb	0.12	454,526.31	5.578E-02	Pulse	0.30	3
	Tl	205	209	3	<0.000	ppb	---	1,385.68	3.498E-04	Pulse	0.30	3
	Pb	208	209	3	<0.000	ppb	---	-9,730.97	-2.457E-03	Pulse	0.30	3
	U	238	209	3	0.226	ppb	1.26	22,917.11	5.786E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,398,675.39	0.14	76.4	Analog	0.30	3
2	Sc	45	144,581.92	0.29	84.1	Pulse	0.30	3
3	Sc	45	3,896,436.89	0.80	92.2	Analog	0.30	3
1	Ge	72	110,057.73	0.94	72.5	Pulse	0.30	3
2	Ge	72	88,970.60	0.57	77.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,175,792.82	0.81	71.0	Analog	0.30	3
3	Rh	103	5,180,436.87	1.16	74.6	Analog	0.30	3
3	In	115	5,790,542.18	0.69	78.1	Analog	0.30	3
3	Tb	159	8,148,735.36	0.65	79.3	Analog	0.30	3
3	Bi	209	3,961,314.52	0.83	68.6	Analog	0.30	3

Quantitation Report

File Name	A0307050.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:08
Sample Name	N018861-003B,SAMP,10
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	97.60	23.33	1.540E-05	Pulse	0.30	3
B	11	6	3	162.534	ppb	1.11	1,385,428.15	9.148E-01	Analog	0.30	3
Na	23	45	2	309983.097	ppb	1.29	453,741,277.68	2.965E+03	Analog	0.30	3
Mg	26	45	2	2036.183	ppb	1.56	301,215.79	1.969E+00	Pulse	0.30	3
Al	27	45	2	3.630	ppb	45.35	2,863.42	1.868E-02	Pulse	0.30	3
K	39	45	2	3106.884	ppb	1.43	2,068,066.86	1.352E+01	Analog	0.30	3
Ca	44	45	3	35895.561	ppb	0.40	70,208,226.18	1.769E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	841.17	5.496E-03	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	27.49	1.793E-04	Pulse	0.30	3
Mn	55	45	2	100.261	ppb	1.98	602,370.32	3.937E+00	Pulse	0.30	3
Fe	56	45	2	16.545	ppb	3.25	152,671.33	9.980E-01	Pulse	0.30	3
Co	59	45	2	0.073	ppb	12.23	1,354.73	8.854E-03	Pulse	0.30	3
Ni	60	72	2	0.072	ppb	21.60	427.33	4.394E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,019.57	-2.077E-02	Pulse	0.30	3
Zn	66	72	2	6.187	ppb	1.61	12,910.23	1.327E-01	Pulse	0.30	3
As	75	72	2	0.416	ppb	4.46	499.11	5.131E-03	Pulse	0.75	3
Se	78	72	1	0.005	ppb	111.75	6.67	5.339E-05	Pulse	0.30	3
Mo	95	103	2	6.785	ppb	2.15	39,060.67	1.631E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,531.99	1.365E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-127.47	-2.069E-05	Pulse	0.30	3
Sb	121	115	3	0.009	ppb	23.23	752.27	1.221E-04	Pulse	0.30	3
Ba	137	159	3	15.980	ppb	0.80	239,878.40	2.805E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,125.64	2.612E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,788.26	-1.111E-03	Pulse	0.30	3
U	238	209	3	0.108	ppb	0.66	11,948.08	2.773E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,514,591.68	0.64	82.7	Analog	0.30	3
2	Sc	45	153,046.32	2.30	89.0	Pulse	0.30	3
3	Sc	45	3,969,443.93	0.36	94.0	Analog	0.30	3
1	Ge	72	124,956.37	0.50	82.3	Pulse	0.30	3
2	Ge	72	97,285.05	0.60	84.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,395,497.55	0.62	78.1	Analog	0.30	3
3	Rh	103	5,518,627.62	0.19	79.4	Analog	0.30	3
3	In	115	6,159,088.53	0.35	83.0	Analog	0.30	3
3	Tb	159	8,552,263.28	0.59	83.2	Analog	0.30	3
3	Bi	209	4,309,403.34	0.48	74.6	Analog	0.30	3

Quantitation Report

File Name	A0307051.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:14
Sample Name	N018861-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.014	ppb	41.77	52.23	9.074E-05	Pulse	0.30	3
B	11	6	3	2907.985	ppb	2.71	8,892,315.19	1.540E+01	Analog	0.30	3
Na	23	45	2	3526889.164	ppb	1.11	4,092,440,970.13	3.370E+04	Analog	0.30	3
Mg	26	45	2	9491.279	ppb	1.72	1,113,021.40	9.166E+00	Analog	0.30	3
Al	27	45	2	86.703	ppb	2.04	23,113.75	1.904E-01	Pulse	0.30	3
K	39	45	2	29976.680	ppb	0.75	15,597,940.32	1.284E+02	Analog	0.30	3
Ca	44	45	3	313633.005	ppb	0.56	524,964,974.40	1.545E+02	Analog	0.30	3
V	51	45	2	2.774	ppb	1.81	18,957.06	1.561E-01	Pulse	0.30	3
Cr	52	45	2	112.657	ppb	1.04	914,722.08	7.533E+00	Pulse	0.30	3
Mn	55	45	2	30.700	ppb	1.21	146,472.78	1.206E+00	Pulse	0.30	3
Fe	56	45	2	88.602	ppb	2.40	634,505.77	5.226E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-3,786.71	-3.119E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,465.27	-2.212E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-70,119.62	-1.060E+00	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-11,965.16	-1.810E-01	Pulse	0.30	3
As	75	72	2	10.456	ppb	0.94	8,181.94	1.237E-01	Pulse	0.75	3
Se	78	72	1	1.048	ppb	8.82	365.58	4.603E-03	Pulse	0.30	3
Mo	95	103	2	83.737	ppb	1.00	299,111.68	2.007E-01	Pulse	0.30	3
Ag	107	103	3	0.324	ppb	2.83	17,082.05	4.722E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,180.59	-2.856E-04	Pulse	0.30	3
Sb	121	115	3	0.065	ppb	5.93	1,890.19	4.572E-04	Pulse	0.30	3
Ba	137	159	3	57.566	ppb	0.18	590,478.47	1.010E-01	Pulse	0.30	3
Tl	205	209	3	0.306	ppb	2.58	14,370.81	5.770E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,578.81	-1.549E-02	Pulse	0.30	3
U	238	209	3	0.672	ppb	1.77	42,748.47	1.716E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	577,650.64	1.56	31.6	Analog	0.30	3
2	Sc	45	121,457.65	3.14	70.7	Pulse	0.30	3
3	Sc	45	3,398,154.57	2.46	80.4	Analog	0.30	3
1	Ge	72	79,420.88	0.35	52.3	Pulse	0.30	3
2	Ge	72	66,123.17	2.50	57.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,489,857.56	1.78	48.6	Analog	0.30	3
3	Rh	103	3,617,174.08	1.80	52.1	Analog	0.30	3
3	In	115	4,133,267.95	1.29	55.7	Analog	0.30	3
3	Tb	159	5,848,106.92	1.41	56.9	Analog	0.30	3
3	Bi	209	2,490,875.81	0.98	43.1	Analog	0.30	3

Quantitation Report

File Name	A0307052.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:19
Sample Name	N018861-004B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	135.46	32.23	2.394E-05	Pulse	0.30	3
B	11	6	3	418.936	ppb	1.39	3,060,894.53	2.267E+00	Analog	0.30	3
Na	23	45	2	767270.755	ppb	0.65	1,069,074,535.18	7.334E+03	Analog	0.30	3
Mg	26	45	2	2057.083	ppb	1.05	289,885.41	1.989E+00	Pulse	0.30	3
Al	27	45	2	14.348	ppb	2.72	5,952.74	4.083E-02	Pulse	0.30	3
K	39	45	2	6458.674	ppb	1.25	4,059,613.10	2.785E+01	Analog	0.30	3
Ca	44	45	3	71226.181	ppb	0.52	138,477,615.71	3.509E+01	Analog	0.30	3
V	51	45	2	0.553	ppb	4.75	5,409.99	3.713E-02	Pulse	0.30	3
Cr	52	45	2	25.999	ppb	0.48	253,557.68	1.740E+00	Pulse	0.30	3
Mn	55	45	2	7.006	ppb	1.60	40,223.97	2.760E-01	Pulse	0.30	3
Fe	56	45	2	22.178	ppb	4.49	193,589.70	1.328E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-976.71	-6.698E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-283.46	-3.227E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-13,678.75	-1.558E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,693.16	-3.069E-02	Pulse	0.30	3
As	75	72	2	2.401	ppb	0.70	2,508.70	2.858E-02	Pulse	0.75	3
Se	78	72	1	0.262	ppb	21.15	128.89	1.174E-03	Pulse	0.30	3
Mo	95	103	2	16.666	ppb	0.99	84,867.62	3.999E-02	Pulse	0.30	3
Ag	107	103	3	0.043	ppb	5.80	11,981.87	2.337E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-277.19	-4.795E-05	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	17.08	755.61	1.309E-04	Pulse	0.30	3
Ba	137	159	3	12.485	ppb	0.26	176,789.12	2.192E-02	Pulse	0.30	3
Tl	205	209	3	0.058	ppb	1.99	5,360.06	1.383E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,494.88	-2.449E-03	Pulse	0.30	3
U	238	209	3	0.135	ppb	1.59	13,478.12	3.476E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,350,058.73	0.58	73.8	Analog	0.30	3
2	Sc	45	145,771.94	1.89	84.8	Pulse	0.30	3
3	Sc	45	3,946,384.14	1.33	93.4	Analog	0.30	3
1	Ge	72	109,603.22	1.38	72.2	Pulse	0.30	3
2	Ge	72	87,797.76	1.73	76.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,122,108.44	1.40	69.2	Analog	0.30	3
3	Rh	103	5,127,525.48	1.79	73.8	Analog	0.30	3
3	In	115	5,776,486.95	1.47	77.9	Analog	0.30	3
3	Tb	159	8,065,124.39	1.46	78.5	Analog	0.30	3
3	Bi	209	3,877,263.00	0.96	67.1	Analog	0.30	3

Quantitation Report

File Name	A0307053.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:25
Sample Name	N018861-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	44.45	38.89	4.835E-05	Pulse	0.30	3
B	11	6	3	1310.170	ppb	2.01	5,599,898.99	6.969E+00	Analog	0.30	3
Na	23	45	2	2121018.421	ppb	1.28	2,541,067,482.14	2.027E+04	Analog	0.30	3
Mg	26	45	2	35356.369	ppb	1.21	4,280,067.37	3.414E+01	Analog	0.30	3
Al	27	45	2	12.503	ppb	7.63	4,639.75	3.702E-02	Pulse	0.30	3
K	39	45	2	15735.542	ppb	1.03	8,466,082.37	6.753E+01	Analog	0.30	3
Ca	44	45	3	402549.495	ppb	0.73	701,392,025.11	1.983E+02	Analog	0.30	3
V	51	45	2	1.729	ppb	2.18	12,552.99	1.001E-01	Pulse	0.30	3
Cr	52	45	2	50.270	ppb	0.85	421,496.95	3.362E+00	Pulse	0.30	3
Mn	55	45	2	16.719	ppb	0.98	82,403.93	6.573E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-16,721.11	-1.333E-01	Pulse	0.30	3
Co	59	45	2	0.061	ppb	7.53	933.24	7.446E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,523.45	-2.191E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-49,638.21	-7.146E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-6,212.97	-8.941E-02	Pulse	0.30	3
As	75	72	2	1.480	ppb	4.48	1,229.90	1.770E-02	Pulse	0.75	3
Se	78	72	1	4.075	ppb	2.98	1,530.14	1.782E-02	Pulse	0.30	3
Mo	95	103	2	25.865	ppb	0.71	99,748.56	6.204E-02	Pulse	0.30	3
Ag	107	103	3	0.630	ppb	2.08	28,555.18	7.319E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,059.09	-4.643E-04	Pulse	0.30	3
Sb	121	115	3	0.099	ppb	8.59	2,947.07	6.644E-04	Pulse	0.30	3
Ba	137	159	3	78.238	ppb	0.44	854,244.90	1.372E-01	Pulse	0.30	3
Tl	205	209	3	0.268	ppb	1.77	13,928.14	5.086E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,628.41	-1.411E-02	Pulse	0.30	3
U	238	209	3	3.272	ppb	0.78	228,572.99	8.348E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	803,659.41	0.91	43.9	Analog	0.30	3
2	Sc	45	125,366.54	0.55	72.9	Pulse	0.30	3
3	Sc	45	3,537,018.52	0.78	83.7	Analog	0.30	3
1	Ge	72	85,867.26	0.48	56.6	Pulse	0.30	3
2	Ge	72	69,458.17	1.53	60.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,607,843.17	1.43	52.4	Analog	0.30	3
3	Rh	103	3,901,207.37	1.21	56.2	Analog	0.30	3
3	In	115	4,433,938.14	1.02	59.8	Analog	0.30	3
3	Tb	159	6,225,681.99	1.01	60.6	Analog	0.30	3
3	Bi	209	2,738,148.88	0.54	47.4	Analog	0.30	3

Quantitation Report

File Name	A0307054.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:30
Sample Name	CCV3,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.257	ppb	0.24	175,809.07	1.054E-01	Pulse	0.30	3
B	11	6	3	192.391	ppb	1.22	1,787,679.07	1.072E+00	Analog	0.30	3
Na	23	45	2	994.607	ppb	6.92	2,008,995.51	1.314E+01	Analog	0.30	3
Mg	26	45	2	198.595	ppb	2.73	29,746.00	1.944E-01	Pulse	0.30	3
Al	27	45	2	15.868	ppb	3.25	6,730.93	4.397E-02	Pulse	0.30	3
K	39	45	2	215.704	ppb	1.65	175,943.22	1.150E+00	Pulse	0.30	3
Ca	44	45	3	199.292	ppb	0.24	404,067.41	1.034E-01	Pulse	0.30	3
V	51	45	2	19.378	ppb	0.82	159,949.03	1.045E+00	Pulse	0.30	3
Cr	52	45	2	19.547	ppb	0.94	200,181.23	1.308E+00	Pulse	0.30	3
Mn	55	45	2	19.159	ppb	1.54	115,235.37	7.531E-01	Pulse	0.30	3
Fe	56	45	2	19.550	ppb	2.02	179,663.40	1.174E+00	Pulse	0.30	3
Co	59	45	2	19.644	ppb	1.07	361,732.72	2.364E+00	Pulse	0.30	3
Ni	60	72	2	19.647	ppb	1.35	91,007.52	9.030E-01	Pulse	0.30	3
Cu	63	72	2	19.916	ppb	0.79	258,658.41	2.566E+00	Pulse	0.30	3
Zn	66	72	2	19.110	ppb	0.31	38,539.31	3.824E-01	Pulse	0.30	3
As	75	72	2	19.252	ppb	1.74	22,944.20	2.277E-01	Pulse	0.75	3
Se	78	72	1	18.855	ppb	1.96	10,835.18	8.235E-02	Pulse	0.30	3
Mo	95	103	2	19.275	ppb	1.09	124,239.08	4.624E-02	Pulse	0.30	3
Ag	107	103	3	18.841	ppb	1.77	1,013,519.19	1.621E-01	Analog	0.30	3
Cd	111	115	3	19.284	ppb	0.89	229,032.44	3.375E-02	Pulse	0.30	3
Sb	121	115	3	19.485	ppb	0.89	788,553.89	1.162E-01	Pulse	0.30	3
Ba	137	159	3	19.902	ppb	0.33	322,027.63	3.493E-02	Pulse	0.30	3
Tl	205	209	3	18.971	ppb	0.63	1,753,622.91	3.355E-01	Analog	0.30	3
Pb	208	209	3	19.249	ppb	0.41	2,397,363.93	4.586E-01	Analog	0.30	3
U	238	209	3	18.903	ppb	0.20	2,520,301.84	4.821E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,667,240.53	0.30	91.1	Analog	0.30	3
2	Sc	45	153,037.70	1.78	89.0	Pulse	0.30	3
3	Sc	45	3,908,878.21	0.19	92.5	Analog	0.30	3
1	Ge	72	131,560.24	0.77	86.7	Pulse	0.30	3
2	Ge	72	100,796.76	1.61	87.8	Pulse	0.30	3
2	Rh	103	2,686,495.34	1.05	87.6	Analog	0.30	3
3	Rh	103	6,253,456.57	0.43	90.0	Analog	0.30	3
3	In	115	6,785,758.76	1.06	91.5	Analog	0.30	3
3	Tb	159	9,220,587.99	0.68	89.7	Analog	0.30	3
3	Bi	209	5,227,588.43	0.28	90.5	Analog	0.30	3

Quantitation Report

File Name	A0307055.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:36
Sample Name	CCB3,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	218.52	21.11	1.308E-05	Pulse	0.30	3
B	11	6	3	5.575	ppb	8.05	139,898.84	8.676E-02	Pulse	0.30	3
Na	23	45	2	341.590	ppb	11.96	1,021,718.70	6.896E+00	Mix	0.30	3
Mg	26	45	2	<0.000	ppb	---	147.78	9.954E-04	Pulse	0.30	3
Al	27	45	2	0.110	ppb	166.76	1,691.26	1.140E-02	Pulse	0.30	3
K	39	45	2	13.201	ppb	28.41	42,039.28	2.837E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	9,654.30	2.562E-03	Pulse	0.30	3
V	51	45	2	0.014	ppb	74.58	1,222.33	8.245E-03	Pulse	0.30	3
Cr	52	45	2	0.017	ppb	24.72	375.66	2.537E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	75.78	5.119E-04	Pulse	0.30	3
Fe	56	45	2	0.068	ppb	17.16	4,626.16	3.120E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	154.81	20.08	1.348E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	81.19	8.214E-04	Pulse	0.30	3
Cu	63	72	2	0.339	ppb	15.23	11,984.87	1.210E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	902.42	9.118E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	20.89	2.103E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	2.22	1.764E-05	Pulse	0.30	3
Mo	95	103	2	0.093	ppb	19.67	702.27	2.668E-04	Pulse	0.30	3
Ag	107	103	3	0.601	ppb	14.79	43,074.09	7.074E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-135.74	-2.041E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	10.33	1,597.93	2.403E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	183.21	2.007E-05	Pulse	0.30	3
Tl	205	209	3	0.007	ppb	3.65	2,495.86	4.845E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	220.01	4.269E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	2.27	383.71	7.449E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,612,710.35	0.89	88.1	Analog	0.30	3
2	Sc	45	148,270.43	1.96	86.3	Pulse	0.30	3
3	Sc	45	3,768,546.16	0.30	89.2	Analog	0.30	3
1	Ge	72	126,508.39	1.00	83.4	Pulse	0.30	3
2	Ge	72	98,954.30	1.68	86.2	Pulse	0.30	3
2	Rh	103	2,634,925.69	0.87	85.9	Analog	0.30	3
3	Rh	103	6,089,992.20	0.40	87.7	Analog	0.30	3
3	In	115	6,651,402.49	0.20	89.7	Analog	0.30	3
3	Tb	159	9,128,620.14	0.13	88.8	Analog	0.30	3
3	Bi	209	5,150,982.22	0.57	89.2	Analog	0.30	3

Quantitation Report

File Name	A0307056.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:41
Sample Name	N018861-005B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	24.09	22.22	1.659E-05	Pulse	0.30	3
B	11	6	3	211.255	ppb	0.55	1,569,301.65	1.172E+00	Analog	0.30	3
Na	23	45	2	438895.217	ppb	0.90	560,230,373.88	4.197E+03	Analog	0.30	3
Mg	26	45	2	7422.085	ppb	0.63	956,954.66	7.169E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,414.56	1.057E-02	Pulse	0.30	3
K	39	45	2	3244.038	ppb	0.27	1,882,730.09	1.410E+01	Analog	0.30	3
Ca	44	45	3	86207.204	ppb	0.31	151,928,407.73	4.247E+01	Analog	0.30	3
V	51	45	2	0.326	ppb	6.12	3,331.59	2.497E-02	Pulse	0.30	3
Cr	52	45	2	10.640	ppb	1.24	95,129.34	7.127E-01	Pulse	0.30	3
Mn	55	45	2	3.547	ppb	2.21	18,709.76	1.402E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	1,246.10	9.270E-03	Pulse	0.30	3
Co	59	45	2	0.017	ppb	5.39	288.69	2.160E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-259.01	-3.084E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,156.19	-1.386E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-280.35	-3.332E-03	Pulse	0.30	3
As	75	72	2	0.304	ppb	6.47	319.36	3.806E-03	Pulse	0.75	3
Se	78	72	1	0.966	ppb	11.23	448.92	4.248E-03	Pulse	0.30	3
Mo	95	103	2	4.778	ppb	1.33	23,846.21	1.150E-02	Pulse	0.30	3
Ag	107	103	3	0.175	ppb	1.71	17,166.91	3.453E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-408.88	-7.251E-05	Pulse	0.30	3
Sb	121	115	3	0.032	ppb	7.16	1,472.37	2.611E-04	Pulse	0.30	3
Ba	137	159	3	15.480	ppb	1.13	219,288.78	2.717E-02	Pulse	0.30	3
Tl	205	209	3	0.048	ppb	5.13	4,814.31	1.202E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,110.81	-1.776E-03	Pulse	0.30	3
U	238	209	3	0.608	ppb	0.17	62,165.19	1.553E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,339,246.46	0.68	73.2	Analog	0.30	3
2	Sc	45	133,506.85	2.68	77.7	Pulse	0.30	3
3	Sc	45	3,577,307.55	0.51	84.7	Analog	0.30	3
1	Ge	72	105,641.05	0.39	69.6	Pulse	0.30	3
2	Ge	72	83,877.14	1.41	73.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,074,208.62	1.70	67.7	Analog	0.30	3
3	Rh	103	4,971,058.22	0.28	71.6	Analog	0.30	3
3	In	115	5,639,310.84	0.79	76.0	Analog	0.30	3
3	Tb	159	8,070,628.70	0.40	78.5	Analog	0.30	3
3	Bi	209	4,003,902.79	1.04	69.3	Analog	0.30	3

Quantitation Report

File Name	A0307057.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:47
Sample Name	N018861-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	50.61	16.66	4.397E-05	Pulse	0.30	3
B	11	6	3	4528.750	ppb	3.39	9,138,978.51	2.395E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	1.350E+04	Error	0.30	3
Mg	26	45	2	6677.068	ppb	0.28	670,349.98	6.449E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,143.24	1.099E-02	Pulse	0.30	3
K	39	45	2	37091.051	ppb	0.43	16,514,369.48	1.589E+02	Analog	0.30	3
Ca	44	45	3	360265.614	ppb	0.22	532,001,676.52	1.775E+02	Analog	0.30	3
V	51	45	2	1.882	ppb	2.40	11,264.27	1.083E-01	Pulse	0.30	3
Cr	52	45	2	0.235	ppb	142.11	1,819.51	1.710E-02	Pulse	0.30	3
Mn	55	45	2	15.134	ppb	15.97	61,673.78	5.951E-01	Pulse	0.30	3
Fe	56	45	2	221.163	ppb	13.95	1,354,999.94	1.300E+01	Analog	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,698.76	-1.676E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,254.54	-2.242E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-31,199.07	-5.575E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,220.72	-9.295E-02	Pulse	0.30	3
As	75	72	2	6.558	ppb	0.62	4,399.10	7.770E-02	Pulse	0.75	3
Se	78	72	1	2.631	ppb	3.40	768.94	1.152E-02	Pulse	0.30	3
Mo	95	103	2	69.545	ppb	1.55	214,278.08	1.667E-01	Pulse	0.30	3
Ag	107	103	3	0.002	ppb	960.61	6,310.72	1.982E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,371.40	-3.720E-04	Pulse	0.30	3
Sb	121	115	3	0.052	ppb	9.73	1,404.57	3.811E-04	Pulse	0.30	3
Ba	137	159	3	45.843	ppb	0.39	418,362.58	8.041E-02	Pulse	0.30	3
Tl	205	209	3	0.036	ppb	2.01	2,162.47	9.886E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-49,333.99	-2.255E-02	Pulse	0.30	3
U	238	209	3	0.163	ppb	2.00	9,125.93	4.172E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	381,876.62	2.99	20.9	Analog	0.30	3
2	Sc	45	103,944.80	2.92	60.5	Pulse	0.30	3
3	Sc	45	2,997,697.07	0.39	71.0	Analog	0.30	3
1	Ge	72	66,776.84	1.18	44.0	Pulse	0.30	3
2	Ge	72	56,618.83	1.48	49.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,285,025.85	1.82	41.9	Analog	0.30	3
3	Rh	103	3,183,632.87	0.25	45.8	Analog	0.30	3
3	In	115	3,686,259.01	0.27	49.7	Analog	0.30	3
3	Tb	159	5,202,803.74	0.49	50.6	Analog	0.30	3
3	Bi	209	2,187,434.44	0.25	37.9	Analog	0.30	3

Quantitation Report

File Name	A0307058.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:53
Sample Name	N018861-006B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	24.84	26.67	2.090E-05	Pulse	0.30	3
B	11	6	3	464.184	ppb	1.01	3,195,659.38	2.506E+00	Analog	0.30	3
Na	23	45	2	869518.710	ppb	0.31	1,153,106,133.93	8.311E+03	Analog	0.30	3
Mg	26	45	2	1373.273	ppb	0.61	184,321.97	1.329E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	399.42	2.889E-03	Pulse	0.30	3
K	39	45	2	7360.902	ppb	0.84	4,399,174.03	3.171E+01	Analog	0.30	3
Ca	44	45	3	76053.412	ppb	0.29	140,976,523.46	3.747E+01	Analog	0.30	3
V	51	45	2	0.310	ppb	4.68	3,346.04	2.410E-02	Pulse	0.30	3
Cr	52	45	2	<0.000	ppb	---	-29.10	-2.088E-04	Pulse	0.30	3
Mn	55	45	2	3.746	ppb	2.42	20,523.85	1.480E-01	Pulse	0.30	3
Fe	56	45	2	41.402	ppb	1.12	340,764.78	2.456E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,227.28	-8.847E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,049.84	-1.240E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-22,819.43	-2.695E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,855.07	-3.373E-02	Pulse	0.30	3
As	75	72	2	1.376	ppb	1.34	1,393.75	1.647E-02	Pulse	0.75	3
Se	78	72	1	0.551	ppb	16.76	257.79	2.434E-03	Pulse	0.30	3
Mo	95	103	2	12.912	ppb	0.64	63,692.92	3.099E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,539.17	1.329E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-335.76	-6.013E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	11.50	908.96	1.628E-04	Pulse	0.30	3
Ba	137	159	3	9.213	ppb	0.64	127,099.63	1.618E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,272.33	3.396E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,685.92	-3.387E-03	Pulse	0.30	3
U	238	209	3	0.033	ppb	1.61	3,278.85	8.753E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,275,269.10	1.05	69.7	Analog	0.30	3
2	Sc	45	138,747.90	2.38	80.7	Pulse	0.30	3
3	Sc	45	3,762,540.74	0.60	89.1	Analog	0.30	3
1	Ge	72	105,885.72	0.39	69.8	Pulse	0.30	3
2	Ge	72	84,655.84	1.67	73.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,055,050.16	1.67	67.0	Analog	0.30	3
3	Rh	103	4,922,642.46	0.78	70.9	Analog	0.30	3
3	In	115	5,584,962.18	0.51	75.3	Analog	0.30	3
3	Tb	159	7,854,519.19	1.07	76.4	Analog	0.30	3
3	Bi	209	3,745,809.25	0.54	64.9	Analog	0.30	3

Quantitation Report

File Name	A0307059.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 00:58
Sample Name	MB-56419,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	8.081E-06	Pulse	0.30	3
B	11	6	3	6.853	ppb	5.49	154,645.87	9.350E-02	Pulse	0.30	3
Na	23	45	2	659.687	ppb	9.07	1,522,106.18	9.935E+00	Analog	0.30	3
Mg	26	45	2	<0.000	ppb	---	83.34	5.439E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	222.22	1.448E-03	Pulse	0.30	3
K	39	45	2	15.799	ppb	16.80	45,179.63	2.949E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	14,200.66	3.599E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	824.50	5.377E-03	Pulse	0.30	3
Cr	52	45	2	0.006	ppb	23.58	278.49	1.818E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	83.41	5.452E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,602.67	2.351E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	73.71	16.23	1.060E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	68.49	6.697E-04	Pulse	0.30	3
Cu	63	72	2	0.146	ppb	30.31	9,911.65	9.692E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	458.74	4.489E-03	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	16.44	1.610E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	3.33	2.510E-05	Pulse	0.30	3
Mo	95	103	2	0.071	ppb	19.35	582.26	2.157E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,611.74	1.356E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-227.49	-3.330E-05	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	267.79	3.920E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-247.03	-2.639E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	925.62	1.776E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-262.76	-5.043E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	33.12	6.354E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,654,031.05	0.62	90.4	Analog	0.30	3
2	Sc	45	153,280.47	1.34	89.2	Pulse	0.30	3
3	Sc	45	3,946,136.92	0.05	93.4	Analog	0.30	3
1	Ge	72	133,125.96	0.39	87.7	Pulse	0.30	3
2	Ge	72	102,190.64	2.07	89.1	Pulse	0.30	3
2	Rh	103	2,704,909.54	1.87	88.2	Analog	0.30	3
3	Rh	103	6,347,865.25	1.07	91.4	Analog	0.30	3
3	In	115	6,831,595.84	0.30	92.1	Analog	0.30	3
3	Tb	159	9,358,593.75	0.63	91.1	Analog	0.30	3
3	Bi	209	5,211,014.58	0.12	90.2	Analog	0.30	3

Quantitation Report

File Name	A0307060.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:04
Sample Name	LCS-56419,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.863	ppb	1.38	96,276.32	5.697E-02	Pulse	0.30	3
B	11	6	3	1947.566	ppb	0.16	17,459,308.04	1.033E+01	Analog	0.30	3
Na	23	45	2	539.567	ppb	7.00	1,418,222.81	8.787E+00	Analog	0.30	3
Mg	26	45	2	100.917	ppb	1.39	16,169.42	1.001E-01	Pulse	0.30	3
Al	27	45	2	197.729	ppb	0.90	67,783.92	4.198E-01	Pulse	0.30	3
K	39	45	2	104.350	ppb	2.38	108,744.02	6.736E-01	Pulse	0.30	3
Ca	44	45	3	145.390	ppb	0.65	318,133.29	7.682E-02	Pulse	0.30	3
V	51	45	2	10.186	ppb	1.02	89,283.17	5.530E-01	Pulse	0.30	3
Cr	52	45	2	10.248	ppb	0.95	110,840.16	6.865E-01	Pulse	0.30	3
Mn	55	45	2	100.056	ppb	0.76	634,357.32	3.929E+00	Pulse	0.30	3
Fe	56	45	2	102.939	ppb	0.89	979,554.41	6.067E+00	Pulse	0.30	3
Co	59	45	2	9.828	ppb	0.89	190,957.01	1.183E+00	Pulse	0.30	3
Ni	60	72	2	10.573	ppb	0.70	51,294.30	4.865E-01	Pulse	0.30	3
Cu	63	72	2	11.071	ppb	0.88	154,108.62	1.462E+00	Pulse	0.30	3
Zn	66	72	2	103.365	ppb	0.87	211,936.34	2.010E+00	Pulse	0.30	3
As	75	72	2	10.349	ppb	0.37	12,914.99	1.225E-01	Pulse	0.75	3
Se	78	72	1	10.171	ppb	2.96	5,992.46	4.443E-02	Pulse	0.30	3
Mo	95	103	2	10.306	ppb	0.85	69,873.78	2.475E-02	Pulse	0.30	3
Ag	107	103	3	9.752	ppb	0.93	564,988.84	8.484E-02	Pulse	0.30	3
Cd	111	115	3	10.286	ppb	0.84	130,873.75	1.800E-02	Pulse	0.30	3
Sb	121	115	3	10.440	ppb	0.59	452,979.26	6.230E-02	Pulse	0.30	3
Ba	137	159	3	106.409	ppb	0.41	1,851,070.44	1.866E-01	Analog	0.30	3
Tl	205	209	3	7.992	ppb	1.17	794,966.75	1.415E-01	Pulse	0.30	3
Pb	208	209	3	10.360	ppb	0.47	1,386,608.99	2.469E-01	Pulse	0.30	3
U	238	209	3	9.882	ppb	0.29	1,415,766.37	2.521E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,689,943.45	0.55	92.3	Analog	0.30	3
2	Sc	45	161,470.79	1.84	93.9	Pulse	0.30	3
3	Sc	45	4,141,405.49	0.65	98.0	Analog	0.30	3
1	Ge	72	134,847.41	0.58	88.8	Pulse	0.30	3
2	Ge	72	105,443.22	1.63	91.9	Pulse	0.30	3
2	Rh	103	2,823,508.99	0.93	92.1	Analog	0.30	3
3	Rh	103	6,659,528.51	0.27	95.9	Analog	0.30	3
3	In	115	7,271,474.27	0.72	98.0	Analog	0.30	3
3	Tb	159	9,919,697.98	1.00	96.5	Analog	0.30	3
3	Bi	209	5,617,006.16	0.44	97.3	Analog	0.30	3

Quantitation Report

File Name	A0307061.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:09
Sample Name	N018861-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

SAMPLE REFERENCE

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	78.90	24.44	4.786E-05	Pulse	0.30	3
B	11	6	3	3481.274	ppb	1.17	9,378,125.28	1.842E+01	Analog	0.30	3
Na	23	45	2	3714666.106	ppb	0.33	3,820,336,760.85	3.549E+04	Analog	0.30	3
Mg	26	45	2	3260.500	ppb	0.30	339,090.11	3.151E+00	Pulse	0.30	3
Al	27	45	2	14.470	ppb	4.69	4,419.26	4.108E-02	Pulse	0.30	3
K	39	45	2	32069.748	ppb	0.23	14,787,461.31	1.374E+02	Analog	0.30	3
Ca	44	45	3	261927.455	ppb	0.14	407,080,087.27	1.290E+02	Analog	0.30	3
V	51	45	2	2.989	ppb	1.76	18,038.22	1.676E-01	Pulse	0.30	3
Cr	52	45	2	5.492	ppb	0.67	39,667.62	3.686E-01	Pulse	0.30	3
Mn	55	45	2	23.460	ppb	1.13	99,221.38	9.219E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-269,408.94	-2.503E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-4,188.44	-3.892E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-3,502.39	-5.652E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-85,916.29	-1.386E+00	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-12,356.31	-1.994E-01	Pulse	0.30	3
As	75	72	2	14.700	ppb	2.00	10,772.01	1.739E-01	Pulse	0.75	3
Se	78	72	1	0.267	ppb	6.36	87.78	1.194E-03	Pulse	0.30	3
Mo	95	103	2	89.459	ppb	1.76	300,198.13	2.145E-01	Pulse	0.30	3
Ag	107	103	3	0.390	ppb	14.89	18,818.15	5.281E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-769.58	-1.858E-04	Pulse	0.30	3
Sb	121	115	3	0.142	ppb	0.70	3,793.94	9.168E-04	Pulse	0.30	3
Ba	137	159	3	40.438	ppb	0.40	411,010.30	7.093E-02	Pulse	0.30	3
Tl	205	209	3	1.031	ppb	0.39	45,796.01	1.857E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-41,535.26	-1.684E-02	Pulse	0.30	3
U	238	209	3	0.098	ppb	1.94	6,220.76	2.522E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	509,059.01	0.80	27.8	Analog	0.30	3
2	Sc	45	107,626.67	2.32	62.6	Pulse	0.30	3
3	Sc	45	3,154,916.79	1.44	74.7	Analog	0.30	3
1	Ge	72	73,439.68	1.76	48.4	Pulse	0.30	3
2	Ge	72	61,963.84	2.14	54.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,399,640.47	1.14	45.7	Analog	0.30	3
3	Rh	103	3,566,450.33	1.43	51.3	Analog	0.30	3
3	In	115	4,138,338.71	1.90	55.8	Analog	0.30	3
3	Tb	159	5,794,513.18	1.58	56.4	Analog	0.30	3
3	Bi	209	2,466,514.56	1.10	42.7	Analog	0.30	3

Quantitation Report

File Name	A0307062.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:15
Sample Name	N018861-007B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	51.69	26.67	2.082E-05	Pulse	0.30	3
B	11	6	3	451.669	ppb	0.89	3,123,091.80	2.440E+00	Analog	0.30	3
Na	23	45	2	757731.283	ppb	0.47	1,013,491,664.90	7.243E+03	Analog	0.30	3
Mg	26	45	2	670.536	ppb	0.63	90,959.73	6.501E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,324.38	9.478E-03	Pulse	0.30	3
K	39	45	2	6323.943	ppb	0.73	3,816,285.64	2.728E+01	Analog	0.30	3
Ca	44	45	3	54453.233	ppb	0.51	99,582,785.18	2.683E+01	Analog	0.30	3
V	51	45	2	0.561	ppb	2.36	5,254.40	3.756E-02	Pulse	0.30	3
Cr	52	45	2	1.131	ppb	1.84	10,778.38	7.701E-02	Pulse	0.30	3
Mn	55	45	2	4.898	ppb	0.98	27,033.99	1.932E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-67,952.37	-4.856E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,088.31	-7.778E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-850.71	-9.910E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-17,669.08	-2.058E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,843.85	-3.313E-02	Pulse	0.30	3
As	75	72	2	3.262	ppb	1.10	3,325.90	3.875E-02	Pulse	0.75	3
Se	78	72	1	0.031	ppb	34.69	17.78	1.646E-04	Pulse	0.30	3
Mo	95	103	2	16.647	ppb	1.18	84,130.24	3.994E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,122.47	1.828E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-166.00	-2.932E-05	Pulse	0.30	3
Sb	121	115	3	0.028	ppb	3.73	1,350.11	2.379E-04	Pulse	0.30	3
Ba	137	159	3	8.174	ppb	1.21	114,707.65	1.436E-02	Pulse	0.30	3
Tl	205	209	3	0.213	ppb	2.25	15,855.73	4.126E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,792.55	-2.549E-03	Pulse	0.30	3
U	238	209	3	0.020	ppb	9.51	2,067.71	5.385E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,279,995.00	0.66	69.9	Analog	0.30	3
2	Sc	45	139,931.13	2.00	81.4	Pulse	0.30	3
3	Sc	45	3,711,749.04	0.82	87.9	Analog	0.30	3
1	Ge	72	107,925.58	0.57	71.1	Pulse	0.30	3
2	Ge	72	85,832.71	0.65	74.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,106,210.72	1.25	68.7	Analog	0.30	3
3	Rh	103	4,990,017.04	1.11	71.8	Analog	0.30	3
3	In	115	5,674,600.77	1.61	76.5	Analog	0.30	3
3	Tb	159	7,987,046.96	1.00	77.7	Analog	0.30	3
3	Bi	209	3,842,174.91	1.29	66.5	Analog	0.30	3

Quantitation Report

File Name	A0307063.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:20
Sample Name	N018861-007B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

dilution test and reference sample for Mo

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	138.70	24.45	1.600E-05	Pulse	0.30	3
B	11	6	3	94.107	ppb	0.74	846,662.82	5.538E-01	Pulse	0.30	3
Na	23	45	2	155139.311	ppb	0.38	218,645,534.52	1.486E+03	Analog	0.30	3
Mg	26	45	2	134.276	ppb	1.01	19,473.07	1.323E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	541.43	3.681E-03	Pulse	0.30	3
K	39	45	2	1304.518	ppb	0.48	854,442.13	5.807E+00	Pulse	0.30	3
Ca	44	45	3	11217.290	ppb	0.29	21,349,592.60	5.531E+00	Analog	0.30	3
V	51	45	2	0.085	ppb	8.60	1,773.51	1.205E-02	Pulse	0.30	3
Cr	52	45	2	0.234	ppb	2.11	2,510.89	1.706E-02	Pulse	0.30	3
Mn	55	45	2	1.026	ppb	3.53	6,064.14	4.122E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-11,392.45	-7.742E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-190.53	-1.295E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-120.81	-1.246E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	4,624.22	4.776E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-292.16	-3.030E-03	Pulse	0.30	3
As	75	72	2	0.640	ppb	4.75	751.53	7.774E-03	Pulse	0.75	3
Se	78	72	1	0.008	ppb	123.52	7.78	6.306E-05	Pulse	0.30	3
Mo	95	103	2	3.246	ppb	3.27	18,995.25	7.824E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,897.00	1.553E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	7.85	-21.00	-3.277E-06	Pulse	0.30	3
Sb	121	115	3	0.002	ppb	82.54	537.81	8.391E-05	Pulse	0.30	3
Ba	137	159	3	1.676	ppb	3.37	26,578.35	2.966E-03	Pulse	0.30	3
Tl	205	209	3	0.056	ppb	1.95	6,238.23	1.342E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,923.22	-4.137E-04	Pulse	0.30	3
U	238	209	3	0.003	ppb	16.29	488.34	1.050E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,528,873.08	0.27	83.5	Analog	0.30	3
2	Sc	45	147,151.93	1.37	85.6	Pulse	0.30	3
3	Sc	45	3,860,207.62	0.94	91.4	Analog	0.30	3
1	Ge	72	123,461.02	0.39	81.3	Pulse	0.30	3
2	Ge	72	96,710.97	1.61	84.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,427,565.45	0.57	79.2	Analog	0.30	3
3	Rh	103	5,730,407.62	0.29	82.5	Analog	0.30	3
3	In	115	6,410,753.64	0.80	86.4	Analog	0.30	3
3	Tb	159	8,960,981.32	0.69	87.2	Analog	0.30	3
3	Bi	209	4,648,386.53	0.75	80.5	Analog	0.30	3

Quantitation Report

File Name	A0307064.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:26
Sample Name	N018861-007B-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	17.074	ppb	1.22	56,607.42	9.862E-02	Pulse	0.30	3
B	11	6	3	5809.462	ppb	0.56	17,624,729.81	3.070E+01	Analog	0.30	3
Na	23	45	2	3456442.669	ppb	0.34	3,827,185,862.97	3.303E+04	Analog	0.30	3
Mg	26	45	2	3119.525	ppb	0.94	349,292.22	3.015E+00	Pulse	0.30	3
Al	27	45	2	199.374	ppb	1.65	49,031.71	4.232E-01	Pulse	0.30	3
K	39	45	2	29639.424	ppb	0.46	14,716,082.42	1.270E+02	Analog	0.30	3
Ca	44	45	3	244555.164	ppb	0.31	403,128,687.33	1.205E+02	Analog	0.30	3
V	51	45	2	12.453	ppb	2.43	78,127.85	6.744E-01	Pulse	0.30	3
Cr	52	45	2	14.146	ppb	1.33	109,736.36	9.471E-01	Pulse	0.30	3
Mn	55	45	2	106.088	ppb	1.78	482,617.27	4.166E+00	Pulse	0.30	3
Fe	56	45	2	44.724	ppb	5.90	306,972.89	2.651E+00	Pulse	0.30	3
Co	59	45	2	7.504	ppb	0.79	104,643.93	9.031E-01	Pulse	0.30	3
Ni	60	72	2	7.791	ppb	4.31	23,362.82	3.588E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,365.42	-2.820E-01	Pulse	0.30	3
Zn	66	72	2	63.377	ppb	0.46	80,571.81	1.238E+00	Pulse	0.30	3
As	75	72	2	22.533	ppb	1.34	17,345.26	2.664E-01	Pulse	0.75	3
Se	78	72	1	7.978	ppb	2.12	2,704.78	3.486E-02	Pulse	0.30	3
Mo	95	103	2	96.298	ppb	1.10	344,807.09	2.308E-01	Pulse	0.30	3
Ag	107	103	3	17.052	ppb	0.07	550,596.49	1.469E-01	Pulse	0.30	3
Cd	111	115	3	7.878	ppb	1.15	59,986.73	1.378E-02	Pulse	0.30	3
Sb	121	115	3	9.382	ppb	0.67	243,703.47	5.599E-02	Pulse	0.30	3
Ba	137	159	3	135.738	ppb	0.42	1,458,254.04	2.380E-01	Analog	0.30	3
Tl	205	209	3	9.469	ppb	1.16	438,550.79	1.676E-01	Pulse	0.30	3
Pb	208	209	3	10.134	ppb	0.18	631,775.29	2.415E-01	Pulse	0.30	3
U	238	209	3	12.299	ppb	0.47	820,772.00	3.137E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	574,039.34	1.42	31.4	Analog	0.30	3
2	Sc	45	115,884.56	2.37	67.4	Pulse	0.30	3
3	Sc	45	3,346,340.50	1.39	79.2	Analog	0.30	3
1	Ge	72	77,612.47	2.74	51.1	Pulse	0.30	3
2	Ge	72	65,106.65	1.09	56.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,493,594.88	0.81	48.7	Analog	0.30	3
3	Rh	103	3,748,751.33	0.89	54.0	Analog	0.30	3
3	In	115	4,352,417.74	1.11	58.7	Analog	0.30	3
3	Tb	159	6,126,298.94	0.85	59.6	Analog	0.30	3
3	Bi	209	2,616,341.21	0.69	45.3	Analog	0.30	3

Quantitation Report

File Name	A0307065.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:31
Sample Name	N018861-007B-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.072	ppb	1.49	15,805.65	1.198E-02	Pulse	0.30	3
B	11	6	3	831.186	ppb	0.76	5,861,270.66	4.442E+00	Analog	0.30	3
Na	23	45	2	749473.490	ppb	0.62	1,025,565,566.94	7.164E+03	Analog	0.30	3
Mg	26	45	2	678.697	ppb	0.60	94,186.87	6.580E-01	Pulse	0.30	3
Al	27	45	2	39.989	ppb	1.32	13,431.98	9.382E-02	Pulse	0.30	3
K	39	45	2	6219.838	ppb	0.74	3,840,621.89	2.683E+01	Analog	0.30	3
Ca	44	45	3	52982.497	ppb	0.26	101,152,629.61	2.610E+01	Analog	0.30	3
V	51	45	2	2.594	ppb	1.90	20,961.73	1.464E-01	Pulse	0.30	3
Cr	52	45	2	3.089	ppb	0.48	29,760.90	2.079E-01	Pulse	0.30	3
Mn	55	45	2	23.294	ppb	0.80	131,040.00	9.154E-01	Pulse	0.30	3
Fe	56	45	2	10.352	ppb	3.41	90,818.80	6.346E-01	Pulse	0.30	3
Co	59	45	2	1.727	ppb	1.73	29,765.01	2.079E-01	Pulse	0.30	3
Ni	60	72	2	1.764	ppb	4.93	7,226.40	8.210E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,721.96	3.090E-02	Pulse	0.30	3
Zn	66	72	2	14.967	ppb	1.74	26,621.12	3.023E-01	Pulse	0.30	3
As	75	72	2	5.047	ppb	2.45	5,267.32	5.984E-02	Pulse	0.75	3
Se	78	72	1	1.700	ppb	4.78	830.06	7.454E-03	Pulse	0.30	3
Mo	95	103	2	18.505	ppb	1.04	96,883.34	4.440E-02	Pulse	0.30	3
Ag	107	103	3	3.810	ppb	0.89	178,557.49	3.435E-02	Pulse	0.30	3
Cd	111	115	3	1.887	ppb	0.68	19,499.43	3.294E-03	Pulse	0.30	3
Sb	121	115	3	2.101	ppb	0.99	74,536.54	1.259E-02	Pulse	0.30	3
Ba	137	159	3	28.751	ppb	0.96	420,531.94	5.044E-02	Pulse	0.30	3
Tl	205	209	3	2.069	ppb	0.78	147,730.61	3.690E-02	Pulse	0.30	3
Pb	208	209	3	2.076	ppb	0.46	198,384.81	4.955E-02	Pulse	0.30	3
U	238	209	3	2.430	ppb	0.21	248,165.55	6.199E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,319,458.64	0.93	72.1	Analog	0.30	3
2	Sc	45	143,156.57	1.51	83.3	Pulse	0.30	3
3	Sc	45	3,874,922.16	0.85	91.7	Analog	0.30	3
1	Ge	72	111,354.46	0.30	73.4	Pulse	0.30	3
2	Ge	72	88,045.45	1.11	76.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,182,119.32	0.70	71.2	Analog	0.30	3
3	Rh	103	5,198,989.65	1.12	74.8	Analog	0.30	3
3	In	115	5,919,481.95	1.64	79.8	Analog	0.30	3
3	Tb	159	8,336,845.02	0.89	81.1	Analog	0.30	3
3	Bi	209	4,003,636.15	0.82	69.3	Analog	0.30	3

Quantitation Report

File Name	A0307066.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:37
Sample Name	CCV4,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.235	ppb	0.79	171,656.88	1.053E-01	Pulse	0.30	3
B	11	6	3	205.267	ppb	0.82	1,858,229.75	1.140E+00	Analog	0.30	3
Na	23	45	2	871.584	ppb	6.15	1,839,867.53	1.196E+01	Analog	0.30	3
Mg	26	45	2	190.730	ppb	1.89	28,749.73	1.868E-01	Pulse	0.30	3
Al	27	45	2	15.430	ppb	7.91	6,627.61	4.306E-02	Pulse	0.30	3
K	39	45	2	204.205	ppb	1.88	169,375.68	1.101E+00	Pulse	0.30	3
Ca	44	45	3	192.980	ppb	0.33	393,835.02	1.003E-01	Pulse	0.30	3
V	51	45	2	18.965	ppb	1.30	157,455.57	1.023E+00	Pulse	0.30	3
Cr	52	45	2	19.257	ppb	1.36	198,331.39	1.289E+00	Pulse	0.30	3
Mn	55	45	2	19.171	ppb	1.43	115,965.61	7.536E-01	Pulse	0.30	3
Fe	56	45	2	19.647	ppb	3.65	181,546.80	1.180E+00	Pulse	0.30	3
Co	59	45	2	19.477	ppb	1.25	360,708.98	2.344E+00	Pulse	0.30	3
Ni	60	72	2	19.463	ppb	0.87	90,480.46	8.946E-01	Pulse	0.30	3
Cu	63	72	2	19.868	ppb	0.80	258,964.19	2.560E+00	Pulse	0.30	3
Zn	66	72	2	19.003	ppb	1.66	38,466.22	3.803E-01	Pulse	0.30	3
As	75	72	2	18.971	ppb	1.40	22,690.51	2.244E-01	Pulse	0.75	3
Se	78	72	1	19.138	ppb	0.83	10,945.21	8.359E-02	Pulse	0.30	3
Mo	95	103	2	18.990	ppb	1.21	123,778.95	4.556E-02	Pulse	0.30	3
Ag	107	103	3	19.057	ppb	0.91	1,046,531.29	1.639E-01	Analog	0.30	3
Cd	111	115	3	19.048	ppb	0.77	232,556.38	3.334E-02	Pulse	0.30	3
Sb	121	115	3	19.273	ppb	0.76	801,774.18	1.149E-01	Pulse	0.30	3
Ba	137	159	3	19.798	ppb	0.74	330,001.31	3.474E-02	Pulse	0.30	3
Tl	205	209	3	19.031	ppb	0.53	1,816,165.74	3.365E-01	Analog	0.30	3
Pb	208	209	3	19.201	ppb	0.38	2,468,931.24	4.575E-01	Analog	0.30	3
U	238	209	3	18.826	ppb	0.81	2,591,434.73	4.802E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,629,842.85	0.99	89.0	Analog	0.30	3
2	Sc	45	153,911.33	1.79	89.5	Pulse	0.30	3
3	Sc	45	3,928,068.52	0.19	93.0	Analog	0.30	3
1	Ge	72	130,942.36	1.27	86.3	Pulse	0.30	3
2	Ge	72	101,146.08	1.11	88.2	Pulse	0.30	3
2	Rh	103	2,716,989.79	1.20	88.6	Analog	0.30	3
3	Rh	103	6,384,714.07	0.26	91.9	Analog	0.30	3
3	In	115	6,975,189.65	0.41	94.0	Analog	0.30	3
3	Tb	159	9,498,284.51	0.27	92.4	Analog	0.30	3
3	Bi	209	5,397,093.18	0.52	93.5	Analog	0.30	3

Quantitation Report

File Name	A0307067.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:42
Sample Name	CCB4,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	191.92	25.56	1.590E-05	Pulse	0.30	3
B	11	6	3	11.936	ppb	1.53	193,305.62	1.203E-01	Pulse	0.30	3
Na	23	45	2	351.515	ppb	13.43	1,046,904.23	6.991E+00	Mix	0.30	3
Mg	26	45	2	<0.000	ppb	---	127.78	8.541E-04	Pulse	0.30	3
Al	27	45	2	0.300	ppb	55.94	1,767.93	1.180E-02	Pulse	0.30	3
K	39	45	2	9.998	ppb	29.06	40,447.68	2.700E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	9,563.12	2.472E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	876.73	5.851E-03	Pulse	0.30	3
Cr	52	45	2	0.005	ppb	48.31	258.96	1.729E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	99.25	6.614E-04	Pulse	0.30	3
Fe	56	45	2	0.069	ppb	8.00	4,678.77	3.123E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	517.50	10.05	6.733E-05	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	93.41	9.226E-04	Pulse	0.30	3
Cu	63	72	2	0.425	ppb	13.29	13,329.95	1.318E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	877.93	8.671E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	105.69	24.89	2.465E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	2.22	1.741E-05	Pulse	0.30	3
Mo	95	103	2	0.097	ppb	7.72	747.83	2.770E-04	Pulse	0.30	3
Ag	107	103	3	0.645	ppb	11.98	47,221.35	7.447E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-127.79	-1.864E-05	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	8.19	1,679.05	2.449E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	184.86	1.969E-05	Pulse	0.30	3
Tl	205	209	3	0.056	ppb	5.27	7,119.76	1.350E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	209.56	3.973E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	11.38	381.73	7.235E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,606,587.15	0.35	87.8	Analog	0.30	3
2	Sc	45	149,834.30	1.39	87.2	Pulse	0.30	3
3	Sc	45	3,868,296.40	0.56	91.6	Analog	0.30	3
1	Ge	72	127,959.20	0.69	84.3	Pulse	0.30	3
2	Ge	72	101,093.78	2.19	88.1	Pulse	0.30	3
2	Rh	103	2,699,916.07	1.55	88.1	Analog	0.30	3
3	Rh	103	6,338,950.81	0.53	91.2	Analog	0.30	3
3	In	115	6,855,454.62	0.30	92.4	Analog	0.30	3
3	Tb	159	9,389,099.86	0.07	91.4	Analog	0.30	3
3	Bi	209	5,274,668.53	0.85	91.3	Analog	0.30	3

Quantitation Report

File Name	A0307068.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:48
Sample Name	N018861-007B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	17.842	ppb	2.16	56,447.11	1.031E-01	Pulse	0.30	3
B	11	6	3	6074.535	ppb	1.15	17,586,062.40	3.210E+01	Analog	0.30	3
Na	23	45	2	3531819.746	ppb	1.16	3,924,798,910.41	3.375E+04	Analog	0.30	3
Mg	26	45	2	3192.572	ppb	0.87	358,776.00	3.085E+00	Pulse	0.30	3
Al	27	45	2	202.666	ppb	0.50	50,006.98	4.300E-01	Pulse	0.30	3
K	39	45	2	30628.652	ppb	1.03	15,261,522.27	1.312E+02	Analog	0.30	3
Ca	44	45	3	249445.657	ppb	0.29	413,799,118.28	1.229E+02	Analog	0.30	3
V	51	45	2	12.704	ppb	0.70	79,985.93	6.878E-01	Pulse	0.30	3
Cr	52	45	2	14.290	ppb	1.38	111,267.53	9.567E-01	Pulse	0.30	3
Mn	55	45	2	108.479	ppb	0.35	495,365.59	4.260E+00	Pulse	0.30	3
Fe	56	45	2	44.213	ppb	1.13	304,801.73	2.621E+00	Pulse	0.30	3
Co	59	45	2	7.610	ppb	0.70	106,500.92	9.159E-01	Pulse	0.30	3
Ni	60	72	2	7.856	ppb	1.52	23,936.69	3.618E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-19,779.88	-2.989E-01	Pulse	0.30	3
Zn	66	72	2	63.252	ppb	1.00	81,723.67	1.235E+00	Pulse	0.30	3
As	75	72	2	22.810	ppb	1.12	17,845.29	2.697E-01	Pulse	0.75	3
Se	78	72	1	7.949	ppb	6.05	2,705.89	3.474E-02	Pulse	0.30	3
Mo	95	103	2	97.853	ppb	0.66	352,784.28	2.346E-01	Pulse	0.30	3
Ag	107	103	3	8.521	ppb	0.38	280,462.52	7.438E-02	Pulse	0.30	3
Cd	111	115	3	8.011	ppb	0.45	61,742.41	1.402E-02	Pulse	0.30	3
Sb	121	115	3	9.529	ppb	0.61	250,502.44	5.687E-02	Pulse	0.30	3
Ba	137	159	3	136.254	ppb	0.59	1,484,613.68	2.389E-01	Analog	0.30	3
Tl	205	209	3	9.728	ppb	0.81	453,174.25	1.722E-01	Pulse	0.30	3
Pb	208	209	3	10.252	ppb	0.35	642,901.73	2.443E-01	Pulse	0.30	3
U	238	209	3	12.507	ppb	0.43	839,548.12	3.190E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	547,915.75	2.37	29.9	Analog	0.30	3
2	Sc	45	116,288.29	1.30	67.7	Pulse	0.30	3
3	Sc	45	3,367,587.66	1.68	79.7	Analog	0.30	3
1	Ge	72	77,888.88	0.57	51.3	Pulse	0.30	3
2	Ge	72	66,165.74	0.82	57.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,503,820.46	1.56	49.1	Analog	0.30	3
3	Rh	103	3,770,989.87	1.07	54.3	Analog	0.30	3
3	In	115	4,405,048.49	1.00	59.4	Analog	0.30	3
3	Tb	159	6,213,535.46	1.21	60.5	Analog	0.30	3
3	Bi	209	2,631,807.70	1.20	45.6	Analog	0.30	3

Quantitation Report

File Name	A0307069.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:53
Sample Name	N018861-007B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.125	ppb	2.50	15,925.82	1.228E-02	Pulse	0.30	3
B	11	6	3	853.881	ppb	0.11	5,914,287.41	4.562E+00	Analog	0.30	3
Na	23	45	2	764452.693	ppb	0.43	1,039,342,277.84	7.307E+03	Analog	0.30	3
Mg	26	45	2	694.499	ppb	0.52	95,753.81	6.732E-01	Pulse	0.30	3
Al	27	45	2	39.729	ppb	2.08	13,269.66	9.328E-02	Pulse	0.30	3
K	39	45	2	6449.383	ppb	0.34	3,955,784.32	2.781E+01	Analog	0.30	3
Ca	44	45	3	55046.384	ppb	0.59	104,933,671.77	2.712E+01	Analog	0.30	3
V	51	45	2	2.659	ppb	2.02	21,319.95	1.499E-01	Pulse	0.30	3
Cr	52	45	2	3.155	ppb	1.33	30,194.56	2.123E-01	Pulse	0.30	3
Mn	55	45	2	24.057	ppb	0.74	134,456.87	9.454E-01	Pulse	0.30	3
Fe	56	45	2	10.514	ppb	1.60	91,620.93	6.441E-01	Pulse	0.30	3
Co	59	45	2	1.780	ppb	0.27	30,482.14	2.143E-01	Pulse	0.30	3
Ni	60	72	2	1.767	ppb	2.79	7,135.87	8.223E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,300.91	3.805E-02	Pulse	0.30	3
Zn	66	72	2	14.894	ppb	2.03	26,111.89	3.009E-01	Pulse	0.30	3
As	75	72	2	5.209	ppb	2.18	5,358.00	6.176E-02	Pulse	0.75	3
Se	78	72	1	1.890	ppb	14.94	926.73	8.279E-03	Pulse	0.30	3
Mo	95	103	2	19.395	ppb	0.76	99,024.14	4.653E-02	Pulse	0.30	3
Ag	107	103	3	1.930	ppb	0.74	94,604.73	1.837E-02	Pulse	0.30	3
Cd	111	115	3	1.870	ppb	2.69	19,108.17	3.265E-03	Pulse	0.30	3
Sb	121	115	3	2.171	ppb	0.80	76,160.21	1.301E-02	Pulse	0.30	3
Ba	137	159	3	29.673	ppb	0.54	429,565.22	5.206E-02	Pulse	0.30	3
Tl	205	209	3	2.162	ppb	0.65	151,673.65	3.855E-02	Pulse	0.30	3
Pb	208	209	3	2.140	ppb	0.46	200,896.69	5.106E-02	Pulse	0.30	3
U	238	209	3	2.513	ppb	0.42	252,268.57	6.412E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,296,483.56	0.67	70.8	Analog	0.30	3
2	Sc	45	142,234.69	1.16	82.8	Pulse	0.30	3
3	Sc	45	3,869,206.33	0.63	91.6	Analog	0.30	3
1	Ge	72	111,806.93	1.15	73.7	Pulse	0.30	3
2	Ge	72	86,770.12	0.82	75.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,128,237.69	1.17	69.4	Analog	0.30	3
3	Rh	103	5,151,049.44	0.45	74.1	Analog	0.30	3
3	In	115	5,853,598.52	0.31	78.9	Analog	0.30	3
3	Tb	159	8,251,851.20	1.14	80.3	Analog	0.30	3
3	Bi	209	3,934,456.26	0.97	68.1	Analog	0.30	3

Quantitation Report

File Name	A0307070.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 01:59
Sample Name	N018861-007B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	16.847	ppb	2.25	56,083.72	9.731E-02	Pulse	0.30	3
B	11	6	3	5784.505	ppb	1.82	17,620,044.83	3.057E+01	Analog	0.30	3
Na	23	45	2	3445783.607	ppb	0.45	3,952,832,829.99	3.293E+04	Analog	0.30	3
Mg	26	45	2	3099.129	ppb	0.51	359,528.23	2.995E+00	Pulse	0.30	3
Al	27	45	2	200.098	ppb	0.57	50,982.10	4.247E-01	Pulse	0.30	3
K	39	45	2	29827.010	ppb	0.46	15,342,483.94	1.278E+02	Analog	0.30	3
Ca	44	45	3	246655.019	ppb	0.09	412,332,313.86	1.215E+02	Analog	0.30	3
V	51	45	2	12.465	ppb	1.77	81,049.00	6.751E-01	Pulse	0.30	3
Cr	52	45	2	14.088	ppb	0.52	113,236.65	9.432E-01	Pulse	0.30	3
Mn	55	45	2	106.237	ppb	0.17	500,799.50	4.172E+00	Pulse	0.30	3
Fe	56	45	2	44.243	ppb	1.57	314,858.19	2.623E+00	Pulse	0.30	3
Co	59	45	2	7.516	ppb	0.35	108,585.29	9.045E-01	Pulse	0.30	3
Ni	60	72	2	7.777	ppb	2.19	24,189.83	3.581E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,533.79	-2.744E-01	Pulse	0.30	3
Zn	66	72	2	62.647	ppb	1.17	82,657.91	1.223E+00	Pulse	0.30	3
As	75	72	2	22.457	ppb	2.25	17,935.64	2.655E-01	Pulse	0.75	3
Se	78	72	1	8.242	ppb	4.59	2,942.61	3.601E-02	Pulse	0.30	3
Mo	95	103	2	96.398	ppb	0.63	351,907.56	2.311E-01	Pulse	0.30	3
Ag	107	103	3	15.740	ppb	0.46	513,094.29	1.357E-01	Pulse	0.30	3
Cd	111	115	3	7.928	ppb	1.39	61,068.16	1.387E-02	Pulse	0.30	3
Sb	121	115	3	9.430	ppb	0.62	247,761.00	5.628E-02	Pulse	0.30	3
Ba	137	159	3	135.251	ppb	0.29	1,465,975.22	2.372E-01	Analog	0.30	3
Tl	205	209	3	9.510	ppb	1.13	440,269.61	1.683E-01	Pulse	0.30	3
Pb	208	209	3	10.182	ppb	0.42	634,580.94	2.426E-01	Pulse	0.30	3
U	238	209	3	12.280	ppb	0.22	819,163.68	3.132E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	576,451.59	1.57	31.5	Analog	0.30	3
2	Sc	45	120,049.07	1.68	69.8	Pulse	0.30	3
3	Sc	45	3,393,508.49	0.13	80.3	Analog	0.30	3
1	Ge	72	81,696.33	0.65	53.8	Pulse	0.30	3
2	Ge	72	67,568.31	2.40	58.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,522,774.84	1.32	49.7	Analog	0.30	3
3	Rh	103	3,780,414.53	0.38	54.4	Analog	0.30	3
3	In	115	4,402,485.90	0.50	59.4	Analog	0.30	3
3	Tb	159	6,180,744.28	0.38	60.2	Analog	0.30	3
3	Bi	209	2,615,443.24	0.61	45.3	Analog	0.30	3

Quantitation Report

File Name	A0307071.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:05
Sample Name	N018861-007B-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.114	ppb	0.58	15,942.49	1.222E-02	Pulse	0.30	3
B	11	6	3	859.791	ppb	0.50	5,992,472.62	4.593E+00	Analog	0.30	3
Na	23	45	2	765958.497	ppb	0.74	1,047,325,326.62	7.322E+03	Analog	0.30	3
Mg	26	45	2	692.048	ppb	1.43	95,956.48	6.709E-01	Pulse	0.30	3
Al	27	45	2	39.828	ppb	1.61	13,371.80	9.349E-02	Pulse	0.30	3
K	39	45	2	6447.395	ppb	0.64	3,977,008.28	2.780E+01	Analog	0.30	3
Ca	44	45	3	55478.474	ppb	0.29	105,973,412.86	2.733E+01	Analog	0.30	3
V	51	45	2	2.683	ppb	1.67	21,623.72	1.512E-01	Pulse	0.30	3
Cr	52	45	2	3.165	ppb	0.85	30,469.30	2.130E-01	Pulse	0.30	3
Mn	55	45	2	24.102	ppb	0.45	135,478.74	9.471E-01	Pulse	0.30	3
Fe	56	45	2	10.719	ppb	1.17	93,852.87	6.561E-01	Pulse	0.30	3
Co	59	45	2	1.790	ppb	1.89	30,814.65	2.154E-01	Pulse	0.30	3
Ni	60	72	2	1.825	ppb	3.19	7,457.90	8.489E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,457.85	2.801E-02	Pulse	0.30	3
Zn	66	72	2	15.102	ppb	1.44	26,798.23	3.049E-01	Pulse	0.30	3
As	75	72	2	5.247	ppb	1.82	5,466.04	6.221E-02	Pulse	0.75	3
Se	78	72	1	1.911	ppb	11.65	920.06	8.371E-03	Pulse	0.30	3
Mo	95	103	2	19.461	ppb	1.74	100,523.69	4.669E-02	Pulse	0.30	3
Ag	107	103	3	2.029	ppb	1.04	99,306.95	1.921E-02	Pulse	0.30	3
Cd	111	115	3	1.875	ppb	1.35	19,361.67	3.273E-03	Pulse	0.30	3
Sb	121	115	3	2.139	ppb	0.36	75,841.46	1.282E-02	Pulse	0.30	3
Ba	137	159	3	29.688	ppb	0.88	431,977.98	5.208E-02	Pulse	0.30	3
Tl	205	209	3	2.173	ppb	0.11	154,196.04	3.874E-02	Pulse	0.30	3
Pb	208	209	3	2.117	ppb	0.54	201,097.27	5.052E-02	Pulse	0.30	3
U	238	209	3	2.507	ppb	0.51	254,580.98	6.396E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,304,721.27	0.40	71.3	Analog	0.30	3
2	Sc	45	143,043.17	0.63	83.2	Pulse	0.30	3
3	Sc	45	3,877,062.06	0.40	91.8	Analog	0.30	3
1	Ge	72	110,005.68	1.10	72.5	Pulse	0.30	3
2	Ge	72	87,883.78	1.47	76.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,153,217.85	0.76	70.2	Analog	0.30	3
3	Rh	103	5,169,197.91	0.39	74.4	Analog	0.30	3
3	In	115	5,915,546.37	0.53	79.8	Analog	0.30	3
3	Tb	159	8,293,961.06	0.33	80.7	Analog	0.30	3
3	Bi	209	3,980,346.33	0.64	68.9	Analog	0.30	3

Quantitation Report

File Name	A0307072.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:10
Sample Name	N018843-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	40.13	30.00	2.031E-05	Pulse	0.30	3
B	11	6	3	143.190	ppb	0.60	1,199,770.72	8.127E-01	Analog	0.30	3
Na	23	45	2	109824.797	ppb	1.00	150,657,545.53	1.053E+03	Analog	0.30	3
Mg	26	45	2	27313.645	ppb	0.89	3,773,806.54	2.637E+01	Analog	0.30	3
Al	27	45	2	2.429	ppb	22.73	2,316.28	1.620E-02	Pulse	0.30	3
K	39	45	2	5044.834	ppb	0.68	3,119,980.40	2.180E+01	Analog	0.30	3
Ca	44	45	3	72968.437	ppb	0.63	136,356,572.41	3.595E+01	Analog	0.30	3
V	51	45	2	2.279	ppb	1.76	18,538.75	1.295E-01	Pulse	0.30	3
Cr	52	45	2	0.101	ppb	6.11	1,165.03	8.145E-03	Pulse	0.30	3
Mn	55	45	2	0.037	ppb	161.79	340.64	2.383E-03	Pulse	0.30	3
Fe	56	45	2	35.254	ppb	0.29	299,887.96	2.096E+00	Pulse	0.30	3
Co	59	45	2	0.045	ppb	13.01	778.48	5.437E-03	Pulse	0.30	3
Ni	60	72	2	1.341	ppb	2.38	5,854.12	6.268E-02	Pulse	0.30	3
Cu	63	72	2	1.893	ppb	2.16	29,436.80	3.151E-01	Pulse	0.30	3
Zn	66	72	2	2.748	ppb	3.49	6,188.18	6.626E-02	Pulse	0.30	3
As	75	72	2	2.264	ppb	3.92	2,517.36	2.696E-02	Pulse	0.75	3
Se	78	72	1	1.608	ppb	4.12	836.72	7.049E-03	Pulse	0.30	3
Mo	95	103	2	5.569	ppb	0.69	31,805.78	1.339E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	10,080.78	1.809E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-217.69	-3.439E-05	Pulse	0.30	3
Sb	121	115	3	0.311	ppb	1.47	12,202.94	1.928E-03	Pulse	0.30	3
Ba	137	159	3	137.319	ppb	0.51	2,135,262.01	2.408E-01	Analog	0.30	3
Tl	205	209	3	0.291	ppb	3.95	24,830.39	5.493E-03	Pulse	0.30	3
Pb	208	209	3	0.221	ppb	0.68	24,207.88	5.355E-03	Pulse	0.30	3
U	238	209	3	4.756	ppb	0.82	548,373.10	1.213E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,476,296.04	0.85	80.7	Analog	0.30	3
2	Sc	45	143,101.43	1.79	83.3	Pulse	0.30	3
3	Sc	45	3,793,109.11	0.52	89.8	Analog	0.30	3
1	Ge	72	118,695.32	0.66	78.2	Pulse	0.30	3
2	Ge	72	93,413.99	1.37	81.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,374,852.78	0.71	77.5	Analog	0.30	3
3	Rh	103	5,574,072.28	0.16	80.2	Analog	0.30	3
3	In	115	6,329,473.97	0.29	85.3	Analog	0.30	3
3	Tb	159	8,867,293.62	0.93	86.3	Analog	0.30	3
3	Bi	209	4,520,421.74	0.18	78.3	Analog	0.30	3

Quantitation Report

File Name	A0307073.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:16
Sample Name	N018843-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	21.91	37.78	2.695E-05	Pulse	0.30	3
B	11	6	3	140.538	ppb	1.22	1,119,288.72	7.987E-01	Analog	0.30	3
Na	23	45	2	113884.977	ppb	0.80	150,966,958.86	1.092E+03	Analog	0.30	3
Mg	26	45	2	28497.737	ppb	0.71	3,805,145.22	2.752E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	642.80	4.654E-03	Pulse	0.30	3
K	39	45	2	5302.325	ppb	1.20	3,167,296.27	2.291E+01	Analog	0.30	3
Ca	44	45	3	76924.209	ppb	0.53	136,440,623.52	3.790E+01	Analog	0.30	3
V	51	45	2	2.385	ppb	1.01	18,700.02	1.352E-01	Pulse	0.30	3
Cr	52	45	2	0.026	ppb	9.66	435.67	3.152E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,245.29	-1.625E-02	Pulse	0.30	3
Fe	56	45	2	1.000	ppb	1.47	11,875.80	8.587E-02	Pulse	0.30	3
Co	59	45	2	0.025	ppb	7.01	425.90	3.078E-03	Pulse	0.30	3
Ni	60	72	2	0.737	ppb	5.07	3,173.34	3.494E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	6,426.27	7.075E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-527.54	-5.805E-03	Pulse	0.30	3
As	75	72	2	2.367	ppb	0.70	2,559.94	2.818E-02	Pulse	0.75	3
Se	78	72	1	1.705	ppb	3.48	868.95	7.474E-03	Pulse	0.30	3
Mo	95	103	2	5.629	ppb	1.15	31,259.12	1.354E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,189.82	1.716E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-385.76	-6.279E-05	Pulse	0.30	3
Sb	121	115	3	0.311	ppb	1.43	11,818.23	1.924E-03	Pulse	0.30	3
Ba	137	159	3	143.507	ppb	0.24	2,173,806.55	2.517E-01	Analog	0.30	3
Tl	205	209	3	0.159	ppb	2.62	13,893.66	3.174E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,017.28	-2.060E-03	Pulse	0.30	3
U	238	209	3	5.044	ppb	1.09	563,242.10	1.287E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,401,412.22	0.77	76.6	Analog	0.30	3
2	Sc	45	138,294.92	1.72	80.5	Pulse	0.30	3
3	Sc	45	3,600,272.24	0.55	85.2	Analog	0.30	3
1	Ge	72	116,264.04	0.27	76.6	Pulse	0.30	3
2	Ge	72	90,858.39	1.75	79.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,309,486.86	1.05	75.3	Analog	0.30	3
3	Rh	103	5,354,169.92	0.25	77.1	Analog	0.30	3
3	In	115	6,143,565.45	0.73	82.8	Analog	0.30	3
3	Tb	159	8,637,908.06	0.21	84.1	Analog	0.30	3
3	Bi	209	4,378,062.12	0.57	75.8	Analog	0.30	3

Quantitation Report

File Name	A0307074.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:21
Sample Name	N018843-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	144.10	23.34	1.667E-05	Pulse	0.30	3
B	11	6	3	129.512	ppb	1.05	1,037,477.35	7.406E-01	Analog	0.30	3
Na	23	45	2	110999.964	ppb	0.24	142,566,184.54	1.064E+03	Analog	0.30	3
Mg	26	45	2	27947.116	ppb	0.49	3,615,246.51	2.699E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,206.26	9.007E-03	Pulse	0.30	3
K	39	45	2	5145.962	ppb	0.50	2,979,207.63	2.224E+01	Analog	0.30	3
Ca	44	45	3	74596.457	ppb	0.65	127,885,771.43	3.675E+01	Analog	0.30	3
V	51	45	2	2.279	ppb	2.40	17,360.84	1.296E-01	Pulse	0.30	3
Cr	52	45	2	0.086	ppb	5.48	961.38	7.174E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	48.40	3.591E-04	Pulse	0.30	3
Fe	56	45	2	2.797	ppb	0.54	25,631.29	1.913E-01	Pulse	0.30	3
Co	59	45	2	0.043	ppb	6.40	700.66	5.229E-03	Pulse	0.30	3
Ni	60	72	2	1.349	ppb	1.74	5,686.05	6.305E-02	Pulse	0.30	3
Cu	63	72	2	0.701	ppb	1.55	14,997.27	1.663E-01	Pulse	0.30	3
Zn	66	72	2	0.393	ppb	2.92	1,871.66	2.075E-02	Pulse	0.30	3
As	75	72	2	2.360	ppb	1.20	2,534.28	2.810E-02	Pulse	0.75	3
Se	78	72	1	1.497	ppb	7.39	747.83	6.566E-03	Pulse	0.30	3
Mo	95	103	2	5.443	ppb	2.73	29,923.23	1.309E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,288.73	1.565E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-318.64	-5.254E-05	Pulse	0.30	3
Sb	121	115	3	0.307	ppb	2.29	11,545.81	1.903E-03	Pulse	0.30	3
Ba	137	159	3	137.825	ppb	0.16	2,088,421.22	2.417E-01	Analog	0.30	3
Tl	205	209	3	0.107	ppb	0.25	9,934.83	2.255E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,186.48	-9.503E-04	Pulse	0.30	3
U	238	209	3	4.764	ppb	1.00	535,445.68	1.215E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,400,941.77	0.19	76.5	Analog	0.30	3
2	Sc	45	133,971.48	1.09	77.9	Pulse	0.30	3
3	Sc	45	3,479,862.24	0.51	82.4	Analog	0.30	3
1	Ge	72	113,949.50	1.01	75.1	Pulse	0.30	3
2	Ge	72	90,197.27	1.51	78.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,285,971.30	0.76	74.6	Analog	0.30	3
3	Rh	103	5,297,782.63	0.20	76.3	Analog	0.30	3
3	In	115	6,065,638.66	0.27	81.8	Analog	0.30	3
3	Tb	159	8,640,662.93	0.59	84.1	Analog	0.30	3
3	Bi	209	4,406,235.39	0.71	76.3	Analog	0.30	3

Quantitation Report

File Name	A0307075.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:27
Sample Name	N018843-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	220.43	21.11	1.553E-05	Pulse	0.30	3
B	11	6	3	128.750	ppb	2.19	1,000,115.93	7.365E-01	Analog	0.30	3
Na	23	45	2	110066.194	ppb	0.32	138,664,571.27	1.055E+03	Analog	0.30	3
Mg	26	45	2	27620.042	ppb	0.59	3,504,346.37	2.667E+01	Analog	0.30	3
Al	27	45	2	6.075	ppb	4.41	3,118.88	2.373E-02	Pulse	0.30	3
K	39	45	2	5111.751	ppb	0.24	2,902,792.28	2.209E+01	Analog	0.30	3
Ca	44	45	3	74079.352	ppb	0.57	124,555,223.70	3.650E+01	Analog	0.30	3
V	51	45	2	2.328	ppb	0.19	17,367.51	1.322E-01	Pulse	0.30	3
Cr	52	45	2	0.057	ppb	11.56	682.28	5.189E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-676.52	-5.145E-03	Pulse	0.30	3
Fe	56	45	2	10.811	ppb	4.06	86,926.78	6.615E-01	Pulse	0.30	3
Co	59	45	2	0.033	ppb	1.38	530.13	4.035E-03	Pulse	0.30	3
Ni	60	72	2	0.738	ppb	1.29	3,083.30	3.497E-02	Pulse	0.30	3
Cu	63	72	2	0.100	ppb	38.00	8,029.17	9.108E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	136.73	1.544E-03	Pulse	0.30	3
As	75	72	2	2.260	ppb	2.66	2,372.37	2.691E-02	Pulse	0.75	3
Se	78	72	1	1.622	ppb	10.80	806.72	7.110E-03	Pulse	0.30	3
Mo	95	103	2	5.346	ppb	0.44	29,033.69	1.286E-02	Pulse	0.30	3
Ag	107	103	3	0.002	ppb	401.71	10,444.71	1.988E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-25,886.50	-4.284E-03	Pulse	0.30	3
Sb	121	115	3	0.304	ppb	1.31	11,376.69	1.883E-03	Pulse	0.30	3
Ba	137	159	3	134.103	ppb	0.75	2,024,750.17	2.352E-01	Analog	0.30	3
Tl	205	209	3	0.087	ppb	2.14	8,323.80	1.897E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-55,068.61	-1.255E-02	Pulse	0.30	3
U	238	209	3	4.799	ppb	0.70	537,220.41	1.224E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,357,872.37	0.35	74.2	Analog	0.30	3
2	Sc	45	131,403.77	1.28	76.5	Pulse	0.30	3
3	Sc	45	3,412,878.01	0.58	80.8	Analog	0.30	3
1	Ge	72	113,486.03	0.55	74.8	Pulse	0.30	3
2	Ge	72	88,164.00	1.36	76.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,258,287.92	0.83	73.7	Analog	0.30	3
3	Rh	103	5,252,076.80	0.38	75.6	Analog	0.30	3
3	In	115	6,042,658.53	0.43	81.5	Analog	0.30	3
3	Tb	159	8,609,849.46	0.32	83.8	Analog	0.30	3
3	Bi	209	4,388,656.88	0.29	76.0	Analog	0.30	3

Quantitation Report

File Name	A0307076.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:32
Sample Name	N018843-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	82.29	21.11	1.556E-05	Pulse	0.30	3
B	11	6	3	134.340	ppb	0.44	1,040,067.87	7.660E-01	Analog	0.30	3
Na	23	45	2	117154.655	ppb	0.31	149,350,118.88	1.123E+03	Analog	0.30	3
Mg	26	45	2	29639.203	ppb	0.91	3,806,190.78	2.862E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	724.93	5.446E-03	Pulse	0.30	3
K	39	45	2	5449.929	ppb	0.37	3,130,421.62	2.354E+01	Analog	0.30	3
Ca	44	45	3	79916.777	ppb	0.67	136,791,542.41	3.937E+01	Analog	0.30	3
V	51	45	2	2.438	ppb	2.01	18,367.52	1.381E-01	Pulse	0.30	3
Cr	52	45	2	0.124	ppb	9.07	1,291.76	9.721E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,666.56	-2.004E-02	Pulse	0.30	3
Fe	56	45	2	0.912	ppb	4.31	10,735.29	8.073E-02	Pulse	0.30	3
Co	59	45	2	0.025	ppb	18.27	406.85	3.057E-03	Pulse	0.30	3
Ni	60	72	2	0.776	ppb	5.03	3,238.65	3.674E-02	Pulse	0.30	3
Cu	63	72	2	0.015	ppb	219.86	7,092.14	8.052E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-653.81	-7.417E-03	Pulse	0.30	3
As	75	72	2	2.501	ppb	1.82	2,621.73	2.976E-02	Pulse	0.75	3
Se	78	72	1	1.724	ppb	1.79	842.28	7.556E-03	Pulse	0.30	3
Mo	95	103	2	5.858	ppb	0.91	31,339.23	1.409E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,091.55	1.353E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-352.52	-5.876E-05	Pulse	0.30	3
Sb	121	115	3	0.333	ppb	2.26	12,333.06	2.056E-03	Pulse	0.30	3
Ba	137	159	3	149.526	ppb	0.47	2,244,494.34	2.622E-01	Analog	0.30	3
Tl	205	209	3	0.061	ppb	4.50	6,225.99	1.439E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-8,835.31	-2.043E-03	Pulse	0.30	3
U	238	209	3	5.253	ppb	0.53	579,623.33	1.340E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,357,732.58	0.68	74.2	Analog	0.30	3
2	Sc	45	133,001.71	1.76	77.4	Pulse	0.30	3
3	Sc	45	3,474,442.59	0.70	82.2	Analog	0.30	3
1	Ge	72	111,466.72	0.86	73.4	Pulse	0.30	3
2	Ge	72	88,120.40	1.54	76.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,225,033.99	0.87	72.6	Analog	0.30	3
3	Rh	103	5,241,654.19	0.30	75.4	Analog	0.30	3
3	In	115	5,999,667.93	0.45	80.9	Analog	0.30	3
3	Tb	159	8,559,934.67	1.00	83.3	Analog	0.30	3
3	Bi	209	4,326,032.75	0.79	74.9	Analog	0.30	3

Quantitation Report

File Name	A0307077.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:38
Sample Name	N018843-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	172.77	23.34	1.760E-05	Pulse	0.30	3
B	11	6	3	116.267	ppb	0.94	891,723.15	6.707E-01	Pulse	0.30	3
Na	23	45	2	106024.997	ppb	0.43	132,277,242.48	1.017E+03	Analog	0.30	3
Mg	26	45	2	26743.039	ppb	1.21	3,359,468.07	2.582E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	703.93	5.407E-03	Pulse	0.30	3
K	39	45	2	4918.540	ppb	0.64	2,766,728.67	2.126E+01	Analog	0.30	3
Ca	44	45	3	71441.298	ppb	0.13	119,042,993.78	3.520E+01	Analog	0.30	3
V	51	45	2	2.199	ppb	2.29	16,304.14	1.253E-01	Pulse	0.30	3
Cr	52	45	2	0.033	ppb	14.03	470.36	3.617E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,022.05	-1.555E-02	Pulse	0.30	3
Fe	56	45	2	1.177	ppb	3.73	12,524.43	9.623E-02	Pulse	0.30	3
Co	59	45	2	0.029	ppb	21.83	464.59	3.574E-03	Pulse	0.30	3
Ni	60	72	2	0.661	ppb	7.28	2,733.19	3.147E-02	Pulse	0.30	3
Cu	63	72	2	0.022	ppb	104.04	7,065.70	8.139E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-462.35	-5.329E-03	Pulse	0.30	3
As	75	72	2	2.256	ppb	5.15	2,330.58	2.687E-02	Pulse	0.75	3
Se	78	72	1	1.712	ppb	8.57	845.62	7.505E-03	Pulse	0.30	3
Mo	95	103	2	5.321	ppb	3.09	28,210.10	1.280E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	6,331.72	1.235E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-16,447.64	-2.796E-03	Pulse	0.30	3
Sb	121	115	3	0.296	ppb	0.90	10,787.44	1.834E-03	Pulse	0.30	3
Ba	137	159	3	132.773	ppb	0.78	1,954,452.25	2.328E-01	Analog	0.30	3
Tl	205	209	3	0.055	ppb	6.90	5,675.77	1.335E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,449.57	-9.063E-03	Pulse	0.30	3
U	238	209	3	4.724	ppb	0.76	512,387.76	1.205E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,329,611.70	0.88	72.6	Analog	0.30	3
2	Sc	45	130,116.30	1.86	75.7	Pulse	0.30	3
3	Sc	45	3,382,214.85	0.32	80.1	Analog	0.30	3
1	Ge	72	112,715.38	1.23	74.3	Pulse	0.30	3
2	Ge	72	86,799.00	2.16	75.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,204,002.75	0.89	71.9	Analog	0.30	3
3	Rh	103	5,125,458.64	0.21	73.8	Analog	0.30	3
3	In	115	5,880,903.46	0.25	79.3	Analog	0.30	3
3	Tb	159	8,394,207.93	0.57	81.7	Analog	0.30	3
3	Bi	209	4,251,789.80	0.63	73.6	Analog	0.30	3

Quantitation Report

File Name	A0307078.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:43
Sample Name	CCV5,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.045	ppb	0.70	148,308.40	1.042E-01	Pulse	0.30	3
B	11	6	3	187.478	ppb	1.35	1,488,806.66	1.046E+00	Analog	0.30	3
Na	23	45	2	347.358	ppb	7.42	962,847.69	6.951E+00	Pulse	0.30	3
Mg	26	45	2	197.975	ppb	0.47	26,849.84	1.938E-01	Pulse	0.30	3
Al	27	45	2	15.334	ppb	2.58	5,937.52	4.287E-02	Pulse	0.30	3
K	39	45	2	195.003	ppb	0.50	147,016.64	1.061E+00	Pulse	0.30	3
Ca	44	45	3	192.542	ppb	1.14	343,322.34	1.000E-01	Pulse	0.30	3
V	51	45	2	19.156	ppb	0.50	143,138.92	1.033E+00	Pulse	0.30	3
Cr	52	45	2	19.318	ppb	0.61	179,091.19	1.293E+00	Pulse	0.30	3
Mn	55	45	2	19.019	ppb	0.95	103,560.29	7.476E-01	Pulse	0.30	3
Fe	56	45	2	19.584	ppb	0.59	162,933.56	1.176E+00	Pulse	0.30	3
Co	59	45	2	19.373	ppb	0.71	322,942.91	2.331E+00	Pulse	0.30	3
Ni	60	72	2	19.198	ppb	1.26	80,964.86	8.824E-01	Pulse	0.30	3
Cu	63	72	2	19.973	ppb	1.71	236,115.74	2.573E+00	Pulse	0.30	3
Zn	66	72	2	18.857	ppb	1.34	34,638.71	3.775E-01	Pulse	0.30	3
As	75	72	2	19.105	ppb	0.99	20,734.59	2.259E-01	Pulse	0.75	3
Se	78	72	1	18.725	ppb	4.00	9,765.54	8.178E-02	Pulse	0.30	3
Mo	95	103	2	18.977	ppb	0.62	113,336.34	4.553E-02	Pulse	0.30	3
Ag	107	103	3	19.147	ppb	0.31	938,642.72	1.647E-01	Pulse	0.30	3
Cd	111	115	3	19.241	ppb	0.68	213,102.29	3.368E-02	Pulse	0.30	3
Sb	121	115	3	19.317	ppb	0.33	728,988.31	1.152E-01	Pulse	0.30	3
Ba	137	159	3	19.696	ppb	0.93	301,592.45	3.456E-02	Pulse	0.30	3
Tl	205	209	3	19.206	ppb	0.34	1,694,017.27	3.396E-01	Analog	0.30	3
Pb	208	209	3	19.160	ppb	0.69	2,276,991.23	4.565E-01	Analog	0.30	3
U	238	209	3	19.047	ppb	0.05	2,423,304.26	4.858E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,422,989.02	1.09	77.7	Analog	0.30	3
2	Sc	45	138,521.37	0.37	80.6	Pulse	0.30	3
3	Sc	45	3,431,826.96	0.82	81.2	Analog	0.30	3
1	Ge	72	119,334.59	2.37	78.6	Pulse	0.30	3
2	Ge	72	91,764.85	1.66	80.0	Pulse	0.30	3
2	Rh	103	2,489,512.76	1.07	81.2	Analog	0.30	3
3	Rh	103	5,699,819.15	0.44	82.0	Analog	0.30	3
3	In	115	6,327,466.97	0.03	85.3	Analog	0.30	3
3	Tb	159	8,726,002.51	0.66	84.9	Analog	0.30	3
3	Bi	209	4,988,188.64	0.27	86.4	Analog	0.30	3

Quantitation Report

File Name	A0307079.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:49
Sample Name	CCB5,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	218.68	21.11	1.425E-05	Pulse	0.30	3
B	11	6	3	3.154	ppb	10.22	109,698.92	7.399E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	495,331.69	3.574E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	203.34	1.468E-03	Pulse	0.30	3
Al	27	45	2	0.071	ppb	277.62	1,570.12	1.132E-02	Pulse	0.30	3
K	39	45	2	0.427	ppb	617.10	31,752.19	2.291E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	8,943.89	2.560E-03	Pulse	0.30	3
V	51	45	2	0.072	ppb	9.85	1,574.59	1.136E-02	Pulse	0.30	3
Cr	52	45	2	0.001	ppb	269.00	202.83	1.464E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	94.73	6.832E-04	Pulse	0.30	3
Fe	56	45	2	0.070	ppb	9.90	4,339.65	3.129E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	3.94	2.810E-05	Pulse	0.30	3
Ni	60	72	2	0.002	ppb	375.48	110.60	1.202E-03	Pulse	0.30	3
Cu	63	72	2	0.505	ppb	7.56	13,033.87	1.417E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	750.60	8.160E-03	Pulse	0.30	3
As	75	72	2	0.004	ppb	47.71	24.00	2.609E-04	Pulse	0.75	3
Se	78	72	1	<0.000	ppb	---	3.33	2.834E-05	Pulse	0.30	3
Mo	95	103	2	0.067	ppb	5.90	518.92	2.049E-04	Pulse	0.30	3
Ag	107	103	3	0.619	ppb	12.34	42,317.49	7.232E-03	Pulse	0.30	3
Cd	111	115	3	0.002	ppb	111.06	-49.93	-7.711E-06	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	5.83	1,582.37	2.445E-04	Pulse	0.30	3
Ba	137	159	3	0.004	ppb	31.10	319.56	3.557E-05	Pulse	0.30	3
Tl	205	209	3	0.021	ppb	8.06	3,730.63	7.327E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.001	ppb	59.67	542.85	1.066E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	23.32	394.32	7.743E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,482,713.11	0.44	81.0	Analog	0.30	3
2	Sc	45	138,681.76	1.98	80.7	Pulse	0.30	3
3	Sc	45	3,494,537.55	0.44	82.7	Analog	0.30	3
1	Ge	72	117,380.61	0.22	77.3	Pulse	0.30	3
2	Ge	72	91,960.03	0.85	80.1	Pulse	0.30	3
2	Rh	103	2,533,105.86	1.28	82.6	Analog	0.30	3
3	Rh	103	5,849,675.26	0.66	84.2	Analog	0.30	3
3	In	115	6,471,822.02	0.32	87.3	Analog	0.30	3
3	Tb	159	8,980,966.53	0.60	87.4	Analog	0.30	3
3	Bi	209	5,092,200.62	0.44	88.2	Analog	0.30	3

Quantitation Report

File Name	A0307080.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 02:54
Sample Name	N018843-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	91.86	25.56	1.946E-05	Pulse	0.30	3
B	11	6	3	116.251	ppb	0.26	881,734.82	6.706E-01	Pulse	0.30	3
Na	23	45	2	107327.597	ppb	0.09	132,436,989.14	1.029E+03	Analog	0.30	3
Mg	26	45	2	26992.331	ppb	0.51	3,354,168.00	2.606E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	799.01	6.204E-03	Pulse	0.30	3
K	39	45	2	5001.641	ppb	0.57	2,782,540.83	2.162E+01	Analog	0.30	3
Ca	44	45	3	73219.881	ppb	0.56	120,852,783.75	3.607E+01	Analog	0.30	3
V	51	45	2	2.243	ppb	1.46	16,425.43	1.276E-01	Pulse	0.30	3
Cr	52	45	2	0.021	ppb	15.01	362.80	2.821E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,991.18	-1.548E-02	Pulse	0.30	3
Fe	56	45	2	2.129	ppb	2.14	19,572.40	1.521E-01	Pulse	0.30	3
Co	59	45	2	0.024	ppb	9.38	384.74	2.990E-03	Pulse	0.30	3
Ni	60	72	2	0.679	ppb	3.07	2,770.54	3.230E-02	Pulse	0.30	3
Cu	63	72	2	0.171	ppb	23.38	8,575.52	9.999E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-427.13	-4.982E-03	Pulse	0.30	3
As	75	72	2	2.217	ppb	2.73	2,264.81	2.641E-02	Pulse	0.75	3
Se	78	72	1	1.719	ppb	2.45	813.39	7.536E-03	Pulse	0.30	3
Mo	95	103	2	5.383	ppb	2.41	28,401.49	1.295E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,884.13	1.145E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-24,721.23	-4.148E-03	Pulse	0.30	3
Sb	121	115	3	0.317	ppb	1.08	11,684.79	1.961E-03	Pulse	0.30	3
Ba	137	159	3	134.091	ppb	0.33	2,008,582.70	2.351E-01	Analog	0.30	3
Tl	205	209	3	0.052	ppb	5.47	5,539.04	1.272E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-53,545.37	-1.230E-02	Pulse	0.30	3
U	238	209	3	4.792	ppb	0.72	532,317.86	1.222E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,314,832.51	0.46	71.8	Analog	0.30	3
2	Sc	45	128,697.56	1.49	74.9	Pulse	0.30	3
3	Sc	45	3,350,344.95	1.07	79.3	Analog	0.30	3
1	Ge	72	107,922.35	0.26	71.1	Pulse	0.30	3
2	Ge	72	85,767.13	1.54	74.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,193,481.58	0.75	71.6	Analog	0.30	3
3	Rh	103	5,137,918.60	0.39	74.0	Analog	0.30	3
3	In	115	5,959,257.35	0.29	80.3	Analog	0.30	3
3	Tb	159	8,541,865.15	0.76	83.1	Analog	0.30	3
3	Bi	209	4,355,452.82	1.46	75.4	Analog	0.30	3

Quantitation Report

File Name	A0307081.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:00
Sample Name	N018843-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	97.42	36.67	2.858E-05	Pulse	0.30	3
B	11	6	3	117.504	ppb	0.44	871,383.04	6.772E-01	Pulse	0.30	3
Na	23	45	2	111516.089	ppb	0.22	133,412,882.45	1.069E+03	Analog	0.30	3
Mg	26	45	2	28198.318	ppb	0.59	3,397,688.98	2.723E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	562.31	4.504E-03	Pulse	0.30	3
K	39	45	2	5184.694	ppb	0.59	2,795,595.38	2.240E+01	Analog	0.30	3
Ca	44	45	3	75528.677	ppb	0.04	120,215,051.54	3.721E+01	Analog	0.30	3
V	51	45	2	2.329	ppb	0.70	16,503.27	1.322E-01	Pulse	0.30	3
Cr	52	45	2	0.042	ppb	25.72	523.08	4.195E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-2,132.20	-1.709E-02	Pulse	0.30	3
Fe	56	45	2	1.648	ppb	3.30	15,463.09	1.239E-01	Pulse	0.30	3
Co	59	45	2	0.029	ppb	27.85	450.40	3.604E-03	Pulse	0.30	3
Ni	60	72	2	0.739	ppb	7.77	2,902.66	3.501E-02	Pulse	0.30	3
Cu	63	72	2	0.256	ppb	13.27	9,167.04	1.106E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-12.64	-1.562E-04	Pulse	0.30	3
As	75	72	2	2.339	ppb	2.12	2,307.79	2.784E-02	Pulse	0.75	3
Se	78	72	1	1.838	ppb	1.94	847.84	8.056E-03	Pulse	0.30	3
Mo	95	103	2	5.559	ppb	2.93	28,659.79	1.337E-02	Pulse	0.30	3
Ag	107	103	3	0.015	ppb	74.26	10,437.16	2.095E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-24,774.84	-4.290E-03	Pulse	0.30	3
Sb	121	115	3	0.320	ppb	3.76	11,435.70	1.981E-03	Pulse	0.30	3
Ba	137	159	3	137.541	ppb	0.71	2,000,495.44	2.412E-01	Analog	0.30	3
Tl	205	209	3	0.047	ppb	5.12	5,016.60	1.189E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-54,352.45	-1.289E-02	Pulse	0.30	3
U	238	209	3	4.964	ppb	0.37	534,054.09	1.266E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,286,739.84	0.70	70.3	Analog	0.30	3
2	Sc	45	124,792.64	1.21	72.6	Pulse	0.30	3
3	Sc	45	3,230,696.55	0.49	76.5	Analog	0.30	3
1	Ge	72	105,241.58	0.64	69.3	Pulse	0.30	3
2	Ge	72	82,876.75	1.15	72.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,143,677.09	0.63	69.9	Analog	0.30	3
3	Rh	103	4,982,431.00	0.48	71.7	Analog	0.30	3
3	In	115	5,774,987.51	0.70	77.9	Analog	0.30	3
3	Tb	159	8,294,128.77	0.87	80.7	Analog	0.30	3
3	Bi	209	4,217,785.63	0.62	73.0	Analog	0.30	3

Quantitation Report

File Name	A0307082.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:05
Sample Name	N018843-009B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	98.72	27.78	2.142E-05	Pulse	0.30	3
B	11	6	3	115.578	ppb	0.24	865,141.89	6.671E-01	Pulse	0.30	3
Na	23	45	2	110304.141	ppb	0.49	132,693,231.36	1.058E+03	Analog	0.30	3
Mg	26	45	2	27700.244	ppb	0.22	3,356,037.59	2.675E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	607.58	4.839E-03	Pulse	0.30	3
K	39	45	2	5097.807	ppb	1.14	2,764,329.37	2.203E+01	Analog	0.30	3
Ca	44	45	3	75261.051	ppb	0.39	120,652,854.87	3.708E+01	Analog	0.30	3
V	51	45	2	2.292	ppb	1.73	16,345.27	1.303E-01	Pulse	0.30	3
Cr	52	45	2	0.065	ppb	7.48	720.23	5.742E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-657.72	-5.240E-03	Pulse	0.30	3
Fe	56	45	2	0.547	ppb	14.57	7,433.67	5.928E-02	Pulse	0.30	3
Co	59	45	2	0.031	ppb	14.68	475.84	3.788E-03	Pulse	0.30	3
Ni	60	72	2	0.771	ppb	2.34	3,051.52	3.649E-02	Pulse	0.30	3
Cu	63	72	2	0.140	ppb	3.44	8,044.49	9.618E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-182.01	-2.177E-03	Pulse	0.30	3
As	75	72	2	2.266	ppb	1.52	2,257.68	2.699E-02	Pulse	0.75	3
Se	78	72	1	1.628	ppb	10.49	761.16	7.139E-03	Pulse	0.30	3
Mo	95	103	2	5.454	ppb	1.16	28,526.27	1.312E-02	Pulse	0.30	3
Ag	107	103	3	0.044	ppb	27.72	11,825.82	2.341E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-16,639.10	-2.838E-03	Pulse	0.30	3
Sb	121	115	3	0.310	ppb	1.06	11,229.97	1.919E-03	Pulse	0.30	3
Ba	137	159	3	136.369	ppb	0.35	2,019,320.32	2.391E-01	Analog	0.30	3
Tl	205	209	3	0.040	ppb	4.14	4,579.80	1.064E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-38,761.62	-9.024E-03	Pulse	0.30	3
U	238	209	3	4.917	ppb	0.47	539,930.32	1.254E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,296,956.28	0.45	70.9	Analog	0.30	3
2	Sc	45	125,473.48	1.12	73.0	Pulse	0.30	3
3	Sc	45	3,254,003.84	0.19	77.0	Analog	0.30	3
1	Ge	72	106,605.19	0.46	70.2	Pulse	0.30	3
2	Ge	72	83,642.77	1.03	72.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,174,854.67	0.87	70.9	Analog	0.30	3
3	Rh	103	5,051,903.19	0.30	72.7	Analog	0.30	3
3	In	115	5,853,141.46	0.39	78.9	Analog	0.30	3
3	Tb	159	8,443,951.33	0.38	82.2	Analog	0.30	3
3	Bi	209	4,305,201.33	0.77	74.6	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307083.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:11
Sample Name	N018843-010B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	250.98	22.22	1.704E-05	Pulse	0.30	3
B	11	6	3	111.101	ppb	0.48	836,116.53	6.434E-01	Pulse	0.30	3
Na	23	45	2	106969.990	ppb	0.73	129,015,462.52	1.026E+03	Analog	0.30	3
Mg	26	45	2	27054.081	ppb	1.26	3,285,840.26	2.612E+01	Analog	0.30	3
Al	27	45	2	0.899	ppb	16.54	1,640.29	1.303E-02	Pulse	0.30	3
K	39	45	2	4993.638	ppb	0.52	2,715,418.15	2.159E+01	Analog	0.30	3
Ca	44	45	3	72780.446	ppb	0.43	117,005,109.37	3.586E+01	Analog	0.30	3
V	51	45	2	2.284	ppb	1.91	16,337.54	1.298E-01	Pulse	0.30	3
Cr	52	45	2	0.074	ppb	8.60	797.94	6.339E-03	Pulse	0.30	3
Mn	55	45	2	0.064	ppb	39.21	431.67	3.442E-03	Pulse	0.30	3
Fe	56	45	2	13.757	ppb	0.27	104,962.92	8.344E-01	Pulse	0.30	3
Co	59	45	2	0.026	ppb	15.44	397.39	3.155E-03	Pulse	0.30	3
Ni	60	72	2	0.727	ppb	1.56	2,921.08	3.449E-02	Pulse	0.30	3
Cu	63	72	2	0.032	ppb	64.07	7,000.26	8.266E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-98.40	-1.167E-03	Pulse	0.30	3
As	75	72	2	2.300	ppb	1.94	2,319.68	2.739E-02	Pulse	0.75	3
Se	78	72	1	1.727	ppb	6.67	816.72	7.569E-03	Pulse	0.30	3
Mo	95	103	2	5.293	ppb	0.99	27,783.69	1.273E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,800.65	1.536E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-24,006.46	-4.075E-03	Pulse	0.30	3
Sb	121	115	3	0.298	ppb	3.35	10,874.16	1.846E-03	Pulse	0.30	3
Ba	137	159	3	133.172	ppb	0.88	1,969,762.93	2.335E-01	Analog	0.30	3
Tl	205	209	3	0.033	ppb	2.66	4,104.07	9.490E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-51,969.62	-1.202E-02	Pulse	0.30	3
U	238	209	3	4.721	ppb	0.93	520,731.27	1.204E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,299,471.67	0.57	71.0	Analog	0.30	3
2	Sc	45	125,800.96	1.95	73.2	Pulse	0.30	3
3	Sc	45	3,263,180.51	0.47	77.2	Analog	0.30	3
1	Ge	72	107,896.68	0.37	71.1	Pulse	0.30	3
2	Ge	72	84,701.60	1.22	73.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,182,438.91	1.30	71.2	Analog	0.30	3
3	Rh	103	5,078,182.77	0.44	73.1	Analog	0.30	3
3	In	115	5,891,163.48	0.30	79.4	Analog	0.30	3
3	Tb	159	8,434,559.18	0.36	82.1	Analog	0.30	3
3	Bi	209	4,324,320.52	1.22	74.9	Analog	0.30	3

Quantitation Report

File Name	A0307084.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:17
Sample Name	N018843-010B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Ba only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	287.78	17.78	1.285E-05	Pulse	0.30	3
B	11	6	3	22.515	ppb	3.77	243,559.04	1.761E-01	Pulse	0.30	3
Na	23	45	2	22164.127	ppb	0.71	28,071,534.03	2.154E+02	Analog	0.30	3
Mg	26	45	2	5551.566	ppb	0.65	698,886.32	5.363E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	901.48	6.919E-03	Pulse	0.30	3
K	39	45	2	1014.116	ppb	0.66	594,888.19	4.565E+00	Pulse	0.30	3
Ca	44	45	3	15125.858	ppb	1.02	24,947,073.79	7.456E+00	Analog	0.30	3
V	51	45	2	0.533	ppb	6.07	4,697.52	3.606E-02	Pulse	0.30	3
Cr	52	45	2	0.011	ppb	50.94	281.83	2.165E-03	Pulse	0.30	3
Mn	55	45	2	0.037	ppb	40.29	313.30	2.402E-03	Pulse	0.30	3
Fe	56	45	2	3.013	ppb	1.76	26,581.54	2.040E-01	Pulse	0.30	3
Co	59	45	2	0.006	ppb	23.03	95.76	7.351E-04	Pulse	0.30	3
Ni	60	72	2	0.159	ppb	11.32	752.92	8.413E-03	Pulse	0.30	3
Cu	63	72	2	0.253	ppb	17.64	9,872.68	1.102E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	403.31	4.504E-03	Pulse	0.30	3
As	75	72	2	0.506	ppb	2.34	554.37	6.189E-03	Pulse	0.75	3
Se	78	72	1	0.392	ppb	14.74	196.68	1.740E-03	Pulse	0.30	3
Mo	95	103	2	1.037	ppb	3.99	5,869.09	2.531E-03	Pulse	0.30	3
Ag	107	103	3	0.130	ppb	4.06	16,694.77	3.077E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-5,204.02	-8.518E-04	Pulse	0.30	3
Sb	121	115	3	0.059	ppb	5.58	2,572.54	4.211E-04	Pulse	0.30	3
Ba	137	159	3	28.257	ppb	0.45	423,425.54	4.958E-02	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,620.16	3.475E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,902.24	-2.338E-03	Pulse	0.30	3
U	238	209	3	0.917	ppb	1.40	109,207.94	2.342E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,382,865.32	0.21	75.5	Analog	0.30	3
2	Sc	45	130,323.68	1.05	75.8	Pulse	0.30	3
3	Sc	45	3,346,088.63	1.05	79.2	Analog	0.30	3
1	Ge	72	113,032.13	0.26	74.5	Pulse	0.30	3
2	Ge	72	89,559.36	1.19	78.1	Pulse	0.30	3
2	Rh	103	2,319,156.88	1.31	75.6	Analog	0.30	3
3	Rh	103	5,426,204.71	0.41	78.1	Analog	0.30	3
3	In	115	6,109,086.44	0.29	82.4	Analog	0.30	3
3	Tb	159	8,540,987.65	0.18	83.1	Analog	0.30	3
3	Bi	209	4,663,839.76	0.42	80.8	Analog	0.30	3

Quantitation Report

NOT REPORTED

File Name	A0307085.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:22
Sample Name	N018843-010B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.350	ppb	0.67	70,565.79	5.401E-02	Pulse	0.30	3
B	11	6	3	1904.847	ppb	0.59	13,203,381.13	1.011E+01	Analog	0.30	3
Na	23	45	2	107793.543	ppb	0.87	131,615,289.15	1.034E+03	Analog	0.30	3
Mg	26	45	2	27349.849	ppb	0.27	3,363,376.83	2.641E+01	Analog	0.30	3
Al	27	45	2	200.077	ppb	0.90	54,093.28	4.247E-01	Pulse	0.30	3
K	39	45	2	5156.243	ppb	0.39	2,837,799.99	2.228E+01	Analog	0.30	3
Ca	44	45	3	73266.186	ppb	0.98	121,377,618.19	3.610E+01	Analog	0.30	3
V	51	45	2	12.722	ppb	1.55	87,717.41	6.888E-01	Pulse	0.30	3
Cr	52	45	2	10.089	ppb	0.52	86,090.62	6.759E-01	Pulse	0.30	3
Mn	55	45	2	96.835	ppb	0.75	484,250.77	3.803E+00	Pulse	0.30	3
Fe	56	45	2	102.092	ppb	0.27	766,362.13	6.017E+00	Pulse	0.30	3
Co	59	45	2	9.336	ppb	0.53	143,093.25	1.124E+00	Pulse	0.30	3
Ni	60	72	2	10.174	ppb	0.55	40,089.18	4.681E-01	Pulse	0.30	3
Cu	63	72	2	9.279	ppb	0.96	105,989.13	1.238E+00	Pulse	0.30	3
Zn	66	72	2	84.884	ppb	0.47	141,566.47	1.653E+00	Pulse	0.30	3
As	75	72	2	12.291	ppb	1.82	12,451.71	1.454E-01	Pulse	0.75	3
Se	78	72	1	10.409	ppb	0.16	4,836.47	4.547E-02	Pulse	0.30	3
Mo	95	103	2	16.462	ppb	0.89	87,007.71	3.950E-02	Pulse	0.30	3
Ag	107	103	3	5.344	ppb	8.68	246,240.38	4.739E-02	Pulse	0.30	3
Cd	111	115	3	7.017	ppb	0.48	73,404.85	1.228E-02	Pulse	0.30	3
Sb	121	115	3	10.557	ppb	0.89	376,695.16	6.300E-02	Pulse	0.30	3
OLR Ba	137	159	3	234.624	ppb	1.07	3,511,207.50	4.114E-01	Analog	0.30	3
Tl	205	209	3	10.434	ppb	0.25	804,717.27	1.847E-01	Pulse	0.30	3
Pb	208	209	3	9.950	ppb	0.36	1,033,262.81	2.371E-01	Pulse	0.30	3
U	238	209	3	15.919	ppb	0.60	1,769,440.13	4.060E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,306,496.64	0.60	71.4	Analog	0.30	3
2	Sc	45	127,364.18	2.42	74.1	Pulse	0.30	3
3	Sc	45	3,362,808.25	0.69	79.6	Analog	0.30	3
1	Ge	72	106,355.19	1.34	70.1	Pulse	0.30	3
2	Ge	72	85,640.90	2.15	74.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,202,663.63	1.23	71.8	Analog	0.30	3
3	Rh	103	5,194,980.17	0.53	74.8	Analog	0.30	3
3	In	115	5,979,793.57	0.63	80.6	Analog	0.30	3
3	Tb	159	8,534,608.69	0.87	83.1	Analog	0.30	3
3	Bi	209	4,358,083.06	0.67	75.5	Analog	0.30	3

Quantitation Report

File Name	A0307086.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:28
Sample Name	~~N018843-010B-MSD,MSD,1~~ **N018843-010B,MS,MS,5**
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Ba only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	1.999	ppb	2.92	15,622.25	1.156E-02	Pulse	0.30	3
B	11	6	3	424.339	ppb	0.85	3,103,966.38	2.296E+00	Analog	0.30	3
Na	23	45	2	22172.271	ppb	0.93	28,454,058.74	2.155E+02	Analog	0.30	3
Mg	26	45	2	5610.458	ppb	0.80	715,636.89	5.420E+00	Pulse	0.30	3
Al	27	45	2	37.659	ppb	2.93	11,749.90	8.900E-02	Pulse	0.30	3
K	39	45	2	1046.247	ppb	1.07	620,887.52	4.702E+00	Pulse	0.30	3
Ca	44	45	3	15315.612	ppb	0.76	25,138,766.29	7.550E+00	Analog	0.30	3
V	51	45	2	2.611	ppb	0.84	19,458.71	1.474E-01	Pulse	0.30	3
Cr	52	45	2	2.100	ppb	4.18	18,718.18	1.418E-01	Pulse	0.30	3
Mn	55	45	2	20.291	ppb	2.09	105,297.25	7.975E-01	Pulse	0.30	3
Fe	56	45	2	21.690	ppb	1.25	171,632.58	1.300E+00	Pulse	0.30	3
Co	59	45	2	1.986	ppb	1.15	31,567.47	2.391E-01	Pulse	0.30	3
Ni	60	72	2	2.199	ppb	1.56	9,135.37	1.021E-01	Pulse	0.30	3
Cu	63	72	2	2.275	ppb	0.80	32,476.85	3.628E-01	Pulse	0.30	3
Zn	66	72	2	19.527	ppb	1.05	34,943.75	3.904E-01	Pulse	0.30	3
As	75	72	2	2.564	ppb	3.12	2,730.12	3.050E-02	Pulse	0.75	3
Se	78	72	1	2.454	ppb	4.18	1,252.32	1.074E-02	Pulse	0.30	3
Mo	95	103	2	3.281	ppb	2.65	18,433.47	7.909E-03	Pulse	0.30	3
Ag	107	103	3	2.962	ppb	5.91	146,476.87	2.714E-02	Pulse	0.30	3
Cd	111	115	3	1.569	ppb	1.95	16,781.56	2.737E-03	Pulse	0.30	3
Sb	121	115	3	2.217	ppb	1.42	81,460.25	1.329E-02	Pulse	0.30	3
Ba	137	159	3	50.010	ppb	0.38	750,412.06	8.772E-02	Pulse	0.30	3
Tl	205	209	3	2.077	ppb	0.40	172,544.66	3.704E-02	Pulse	0.30	3
Pb	208	209	3	2.033	ppb	0.75	226,085.80	4.853E-02	Pulse	0.30	3
U	238	209	3	3.159	ppb	0.41	375,446.66	8.059E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,352,051.62	0.88	73.9	Analog	0.30	3
2	Sc	45	132,060.16	1.85	76.8	Pulse	0.30	3
3	Sc	45	3,329,882.42	0.45	78.8	Analog	0.30	3
1	Ge	72	116,575.50	0.11	76.8	Pulse	0.30	3
2	Ge	72	89,504.61	1.19	78.0	Pulse	0.30	3
2	Rh	103	2,330,678.28	0.30	76.0	Analog	0.30	3
3	Rh	103	5,396,904.85	0.37	77.7	Analog	0.30	3
3	In	115	6,130,645.66	0.04	82.7	Analog	0.30	3
3	Tb	159	8,554,805.50	0.54	83.3	Analog	0.30	3
3	Bi	209	4,658,911.01	0.55	80.7	Analog	0.30	3

Quantitation Report

File Name	A0307087.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:33
Sample Name	N018844-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	9.39	43.34	3.435E-05	Pulse	0.30	3
B	11	6	3	124.063	ppb	1.57	897,556.17	7.118E-01	Pulse	0.30	3
Na	23	45	2	110221.939	ppb	0.91	128,840,703.64	1.057E+03	Analog	0.30	3
Mg	26	45	2	27846.764	ppb	0.99	3,278,363.91	2.689E+01	Analog	0.30	3
Al	27	45	2	12.404	ppb	7.10	4,487.61	3.681E-02	Pulse	0.30	3
K	39	45	2	5128.601	ppb	1.41	2,702,260.90	2.216E+01	Analog	0.30	3
Ca	44	45	3	74436.612	ppb	0.37	116,007,497.16	3.667E+01	Analog	0.30	3
V	51	45	2	2.344	ppb	2.06	16,224.10	1.330E-01	Pulse	0.30	3
Cr	52	45	2	0.126	ppb	15.03	1,195.39	9.801E-03	Pulse	0.30	3
Mn	55	45	2	0.537	ppb	5.93	2,684.79	2.201E-02	Pulse	0.30	3
Fe	56	45	2	18.089	ppb	3.96	132,741.05	1.089E+00	Pulse	0.30	3
Co	59	45	2	0.035	ppb	1.84	517.56	4.245E-03	Pulse	0.30	3
Ni	60	72	2	0.710	ppb	4.51	2,811.18	3.370E-02	Pulse	0.30	3
Cu	63	72	2	0.178	ppb	17.83	8,413.68	1.009E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-18.28	-2.267E-04	Pulse	0.30	3
As	75	72	2	2.337	ppb	3.40	2,320.59	2.782E-02	Pulse	0.75	3
Se	78	72	1	1.674	ppb	15.55	776.72	7.337E-03	Pulse	0.30	3
Mo	95	103	2	5.383	ppb	1.16	28,081.05	1.295E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,894.46	1.775E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-23,645.64	-4.063E-03	Pulse	0.30	3
Sb	121	115	3	0.302	ppb	1.22	10,903.12	1.873E-03	Pulse	0.30	3
Ba	137	159	3	134.010	ppb	0.37	1,973,064.23	2.350E-01	Analog	0.30	3
Tl	205	209	3	0.027	ppb	4.54	3,568.36	8.269E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-48,906.59	-1.133E-02	Pulse	0.30	3
U	238	209	3	4.780	ppb	0.11	526,208.39	1.219E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,261,117.41	1.45	68.9	Analog	0.30	3
2	Sc	45	121,935.28	1.56	70.9	Pulse	0.30	3
3	Sc	45	3,163,401.20	0.62	74.9	Analog	0.30	3
1	Ge	72	105,792.80	1.07	69.7	Pulse	0.30	3
2	Ge	72	83,423.81	1.11	72.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,168,983.82	0.58	70.8	Analog	0.30	3
3	Rh	103	5,010,567.91	0.33	72.1	Analog	0.30	3
3	In	115	5,819,484.76	0.78	78.5	Analog	0.30	3
3	Tb	159	8,395,907.45	0.63	81.7	Analog	0.30	3
3	Bi	209	4,315,559.14	0.67	74.7	Analog	0.30	3

Quantitation Report

NOT REPORTED
IS FAILED

File Name	A0307088.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:39
Sample Name	N018845-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	100.69	23.33	2.799E-05	Pulse	0.30	3
B	11	6	3	1635.987	ppb	1.83	7,220,031.58	8.688E+00	Analog	0.30	3
Na	23	45	2	2000092.414	ppb	0.35	2,057,403,382.67	1.911E+04	Analog	0.30	3
Mg	26	45	2	1870.787	ppb	0.70	194,720.21	1.809E+00	Pulse	0.30	3
Al	27	45	2	0.672	ppb	101.06	1,354.02	1.257E-02	Pulse	0.30	3
K	39	45	2	21582.196	ppb	0.50	9,961,313.60	9.254E+01	Analog	0.30	3
Ca	44	45	3	75441.191	ppb	0.71	112,992,729.43	3.717E+01	Analog	0.30	3
V	51	45	2	3.143	ppb	1.51	18,929.35	1.758E-01	Pulse	0.30	3
Cr	52	45	2	7.926	ppb	0.90	57,191.20	5.313E-01	Pulse	0.30	3
Mn	55	45	2	10.171	ppb	1.46	43,082.53	4.002E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-138,230.27	-1.284E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,600.74	-1.487E-02	Pulse	0.30	3
Ni	60	72	2	0.240	ppb	18.00	811.00	1.211E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-41,051.81	-6.122E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,904.50	-8.806E-02	Pulse	0.30	3
As	75	72	2	5.693	ppb	0.18	4,524.10	6.747E-02	Pulse	0.75	3
Se	78	72	1	0.422	ppb	5.94	154.45	1.871E-03	Pulse	0.30	3
Mo	95	103	2	62.866	ppb	1.23	237,337.46	1.507E-01	Pulse	0.30	3
Ag	107	103	3	0.416	ppb	8.03	21,256.55	5.501E-03	Pulse	0.30	3
Cd	111	115	3	0.012	ppb	64.73	46.90	1.043E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	8.86	724.50	1.615E-04	Pulse	0.30	3
Ba	137	159	3	53.035	ppb	0.50	591,936.07	9.302E-02	Pulse	0.30	3
Tl	205	209	3	0.113	ppb	4.07	6,903.01	2.350E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-20,947.34	-7.131E-03	Pulse	0.30	3
U	238	209	3	3.192	ppb	0.63	239,223.39	8.144E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	831,158.29	0.92	45.4	Analog	0.30	3
2	Sc	45	107,644.10	1.43	62.6	Pulse	0.30	3
3	Sc	45	3,040,115.41	0.12	72.0	Analog	0.30	3
1	Ge	72	82,526.15	0.77	54.4	Pulse	0.30	3
2	Ge	72	67,051.21	1.41	58.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,574,607.93	1.09	51.4	Analog	0.30	3
3	Rh	103	3,864,011.75	0.10	55.6	Analog	0.30	3
3	In	115	4,485,528.70	0.60	60.5	Analog	0.30	3
3	Tb	159	6,363,420.18	0.84	61.9	Analog	0.30	3
3	Bi	209	2,937,462.60	0.53	50.9	Analog	0.30	3

Quantitation Report

File Name	A0307089.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:44
Sample Name	N018845-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	632.50	15.55	1.175E-05	Pulse	0.30	3
B	11	6	3	308.941	ppb	0.52	2,232,543.13	1.687E+00	Analog	0.30	3
Na	23	45	2	406325.280	ppb	0.50	508,702,841.31	3.886E+03	Analog	0.30	3
Mg	26	45	2	384.406	ppb	1.36	48,934.01	3.738E-01	Pulse	0.30	3
Al	27	45	2	12.387	ppb	4.98	4,812.68	3.678E-02	Pulse	0.30	3
K	39	45	2	4334.804	ppb	0.27	2,456,814.06	1.877E+01	Analog	0.30	3
Ca	44	45	3	15660.134	ppb	0.02	27,181,372.37	7.719E+00	Analog	0.30	3
V	51	45	2	0.584	ppb	4.00	5,075.43	3.876E-02	Pulse	0.30	3
Cr	52	45	2	1.614	ppb	0.41	14,305.35	1.093E-01	Pulse	0.30	3
Mn	55	45	2	2.078	ppb	1.63	10,800.96	8.250E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,654.68	-2.265E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-341.15	-2.602E-03	Pulse	0.30	3
Ni	60	72	2	0.063	ppb	56.44	335.34	4.014E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,446.49	-2.934E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-151.13	-1.821E-03	Pulse	0.30	3
As	75	72	2	1.279	ppb	0.92	1,277.70	1.532E-02	Pulse	0.75	3
Se	78	72	1	0.078	ppb	23.41	38.89	3.690E-04	Pulse	0.30	3
Mo	95	103	2	11.890	ppb	1.49	60,105.45	2.854E-02	Pulse	0.30	3
Ag	107	103	3	0.025	ppb	4.43	11,012.25	2.180E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	2.07	32.33	5.583E-06	Pulse	0.30	3
Sb	121	115	3	0.001	ppb	36.99	451.14	7.792E-05	Pulse	0.30	3
Ba	137	159	3	10.776	ppb	0.41	154,609.30	1.892E-02	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	14.44	2,451.42	5.993E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,568.76	-1.117E-03	Pulse	0.30	3
U	238	209	3	0.613	ppb	0.79	64,049.79	1.566E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,323,322.24	0.35	72.3	Analog	0.30	3
2	Sc	45	130,910.21	1.43	76.2	Pulse	0.30	3
3	Sc	45	3,521,220.57	0.28	83.4	Analog	0.30	3
1	Ge	72	105,388.50	0.49	69.4	Pulse	0.30	3
2	Ge	72	83,409.22	1.01	72.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,105,662.75	0.72	68.7	Analog	0.30	3
3	Rh	103	5,051,346.59	0.10	72.7	Analog	0.30	3
3	In	115	5,790,286.41	0.19	78.1	Analog	0.30	3
3	Tb	159	8,170,313.56	0.53	79.5	Analog	0.30	3
3	Bi	209	4,090,827.58	0.42	70.8	Analog	0.30	3

Quantitation Report

File Name	A0307090.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:50
Sample Name	CCV6,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	17.809	ppb	1.94	150,749.75	1.029E-01	Pulse	0.30	3
B	11	6	3	186.894	ppb	2.43	1,528,956.09	1.043E+00	Analog	0.30	3
Na	23	45	2	319.413	ppb	10.50	936,013.22	6.684E+00	Pulse	0.30	3
Mg	26	45	2	193.775	ppb	2.52	26,581.73	1.898E-01	Pulse	0.30	3
Al	27	45	2	15.266	ppb	5.37	5,987.54	4.273E-02	Pulse	0.30	3
K	39	45	2	195.175	ppb	1.56	148,780.74	1.062E+00	Pulse	0.30	3
Ca	44	45	3	193.988	ppb	0.22	352,665.84	1.008E-01	Pulse	0.30	3
V	51	45	2	19.116	ppb	0.95	144,461.59	1.031E+00	Pulse	0.30	3
Cr	52	45	2	19.294	ppb	0.92	180,897.93	1.291E+00	Pulse	0.30	3
Mn	55	45	2	19.161	ppb	0.48	105,524.57	7.532E-01	Pulse	0.30	3
Fe	56	45	2	19.445	ppb	0.60	163,653.91	1.168E+00	Pulse	0.30	3
Co	59	45	2	19.488	ppb	0.89	328,538.33	2.345E+00	Pulse	0.30	3
Ni	60	72	2	19.259	ppb	0.71	82,075.86	8.852E-01	Pulse	0.30	3
Cu	63	72	2	20.058	ppb	0.89	239,586.60	2.584E+00	Pulse	0.30	3
Zn	66	72	2	18.852	ppb	0.88	34,992.71	3.774E-01	Pulse	0.30	3
As	75	72	2	19.086	ppb	0.83	20,925.96	2.257E-01	Pulse	0.75	3
Se	78	72	1	18.873	ppb	1.59	9,838.94	8.243E-02	Pulse	0.30	3
Mo	95	103	2	18.828	ppb	0.85	113,141.27	4.517E-02	Pulse	0.30	3
Ag	107	103	3	18.746	ppb	0.83	937,644.45	1.613E-01	Pulse	0.30	3
Cd	111	115	3	19.015	ppb	0.31	213,491.12	3.328E-02	Pulse	0.30	3
Sb	121	115	3	19.206	ppb	0.73	734,715.80	1.145E-01	Pulse	0.30	3
Ba	137	159	3	19.599	ppb	0.62	302,229.72	3.439E-02	Pulse	0.30	3
Tl	205	209	3	18.992	ppb	2.07	1,667,059.92	3.358E-01	Analog	0.30	3
Pb	208	209	3	19.127	ppb	0.46	2,262,168.52	4.557E-01	Analog	0.30	3
U	238	209	3	18.930	ppb	0.65	2,396,984.12	4.828E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,465,793.98	1.49	80.1	Analog	0.30	3
2	Sc	45	140,105.07	1.54	81.5	Pulse	0.30	3
3	Sc	45	3,500,085.57	0.25	82.9	Analog	0.30	3
1	Ge	72	119,369.25	0.97	78.7	Pulse	0.30	3
2	Ge	72	92,720.28	1.29	80.8	Pulse	0.30	3
2	Rh	103	2,504,572.74	1.36	81.7	Analog	0.30	3
3	Rh	103	5,814,263.31	0.60	83.7	Analog	0.30	3
3	In	115	6,414,425.53	1.12	86.5	Analog	0.30	3
3	Tb	159	8,787,476.47	0.02	85.5	Analog	0.30	3
3	Bi	209	4,964,427.67	0.55	86.0	Analog	0.30	3

Quantitation Report

File Name	A0307091.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 03:55
Sample Name	CCB6,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	101.43	25.56	1.738E-05	Pulse	0.30	3
B	11	6	3	4.629	ppb	3.63	120,247.53	8.177E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	476,845.41	3.473E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	185.56	1.352E-03	Pulse	0.30	3
Al	27	45	2	0.291	ppb	91.28	1,619.02	1.178E-02	Pulse	0.30	3
K	39	45	2	2.622	ppb	96.47	32,748.44	2.385E-01	Pulse	0.30	3
Ca	44	45	3	<0.000	ppb	---	10,143.33	2.893E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	980.07	7.130E-03	Pulse	0.30	3
Cr	52	45	2	0.001	ppb	157.92	201.75	1.469E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	79.14	5.767E-04	Pulse	0.30	3
Fe	56	45	2	0.114	ppb	26.10	4,658.96	3.391E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	202.02	11.73	8.486E-05	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	100.61	1.093E-03	Pulse	0.30	3
Cu	63	72	2	0.512	ppb	4.25	13,097.65	1.426E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	750.63	8.171E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	151.50	22.67	2.466E-04	Pulse	0.75	3
Se	78	72	1	0.011	ppb	93.92	8.89	7.539E-05	Pulse	0.30	3
Mo	95	103	2	0.077	ppb	11.44	575.59	2.288E-04	Pulse	0.30	3
Ag	107	103	3	0.624	ppb	14.15	42,569.26	7.273E-03	Pulse	0.30	3
Cd	111	115	3	0.001	ppb	76.54	-59.56	-9.299E-06	Pulse	0.30	3
Sb	121	115	3	0.027	ppb	2.67	1,491.24	2.328E-04	Pulse	0.30	3
Ba	137	159	3	0.002	ppb	237.91	281.55	3.190E-05	Pulse	0.30	3
Tl	205	209	3	0.008	ppb	14.24	2,520.32	5.054E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	414.92	8.322E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	17.06	346.51	6.949E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,470,499.02	0.55	80.3	Analog	0.30	3
2	Sc	45	137,384.63	1.68	79.9	Pulse	0.30	3
3	Sc	45	3,507,525.33	0.53	83.0	Analog	0.30	3
1	Ge	72	117,770.79	0.27	77.6	Pulse	0.30	3
2	Ge	72	91,840.94	1.84	80.0	Pulse	0.30	3
2	Rh	103	2,514,564.63	1.41	82.0	Analog	0.30	3
3	Rh	103	5,852,444.22	0.31	84.2	Analog	0.30	3
3	In	115	6,406,671.32	0.37	86.4	Analog	0.30	3
3	Tb	159	8,822,683.13	0.28	85.9	Analog	0.30	3
3	Bi	209	4,986,557.25	0.62	86.4	Analog	0.30	3

Quantitation Report

File Name	A0307092.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 04:01
Sample Name	LLCCV2,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.462	ppb	5.62	3,825.04	2.680E-03	Pulse	0.30	3
B	11	6	3	54.158	ppb	0.99	489,580.24	3.430E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	422,830.70	3.101E+00	Pulse	0.30	3
Mg	26	45	2	3.555	ppb	8.72	834.50	6.119E-03	Pulse	0.30	3
Al	27	45	2	37.365	ppb	0.72	12,060.25	8.839E-02	Pulse	0.30	3
K	39	45	2	4.219	ppb	47.07	33,457.72	2.453E-01	Pulse	0.30	3
Ca	44	45	3	14.094	ppb	1.95	41,585.08	1.214E-02	Pulse	0.30	3
V	51	45	2	0.931	ppb	3.21	7,822.17	5.735E-02	Pulse	0.30	3
Cr	52	45	2	0.981	ppb	2.22	9,139.06	6.699E-02	Pulse	0.30	3
Mn	55	45	2	0.504	ppb	2.83	2,825.41	2.071E-02	Pulse	0.30	3
Fe	56	45	2	11.253	ppb	12.85	93,813.40	6.874E-01	Pulse	0.30	3
Co	59	45	2	0.468	ppb	0.81	7,684.87	5.633E-02	Pulse	0.30	3
Ni	60	72	2	0.983	ppb	5.17	4,133.37	4.623E-02	Pulse	0.30	3
Cu	63	72	2	1.763	ppb	3.31	26,733.69	2.988E-01	Pulse	0.30	3
Zn	66	72	2	10.785	ppb	0.99	19,820.52	2.215E-01	Pulse	0.30	3
As	75	72	2	0.101	ppb	6.54	126.22	1.410E-03	Pulse	0.75	3
Se	78	72	1	0.530	ppb	13.83	268.90	2.344E-03	Pulse	0.30	3
Mo	95	103	2	0.503	ppb	2.19	3,108.21	1.250E-03	Pulse	0.30	3
Ag	107	103	3	0.125	ppb	3.50	17,536.25	3.033E-03	Pulse	0.30	3
Cd	111	115	3	0.495	ppb	2.40	5,486.36	8.568E-04	Pulse	0.30	3
Sb	121	115	3	0.510	ppb	1.87	19,930.00	3.112E-03	Pulse	0.30	3
Ba	137	159	3	1.098	ppb	1.46	17,389.30	1.954E-03	Pulse	0.30	3
Tl	205	209	3	0.332	ppb	2.34	31,224.86	6.215E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.985	ppb	0.42	118,379.79	2.356E-02	Pulse	0.30	3
U	238	209	3	0.464	ppb	0.67	59,504.71	1.184E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,427,211.95	1.04	78.0	Analog	0.30	3
2	Sc	45	136,439.79	1.85	79.4	Pulse	0.30	3
3	Sc	45	3,424,435.89	0.33	81.1	Analog	0.30	3
1	Ge	72	114,732.85	0.64	75.6	Pulse	0.30	3
2	Ge	72	89,468.66	1.80	78.0	Pulse	0.30	3
2	Rh	103	2,486,822.85	0.66	81.1	Analog	0.30	3
3	Rh	103	5,782,030.19	0.55	83.2	Analog	0.30	3
3	In	115	6,403,279.74	0.21	86.3	Analog	0.30	3
3	Tb	159	8,899,868.90	0.41	86.6	Analog	0.30	3
3	Bi	209	5,024,084.65	0.32	87.0	Analog	0.30	3

Quantitation Report

File Name	A0307093.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 04:06
Sample Name	ICSA3,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	143.41	22.22	1.577E-05	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	68,643.22	4.862E-02	Pulse	0.30	3
Na	23	45	2	115942.280	ppb	0.22	155,311,277.68	1.111E+03	Analog	0.30	3
Mg	26	45	2	100742.989	ppb	0.34	13,593,292.30	9.727E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	1,311.29	9.377E-03	Pulse	0.30	3
K	39	45	2	106373.469	ppb	0.58	63,618,632.94	4.552E+02	Analog	0.30	3
Ca	44	45	3	95385.655	ppb	0.32	178,915,972.89	4.699E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	682.27	4.877E-03	Pulse	0.30	3
Cr	52	45	2	0.175	ppb	3.89	1,830.82	1.309E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-13,816.99	-9.886E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-7,988.88	-5.711E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	15.83	155.61	1.111E-03	Pulse	0.30	3
Ni	60	72	2	0.302	ppb	10.78	1,327.50	1.496E-02	Pulse	0.30	3
Cu	63	72	2	0.199	ppb	13.71	9,169.45	1.035E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,630.62	-1.841E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	4.12	4.746E-05	Pulse	0.75	3
Se	78	72	1	0.021	ppb	86.68	13.33	1.228E-04	Pulse	0.30	3
Mo	95	103	2	0.043	ppb	22.70	325.57	1.480E-04	Pulse	0.30	3
Ag	107	103	3	0.001	ppb	360.36	10,694.48	1.979E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-435.90	-7.281E-05	Pulse	0.30	3
Sb	121	115	3	0.017	ppb	9.18	1,051.19	1.756E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-16,898.40	-2.026E-03	Pulse	0.30	3
Tl	205	209	3	0.013	ppb	14.52	2,349.17	5.857E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,285.99	-5.700E-04	Pulse	0.30	3
U	238	209	3	0.004	ppb	103.80	545.35	1.363E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,412,008.23	1.15	77.1	Analog	0.30	3
2	Sc	45	139,750.46	2.26	81.3	Pulse	0.30	3
3	Sc	45	3,807,363.28	0.57	90.1	Analog	0.30	3
1	Ge	72	108,470.45	0.23	71.5	Pulse	0.30	3
2	Ge	72	88,581.89	2.57	77.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	2,195,659.52	2.36	71.6	Analog	0.30	3
3	Rh	103	5,404,293.53	0.43	77.8	Analog	0.30	3
3	In	115	5,986,277.83	0.59	80.7	Analog	0.30	3
3	Tb	159	8,341,254.74	0.18	81.2	Analog	0.30	3
3	Bi	209	4,011,544.10	0.56	69.5	Analog	0.30	3

Quantitation Report

File Name	A0307094.D
File Path	C:\ICPMH\1\DATA\160307A3.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 04:09
Sample Name	ICSAB3,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 15:12
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.584	ppb	0.58	211,218.54	1.189E-01	Pulse	0.30	3
B	11	6	3	193.505	ppb	1.53	1,915,435.26	1.078E+00	Analog	0.30	3
Na	23	45	2	54133.248	ppb	0.74	84,409,953.19	5.208E+02	Analog	0.30	3
Mg	26	45	2	47931.155	ppb	0.20	7,499,793.43	4.628E+01	Analog	0.30	3
Al	27	45	2	16.504	ppb	2.90	7,336.52	4.528E-02	Pulse	0.30	3
K	39	45	2	46872.415	ppb	0.69	32,528,084.79	2.007E+02	Analog	0.30	3
Ca	44	45	3	43603.905	ppb	0.07	101,579,788.49	2.148E+01	Analog	0.30	3
V	51	45	2	22.932	ppb	0.15	200,237.55	1.236E+00	Pulse	0.30	3
Cr	52	45	2	22.308	ppb	0.34	241,913.23	1.493E+00	Pulse	0.30	3
Mn	55	45	2	19.559	ppb	1.07	124,592.19	7.688E-01	Pulse	0.30	3
Fe	56	45	2	20.480	ppb	1.63	199,108.93	1.229E+00	Pulse	0.30	3
Co	59	45	2	21.902	ppb	0.73	427,094.95	2.636E+00	Pulse	0.30	3
Ni	60	72	2	22.230	ppb	1.04	105,226.63	1.022E+00	Pulse	0.30	3
Cu	63	72	2	22.079	ppb	0.74	292,199.22	2.837E+00	Pulse	0.30	3
Zn	66	72	2	19.024	ppb	1.69	39,215.80	3.807E-01	Pulse	0.30	3
As	75	72	2	21.531	ppb	1.70	26,225.02	2.546E-01	Pulse	0.75	3
Se	78	72	1	20.039	ppb	1.04	10,690.59	8.752E-02	Pulse	0.30	3
Mo	95	103	2	23.541	ppb	1.61	156,305.60	5.647E-02	Pulse	0.30	3
Ag	107	103	3	19.600	ppb	0.13	1,210,269.76	1.685E-01	Analog	0.30	3
Cd	111	115	3	19.281	ppb	0.27	272,445.66	3.375E-02	Pulse	0.30	3
Sb	121	115	3	22.155	ppb	0.14	1,066,612.15	1.321E-01	Analog	0.30	3
Ba	137	159	3	19.007	ppb	0.50	380,898.50	3.336E-02	Pulse	0.30	3
Tl	205	209	3	23.251	ppb	1.17	2,301,689.33	4.111E-01	Analog	0.30	3
Pb	208	209	3	22.387	ppb	0.71	2,986,541.72	5.333E-01	Analog	0.30	3
U	238	209	3	23.698	ppb	0.89	3,384,496.33	6.044E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,776,612.74	0.40	97.1	Analog	0.30	3
2	Sc	45	162,057.03	1.93	94.3	Pulse	0.30	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	4,728,108.02	0.35	111.9	Analog	0.30	3
1	Ge	72	122,164.28	1.78	80.5	Pulse	0.30	3
2	Ge	72	103,010.46	1.46	89.8	Pulse	0.30	3
2	Rh	103	2,767,708.71	1.33	90.3	Analog	0.30	3
3	Rh	103	7,181,561.35	0.47	103.4	Analog	0.30	3
3	In	115	8,072,527.20	0.25	108.8	Analog	0.30	3
3	Tb	159	11,419,229.27	0.60	111.1	Analog	0.30	3
3	Bi	209	5,599,851.72	0.86	97.0	Analog	0.30	3

RAW DATA

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

3/9/201

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1101	A0308001	RINSE,RINSE,1	rinse	1.000				
2	C:\ICPMH\1\METHODS\DEFAULT.M	CalBlk	1101	A0308002	Cal Blank,IBLK,1	initial blank	Level 1				
3	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1102	A0308003	Std-0.1/1 ppb	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H	Level 2				
4	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1103	A0308004	Std-0.5/5 ppb	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H	Level 3				
5	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1104	A0308005	Std-5/50 ppb	5/50 ug/L, 1.25<50mL of 2MWST- 151207H	Level 4				
6	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1105	A0308006	Std-10/100 ppb	10/100 ug/L,2.5<50mL of 2MWST- 151207H	Level 5				
7	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1106	A0308007	Std-20/200 ppb	20/200 ug/L,5<50mL of 2MWST- 151207H	Level 6				
8	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1107	A0308008	Std-40/400 ppb	40/400 ug/L, 10<50mL of 2MWST- 151207H	Level 7				
9	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1206	A0308009	Std-100/1000 ppb	100/1000ug/L,10<20mL of 2MWST- 151207H	Level 8				
10	C:\ICPMH\1\METHODS\DEFAULT.M	CalStd	1207	A0308010	Std-200/2000 ppb	200/2000ug/L, 2MWST- 151207H	Level 9				
11	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICV	1301	A0308011	ICV,ICV,1	10/100 ug/L,200mL of 2MWST- 151207I	1.000				
12	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1302	A0308012	ICB,ICB,1		1.000				
13	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308013	LLICV,CCV1,1	2MWST- 151207J	1.000				
14	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0308014	ICSA1,ICSA,1	2MWST- 151207K	1.000				
15	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0308015	ICSAB1,ICSAB,1	2MWST- 151207L	1.000				
16	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308016	LLICV,CCV1,1	2MWST- 151207J	1.000				
17	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2411	A0308017	N018845-002B,SAMP,1		1.000				
18	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2412	A0308018	N018845-002B,SAMP,5		1.000				
19	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2501	A0308019	N018845-003B,SAMP,1		1.000				
20	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2502	A0308020	N018845-003B,SAMP,5		1.000				
21	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2503	A0308021	N018845-004B,SAMP,1		1.000				
22	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2504	A0308022	N018845-004B,SAMP,5		1.000				
23	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2505	A0308023	N018845-006B,SAMP,1		1.000				
24	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2506	A0308024	N018845-006B,SAMP,5		1.000				
25	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2507	A0308025	N018845-007B,SAMP,1		1.000				
26	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2508	A0308026	N018845-007B,SAMP,5		1.000				
27	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308027	CCV1,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
28	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308028	CCB1,CCB,1		1.000				
29	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2509	A0308029	N018845-008B,SAMP,1		1.000				
30	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2510	A0308030	N018845-008B,SAMP,5		1.000				
31	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2511	A0308031	N018845-005B,SAMP,1		1.000				
32	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	2512	A0308032	N018845-005B,SAMP,5		1.000				
33	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3301	A0308033	N018845-005B,SAMP,500		1.000				
34	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3302	A0308034	RINSE,RINSE,1		1.000				
35	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3303	A0308035	RINSE,RINSE,1		1.000				
36	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3304	A0308036	N018845-009B,SAMP,25		1.000				
37	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3305	A0308037	N018845-009B-PS,PS,5		1.000				
38	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3306	A0308038	N018845-009B-MS,MS,5		1.000				
39	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308039	CCV2,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
40	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308040	CCB2,CCB,1		1.000				
41	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3307	A0308041	N018845-009B-MSD,MSD,5		1.000				
42	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3308	A0308042	N018845-010B,SAMP,5		1.000				
43	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3309	A0308043	N018855-001B,SAMP,5		1.000				
44	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3310	A0308044	N018855-002B,SAMP,5		1.000				
45	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3311	A0308045	N018855-003B,SAMP,5		1.000				
46	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3312	A0308046	N018855-004B,SAMP,5		1.000				
47	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4101	A0308047	N018396-002B,SAMP,5		1.000				
48	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3402	A0308048	N018861-004B,SAMP,25		1.000				
49	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3403	A0308049	N018861-005B,SAMP,25		1.000				
50	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3404	A0308050	N018861-006B,SAMP,25		1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
51	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308051	CCV3,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
52	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308052	CCB3,CCB,1		1.000				
53	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3405	A0308053	N018861-007B,SAMP,125		1.000				
54	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3406	A0308054	N018861-007B-PS,PS,25		1.000				
55	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3407	A0308055	N018861-007B-MS,MS,25		1.000				
56	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	3408	A0308056	N018861-007B-MSD,MSD,25		1.000				
57	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308057	CCV4,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
58	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308058	CCB4,CCB,1		1.000				
59	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308059	LLCCV1,CCV2,1	2MWST- 151207J	1.000				
60	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0308060	ICSA2,ICSA,1	2MWST- 151207K	1.000				
61	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0308061	ICSAB2,ICSAB,1	2MWST- 151207L	1.000				
62	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4101	A0308062	MB-56504,MBLK,1		1.000				
63	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4102	A0308063	LCS-56504,LCS,1		1.000				
64	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4103	A0308064	N018898-003A,SAMP,1		1.000				
65	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4104	A0308065	N018910-001B,SAMP,1		1.000				
66	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4105	A0308066	N018910-002B,SAMP,1		1.000				
67	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4106	A0308067	N018910-003B,SAMP,1		1.000				
68	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4107	A0308068	N018918-001C,SAMP,1		1.000				
69	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4108	A0308069	N018918-002E,SAMP,1		1.000				
70	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4109	A0308070	N018918-003C,SAMP,1		1.000				
71	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4110	A0308071	N018918-003C,SAMP,5		1.000				
72	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308072	CCV5,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
73	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308073	CCB5,CCB,1		1.000				
74	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4111	A0308074	N018919-001B,SAMP,1		1.000				
75	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4112	A0308075	N018919-002B,SAMP,1		1.000				
76	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4201	A0308076	N018935-001B,SAMP,1		1.000				
77	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4202	A0308077	N018936-001A,SAMP,1		1.000				
78	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4203	A0308078	N018936-002B,SAMP,1		1.000				
79	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4106	A0308079	N018910-003B,SAMP,1		1.000				
80	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4204	A0308080	N018910-002B,SAMP,25		1.000				
81	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4205	A0308081	N018910-003B,SAMP,25		1.000				
82	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4206	A0308082	N018918-001C,SAMP,5		1.000				
83	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4108	A0308083	N018918-002E,SAMP,1		1.000				
84	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308084	CCV6,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
85	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308085	CCB6,CCB,1		1.000				
86	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4207	A0308086	N018918-002E,SAMP,5		1.000				
87	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4208	A0308087	N018918-002E,SAMP,25		1.000				
88	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4209	A0308088	N018918-003C,SAMP,25		1.000				
89	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4210	A0308089	N018918-003C,SAMP,125		1.000				
90	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4211	A0308090	N018918-003C-PS,PS,1		1.000				
91	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4212	A0308091	N018918-003C-PS,PS,5		1.000				
92	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4301	A0308092	N018918-003C-PS,PS,25		1.000				
93	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4302	A0308093	N018918-003C-MS,MS,1		1.000				
94	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4303	A0308094	N018918-003C-MS,MS,5		1.000				
95	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4304	A0308095	N018918-003C-MS,MS,25		1.000				
96	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308096	CCV7,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
97	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308097	CCB7,CCB,1		1.000				
98	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4305	A0308098	N018918-003C-MSD,MSD,1		1.000				
99	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4306	A0308099	N018918-003C-MSD,MSD,5		1.000				
100	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4307	A0308100	N018918-003C-MSD,MSD,25		1.000				

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
101	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4308	A0308101	N018919-002B,SAMP,5		1.000				
102	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4309	A0308102	N018919-002B-MS,MS,1		1.000				
103	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4310	A0308103	N018919-002B-MSD,MSD,1		1.000				
104	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4311	A0308104	N018935-001A,SAMP,25		1.000				
105	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	4312	A0308105	N018936-001A,SAMP,5		1.000				
106	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCV	1106	A0308106	CCV8,CCV,1	20/200 ug/L,5<50mL of 2MWST- 151207H	1.000				
107	C:\ICPMH\1\METHODS\DEFAULT.M	6-CCB	1101	A0308107	CCB8,CCB,1		1.000				
108	C:\ICPMH\1\METHODS\DEFAULT.M	6-ICB	1202	A0308108	LLCCV2,CCV2,1	2MWST- 151207J	1.000				
109	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1303	A0308109	ICSA3,ICSA,1	2MWST- 151207K	1.000				
110	C:\ICPMH\1\METHODS\DEFAULT.M	Sample	1304	A0308110	ICSAB3,ICSAB,1	2MWST- 151207L	1.000				

Quantitation Report

File Name	A0308002.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:24
Sample Name	Cal Blank,IBLK,1
Sample Type	CalBlk
Comment	initial blank
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	---	18.89	1.671E-05	Pulse	0.30	3
B	11	6	3	0.000	ppb	---	16,424.78	1.454E-02	Pulse	0.30	3
Na	23	45	2	0.000	ppb	---	108,014.16	1.018E+00	Pulse	0.30	3
Mg	26	45	2	0.000	ppb	---	194.45	1.830E-03	Pulse	0.30	3
Al	27	45	2	0.000	ppb	---	1,251.19	1.178E-02	Pulse	0.30	3
K	39	45	2	0.000	ppb	---	23,884.40	2.250E-01	Pulse	0.30	3
Ca	44	45	3	0.000	ppb	---	6,285.96	2.260E-03	Pulse	0.30	3
V	51	45	2	0.000	ppb	---	570.04	5.374E-03	Pulse	0.30	3
Cr	52	45	2	0.000	ppb	---	182.11	1.719E-03	Pulse	0.30	3
Mn	55	45	2	0.000	ppb	---	62.15	5.860E-04	Pulse	0.30	3
Fe	56	45	2	0.000	ppb	---	3,537.11	3.332E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	---	6.55	6.108E-05	Pulse	0.30	3
Ni	60	72	2	0.000	ppb	---	96.53	1.318E-03	Pulse	0.30	3
Cu	63	72	2	0.000	ppb	---	15,294.14	2.091E-01	Pulse	0.30	3
Zn	66	72	2	0.000	ppb	---	582.83	7.972E-03	Pulse	0.30	3
As	75	72	2	0.000	ppb	---	8.89	1.220E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	0.00		Pulse	0.30	3
Mo	95	103	2	0.000	ppb	---	27.78	1.305E-05	Pulse	0.30	3
Ag	107	103	3	0.000	ppb	---	11,042.42	2.224E-03	Pulse	0.30	3
Cd	111	115	3	0.000	ppb	---	10.16	1.827E-06	Pulse	0.30	3
Sb	121	115	3	0.000	ppb	---	292.24	5.287E-05	Pulse	0.30	3
Ba	137	159	3	0.000	ppb	---	320.81	4.079E-05	Pulse	0.30	3
Tl	205	209	3	0.000	ppb	---	1,310.11	2.929E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.000	ppb	---	861.83	1.926E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	---	112.27	2.510E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,129,826.77	1.01	100.0	Analog	0.30	3
2	Sc	45	106,194.34	1.74	100.0	Pulse	0.30	3
3	Sc	45	2,781,191.62	0.67	100.0	Analog	0.30	3
1	Ge	72	90,543.70	0.91	100.0	Pulse	0.30	3
2	Ge	72	73,165.43	1.23	100.0	Pulse	0.30	3
2	Rh	103	2,123,839.92	0.58	100.0	Analog	0.30	3
3	Rh	103	4,964,193.43	0.72	100.0	Analog	0.30	3
3	In	115	5,530,685.25	0.84	100.0	Analog	0.30	3
3	Tb	159	7,866,035.92	0.32	100.0	Analog	0.30	3
3	Bi	209	4,473,938.61	0.44	100.0	Analog	0.30	3

Quantitation Report

File Name	A0308003.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:30
Sample Name	Std-0.1/1 ppb
Sample Type	CalStd
Comment	0.1/1 ug/L, 0.025<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

As only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.091	ppb	6.39	562.26	5.109E-04	Pulse	0.30	3
B	11	6	3	0.077	ppb	218.25	16,439.25	1.492E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	98,405.96	9.682E-01	Pulse	0.30	3
Mg	26	45	2	1.223	ppb	3.68	306.68	3.015E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	266.65	2.618E-03	Pulse	0.30	3
K	39	45	2	5.696	ppb	44.24	25,321.04	2.491E-01	Pulse	0.30	3
Ca	44	45	3	4.471	ppb	9.14	12,151.59	4.472E-03	Pulse	0.30	3
V	51	45	2	0.112	ppb	12.72	1,174.54	1.156E-02	Pulse	0.30	3
Cr	52	45	2	0.079	ppb	11.83	739.93	7.269E-03	Pulse	0.30	3
Mn	55	45	2	0.095	ppb	7.17	439.62	4.324E-03	Pulse	0.30	3
Fe	56	45	2	0.380	ppb	9.64	5,720.44	5.624E-02	Pulse	0.30	3
Co	59	45	2	0.091	ppb	5.01	1,174.42	1.155E-02	Pulse	0.30	3
Ni	60	72	2	0.087	ppb	12.45	376.53	5.305E-03	Pulse	0.30	3
Cu	63	72	2	0.283	ppb	10.72	17,429.63	2.455E-01	Pulse	0.30	3
Zn	66	72	2	0.487	ppb	8.18	1,227.32	1.729E-02	Pulse	0.30	3
As	75	72	2	0.084	ppb	21.39	79.56	1.119E-03	Pulse	0.75	3
Se	78	72	1	0.145	ppb	24.50	55.56	6.282E-04	Pulse	0.30	3
Mo	95	103	2	0.087	ppb	8.46	437.80	2.130E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,093.57	1.864E-03	Pulse	0.30	3
Cd	111	115	3	0.090	ppb	12.70	844.42	1.563E-04	Pulse	0.30	3
Sb	121	115	3	0.093	ppb	14.77	3,329.72	6.162E-04	Pulse	0.30	3
Ba	137	159	3	0.153	ppb	4.81	2,364.73	3.074E-04	Pulse	0.30	3
Tl	205	209	3	0.068	ppb	2.71	6,503.92	1.485E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.094	ppb	2.91	10,661.51	2.434E-03	Pulse	0.30	3
U	238	209	3	0.085	ppb	3.42	9,601.44	2.192E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,101,041.42	1.06	97.5	Analog	0.30	3
2	Sc	45	101,729.01	2.54	95.8	Pulse	0.30	3
3	Sc	45	2,717,300.37	0.28	97.7	Analog	0.30	3
1	Ge	72	88,372.69	0.83	97.6	Pulse	0.30	3
2	Ge	72	70,975.76	1.40	97.0	Pulse	0.30	3
2	Rh	103	2,056,633.37	0.91	96.8	Analog	0.30	3
3	Rh	103	4,877,479.62	0.28	98.3	Analog	0.30	3
3	In	115	5,403,930.60	0.52	97.7	Analog	0.30	3
3	Tb	159	7,692,505.86	0.32	97.8	Analog	0.30	3
3	Bi	209	4,381,027.82	1.00	97.9	Analog	0.30	3

Quantitation Report

File Name	A0308004.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:35
Sample Name	Std-0.5/5 ppb
Sample Type	CalStd
Comment	0.5/5 ug/L, 0.125<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.446	ppb	4.54	2,625.87	2.443E-03	Pulse	0.30	3
B	11	6	3	3.345	ppb	3.70	33,432.58	3.110E-02	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	96,607.70	9.456E-01	Pulse	0.30	3
Mg	26	45	2	5.326	ppb	2.05	714.49	6.991E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	358.85	3.515E-03	Pulse	0.30	3
K	39	45	2	5.653	ppb	53.64	25,423.41	2.489E-01	Pulse	0.30	3
Ca	44	45	3	9.527	ppb	4.26	18,591.00	6.973E-03	Pulse	0.30	3
V	51	45	2	0.455	ppb	2.02	3,125.99	3.059E-02	Pulse	0.30	3
Cr	52	45	2	0.443	ppb	2.19	3,361.44	3.289E-02	Pulse	0.30	3
Mn	55	45	2	0.483	ppb	2.82	1,995.42	1.952E-02	Pulse	0.30	3
Fe	56	45	2	1.046	ppb	6.03	9,839.83	9.632E-02	Pulse	0.30	3
Co	59	45	2	0.456	ppb	1.95	5,916.73	5.788E-02	Pulse	0.30	3
Ni	60	72	2	0.451	ppb	4.45	1,564.37	2.200E-02	Pulse	0.30	3
Cu	63	72	2	0.619	ppb	6.29	20,533.16	2.887E-01	Pulse	0.30	3
Zn	66	72	2	0.456	ppb	4.98	1,187.23	1.669E-02	Pulse	0.30	3
As	75	72	2	0.431	ppb	14.12	373.34	5.244E-03	Pulse	0.75	3
Se	78	72	1	0.482	ppb	10.17	183.34	2.083E-03	Pulse	0.30	3
Mo	95	103	2	0.459	ppb	6.03	2,190.24	1.070E-03	Pulse	0.30	3
Ag	107	103	3	0.182	ppb	6.12	18,147.62	3.774E-03	Pulse	0.30	3
Cd	111	115	3	0.446	ppb	1.37	4,117.62	7.645E-04	Pulse	0.30	3
Sb	121	115	3	0.463	ppb	0.90	15,457.01	2.870E-03	Pulse	0.30	3
Ba	137	159	3	0.489	ppb	1.79	6,853.90	8.939E-04	Pulse	0.30	3
Tl	205	209	3	0.368	ppb	2.81	29,463.39	6.794E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.451	ppb	2.42	47,513.03	1.096E-02	Pulse	0.30	3
U	238	209	3	0.442	ppb	1.29	48,855.28	1.127E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,075,276.77	1.00	95.2	Analog	0.30	3
2	Sc	45	102,210.99	2.10	96.2	Pulse	0.30	3
3	Sc	45	2,666,276.84	0.46	95.9	Analog	0.30	3
1	Ge	72	88,064.63	1.25	97.3	Pulse	0.30	3
2	Ge	72	71,114.01	1.78	97.2	Pulse	0.30	3
2	Rh	103	2,046,142.38	1.68	96.3	Analog	0.30	3
3	Rh	103	4,808,532.32	0.17	96.9	Analog	0.30	3
3	In	115	5,386,159.03	0.39	97.4	Analog	0.30	3
3	Tb	159	7,667,344.61	0.21	97.5	Analog	0.30	3
3	Bi	209	4,336,213.86	0.73	96.9	Analog	0.30	3

Quantitation Report

File Name	A0308005.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:41
Sample Name	Std-5/50 ppb
Sample Type	CalStd
Comment	5/50 ug/L, 1.25<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	4.641	ppb	0.65	27,052.20	2.525E-02	Pulse	0.30	3
B	11	6	3	43.919	ppb	0.36	248,469.55	2.319E-01	Pulse	0.30	3
Na	23	45	2	33.179	ppb	6.48	140,033.55	1.384E+00	Pulse	0.30	3
Mg	26	45	2	48.637	ppb	2.80	4,956.49	4.896E-02	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,157.37	1.143E-02	Pulse	0.30	3
K	39	45	2	46.623	ppb	5.37	42,703.18	4.219E-01	Pulse	0.30	3
Ca	44	45	3	52.924	ppb	0.88	75,142.54	2.844E-02	Pulse	0.30	3
V	51	45	2	4.688	ppb	1.46	26,841.46	2.652E-01	Pulse	0.30	3
Cr	52	45	2	4.616	ppb	0.83	33,026.54	3.263E-01	Pulse	0.30	3
Mn	55	45	2	4.710	ppb	1.41	18,755.80	1.853E-01	Pulse	0.30	3
Fe	56	45	2	5.320	ppb	4.99	35,827.33	3.539E-01	Pulse	0.30	3
Co	59	45	2	4.677	ppb	1.46	60,059.68	5.934E-01	Pulse	0.30	3
Ni	60	72	2	4.702	ppb	1.26	15,241.05	2.169E-01	Pulse	0.30	3
Cu	63	72	2	4.825	ppb	1.41	58,315.77	8.299E-01	Pulse	0.30	3
Zn	66	72	2	4.739	ppb	1.95	6,926.71	9.857E-02	Pulse	0.30	3
As	75	72	2	4.672	ppb	2.57	3,904.07	5.558E-02	Pulse	0.75	3
Se	78	72	1	4.613	ppb	5.25	1,731.27	1.995E-02	Pulse	0.30	3
Mo	95	103	2	4.640	ppb	1.78	21,892.32	1.070E-02	Pulse	0.30	3
Ag	107	103	3	4.211	ppb	1.18	182,135.97	3.800E-02	Pulse	0.30	3
Cd	111	115	3	4.659	ppb	0.97	42,919.41	7.971E-03	Pulse	0.30	3
Sb	121	115	3	4.642	ppb	0.75	152,396.04	2.831E-02	Pulse	0.30	3
Ba	137	159	3	4.700	ppb	0.44	63,710.10	8.242E-03	Pulse	0.30	3
Tl	205	209	3	4.362	ppb	0.71	342,959.72	7.728E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	4.624	ppb	0.59	490,175.31	1.105E-01	Pulse	0.30	3
U	238	209	3	4.535	ppb	0.62	511,553.33	1.153E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,071,383.68	0.52	94.8	Analog	0.30	3
2	Sc	45	101,219.46	0.94	95.3	Pulse	0.30	3
3	Sc	45	2,642,046.28	0.86	95.0	Analog	0.30	3
1	Ge	72	86,784.39	0.98	95.8	Pulse	0.30	3
2	Ge	72	70,269.47	1.75	96.0	Pulse	0.30	3
2	Rh	103	2,046,093.28	0.73	96.3	Analog	0.30	3
3	Rh	103	4,793,539.03	0.68	96.6	Analog	0.30	3
3	In	115	5,384,058.14	0.51	97.3	Analog	0.30	3
3	Tb	159	7,730,202.18	1.00	98.3	Analog	0.30	3
3	Bi	209	4,437,908.75	0.42	99.2	Analog	0.30	3

Quantitation Report

File Name	A0308006.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:46
Sample Name	Std-10/100 ppb
Sample Type	CalStd
Comment	10/100 ug/L,2.5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	9.437	ppb	1.95	54,478.67	5.133E-02	Pulse	0.30	3
B	11	6	3	90.222	ppb	1.33	489,387.21	4.611E-01	Pulse	0.30	3
Na	23	45	2	74.711	ppb	2.90	183,156.49	1.842E+00	Pulse	0.30	3
Mg	26	45	2	95.767	ppb	1.43	9,410.77	9.463E-02	Pulse	0.30	3
Al	27	45	2	5.413	ppb	8.23	2,242.63	2.255E-02	Pulse	0.30	3
K	39	45	2	94.178	ppb	1.24	61,929.72	6.227E-01	Pulse	0.30	3
Ca	44	45	3	98.282	ppb	1.15	131,588.44	5.088E-02	Pulse	0.30	3
V	51	45	2	9.505	ppb	1.27	52,921.92	5.322E-01	Pulse	0.30	3
Cr	52	45	2	9.326	ppb	1.17	65,379.40	6.574E-01	Pulse	0.30	3
Mn	55	45	2	9.578	ppb	1.63	37,406.57	3.762E-01	Pulse	0.30	3
Fe	56	45	2	9.601	ppb	0.37	60,851.29	6.118E-01	Pulse	0.30	3
Co	59	45	2	9.471	ppb	0.93	119,500.77	1.202E+00	Pulse	0.30	3
Ni	60	72	2	9.515	ppb	0.27	30,094.36	4.376E-01	Pulse	0.30	3
Cu	63	72	2	9.563	ppb	1.02	99,001.17	1.440E+00	Pulse	0.30	3
Zn	66	72	2	9.451	ppb	1.77	12,976.11	1.887E-01	Pulse	0.30	3
As	75	72	2	9.372	ppb	2.17	7,659.21	1.114E-01	Pulse	0.75	3
Se	78	72	1	9.617	ppb	1.71	3,570.54	4.160E-02	Pulse	0.30	3
Mo	95	103	2	9.240	ppb	1.96	43,302.70	2.129E-02	Pulse	0.30	3
Ag	107	103	3	9.186	ppb	0.30	378,187.18	8.027E-02	Pulse	0.30	3
Cd	111	115	3	9.391	ppb	0.50	85,685.46	1.606E-02	Pulse	0.30	3
Sb	121	115	3	9.361	ppb	1.23	304,145.89	5.702E-02	Pulse	0.30	3
Ba	137	159	3	9.497	ppb	0.50	127,664.59	1.661E-02	Pulse	0.30	3
Tl	205	209	3	9.178	ppb	1.03	717,245.63	1.623E-01	Pulse	0.30	3
Pb	208	209	3	9.343	ppb	0.71	985,587.76	2.230E-01	Pulse	0.30	3
U	238	209	3	9.573	ppb	1.22	1,075,480.38	2.433E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,061,463.83	1.13	93.9	Analog	0.30	3
2	Sc	45	99,453.17	1.31	93.7	Pulse	0.30	3
3	Sc	45	2,586,412.39	1.24	93.0	Analog	0.30	3
1	Ge	72	85,838.52	0.66	94.8	Pulse	0.30	3
2	Ge	72	68,767.44	1.11	94.0	Pulse	0.30	3
2	Rh	103	2,033,311.67	0.98	95.7	Analog	0.30	3
3	Rh	103	4,711,477.36	0.59	94.9	Analog	0.30	3
3	In	115	5,333,837.03	0.32	96.4	Analog	0.30	3
3	Tb	159	7,684,899.54	0.51	97.7	Analog	0.30	3
3	Bi	209	4,420,046.67	0.50	98.8	Analog	0.30	3

Quantitation Report

File Name	A0308007.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:52
Sample Name	Std-20/200 ppb
Sample Type	CalStd
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.614	ppb	1.20	106,393.98	1.012E-01	Pulse	0.30	3
B	11	6	3	189.843	ppb	2.82	1,002,701.50	9.542E-01	Analog	0.30	3
Na	23	45	2	191.849	ppb	0.06	309,440.38	3.134E+00	Pulse	0.30	3
Mg	26	45	2	192.374	ppb	2.68	18,587.54	1.882E-01	Pulse	0.30	3
Al	27	45	2	15.635	ppb	5.54	4,234.42	4.290E-02	Pulse	0.30	3
K	39	45	2	189.587	ppb	0.09	101,262.23	1.026E+00	Pulse	0.30	3
Ca	44	45	3	191.715	ppb	0.29	248,509.00	9.710E-02	Pulse	0.30	3
V	51	45	2	18.973	ppb	0.38	104,349.97	1.057E+00	Pulse	0.30	3
Cr	52	45	2	18.811	ppb	0.62	130,745.20	1.324E+00	Pulse	0.30	3
Mn	55	45	2	19.296	ppb	1.32	74,766.48	7.572E-01	Pulse	0.30	3
Fe	56	45	2	19.217	ppb	1.30	117,613.75	1.191E+00	Pulse	0.30	3
Co	59	45	2	19.073	ppb	0.11	238,907.02	2.420E+00	Pulse	0.30	3
Ni	60	72	2	19.000	ppb	0.58	59,636.64	8.726E-01	Pulse	0.30	3
Cu	63	72	2	18.961	ppb	0.32	181,045.42	2.649E+00	Pulse	0.30	3
Zn	66	72	2	18.910	ppb	1.02	25,255.01	3.695E-01	Pulse	0.30	3
As	75	72	2	18.889	ppb	1.26	15,332.17	2.243E-01	Pulse	0.75	3
Se	78	72	1	19.803	ppb	3.64	7,277.49	8.565E-02	Pulse	0.30	3
Mo	95	103	2	18.742	ppb	1.26	87,618.76	4.318E-02	Pulse	0.30	3
Ag	107	103	3	18.672	ppb	0.66	749,368.18	1.609E-01	Pulse	0.30	3
Cd	111	115	3	18.938	ppb	0.82	171,359.35	3.239E-02	Pulse	0.30	3
Sb	121	115	3	18.765	ppb	0.63	604,370.16	1.143E-01	Pulse	0.30	3
Ba	137	159	3	18.942	ppb	0.65	253,292.76	3.309E-02	Pulse	0.30	3
Tl	205	209	3	19.315	ppb	0.69	1,503,607.69	3.412E-01	Analog	0.30	3
Pb	208	209	3	18.985	ppb	1.19	1,995,882.25	4.529E-01	Analog	0.30	3
U	238	209	3	18.964	ppb	0.89	2,124,079.30	4.820E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,051,116.67	1.37	93.0	Analog	0.30	3
2	Sc	45	98,731.09	0.68	93.0	Pulse	0.30	3
3	Sc	45	2,559,215.92	0.42	92.0	Analog	0.30	3
1	Ge	72	84,985.27	0.82	93.9	Pulse	0.30	3
2	Ge	72	68,345.62	0.98	93.4	Pulse	0.30	3
2	Rh	103	2,029,111.57	0.65	95.5	Analog	0.30	3
3	Rh	103	4,658,691.70	0.51	93.8	Analog	0.30	3
3	In	115	5,289,829.97	0.49	95.6	Analog	0.30	3
3	Tb	159	7,654,206.21	0.37	97.3	Analog	0.30	3
3	Bi	209	4,407,214.69	0.83	98.5	Analog	0.30	3

Quantitation Report

File Name	A0308008.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 11:57
Sample Name	Std-40/400 ppb
Sample Type	CalStd
Comment	40/400 ug/L, 10<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	38.136	ppb	0.48	216,551.44	2.074E-01	Pulse	0.30	3
B	11	6	3	388.791	ppb	0.72	2,024,565.63	1.939E+00	Analog	0.30	3
Na	23	45	2	364.964	ppb	2.35	498,317.36	5.044E+00	Pulse	0.30	3
Mg	26	45	2	396.539	ppb	1.92	38,141.78	3.861E-01	Pulse	0.30	3
Al	27	45	2	36.905	ppb	0.87	8,421.96	8.523E-02	Pulse	0.30	3
K	39	45	2	392.251	ppb	1.14	185,894.67	1.881E+00	Pulse	0.30	3
Ca	44	45	3	382.409	ppb	0.16	492,836.91	1.914E-01	Pulse	0.30	3
V	51	45	2	38.663	ppb	1.08	212,246.39	2.148E+00	Pulse	0.30	3
Cr	52	45	2	38.674	ppb	1.62	268,803.19	2.721E+00	Pulse	0.30	3
Mn	55	45	2	39.398	ppb	1.36	152,694.47	1.546E+00	Pulse	0.30	3
Fe	56	45	2	39.288	ppb	1.41	237,174.46	2.401E+00	Pulse	0.30	3
Co	59	45	2	38.935	ppb	1.13	488,033.24	4.939E+00	Pulse	0.30	3
Ni	60	72	2	38.310	ppb	0.42	122,057.42	1.758E+00	Pulse	0.30	3
Cu	63	72	2	38.027	ppb	0.76	354,253.17	5.102E+00	Pulse	0.30	3
Zn	66	72	2	38.515	ppb	1.37	51,677.95	7.444E-01	Pulse	0.30	3
As	75	72	2	38.030	ppb	1.69	31,349.59	4.515E-01	Pulse	0.75	3
Se	78	72	1	40.534	ppb	1.82	14,741.64	1.753E-01	Pulse	0.30	3
Mo	95	103	2	38.940	ppb	1.16	181,283.34	8.970E-02	Pulse	0.30	3
Ag	107	103	3	40.082	ppb	0.28	1,597,182.12	3.427E-01	Analog	0.30	3
Cd	111	115	3	38.211	ppb	0.73	346,688.98	6.536E-02	Pulse	0.30	3
Sb	121	115	3	38.674	ppb	0.59	1,248,697.82	2.354E-01	Analog	0.30	3
Ba	137	159	3	38.316	ppb	0.49	515,216.46	6.690E-02	Pulse	0.30	3
Tl	205	209	3	38.571	ppb	1.16	3,060,627.59	6.810E-01	Analog	0.30	3
Pb	208	209	3	38.452	ppb	0.83	4,121,544.53	9.171E-01	Analog	0.30	3
U	238	209	3	38.412	ppb	0.88	4,387,363.88	9.762E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,044,210.31	0.07	92.4	Analog	0.30	3
2	Sc	45	98,814.84	1.84	93.1	Pulse	0.30	3
3	Sc	45	2,574,351.52	0.22	92.6	Analog	0.30	3
1	Ge	72	84,090.32	0.28	92.9	Pulse	0.30	3
2	Ge	72	69,433.46	1.39	94.9	Pulse	0.30	3
2	Rh	103	2,021,066.55	0.77	95.2	Analog	0.30	3
3	Rh	103	4,659,923.92	0.25	93.9	Analog	0.30	3
3	In	115	5,304,319.56	0.66	95.9	Analog	0.30	3
3	Tb	159	7,701,913.22	0.46	97.9	Analog	0.30	3
3	Bi	209	4,494,334.14	0.70	100.5	Analog	0.30	3

Quantitation Report

File Name	A0308009.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:03
Sample Name	Std-100/1000 ppb
Sample Type	CalStd
Comment	100/1000ug/L,10<20mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	96.999	ppb	1.27	532,069.67	5.274E-01	Pulse	0.30	3
B	11	6	3	982.700	ppb	1.20	4,921,128.55	4.878E+00	Analog	0.30	3
Na	23	45	2	988.954	ppb	1.61	1,156,362.74	1.193E+01	Analog	0.30	3
Mg	26	45	2	987.810	ppb	0.74	92,979.50	9.590E-01	Pulse	0.30	3
Al	27	45	2	97.914	ppb	2.89	20,038.84	2.066E-01	Pulse	0.30	3
K	39	45	2	992.375	ppb	0.34	428,112.41	4.416E+00	Pulse	0.30	3
Ca	44	45	3	999.794	ppb	0.19	1,249,385.94	4.969E-01	Analog	0.30	3
V	51	45	2	97.713	ppb	0.21	525,568.43	5.421E+00	Pulse	0.30	3
Cr	52	45	2	96.996	ppb	0.53	661,307.75	6.821E+00	Pulse	0.30	3
Mn	55	45	2	99.100	ppb	0.42	376,809.23	3.887E+00	Pulse	0.30	3
Fe	56	45	2	97.876	ppb	1.00	574,953.34	5.931E+00	Pulse	0.30	3
Co	59	45	2	99.018	ppb	0.72	1,217,854.03	1.256E+01	Analog	0.30	3
Ni	60	72	2	98.121	ppb	0.46	301,721.51	4.501E+00	Pulse	0.30	3
Cu	63	72	2	96.509	ppb	0.77	846,580.34	1.263E+01	Pulse	0.30	3
Zn	66	72	2	98.731	ppb	1.36	127,088.82	1.896E+00	Pulse	0.30	3
As	75	72	2	98.049	ppb	0.62	78,031.82	1.164E+00	Pulse	0.75	3
Se	78	72	1	99.883	ppb	2.04	36,279.22	4.320E-01	Pulse	0.30	3
Mo	95	103	2	98.015	ppb	0.51	449,483.04	2.258E-01	Pulse	0.30	3
Ag	107	103	3	100.355	ppb	0.50	3,908,611.02	8.548E-01	Analog	0.30	3
Cd	111	115	3	96.278	ppb	0.40	858,848.21	1.647E-01	Pulse	0.30	3
Sb	121	115	3	97.857	ppb	0.45	3,106,133.39	5.956E-01	Analog	0.30	3
Ba	137	159	3	99.174	ppb	0.14	1,319,924.58	1.731E-01	Analog	0.30	3
Tl	205	209	3	98.149	ppb	0.76	7,624,623.15	1.733E+00	Analog	0.30	3
Pb	208	209	3	98.426	ppb	0.42	10,329,545.14	2.347E+00	Analog	0.30	3
U	238	209	3	97.461	ppb	0.61	10,900,682.58	2.477E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,008,822.77	0.75	89.3	Analog	0.30	3
2	Sc	45	96,953.16	1.23	91.3	Pulse	0.30	3
3	Sc	45	2,514,527.36	0.29	90.4	Analog	0.30	3
1	Ge	72	83,972.46	0.63	92.7	Pulse	0.30	3
2	Ge	72	67,040.15	0.56	91.6	Pulse	0.30	3
2	Rh	103	1,990,908.27	0.90	93.7	Analog	0.30	3
3	Rh	103	4,572,429.17	0.29	92.1	Analog	0.30	3
3	In	115	5,215,168.29	0.29	94.3	Analog	0.30	3
3	Tb	159	7,625,967.46	0.47	96.9	Analog	0.30	3
3	Bi	209	4,400,965.21	0.67	98.4	Analog	0.30	3

Quantitation Report

File Name	A0308010.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:08
Sample Name	Std-200/2000 ppb
Sample Type	CalStd
Comment	200/2000ug/L, 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	202.049	ppb	0.52	1,103,620.87	1.099E+00	Analog	0.30	3
B	11	6	3	2012.549	ppb	1.22	10,020,028.90	9.976E+00	Analog	0.30	3
Na	23	45	2	2015.030	ppb	1.06	2,228,452.54	2.325E+01	Analog	0.30	3
Mg	26	45	2	2007.795	ppb	0.68	186,653.74	1.947E+00	Pulse	0.30	3
Al	27	45	2	202.457	ppb	0.61	39,749.20	4.147E-01	Pulse	0.30	3
K	39	45	2	2006.779	ppb	0.37	833,826.25	8.699E+00	Pulse	0.30	3
Ca	44	45	3	2004.462	ppb	0.55	2,484,129.15	9.939E-01	Analog	0.30	3
V	51	45	2	201.546	ppb	1.30	1,071,168.03	1.118E+01	Analog	0.30	3
Cr	52	45	2	201.930	ppb	0.03	1,360,970.05	1.420E+01	Analog	0.30	3
Mn	55	45	2	200.669	ppb	0.49	754,275.66	7.869E+00	Pulse	0.30	3
Fe	56	45	2	201.295	ppb	1.30	1,165,637.61	1.216E+01	Analog	0.30	3
Co	59	45	2	200.831	ppb	0.94	2,441,974.63	2.548E+01	Analog	0.30	3
Ni	60	72	2	201.410	ppb	1.19	603,713.83	9.237E+00	Pulse	0.30	3
Cu	63	72	2	202.270	ppb	1.02	1,714,955.19	2.624E+01	Analog	0.30	3
Zn	66	72	2	201.074	ppb	1.31	251,791.50	3.852E+00	Pulse	0.30	3
As	75	72	2	201.520	ppb	0.59	156,359.32	2.392E+00	Pulse	0.75	3
Se	78	72	1	203.973	ppb	1.58	72,013.02	8.822E-01	Pulse	0.30	3
Mo	95	103	2	201.377	ppb	0.75	909,695.88	4.638E-01	Pulse	0.30	3
Ag	107	103	3	188.371	ppb	1.10	7,242,890.81	1.603E+00	Analog	0.30	3
Cd	111	115	3	202.364	ppb	0.65	1,787,138.07	3.461E-01	Analog	0.30	3
Sb	121	115	3	201.501	ppb	0.25	6,331,776.02	1.226E+00	Analog	0.30	3
Ba	137	159	3	200.888	ppb	0.21	2,673,601.18	3.506E-01	Analog	0.30	3
Tl	205	209	3	201.337	ppb	0.64	15,586,960.88	3.554E+00	Analog	0.30	3
Pb	208	209	3	201.240	ppb	0.64	21,047,664.26	4.799E+00	Analog	0.30	3
U	238	209	3	201.724	ppb	0.20	22,486,265.03	5.127E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,004,520.14	0.82	88.9	Analog	0.30	3
2	Sc	45	95,851.40	1.23	90.3	Pulse	0.30	3
3	Sc	45	2,499,373.80	0.38	89.9	Analog	0.30	3
1	Ge	72	81,628.40	0.38	90.2	Pulse	0.30	3
2	Ge	72	65,367.91	1.64	89.3	Pulse	0.30	3
2	Rh	103	1,961,243.18	0.88	92.3	Analog	0.30	3
3	Rh	103	4,519,471.46	0.18	91.0	Analog	0.30	3
3	In	115	5,163,038.04	0.51	93.4	Analog	0.30	3
3	Tb	159	7,626,665.44	0.51	97.0	Analog	0.30	3
3	Bi	209	4,386,138.58	0.31	98.0	Analog	0.30	3

Quantitation Report

File Name	A0308011.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:14
Sample Name	ICV,ICV,1
Sample Type	6-ICV
Comment	10/100 ug/L,200mL of 2MWST- 151207I
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.067	ppb	0.65	60,538.97	5.475E-02	Pulse	0.30	3
B	11	6	3	2010.197	ppb	1.54	11,016,060.87	9.964E+00	Analog	0.30	3
Na	23	45	2	226.316	ppb	2.03	370,673.58	3.514E+00	Pulse	0.30	3
Mg	26	45	2	103.804	ppb	3.05	10,799.41	1.024E-01	Pulse	0.30	3
Al	27	45	2	198.100	ppb	1.09	42,829.72	4.060E-01	Pulse	0.30	3
K	39	45	2	92.335	ppb	2.72	64,860.66	6.149E-01	Pulse	0.30	3
Ca	44	45	3	139.915	ppb	0.30	198,747.79	7.148E-02	Pulse	0.30	3
V	51	45	2	10.068	ppb	1.76	59,419.49	5.634E-01	Pulse	0.30	3
Cr	52	45	2	10.001	ppb	1.77	74,340.05	7.049E-01	Pulse	0.30	3
Mn	55	45	2	100.924	ppb	1.08	417,499.86	3.958E+00	Pulse	0.30	3
Fe	56	45	2	101.891	ppb	1.22	651,064.54	6.173E+00	Pulse	0.30	3
Co	59	45	2	9.592	ppb	1.74	128,348.34	1.217E+00	Pulse	0.30	3
Ni	60	72	2	10.363	ppb	0.85	34,915.84	4.765E-01	Pulse	0.30	3
Cu	63	72	2	10.185	ppb	1.25	111,339.47	1.520E+00	Pulse	0.30	3
Zn	66	72	2	101.877	ppb	1.39	143,296.42	1.956E+00	Pulse	0.30	3
As	75	72	2	10.090	ppb	1.65	8,784.23	1.199E-01	Pulse	0.75	3
Se	78	72	1	10.646	ppb	1.09	4,051.79	4.604E-02	Pulse	0.30	3
Mo	95	103	2	10.992	ppb	1.08	54,739.74	2.533E-02	Pulse	0.30	3
Ag	107	103	3	10.680	ppb	1.31	469,917.44	9.296E-02	Pulse	0.30	3
Cd	111	115	3	10.149	ppb	0.99	99,708.84	1.736E-02	Pulse	0.30	3
Sb	121	115	3	10.376	ppb	0.59	362,966.00	6.320E-02	Pulse	0.30	3
Ba	137	159	3	104.252	ppb	1.19	1,525,691.00	1.819E-01	Analog	0.30	3
Tl	205	209	3	7.653	ppb	1.72	655,671.40	1.354E-01	Pulse	0.30	3
Pb	208	209	3	10.018	ppb	0.32	1,157,990.82	2.391E-01	Pulse	0.30	3
U	238	209	3	10.083	ppb	1.12	1,241,353.92	2.563E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,105,650.65	0.52	97.9	Analog	0.30	3
2	Sc	45	105,496.60	2.44	99.3	Pulse	0.30	3
3	Sc	45	2,780,611.59	0.84	100.0	Analog	0.30	3
1	Ge	72	87,997.51	0.94	97.2	Pulse	0.30	3
2	Ge	72	73,270.06	0.99	100.1	Pulse	0.30	3
2	Rh	103	2,161,188.68	1.31	101.8	Analog	0.30	3
3	Rh	103	5,055,416.42	0.94	101.8	Analog	0.30	3
3	In	115	5,743,293.48	0.73	103.8	Analog	0.30	3
3	Tb	159	8,385,850.08	0.52	106.6	Analog	0.30	3
3	Bi	209	4,843,612.22	0.19	108.3	Analog	0.30	3

Quantitation Report

File Name	A0308012.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:20
Sample Name	ICB,ICB,1
Sample Type	6-ICB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.011	ppb	13.98	84.45	7.752E-05	Pulse	0.30	3
B	11	6	3	39.607	ppb	1.85	229,316.28	2.106E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	67,842.95	6.562E-01	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	118.89	1.145E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	952.28	9.213E-03	Pulse	0.30	3
K	39	45	2	<0.000	ppb	---	22,579.30	2.184E-01	Pulse	0.30	3
Ca	44	45	3	1.582	ppb	7.59	8,345.77	3.043E-03	Pulse	0.30	3
V	51	45	2	0.022	ppb	12.69	684.49	6.621E-03	Pulse	0.30	3
Cr	52	45	2	0.004	ppb	76.82	208.82	2.018E-03	Pulse	0.30	3
Mn	55	45	2	0.011	ppb	11.07	105.52	1.021E-03	Pulse	0.30	3
Fe	56	45	2	0.009	ppb	208.01	3,502.09	3.386E-02	Pulse	0.30	3
Co	59	45	2	0.002	ppb	54.51	34.36	3.334E-04	Pulse	0.30	3
Ni	60	72	2	0.012	ppb	144.69	134.36	1.846E-03	Pulse	0.30	3
Cu	63	72	2	0.105	ppb	38.77	16,170.39	2.226E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	332.92	4.581E-03	Pulse	0.30	3
As	75	72	2	0.018	ppb	57.86	24.45	3.373E-04	Pulse	0.75	3
Se	78	72	1	0.035	ppb	65.98	13.33	1.509E-04	Pulse	0.30	3
Mo	95	103	2	0.219	ppb	3.93	1,114.53	5.179E-04	Pulse	0.30	3
Ag	107	103	3	0.721	ppb	11.16	42,197.13	8.351E-03	Pulse	0.30	3
Cd	111	115	3	0.003	ppb	35.94	40.85	7.239E-06	Pulse	0.30	3
Sb	121	115	3	0.086	ppb	10.01	3,267.13	5.784E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	301.03	3.722E-05	Pulse	0.30	3
Tl	205	209	3	0.178	ppb	0.60	15,915.78	3.441E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.004	ppb	11.29	1,343.34	2.904E-04	Pulse	0.30	3
U	238	209	3	0.006	ppb	14.20	765.06	1.655E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,089,042.12	1.79	96.4	Analog	0.30	3
2	Sc	45	103,401.51	1.42	97.4	Pulse	0.30	3
3	Sc	45	2,742,970.93	0.29	98.6	Analog	0.30	3
1	Ge	72	88,272.45	0.60	97.5	Pulse	0.30	3
2	Ge	72	72,630.56	0.99	99.3	Pulse	0.30	3
2	Rh	103	2,151,314.01	1.06	101.3	Analog	0.30	3
3	Rh	103	5,053,156.00	0.07	101.8	Analog	0.30	3
3	In	115	5,649,857.53	0.66	102.2	Analog	0.30	3
3	Tb	159	8,089,331.96	0.14	102.8	Analog	0.30	3
3	Bi	209	4,625,565.69	0.76	103.4	Analog	0.30	3

Quantitation Report

File Name	A0308013.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:25
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.489	ppb	2.20	2,914.84	2.673E-03	Pulse	0.30	3
B	11	6	3	75.983	ppb	0.91	425,951.82	3.906E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	77,993.15	7.369E-01	Pulse	0.30	3
Mg	26	45	2	3.918	ppb	4.17	595.59	5.626E-03	Pulse	0.30	3
Al	27	45	2	35.480	ppb	2.00	8,723.64	8.239E-02	Pulse	0.30	3
K	39	45	2	0.800	ppb	279.05	24,172.60	2.284E-01	Pulse	0.30	3
Ca	44	45	3	18.508	ppb	1.93	31,309.21	1.142E-02	Pulse	0.30	3
V	51	45	2	0.930	ppb	3.28	6,027.99	5.690E-02	Pulse	0.30	3
Cr	52	45	2	0.934	ppb	4.53	7,140.58	6.740E-02	Pulse	0.30	3
Mn	55	45	2	0.535	ppb	3.64	2,282.36	2.155E-02	Pulse	0.30	3
Fe	56	45	2	10.090	ppb	1.77	67,894.30	6.413E-01	Pulse	0.30	3
Co	59	45	2	0.459	ppb	1.31	6,173.46	5.830E-02	Pulse	0.30	3
Ni	60	72	2	1.005	ppb	3.84	3,399.12	4.741E-02	Pulse	0.30	3
Cu	63	72	2	1.080	ppb	3.55	24,945.02	3.480E-01	Pulse	0.30	3
Zn	66	72	2	11.088	ppb	0.16	15,768.25	2.200E-01	Pulse	0.30	3
As	75	72	2	0.102	ppb	10.19	95.56	1.333E-03	Pulse	0.75	3
Se	78	72	1	0.533	ppb	10.56	204.45	2.307E-03	Pulse	0.30	3
Mo	95	103	2	0.563	ppb	4.08	2,833.72	1.309E-03	Pulse	0.30	3
Ag	107	103	3	0.178	ppb	4.87	18,804.09	3.738E-03	Pulse	0.30	3
Cd	111	115	3	0.475	ppb	1.44	4,640.80	8.141E-04	Pulse	0.30	3
Sb	121	115	3	0.528	ppb	1.04	18,612.76	3.265E-03	Pulse	0.30	3
Ba	137	159	3	1.055	ppb	2.07	15,490.11	1.882E-03	Pulse	0.30	3
Tl	205	209	3	0.415	ppb	1.24	35,883.19	7.624E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.964	ppb	1.36	109,109.29	2.318E-02	Pulse	0.30	3
U	238	209	3	0.456	ppb	1.43	54,615.03	1.160E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,090,495.38	0.87	96.5	Analog	0.30	3
2	Sc	45	105,899.23	2.34	99.7	Pulse	0.30	3
3	Sc	45	2,742,800.76	1.15	98.6	Analog	0.30	3
1	Ge	72	88,642.02	0.57	97.9	Pulse	0.30	3
2	Ge	72	71,685.32	1.39	98.0	Pulse	0.30	3
2	Rh	103	2,165,445.21	1.18	102.0	Analog	0.30	3
3	Rh	103	5,030,121.70	0.39	101.3	Analog	0.30	3
3	In	115	5,700,829.89	0.30	103.1	Analog	0.30	3
3	Tb	159	8,232,142.79	0.35	104.7	Analog	0.30	3
3	Bi	209	4,706,834.41	0.66	105.2	Analog	0.30	3

Quantitation Report

File Name	A0308014.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:31
Sample Name	ICSA1,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	60.67	42.23	4.010E-05	Pulse	0.30	3
B	11	6	3	12.065	ppb	1.54	78,131.11	7.426E-02	Pulse	0.30	3
Na	23	45	2	98133.036	ppb	1.58	108,947,493.93	1.084E+03	Analog	0.30	3
Mg	26	45	2	99615.290	ppb	1.40	9,705,052.43	9.653E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-8.96	-9.155E-05	Pulse	0.30	3
K	39	45	2	103421.518	ppb	1.14	43,935,426.57	4.370E+02	Analog	0.30	3
Ca	44	45	3	91455.190	ppb	0.75	126,481,725.89	4.525E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	474.47	4.729E-03	Pulse	0.30	3
Cr	52	45	2	0.161	ppb	9.72	1,309.51	1.302E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-9,859.60	-9.815E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-5,002.28	-4.979E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	55.47	125.43	1.257E-03	Pulse	0.30	3
Ni	60	72	2	0.290	ppb	12.96	970.98	1.462E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	10,622.08	1.599E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,214.57	-1.829E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	-1.55	-2.478E-05	Pulse	0.75	3
Se	78	72	1	0.022	ppb	65.70	7.78	9.605E-05	Pulse	0.30	3
Mo	95	103	2	0.089	ppb	5.14	396.69	2.191E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-19,307.23	-4.373E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-21,025.50	-4.207E-03	Pulse	0.30	3
Sb	121	115	3	0.042	ppb	5.70	1,542.36	3.086E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-79,293.05	-1.083E-02	Pulse	0.30	3
Tl	205	209	3	0.051	ppb	0.28	4,284.13	1.195E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-118,238.93	-3.298E-02	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-7,406.08	-2.066E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,052,209.27	0.54	93.1	Analog	0.30	3
2	Sc	45	100,565.26	2.98	94.7	Pulse	0.30	3
3	Sc	45	2,795,546.14	0.97	100.5	Analog	0.30	3
1	Ge	72	81,062.19	0.29	89.5	Pulse	0.30	3
2	Ge	72	66,440.14	2.51	90.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,809,989.66	1.25	85.2	Analog	0.30	3
3	Rh	103	4,415,557.26	0.44	88.9	Analog	0.30	3
3	In	115	4,997,368.63	0.21	90.4	Analog	0.30	3
3	Tb	159	7,322,243.43	0.25	93.1	Analog	0.30	3
3	Bi	209	3,585,569.18	0.23	80.1	Analog	0.30	3

Quantitation Report

File Name	A0308015.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:34
Sample Name	ICSAB1,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.778	ppb	1.19	109,792.70	1.130E-01	Pulse	0.30	3
B	11	6	3	206.994	ppb	2.96	1,009,373.18	1.039E+00	Analog	0.30	3
Na	23	45	2	99058.067	ppb	1.05	106,254,617.31	1.094E+03	Analog	0.30	3
Mg	26	45	2	100489.766	ppb	1.10	9,458,577.77	9.738E+01	Analog	0.30	3
Al	27	45	2	16.642	ppb	4.39	4,363.26	4.490E-02	Pulse	0.30	3
K	39	45	2	103746.582	ppb	0.70	42,580,075.75	4.383E+02	Analog	0.30	3
Ca	44	45	3	93736.376	ppb	0.52	129,416,441.40	4.637E+01	Analog	0.30	3
V	51	45	2	21.563	ppb	1.32	116,603.43	1.200E+00	Pulse	0.30	3
Cr	52	45	2	20.638	ppb	1.36	141,101.21	1.453E+00	Pulse	0.30	3
Mn	55	45	2	17.661	ppb	1.64	67,341.48	6.931E-01	Pulse	0.30	3
Fe	56	45	2	19.076	ppb	0.28	114,899.75	1.183E+00	Pulse	0.30	3
Co	59	45	2	20.045	ppb	1.02	247,022.54	2.543E+00	Pulse	0.30	3
Ni	60	72	2	21.546	ppb	0.73	61,098.58	9.893E-01	Pulse	0.30	3
Cu	63	72	2	19.642	ppb	0.09	169,017.20	2.737E+00	Pulse	0.30	3
Zn	66	72	2	16.819	ppb	1.58	20,355.65	3.296E-01	Pulse	0.30	3
As	75	72	2	20.865	ppb	0.92	15,303.44	2.478E-01	Pulse	0.75	3
Se	78	72	1	19.324	ppb	3.13	6,279.23	8.358E-02	Pulse	0.30	3
Mo	95	103	2	23.702	ppb	1.20	91,922.74	5.460E-02	Pulse	0.30	3
Ag	107	103	3	18.624	ppb	0.15	693,318.43	1.605E-01	Pulse	0.30	3
Cd	111	115	3	17.395	ppb	0.56	147,017.83	2.976E-02	Pulse	0.30	3
Sb	121	115	3	20.832	ppb	0.54	626,632.19	1.268E-01	Pulse	0.30	3
Ba	137	159	3	19.058	ppb	0.31	230,639.04	3.329E-02	Pulse	0.30	3
Tl	205	209	3	22.600	ppb	0.82	1,329,067.65	3.992E-01	Analog	0.30	3
Pb	208	209	3	20.750	ppb	0.20	1,648,065.90	4.950E-01	Mix	0.30	3
U	238	209	3	23.403	ppb	0.42	1,980,404.33	5.948E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	971,766.40	2.03	86.0	Analog	0.30	3
2	Sc	45	97,152.36	2.68	91.5	Pulse	0.30	3
3	Sc	45	2,790,688.88	0.13	100.3	Analog	0.30	3
1	Ge	72	75,116.15	1.80	83.0	Pulse	0.30	3
2	Ge	72	61,762.82	1.43	84.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,683,332.94	1.08	79.3	Analog	0.30	3
3	Rh	103	4,320,989.42	0.55	87.0	Analog	0.30	3
3	In	115	4,940,617.42	0.48	89.3	Analog	0.30	3
3	Tb	159	6,927,196.29	0.28	88.1	Analog	0.30	3
3	Bi	209	3,329,555.26	0.25	74.4	Analog	0.30	3

Quantitation Report

File Name	A0308016.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:42
Sample Name	LLICV,CCV1,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

not reported

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.481	ppb	7.30	2,960.38	2.635E-03	Pulse	0.30	3
B	11	6	3	66.406	ppb	0.24	385,685.75	3.432E-01	Pulse	0.30	3
Na	23	45	2	<0.000	ppb	---	91,546.36	8.451E-01	Pulse	0.30	3
Mg	26	45	2	5.873	ppb	13.95	815.61	7.521E-03	Pulse	0.30	3
Al	27	45	2	37.419	ppb	3.08	9,345.11	8.625E-02	Pulse	0.30	3
K	39	45	2	9.054	ppb	31.92	28,515.16	2.633E-01	Pulse	0.30	3
Ca	44	45	3	19.176	ppb	1.39	32,766.43	1.175E-02	Pulse	0.30	3
V	51	45	2	1.014	ppb	3.63	6,672.74	6.156E-02	Pulse	0.30	3
Cr	52	45	2	0.947	ppb	2.31	7,401.77	6.831E-02	Pulse	0.30	3
Mn	55	45	2	0.542	ppb	4.43	2,365.20	2.183E-02	Pulse	0.30	3
Fe	56	45	2	10.407	ppb	2.61	71,550.05	6.604E-01	Pulse	0.30	3
Co	59	45	2	0.462	ppb	2.32	6,357.95	5.869E-02	Pulse	0.30	3
Ni	60	72	2	0.999	ppb	3.20	3,420.20	4.711E-02	Pulse	0.30	3
Cu	63	72	2	1.610	ppb	4.69	30,232.26	4.163E-01	Pulse	0.30	3
Zn	66	72	2	10.957	ppb	3.77	15,789.36	2.175E-01	Pulse	0.30	3
As	75	72	2	0.122	ppb	10.92	113.78	1.566E-03	Pulse	0.75	3
Se	78	72	1	0.534	ppb	8.10	212.24	2.311E-03	Pulse	0.30	3
Mo	95	103	2	0.646	ppb	2.33	3,240.46	1.500E-03	Pulse	0.30	3
Ag	107	103	3	0.813	ppb	13.61	45,545.67	9.134E-03	Pulse	0.30	3
Cd	111	115	3	0.489	ppb	5.32	4,691.33	8.374E-04	Pulse	0.30	3
Sb	121	115	3	0.555	ppb	1.66	19,193.45	3.428E-03	Pulse	0.30	3
Ba	137	159	3	1.066	ppb	0.90	15,185.47	1.901E-03	Pulse	0.30	3
Tl	205	209	3	0.384	ppb	1.71	31,795.00	7.075E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.976	ppb	0.18	105,477.60	2.347E-02	Pulse	0.30	3
U	238	209	3	0.462	ppb	0.10	52,864.63	1.176E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,123,744.58	0.40	99.5	Analog	0.30	3
2	Sc	45	108,359.94	1.41	102.0	Pulse	0.30	3
3	Sc	45	2,789,363.78	1.93	100.3	Analog	0.30	3
1	Ge	72	91,785.00	1.80	101.4	Pulse	0.30	3
2	Ge	72	72,621.63	1.06	99.3	Pulse	0.30	3
2	Rh	103	2,159,885.61	0.17	101.7	Analog	0.30	3
3	Rh	103	4,984,477.46	0.75	100.4	Analog	0.30	3
3	In	115	5,599,929.89	1.12	101.3	Analog	0.30	3
3	Tb	159	7,990,124.67	0.39	101.6	Analog	0.30	3
3	Bi	209	4,494,146.01	0.33	100.5	Analog	0.30	3

Quantitation Report

File Name	A0308017.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:47
Sample Name	N018845-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.012	ppb	17.14	42.23	8.111E-05	Pulse	0.30	3
B	11	6	3	2086.972	ppb	3.50	5,389,764.61	1.034E+01	Analog	0.30	3
Na	23	45	2	2393568.784	ppb	0.31	2,008,065,392.30	2.641E+04	Analog	0.30	3
Mg	26	45	2	5965.563	ppb	0.30	439,694.24	5.783E+00	Pulse	0.30	3
Al	27	45	2	0.825	ppb	66.89	1,020.67	1.342E-02	Pulse	0.30	3
K	39	45	2	25435.461	ppb	0.68	8,185,076.48	1.076E+02	Analog	0.30	3
Ca	44	45	3	157691.485	ppb	0.56	167,602,116.39	7.801E+01	Analog	0.30	3
V	51	45	2	0.299	ppb	5.26	1,669.05	2.194E-02	Pulse	0.30	3
Cr	52	45	2	0.467	ppb	3.09	2,628.59	3.457E-02	Pulse	0.30	3
Mn	55	45	2	80.596	ppb	0.48	240,373.05	3.161E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-40,302.18	-5.302E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,964.81	-2.584E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,064.40	-2.191E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-35,983.06	-7.406E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-4,959.46	-1.021E-01	Pulse	0.30	3
As	75	72	2	4.899	ppb	4.04	2,830.97	5.827E-02	Pulse	0.75	3
Se	78	72	1	0.636	ppb	18.40	158.90	2.751E-03	Pulse	0.30	3
Mo	95	103	2	84.654	ppb	1.64	237,719.47	1.950E-01	Pulse	0.30	3
Ag	107	103	3	0.146	ppb	18.96	10,387.49	3.468E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-177.07	-5.006E-05	Pulse	0.30	3
Sb	121	115	3	0.140	ppb	2.74	3,189.34	9.021E-04	Pulse	0.30	3
Ba	137	159	3	44.408	ppb	0.63	398,682.01	7.753E-02	Pulse	0.30	3
Tl	205	209	3	0.042	ppb	2.70	2,423.62	1.040E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-17,568.31	-7.535E-03	Pulse	0.30	3
U	238	209	3	1.412	ppb	0.27	83,751.76	3.592E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	521,345.01	2.39	46.1	Analog	0.30	3
2	Sc	45	76,040.41	1.22	71.6	Pulse	0.30	3
3	Sc	45	2,148,417.26	0.76	77.2	Analog	0.30	3
1	Ge	72	57,810.71	1.43	63.8	Pulse	0.30	3
2	Ge	72	48,583.12	2.03	66.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,219,141.07	0.62	57.4	Analog	0.30	3
3	Rh	103	2,995,733.88	0.46	60.3	Analog	0.30	3
3	In	115	3,535,612.42	0.17	63.9	Analog	0.30	3
3	Tb	159	5,142,647.46	0.22	65.4	Analog	0.30	3
3	Bi	209	2,331,493.52	0.50	52.1	Analog	0.30	3

Quantitation Report

File Name	A0308018.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:53
Sample Name	N018845-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	1.413E-05	Pulse	0.30	3
B	11	6	3	357.204	ppb	1.22	1,682,543.81	1.783E+00	Analog	0.30	3
Na	23	45	2	467551.010	ppb	0.45	487,964,468.28	5.159E+03	Analog	0.30	3
Mg	26	45	2	1177.624	ppb	0.66	108,100.83	1.143E+00	Pulse	0.30	3
Al	27	45	2	9.372	ppb	11.89	2,878.48	3.043E-02	Pulse	0.30	3
K	39	45	2	4895.778	ppb	0.68	1,976,634.02	2.090E+01	Analog	0.30	3
Ca	44	45	3	31208.039	ppb	0.78	39,586,819.69	1.544E+01	Analog	0.30	3
V	51	45	2	0.051	ppb	27.84	775.61	8.201E-03	Pulse	0.30	3
Cr	52	45	2	0.081	ppb	13.62	702.29	7.425E-03	Pulse	0.30	3
Mn	55	45	2	16.469	ppb	0.89	61,134.07	6.464E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-6,247.21	-6.606E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-453.15	-4.791E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-165.15	-2.694E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-5,556.84	-9.058E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-206.40	-3.373E-03	Pulse	0.30	3
As	75	72	2	0.985	ppb	3.85	725.04	1.181E-02	Pulse	0.75	3
Se	78	72	1	0.118	ppb	35.87	40.00	5.102E-04	Pulse	0.30	3
Mo	95	103	2	15.448	ppb	0.76	59,649.15	3.559E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,611.92	1.915E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-28.00	-6.016E-06	Pulse	0.30	3
Sb	121	115	3	0.038	ppb	12.11	1,327.89	2.850E-04	Pulse	0.30	3
Ba	137	159	3	8.553	ppb	0.32	102,546.93	1.496E-02	Pulse	0.30	3
Tl	205	209	3	0.015	ppb	10.02	1,867.97	5.502E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,496.73	-1.030E-03	Pulse	0.30	3
U	238	209	3	0.260	ppb	1.36	22,488.80	6.625E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	943,993.26	1.11	83.6	Analog	0.30	3
2	Sc	45	94,578.71	0.33	89.1	Pulse	0.30	3
3	Sc	45	2,563,815.40	0.74	92.2	Analog	0.30	3
1	Ge	72	78,319.87	0.42	86.5	Pulse	0.30	3
2	Ge	72	61,382.69	1.94	83.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,675,927.02	0.74	78.9	Analog	0.30	3
3	Rh	103	3,975,628.76	0.60	80.1	Analog	0.30	3
3	In	115	4,660,896.65	0.49	84.3	Analog	0.30	3
3	Tb	159	6,852,845.18	0.12	87.1	Analog	0.30	3
3	Bi	209	3,394,899.08	0.38	75.9	Analog	0.30	3

Quantitation Report

File Name	A0308019.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 12:58
Sample Name	N018845-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.011	ppb	36.71	68.89	7.834E-05	Pulse	0.30	3
B	11	6	3	1488.043	ppb	0.94	6,497,805.45	7.380E+00	Analog	0.30	3
Na	23	45	2	655358.160	ppb	0.65	682,755,683.16	7.231E+03	Analog	0.30	3
Mg	26	45	2	12630.414	ppb	2.60	1,155,484.98	1.224E+01	Analog	0.30	3
Al	27	45	2	1.753	ppb	30.10	1,440.47	1.527E-02	Pulse	0.30	3
K	39	45	2	9950.095	ppb	1.00	3,988,410.46	4.224E+01	Analog	0.30	3
Ca	44	45	3	107160.564	ppb	0.37	137,733,974.61	5.302E+01	Analog	0.30	3
V	51	45	2	6.130	ppb	1.60	32,585.21	3.451E-01	Pulse	0.30	3
Cr	52	45	2	650.988	ppb	0.59	4,321,376.40	4.577E+01	Analog	0.30	3
Mn	55	45	2	2.222	ppb	5.40	8,275.19	8.770E-02	Pulse	0.30	3
Fe	56	45	2	13.419	ppb	2.97	79,465.87	8.418E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-292.34	-3.103E-03	Pulse	0.30	3
Ni	60	72	2	1.262	ppb	0.13	3,715.98	5.921E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-9,202.84	-1.466E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,721.29	-2.743E-02	Pulse	0.30	3
As	75	72	2	2.372	ppb	6.53	1,774.88	2.828E-02	Pulse	0.75	3
Se	78	72	1	12.367	ppb	1.79	4,070.66	5.349E-02	Pulse	0.30	3
Mo	95	103	2	92.121	ppb	0.22	348,957.91	2.122E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,360.66	1.892E-03	Pulse	0.30	3
Cd	111	115	3	0.014	ppb	78.01	115.38	2.534E-05	Pulse	0.30	3
Sb	121	115	3	0.040	ppb	12.17	1,336.78	2.942E-04	Pulse	0.30	3
Ba	137	159	3	22.009	ppb	0.34	257,189.76	3.844E-02	Pulse	0.30	3
Tl	205	209	3	0.144	ppb	1.08	9,134.28	2.832E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,455.42	-3.241E-03	Pulse	0.30	3
U	238	209	3	12.281	ppb	1.35	1,006,845.81	3.121E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	880,548.77	0.66	77.9	Analog	0.30	3
2	Sc	45	94,417.97	1.76	88.9	Pulse	0.30	3
3	Sc	45	2,598,030.66	0.66	93.4	Analog	0.30	3
1	Ge	72	76,104.10	0.31	84.1	Pulse	0.30	3
2	Ge	72	62,761.22	0.40	85.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,644,574.94	1.34	77.4	Analog	0.30	3
3	Rh	103	3,891,147.16	0.10	78.4	Analog	0.30	3
3	In	115	4,545,748.54	0.67	82.2	Analog	0.30	3
3	Tb	159	6,690,153.30	0.35	85.1	Analog	0.30	3
3	Bi	209	3,225,768.49	0.66	72.1	Analog	0.30	3

Quantitation Report

File Name	A0308020.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:04
Sample Name	N018845-003B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	37.95	27.78	2.598E-05	Pulse	0.30	3
B	11	6	3	333.254	ppb	0.93	1,778,361.55	1.664E+00	Analog	0.30	3
Na	23	45	2	134516.503	ppb	1.17	155,164,472.13	1.485E+03	Analog	0.30	3
Mg	26	45	2	2469.125	ppb	1.19	250,177.83	2.394E+00	Pulse	0.30	3
Al	27	45	2	2.406	ppb	8.54	1,731.88	1.657E-02	Pulse	0.30	3
K	39	45	2	1997.140	ppb	1.07	904,742.60	8.659E+00	Pulse	0.30	3
Ca	44	45	3	22583.288	ppb	0.38	30,994,454.82	1.117E+01	Analog	0.30	3
V	51	45	2	1.209	ppb	2.90	7,558.70	7.236E-02	Pulse	0.30	3
Cr	52	45	2	133.397	ppb	0.85	980,135.56	9.380E+00	Pulse	0.30	3
Mn	55	45	2	0.485	ppb	5.32	2,047.82	1.959E-02	Pulse	0.30	3
Fe	56	45	2	3.593	ppb	2.15	26,102.17	2.498E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-58.61	-5.646E-04	Pulse	0.30	3
Ni	60	72	2	0.248	ppb	8.24	882.30	1.270E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,459.50	4.985E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	186.06	2.678E-03	Pulse	0.30	3
As	75	72	2	0.562	ppb	13.01	472.60	6.793E-03	Pulse	0.75	3
Se	78	72	1	2.596	ppb	6.13	976.74	1.123E-02	Pulse	0.30	3
Mo	95	103	2	17.897	ppb	0.89	77,991.74	4.123E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,689.10	2.166E-03	Pulse	0.30	3
Cd	111	115	3	0.006	ppb	74.74	62.58	1.215E-05	Pulse	0.30	3
Sb	121	115	3	0.015	ppb	19.45	731.16	1.420E-04	Pulse	0.30	3
Ba	137	159	3	4.525	ppb	1.07	59,367.73	7.935E-03	Pulse	0.30	3
Tl	205	209	3	0.027	ppb	9.64	3,019.32	7.741E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,729.22	-4.432E-04	Pulse	0.30	3
U	238	209	3	2.331	ppb	0.62	231,236.95	5.927E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,068,770.47	0.38	94.6	Analog	0.30	3
2	Sc	45	104,500.50	2.37	98.4	Pulse	0.30	3
3	Sc	45	2,773,722.88	0.39	99.7	Analog	0.30	3
1	Ge	72	87,004.84	0.74	96.1	Pulse	0.30	3
2	Ge	72	69,406.86	2.77	94.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,891,392.05	0.96	89.1	Analog	0.30	3
3	Rh	103	4,473,481.42	0.57	90.1	Analog	0.30	3
3	In	115	5,147,904.67	0.07	93.1	Analog	0.30	3
3	Tb	159	7,481,661.69	0.67	95.1	Analog	0.30	3
3	Bi	209	3,901,447.82	0.63	87.2	Analog	0.30	3

Quantitation Report

File Name	A0308021.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:09
Sample Name	N018845-004B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.011	ppb	53.49	65.56	7.695E-05	Pulse	0.30	3
B	11	6	3	1494.840	ppb	1.67	6,290,413.00	7.413E+00	Analog	0.30	3
Na	23	45	2	654783.852	ppb	0.41	656,802,132.44	7.225E+03	Analog	0.30	3
Mg	26	45	2	12740.352	ppb	1.29	1,122,429.71	1.235E+01	Analog	0.30	3
Al	27	45	2	1.405	ppb	39.05	1,323.73	1.458E-02	Pulse	0.30	3
K	39	45	2	9922.791	ppb	0.75	3,829,803.97	4.213E+01	Analog	0.30	3
Ca	44	45	3	107398.883	ppb	0.23	134,511,599.11	5.313E+01	Analog	0.30	3
V	51	45	2	5.996	ppb	0.75	30,701.51	3.377E-01	Pulse	0.30	3
Cr	52	45	2	655.267	ppb	0.22	4,188,068.68	4.607E+01	Analog	0.30	3
Mn	55	45	2	2.075	ppb	1.47	7,449.72	8.195E-02	Pulse	0.30	3
Fe	56	45	2	9.940	ppb	1.36	57,465.65	6.323E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-365.00	-4.013E-03	Pulse	0.30	3
Ni	60	72	2	1.244	ppb	2.49	3,488.89	5.837E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-8,193.21	-1.371E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,510.73	-2.527E-02	Pulse	0.30	3
As	75	72	2	2.303	ppb	3.40	1,641.19	2.746E-02	Pulse	0.75	3
Se	78	72	1	11.739	ppb	0.50	3,660.56	5.077E-02	Pulse	0.30	3
Mo	95	103	2	94.149	ppb	1.03	340,190.95	2.169E-01	Pulse	0.30	3
Ag	107	103	3	0.177	ppb	4.11	13,932.32	3.730E-03	Pulse	0.30	3
Cd	111	115	3	0.011	ppb	38.97	89.77	2.059E-05	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	4.79	1,155.64	2.653E-04	Pulse	0.30	3
Ba	137	159	3	22.269	ppb	0.48	248,388.33	3.890E-02	Pulse	0.30	3
Tl	205	209	3	0.146	ppb	1.82	8,891.93	2.874E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-9,934.92	-3.211E-03	Pulse	0.30	3
U	238	209	3	12.357	ppb	0.12	971,700.34	3.141E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	848,761.86	2.34	75.1	Analog	0.30	3
2	Sc	45	90,901.86	1.86	85.6	Pulse	0.30	3
3	Sc	45	2,531,585.22	0.34	91.0	Analog	0.30	3
1	Ge	72	72,098.40	0.51	79.6	Pulse	0.30	3
2	Ge	72	59,787.80	1.94	81.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,568,671.61	1.32	73.9	Analog	0.30	3
3	Rh	103	3,734,807.79	0.37	75.2	Analog	0.30	3
3	In	115	4,356,337.76	0.40	78.8	Analog	0.30	3
3	Tb	159	6,386,051.36	0.60	81.2	Analog	0.30	3
3	Bi	209	3,093,849.12	0.86	69.2	Analog	0.30	3

Quantitation Report

File Name	A0308022.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:15
Sample Name	N018845-004B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	774.93	18.89	1.787E-05	Pulse	0.30	3
B	11	6	3	321.405	ppb	0.11	1,693,826.49	1.605E+00	Analog	0.30	3
Na	23	45	2	131608.457	ppb	0.68	154,000,981.04	1.453E+03	Analog	0.30	3
Mg	26	45	2	2418.533	ppb	0.84	248,581.50	2.345E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,150.86	1.086E-02	Pulse	0.30	3
K	39	45	2	1950.581	ppb	0.79	896,893.60	8.462E+00	Pulse	0.30	3
Ca	44	45	3	22161.727	ppb	0.21	30,010,281.50	1.097E+01	Analog	0.30	3
V	51	45	2	1.206	ppb	4.28	7,653.20	7.220E-02	Pulse	0.30	3
Cr	52	45	2	131.399	ppb	0.58	979,312.25	9.240E+00	Pulse	0.30	3
Mn	55	45	2	0.420	ppb	6.77	1,809.62	1.707E-02	Pulse	0.30	3
Fe	56	45	2	2.066	ppb	2.55	16,725.86	1.578E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-31.59	-2.987E-04	Pulse	0.30	3
Ni	60	72	2	0.279	ppb	9.43	1,002.87	1.411E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,932.99	5.526E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	42.11	5.789E-04	Pulse	0.30	3
As	75	72	2	0.474	ppb	6.99	408.15	5.743E-03	Pulse	0.75	3
Se	78	72	1	2.202	ppb	1.92	830.05	9.522E-03	Pulse	0.30	3
Mo	95	103	2	17.660	ppb	0.50	78,173.60	4.069E-02	Pulse	0.30	3
Ag	107	103	3	0.018	ppb	37.80	10,390.37	2.380E-03	Pulse	0.30	3
Cd	111	115	3	0.005	ppb	34.98	50.40	1.011E-05	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	13.45	566.70	1.137E-04	Pulse	0.30	3
Ba	137	159	3	4.489	ppb	0.35	56,728.56	7.873E-03	Pulse	0.30	3
Tl	205	209	3	0.024	ppb	5.00	2,671.46	7.119E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,782.12	-4.749E-04	Pulse	0.30	3
U	238	209	3	2.287	ppb	0.77	218,218.43	5.815E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,055,133.78	0.55	93.4	Analog	0.30	3
2	Sc	45	105,987.52	0.66	99.8	Pulse	0.30	3
3	Sc	45	2,736,714.37	0.46	98.4	Analog	0.30	3
1	Ge	72	87,187.93	1.39	96.3	Pulse	0.30	3
2	Ge	72	71,105.23	1.60	97.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,921,365.75	0.88	90.5	Analog	0.30	3
3	Rh	103	4,365,227.26	0.18	87.9	Analog	0.30	3
3	In	115	4,985,656.95	0.23	90.1	Analog	0.30	3
3	Tb	159	7,205,439.34	0.30	91.6	Analog	0.30	3
3	Bi	209	3,752,450.22	0.37	83.9	Analog	0.30	3

Quantitation Report

File Name	A0308023.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:20
Sample Name	N018845-006B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	6.67	7.491E-06	Pulse	0.30	3
B	11	6	3	904.782	ppb	0.59	4,005,957.72	4.493E+00	Analog	0.30	3
Na	23	45	2	496356.039	ppb	1.00	520,866,201.13	5.477E+03	Analog	0.30	3
Mg	26	45	2	30759.592	ppb	0.63	2,834,758.05	2.981E+01	Analog	0.30	3
Al	27	45	2	3.076	ppb	10.17	1,702.01	1.790E-02	Pulse	0.30	3
K	39	45	2	13106.279	ppb	0.67	5,285,234.71	5.557E+01	Analog	0.30	3
Ca	44	45	3	202973.241	ppb	0.35	265,822,242.71	1.004E+02	Analog	0.30	3
V	51	45	2	1.967	ppb	0.48	10,878.43	1.144E-01	Pulse	0.30	3
Cr	52	45	2	152.536	ppb	0.60	1,020,046.59	1.073E+01	Mix	0.30	3
Mn	55	45	2	8.844	ppb	0.73	33,035.06	3.474E-01	Pulse	0.30	3
Fe	56	45	2	51.815	ppb	0.65	300,079.03	3.155E+00	Pulse	0.30	3
Co	59	45	2	1.236	ppb	3.74	14,915.17	1.569E-01	Pulse	0.30	3
Ni	60	72	2	103.333	ppb	1.21	296,600.81	4.740E+00	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	2,493.08	3.985E-02	Pulse	0.30	3
Zn	66	72	2	0.395	ppb	52.20	969.94	1.552E-02	Pulse	0.30	3
As	75	72	2	0.539	ppb	4.32	407.95	6.519E-03	Pulse	0.75	3
Se	78	72	1	7.166	ppb	3.56	2,429.18	3.099E-02	Pulse	0.30	3
Mo	95	103	2	33.611	ppb	0.13	126,421.92	7.743E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,131.31	1.332E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-623.98	-1.378E-04	Pulse	0.30	3
Sb	121	115	3	0.071	ppb	6.31	2,186.91	4.830E-04	Pulse	0.30	3
Ba	137	159	3	44.091	ppb	0.30	511,679.48	7.697E-02	Pulse	0.30	3
Tl	205	209	3	0.517	ppb	1.50	30,286.14	9.422E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-17,195.27	-5.350E-03	Pulse	0.30	3
U	238	209	3	7.822	ppb	0.36	639,009.67	1.988E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	891,661.18	0.73	78.9	Analog	0.30	3
2	Sc	45	95,105.94	1.53	89.6	Pulse	0.30	3
3	Sc	45	2,647,236.57	0.45	95.2	Analog	0.30	3
1	Ge	72	78,387.06	0.72	86.6	Pulse	0.30	3
2	Ge	72	62,588.52	1.94	85.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,632,791.10	0.84	76.9	Analog	0.30	3
3	Rh	103	3,852,032.23	0.37	77.6	Analog	0.30	3
3	In	115	4,527,761.05	0.25	81.9	Analog	0.30	3
3	Tb	159	6,647,593.09	0.48	84.5	Analog	0.30	3
3	Bi	209	3,214,259.19	0.46	71.8	Analog	0.30	3

Quantitation Report

File Name	A0308024.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:26
Sample Name	N018845-006B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	165.24	23.34	2.153E-05	Pulse	0.30	3
B	11	6	3	204.626	ppb	1.09	1,111,286.80	1.027E+00	Analog	0.30	3
Na	23	45	2	102443.151	ppb	1.10	118,226,962.68	1.131E+03	Analog	0.30	3
Mg	26	45	2	6159.940	ppb	0.98	624,019.47	5.971E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	973.40	9.321E-03	Pulse	0.30	3
K	39	45	2	2676.644	ppb	1.14	1,204,851.00	1.153E+01	Analog	0.30	3
Ca	44	45	3	42714.066	ppb	0.38	58,441,963.57	2.113E+01	Analog	0.30	3
V	51	45	2	0.408	ppb	1.42	2,922.62	2.796E-02	Pulse	0.30	3
Cr	52	45	2	30.959	ppb	1.35	227,661.33	2.178E+00	Pulse	0.30	3
Mn	55	45	2	1.868	ppb	1.69	7,714.82	7.382E-02	Pulse	0.30	3
Fe	56	45	2	10.540	ppb	0.39	69,860.77	6.684E-01	Pulse	0.30	3
Co	59	45	2	0.251	ppb	5.43	3,333.71	3.189E-02	Pulse	0.30	3
Ni	60	72	2	22.054	ppb	1.15	70,807.30	1.013E+00	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	7,790.33	1.113E-01	Pulse	0.30	3
Zn	66	72	2	0.124	ppb	42.22	724.48	1.035E-02	Pulse	0.30	3
As	75	72	2	0.128	ppb	6.82	114.57	1.639E-03	Pulse	0.75	3
Se	78	72	1	1.590	ppb	9.29	601.15	6.877E-03	Pulse	0.30	3
Mo	95	103	2	6.440	ppb	0.98	28,031.91	1.485E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,944.77	2.037E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-21,825.85	-4.279E-03	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	3.05	781.18	1.532E-04	Pulse	0.30	3
Ba	137	159	3	7.195	ppb	1.09	92,950.25	1.260E-02	Pulse	0.30	3
Tl	205	209	3	0.096	ppb	1.30	7,667.82	1.986E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-44,731.22	-1.158E-02	Pulse	0.30	3
U	238	209	3	1.500	ppb	0.59	147,267.24	3.814E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,081,798.00	0.98	95.7	Analog	0.30	3
2	Sc	45	104,525.21	2.13	98.4	Pulse	0.30	3
3	Sc	45	2,765,475.13	1.16	99.4	Analog	0.30	3
1	Ge	72	87,469.43	1.04	96.6	Pulse	0.30	3
2	Ge	72	69,935.66	1.66	95.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,888,023.29	1.33	88.9	Analog	0.30	3
3	Rh	103	4,391,906.84	0.98	88.5	Analog	0.30	3
3	In	115	5,100,287.42	0.69	92.2	Analog	0.30	3
3	Tb	159	7,379,489.68	0.54	93.8	Analog	0.30	3
3	Bi	209	3,861,496.92	0.59	86.3	Analog	0.30	3

Quantitation Report

File Name	A0308025.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:32
Sample Name	N018845-007B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	47.41	27.78	5.071E-05	Pulse	0.30	3
B	11	6	3	2236.006	ppb	3.10	6,084,452.72	1.108E+01	Analog	0.30	3
Na	23	45	2	2170117.665	ppb	1.02	1,979,152,183.84	2.394E+04	Analog	0.30	3
Mg	26	45	2	20236.300	ppb	1.40	1,620,899.77	1.961E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	886.20	1.071E-02	Pulse	0.30	3
K	39	45	2	29749.394	ppb	0.79	10,404,732.55	1.259E+02	Analog	0.30	3
Ca	44	45	3	309620.443	ppb	0.53	364,909,999.01	1.532E+02	Analog	0.30	3
V	51	45	2	5.086	ppb	2.62	23,739.86	2.873E-01	Pulse	0.30	3
Cr	52	45	2	489.106	ppb	1.06	2,843,011.70	3.439E+01	Analog	0.30	3
Mn	55	45	2	28.280	ppb	0.78	91,719.97	1.110E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-138,378.56	-1.674E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,526.03	-1.847E-02	Pulse	0.30	3
Ni	60	72	2	1.200	ppb	1.57	2,799.19	5.633E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-42,611.62	-8.574E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-3,742.36	-7.529E-02	Pulse	0.30	3
As	75	72	2	2.078	ppb	3.49	1,232.10	2.479E-02	Pulse	0.75	3
Se	78	72	1	4.179	ppb	1.54	1,084.53	1.807E-02	Pulse	0.30	3
Mo	95	103	2	39.464	ppb	1.09	113,966.55	9.091E-02	Pulse	0.30	3
Ag	107	103	3	0.122	ppb	10.81	10,023.59	3.262E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,011.63	-2.785E-04	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	3.75	1,018.96	2.805E-04	Pulse	0.30	3
Ba	137	159	3	38.173	ppb	0.67	355,204.33	6.665E-02	Pulse	0.30	3
Tl	205	209	3	2.181	ppb	0.81	93,512.64	3.879E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-31,769.44	-1.318E-02	Pulse	0.30	3
U	238	209	3	4.062	ppb	0.38	248,906.13	1.033E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	549,329.12	2.60	48.6	Analog	0.30	3
2	Sc	45	82,671.43	2.71	77.8	Pulse	0.30	3
3	Sc	45	2,382,345.55	1.18	85.7	Analog	0.30	3
1	Ge	72	60,003.09	0.60	66.3	Pulse	0.30	3
2	Ge	72	49,696.48	1.50	67.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,253,635.89	1.81	59.0	Analog	0.30	3
3	Rh	103	3,073,972.49	1.45	61.9	Analog	0.30	3
3	In	115	3,633,321.10	1.60	65.7	Analog	0.30	3
3	Tb	159	5,329,715.37	1.50	67.8	Analog	0.30	3
3	Bi	209	2,410,706.21	1.86	53.9	Analog	0.30	3

Quantitation Report

File Name	A0308026.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:37
Sample Name	N018845-007B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	317.13	22.22	2.207E-05	Pulse	0.30	3
B	11	6	3	391.882	ppb	1.24	1,970,551.34	1.954E+00	Analog	0.30	3
Na	23	45	2	438557.839	ppb	0.30	514,777,787.89	4.839E+03	Analog	0.30	3
Mg	26	45	2	3999.608	ppb	0.52	412,427.80	3.877E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	585.57	5.502E-03	Pulse	0.30	3
K	39	45	2	5891.325	ppb	0.95	2,670,190.55	2.510E+01	Analog	0.30	3
Ca	44	45	3	63969.139	ppb	0.53	89,630,274.22	3.165E+01	Analog	0.30	3
V	51	45	2	0.969	ppb	4.18	6,283.69	5.905E-02	Pulse	0.30	3
Cr	52	45	2	98.726	ppb	0.35	738,530.27	6.943E+00	Pulse	0.30	3
Mn	55	45	2	5.772	ppb	0.96	24,139.08	2.269E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-32,707.67	-3.075E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-410.36	-3.856E-03	Pulse	0.30	3
Ni	60	72	2	0.286	ppb	4.90	975.96	1.444E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-7,709.53	-1.140E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-360.52	-5.333E-03	Pulse	0.30	3
As	75	72	2	0.437	ppb	9.05	359.22	5.315E-03	Pulse	0.75	3
Se	78	72	1	0.974	ppb	9.70	356.69	4.215E-03	Pulse	0.30	3
Mo	95	103	2	7.186	ppb	2.18	29,700.51	1.656E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,053.80	1.715E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-220.76	-4.591E-05	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	14.82	717.82	1.491E-04	Pulse	0.30	3
Ba	137	159	3	7.547	ppb	0.63	91,467.09	1.321E-02	Pulse	0.30	3
Tl	205	209	3	0.433	ppb	2.01	27,266.86	7.941E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,517.38	-2.189E-03	Pulse	0.30	3
U	238	209	3	0.744	ppb	0.72	64,979.77	1.892E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,008,377.36	0.32	89.3	Analog	0.30	3
2	Sc	45	106,369.73	1.40	100.2	Pulse	0.30	3
3	Sc	45	2,832,203.95	1.42	101.8	Analog	0.30	3
1	Ge	72	84,673.66	0.99	93.5	Pulse	0.30	3
2	Ge	72	67,599.09	0.26	92.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,793,237.51	0.20	84.4	Analog	0.30	3
3	Rh	103	4,113,114.73	0.97	82.9	Analog	0.30	3
3	In	115	4,810,162.75	1.00	87.0	Analog	0.30	3
3	Tb	159	6,924,309.06	0.86	88.0	Analog	0.30	3
3	Bi	209	3,434,167.59	0.90	76.8	Analog	0.30	3

Quantitation Report

File Name	A0308027.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:43
Sample Name	CCV1,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.727	ppb	0.70	126,704.91	1.018E-01	Pulse	0.30	3
B	11	6	3	208.040	ppb	1.54	1,299,112.85	1.044E+00	Analog	0.30	3
Na	23	45	2	478.097	ppb	4.50	720,243.25	6.292E+00	Pulse	0.30	3
Mg	26	45	2	198.536	ppb	1.42	22,235.70	1.942E-01	Pulse	0.30	3
Al	27	45	2	15.255	ppb	2.53	4,825.36	4.214E-02	Pulse	0.30	3
K	39	45	2	208.343	ppb	1.52	126,497.03	1.105E+00	Pulse	0.30	3
Ca	44	45	3	197.583	ppb	0.22	296,796.47	1.000E-01	Pulse	0.30	3
V	51	45	2	18.709	ppb	0.61	119,346.28	1.042E+00	Pulse	0.30	3
Cr	52	45	2	18.638	ppb	0.50	150,236.50	1.312E+00	Pulse	0.30	3
Mn	55	45	2	19.153	ppb	1.17	86,058.51	7.516E-01	Pulse	0.30	3
Fe	56	45	2	18.876	ppb	1.88	134,038.54	1.171E+00	Pulse	0.30	3
Co	59	45	2	18.708	ppb	1.27	271,737.49	2.373E+00	Pulse	0.30	3
Ni	60	72	2	19.114	ppb	2.11	67,876.12	8.778E-01	Pulse	0.30	3
Cu	63	72	2	18.115	ppb	1.48	196,428.37	2.540E+00	Pulse	0.30	3
Zn	66	72	2	18.999	ppb	1.80	28,706.64	3.712E-01	Pulse	0.30	3
As	75	72	2	18.764	ppb	1.52	17,233.18	2.228E-01	Pulse	0.75	3
Se	78	72	1	19.061	ppb	0.90	8,122.34	8.244E-02	Pulse	0.30	3
Mo	95	103	2	19.235	ppb	1.12	96,137.35	4.432E-02	Pulse	0.30	3
Ag	107	103	3	18.496	ppb	0.88	803,685.61	1.594E-01	Pulse	0.30	3
Cd	111	115	3	19.025	ppb	0.48	183,399.27	3.254E-02	Pulse	0.30	3
Sb	121	115	3	18.815	ppb	0.35	645,576.95	1.146E-01	Pulse	0.30	3
Ba	137	159	3	19.478	ppb	0.50	267,600.86	3.403E-02	Pulse	0.30	3
Tl	205	209	3	19.101	ppb	1.68	1,496,729.21	3.374E-01	Analog	0.30	3
Pb	208	209	3	19.037	ppb	0.77	2,014,619.33	4.541E-01	Analog	0.30	3
U	238	209	3	18.913	ppb	0.61	2,132,436.09	4.807E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,244,137.13	0.46	110.1	Analog	0.30	3
2	Sc	45	114,506.50	1.45	107.8	Pulse	0.30	3
3	Sc	45	2,967,775.37	0.41	106.7	Analog	0.30	3
1	Ge	72	98,521.49	0.36	108.8	Pulse	0.30	3
2	Ge	72	77,348.52	2.21	105.7	Pulse	0.30	3
2	Rh	103	2,169,330.90	0.46	102.1	Analog	0.30	3
3	Rh	103	5,043,128.95	0.67	101.6	Analog	0.30	3
3	In	115	5,635,317.08	0.47	101.9	Analog	0.30	3
3	Tb	159	7,864,392.17	0.16	100.0	Analog	0.30	3
3	Bi	209	4,436,468.40	0.83	99.2	Analog	0.30	3

Quantitation Report

File Name	A0308028.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:48
Sample Name	CCB1,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	150.02	26.67	2.132E-05	Pulse	0.30	3
B	11	6	3	14.780	ppb	0.78	109,529.08	8.769E-02	Pulse	0.30	3
Na	23	45	2	189.180	ppb	8.18	352,320.70	3.105E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	182.23	1.603E-03	Pulse	0.30	3
Al	27	45	2	0.107	ppb	347.76	1,361.27	1.199E-02	Pulse	0.30	3
K	39	45	2	8.811	ppb	53.93	29,751.78	2.622E-01	Pulse	0.30	3
Ca	44	45	3	1.675	ppb	9.78	9,142.85	3.089E-03	Pulse	0.30	3
V	51	45	2	0.024	ppb	26.86	763.38	6.727E-03	Pulse	0.30	3
Cr	52	45	2	0.061	ppb	8.09	681.90	6.008E-03	Pulse	0.30	3
Mn	55	45	2	0.002	ppb	63.98	77.56	6.834E-04	Pulse	0.30	3
Fe	56	45	2	0.029	ppb	5.20	3,981.36	3.507E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	95.25	16.30	1.443E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	77.40	9.958E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,245.90	1.449E-01	Pulse	0.30	3
Zn	66	72	2	0.027	ppb	136.83	658.77	8.487E-03	Pulse	0.30	3
As	75	72	2	0.013	ppb	23.65	21.33	2.751E-04	Pulse	0.75	3
Se	78	72	1	0.021	ppb	42.72	8.89	9.064E-05	Pulse	0.30	3
Mo	95	103	2	0.087	ppb	20.80	467.81	2.130E-04	Pulse	0.30	3
Ag	107	103	3	0.565	ppb	11.67	35,839.58	7.023E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20.80	-3.674E-06	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	4.89	1,584.59	2.801E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	271.44	3.430E-05	Pulse	0.30	3
Tl	205	209	3	0.019	ppb	8.18	2,850.39	6.351E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	654.79	1.459E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	25.25	382.68	8.526E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,248,957.64	0.92	110.5	Analog	0.30	3
2	Sc	45	113,537.39	1.62	106.9	Pulse	0.30	3
3	Sc	45	2,959,747.49	0.27	106.4	Analog	0.30	3
1	Ge	72	97,956.18	1.22	108.2	Pulse	0.30	3
2	Ge	72	77,588.60	1.01	106.0	Pulse	0.30	3
2	Rh	103	2,196,695.99	0.38	103.4	Analog	0.30	3
3	Rh	103	5,101,852.49	0.43	102.8	Analog	0.30	3
3	In	115	5,656,934.28	0.52	102.3	Analog	0.30	3
3	Tb	159	7,912,257.73	0.29	100.6	Analog	0.30	3
3	Bi	209	4,488,047.47	0.22	100.3	Analog	0.30	3

Quantitation Report

File Name	A0308029.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 13:54
Sample Name	N018845-008B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	38.10	31.11	3.011E-05	Pulse	0.30	3
B	11	6	3	901.045	ppb	0.53	4,625,821.95	4.474E+00	Analog	0.30	3
Na	23	45	2	300082.029	ppb	0.40	340,730,034.92	3.312E+03	Analog	0.30	3
Mg	26	45	2	5112.585	ppb	0.61	509,888.93	4.956E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,078.12	1.047E-02	Pulse	0.30	3
K	39	45	2	4676.818	ppb	1.07	2,055,089.13	1.997E+01	Analog	0.30	3
Ca	44	45	3	23174.040	ppb	0.72	31,712,132.86	1.147E+01	Analog	0.30	3
V	51	45	2	0.989	ppb	1.53	6,192.52	6.017E-02	Pulse	0.30	3
Cr	52	45	2	0.147	ppb	3.92	1,243.06	1.208E-02	Pulse	0.30	3
Mn	55	45	2	220.352	ppb	0.33	889,094.87	8.641E+00	Pulse	0.30	3
Fe	56	45	2	37.916	ppb	0.46	238,505.15	2.318E+00	Pulse	0.30	3
Co	59	45	2	0.025	ppb	9.30	338.41	3.288E-03	Pulse	0.30	3
Ni	60	72	2	0.319	ppb	4.75	1,104.01	1.593E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,271.28	-3.275E-02	Pulse	0.30	3
Zn	66	72	2	0.202	ppb	15.95	819.95	1.184E-02	Pulse	0.30	3
As	75	72	2	14.140	ppb	0.64	11,636.11	1.680E-01	Pulse	0.75	3
Se	78	72	1	0.101	ppb	13.54	37.78	4.389E-04	Pulse	0.30	3
Mo	95	103	2	43.751	ppb	0.77	183,134.20	1.008E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,231.24	9.988E-04	Pulse	0.30	3
Cd	111	115	3	0.022	ppb	4.90	194.58	3.950E-05	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	5.53	1,366.78	2.774E-04	Pulse	0.30	3
Ba	137	159	3	33.236	ppb	0.36	414,658.87	5.803E-02	Pulse	0.30	3
Tl	205	209	3	0.079	ppb	0.60	6,015.91	1.679E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,195.70	-8.918E-04	Pulse	0.30	3
U	238	209	3	0.534	ppb	0.60	48,755.91	1.361E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,033,901.93	0.63	91.5	Analog	0.30	3
2	Sc	45	102,891.00	1.88	96.9	Pulse	0.30	3
3	Sc	45	2,765,671.28	0.63	99.4	Analog	0.30	3
1	Ge	72	86,079.73	0.29	95.1	Pulse	0.30	3
2	Ge	72	69,283.87	2.14	94.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,817,139.66	1.96	85.6	Analog	0.30	3
3	Rh	103	4,236,190.88	0.33	85.3	Analog	0.30	3
3	In	115	4,925,967.48	0.33	89.1	Analog	0.30	3
3	Tb	159	7,145,277.19	0.33	90.8	Analog	0.30	3
3	Bi	209	3,583,570.36	0.71	80.1	Analog	0.30	3

Quantitation Report

File Name	A0308030.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:00
Sample Name	N018845-008B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	246.37	24.44	2.118E-05	Pulse	0.30	3
B	11	6	3	203.502	ppb	0.61	1,182,692.29	1.022E+00	Analog	0.30	3
Na	23	45	2	61311.339	ppb	0.64	74,859,220.55	6.774E+02	Analog	0.30	3
Mg	26	45	2	1037.918	ppb	1.65	111,331.91	1.008E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	634.49	5.748E-03	Pulse	0.30	3
K	39	45	2	919.824	ppb	1.05	454,071.59	4.109E+00	Pulse	0.30	3
Ca	44	45	3	4777.108	ppb	0.21	6,784,354.34	2.366E+00	Analog	0.30	3
V	51	45	2	0.226	ppb	11.18	1,980.20	1.793E-02	Pulse	0.30	3
Cr	52	45	2	0.055	ppb	23.72	617.26	5.595E-03	Pulse	0.30	3
Mn	55	45	2	44.518	ppb	1.07	192,958.56	1.746E+00	Pulse	0.30	3
Fe	56	45	2	7.530	ppb	0.27	53,823.02	4.871E-01	Pulse	0.30	3
Co	59	45	2	0.006	ppb	40.86	86.49	7.798E-04	Pulse	0.30	3
Ni	60	72	2	0.067	ppb	11.64	326.77	4.389E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	6,637.58	8.915E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	546.97	7.349E-03	Pulse	0.30	3
As	75	72	2	2.968	ppb	1.61	2,631.93	3.535E-02	Pulse	0.75	3
Se	78	72	1	0.016	ppb	50.13	6.67	7.021E-05	Pulse	0.30	3
Mo	95	103	2	8.351	ppb	1.05	38,678.71	1.925E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,459.89	2.033E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13,578.23	-2.560E-03	Pulse	0.30	3
Sb	121	115	3	0.008	ppb	34.36	547.81	1.033E-04	Pulse	0.30	3
Ba	137	159	3	5.625	ppb	0.21	74,469.05	9.855E-03	Pulse	0.30	3
Tl	205	209	3	0.012	ppb	5.53	2,031.34	5.050E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-26,308.52	-6.540E-03	Pulse	0.30	3
U	238	209	3	0.101	ppb	3.16	10,473.16	2.604E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,157,544.85	1.18	102.5	Analog	0.30	3
2	Sc	45	110,509.97	1.85	104.1	Pulse	0.30	3
3	Sc	45	2,867,998.53	0.45	103.1	Analog	0.30	3
1	Ge	72	95,056.39	0.63	105.0	Pulse	0.30	3
2	Ge	72	74,447.48	0.35	101.8	Pulse	0.30	3
2	Rh	103	2,009,551.13	0.36	94.6	Analog	0.30	3
3	Rh	103	4,654,317.39	0.58	93.8	Analog	0.30	3
3	In	115	5,304,635.81	0.32	95.9	Analog	0.30	3
3	Tb	159	7,556,226.28	0.36	96.1	Analog	0.30	3
3	Bi	209	4,023,061.09	0.85	89.9	Analog	0.30	3

Quantitation Report

File Name	A0308031.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:05
Sample Name	N018845-005B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	6.67	8.000E-06	Pulse	0.30	3
B	11	6	3	427.321	ppb	0.53	1,780,304.85	2.130E+00	Analog	0.30	3
Na	23	45	2	574240.155	ppb	0.72	587,845,471.24	6.336E+03	Analog	0.30	3
Mg	26	45	2	50903.122	ppb	0.50	4,576,332.92	4.933E+01	Analog	0.30	3
Al	27	45	2	0.640	ppb	60.83	1,210.41	1.305E-02	Pulse	0.30	3
K	39	45	2	16846.351	ppb	0.31	6,621,113.93	7.137E+01	Analog	0.30	3
Ca	44	45	3	415630.612	ppb	0.28	529,428,987.66	2.056E+02	Analog	0.30	3
V	51	45	2	6.548	ppb	0.50	34,167.15	3.683E-01	Pulse	0.30	3
Cr	52	45	2	36779.362	ppb	0.46	239,901,442.73	2.586E+03	Analog	0.30	3
Mn	55	45	2	<0.000	ppb	---	-6,563.26	-7.076E-02	Pulse	0.30	3
Fe	56	45	2	0.803	ppb	10.30	7,581.81	8.171E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,113.57	-1.200E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,534.40	-2.609E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-12,055.33	-2.050E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-4,764.50	-8.104E-02	Pulse	0.30	3
As	75	72	2	2.707	ppb	4.61	1,895.75	3.226E-02	Pulse	0.75	3
Se	78	72	1	16.417	ppb	0.33	5,128.78	7.100E-02	Pulse	0.30	3
Mo	95	103	2	58.294	ppb	1.00	204,209.69	1.343E-01	Pulse	0.30	3
Ag	107	103	3	3.447	ppb	1.10	115,201.67	3.151E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-1,402.59	-3.283E-04	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	2.15	1,191.21	2.788E-04	Pulse	0.30	3
Ba	137	159	3	35.289	ppb	0.34	390,073.52	6.161E-02	Pulse	0.30	3
Tl	205	209	3	0.131	ppb	0.81	7,797.90	2.596E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-30,060.83	-1.001E-02	Pulse	0.30	3
U	238	209	3	1.593	ppb	0.24	121,691.54	4.051E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	836,011.77	0.60	74.0	Analog	0.30	3
2	Sc	45	92,777.79	1.19	87.4	Pulse	0.30	3
3	Sc	45	2,574,818.89	0.19	92.6	Analog	0.30	3
1	Ge	72	72,233.27	0.65	79.8	Pulse	0.30	3
2	Ge	72	58,797.74	1.80	80.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,520,787.77	0.53	71.6	Analog	0.30	3
3	Rh	103	3,655,821.26	0.19	73.6	Analog	0.30	3
3	In	115	4,272,341.49	0.37	77.2	Analog	0.30	3
3	Tb	159	6,330,848.86	0.66	80.5	Analog	0.30	3
3	Bi	209	3,003,671.59	0.45	67.1	Analog	0.30	3

Quantitation Report

File Name	A0308032.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:11
Sample Name	N018845-005B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	14.44	1.422E-05	Pulse	0.30	3
B	11	6	3	96.211	ppb	1.29	500,249.10	4.907E-01	Pulse	0.30	3
Na	23	45	2	119211.955	ppb	1.06	131,953,401.36	1.316E+03	Analog	0.30	3
Mg	26	45	2	10863.991	ppb	0.86	1,055,576.84	1.053E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	572.54	5.708E-03	Pulse	0.30	3
K	39	45	2	3492.176	ppb	0.85	1,500,984.35	1.497E+01	Analog	0.30	3
Ca	44	45	3	88111.659	ppb	0.44	118,399,320.46	4.359E+01	Analog	0.30	3
V	51	45	2	1.282	ppb	4.21	7,657.62	7.640E-02	Pulse	0.30	3
Cr	52	45	2	7659.514	ppb	0.91	53,986,879.54	5.385E+02	Analog	0.30	3
Mn	55	45	2	<0.000	ppb	---	-1,472.20	-1.469E-02	Pulse	0.30	3
Fe	56	45	2	3.593	ppb	0.70	25,043.61	2.498E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-225.67	-2.250E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-277.90	-4.195E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	5,491.30	8.291E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-713.94	-1.079E-02	Pulse	0.30	3
As	75	72	2	0.536	ppb	1.23	429.74	6.489E-03	Pulse	0.75	3
Se	78	72	1	3.383	ppb	8.51	1,227.88	1.463E-02	Pulse	0.30	3
Mo	95	103	2	10.985	ppb	0.82	45,777.18	2.531E-02	Pulse	0.30	3
Ag	107	103	3	1.003	ppb	0.92	45,669.08	1.075E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-8,457.39	-1.714E-03	Pulse	0.30	3
Sb	121	115	3	0.013	ppb	2.79	643.37	1.305E-04	Pulse	0.30	3
Ba	137	159	3	6.627	ppb	19.58	82,915.14	1.160E-02	Pulse	0.30	3
Tl	205	209	3	0.021	ppb	7.14	2,432.52	6.585E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-21,753.41	-5.917E-03	Pulse	0.30	3
U	238	209	3	0.300	ppb	0.98	28,278.07	7.656E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,019,492.84	1.23	90.2	Analog	0.30	3
2	Sc	45	100,257.24	1.05	94.4	Pulse	0.30	3
3	Sc	45	2,716,086.38	0.07	97.7	Analog	0.30	3
1	Ge	72	83,926.58	1.33	92.7	Pulse	0.30	3
2	Ge	72	66,231.45	1.15	90.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,808,357.04	0.65	85.1	Analog	0.30	3
3	Rh	103	4,249,792.54	0.60	85.6	Analog	0.30	3
3	In	115	4,930,178.68	0.12	89.1	Analog	0.30	3
3	Tb	159	7,148,726.56	0.63	90.9	Analog	0.30	3
3	Bi	209	3,693,557.65	0.56	82.6	Analog	0.30	3

Quantitation Report

File Name	A0308033.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:16
Sample Name	N018845-005B,SAMP,500
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	6.67	5.580E-06	Pulse	0.30	3
B	11	6	3	9.539	ppb	1.68	73,388.13	6.175E-02	Pulse	0.30	3
Na	23	45	2	1348.143	ppb	1.22	1,811,416.93	1.589E+01	Analog	0.30	3
Mg	26	45	2	107.745	ppb	1.30	12,109.26	1.062E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	199.91	1.758E-03	Pulse	0.30	3
K	39	45	2	37.348	ppb	4.97	43,622.13	3.827E-01	Pulse	0.30	3
Ca	44	45	3	939.656	ppb	0.77	1,395,974.08	4.671E-01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	530.03	4.645E-03	Pulse	0.30	3
Cr	52	45	2	83.645	ppb	0.61	670,591.96	5.883E+00	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	34.85	3.050E-04	Pulse	0.30	3
Fe	56	45	2	0.061	ppb	13.97	4,214.17	3.697E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	57.74	26.03	2.271E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	64.29	8.160E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,922.54	1.896E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	268.19	3.408E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	260.38	11.96	1.525E-04	Pulse	0.75	3
Se	78	72	1	0.054	ppb	48.70	22.22	2.327E-04	Pulse	0.30	3
Mo	95	103	2	0.175	ppb	3.44	904.51	4.153E-04	Pulse	0.30	3
Ag	107	103	3	0.048	ppb	83.83	13,437.94	2.630E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-319.99	-5.605E-05	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	290.01	5.081E-05	Pulse	0.30	3
Ba	137	159	3	0.028	ppb	17.24	707.60	9.004E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	933.40	2.100E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-175.68	-3.952E-05	Pulse	0.30	3
U	238	209	3	0.002	ppb	15.26	368.45	8.289E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,188,286.30	0.95	105.2	Analog	0.30	3
2	Sc	45	114,006.14	2.20	107.4	Pulse	0.30	3
3	Sc	45	2,988,576.17	0.58	107.5	Analog	0.30	3
1	Ge	72	95,758.69	0.82	105.8	Pulse	0.30	3
2	Ge	72	78,694.07	0.95	107.6	Pulse	0.30	3
2	Rh	103	2,177,798.42	1.78	102.5	Analog	0.30	3
3	Rh	103	5,109,758.81	0.24	102.9	Analog	0.30	3
3	In	115	5,709,096.18	0.50	103.2	Analog	0.30	3
3	Tb	159	7,856,822.31	0.43	99.9	Analog	0.30	3
3	Bi	209	4,445,032.68	0.30	99.4	Analog	0.30	3

Quantitation Report

File Name	A0308034.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:22
Sample Name	RINSE,RINSE,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.55	1.316E-05	Pulse	0.30	3
B	11	6	3	6.513	ppb	1.50	55,275.96	4.678E-02	Pulse	0.30	3
Na	23	45	2	71.185	ppb	10.47	204,685.95	1.803E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	65.56	5.745E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	173.34	1.527E-03	Pulse	0.30	3
K	39	45	2	5.626	ppb	45.74	28,245.71	2.488E-01	Pulse	0.30	3
Ca	44	45	3	2.138	ppb	34.77	9,791.01	3.318E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	441.14	3.886E-03	Pulse	0.30	3
Cr	52	45	2	1.896	ppb	5.93	15,325.18	1.350E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	53.96	4.753E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	3,319.03	2.923E-02	Pulse	0.30	3
Co	59	45	2	0.000	ppb	111.92	8.68	7.643E-05	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	72.01	9.264E-04	Pulse	0.30	3
Cu	63	72	2	0.020	ppb	257.83	16,467.33	2.116E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	240.28	3.089E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	227.20	12.44	1.603E-04	Pulse	0.75	3
Se	78	72	1	0.005	ppb	86.60	2.22	2.275E-05	Pulse	0.30	3
Mo	95	103	2	0.026	ppb	30.65	160.01	7.297E-05	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,878.54	1.727E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-11.88	-2.106E-06	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	273.35	4.856E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	74.87	9.594E-06	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	790.05	1.793E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	308.29	6.994E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	40.75	9.243E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,181,755.74	1.13	104.6	Analog	0.30	3
2	Sc	45	113,599.97	2.03	107.0	Pulse	0.30	3
3	Sc	45	2,950,507.01	0.93	106.1	Analog	0.30	3
1	Ge	72	97,414.73	0.43	107.6	Pulse	0.30	3
2	Ge	72	77,811.94	0.85	106.4	Pulse	0.30	3
2	Rh	103	2,197,972.88	1.39	103.5	Analog	0.30	3
3	Rh	103	5,140,862.01	0.20	103.6	Analog	0.30	3
3	In	115	5,629,443.94	0.43	101.8	Analog	0.30	3
3	Tb	159	7,804,741.27	0.20	99.2	Analog	0.30	3
3	Bi	209	4,405,136.39	0.59	98.5	Analog	0.30	3

Quantitation Report

File Name	A0308035.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:28
Sample Name	RINSE,RINSE,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	18.89	1.617E-05	Pulse	0.30	3
B	11	6	3	5.755	ppb	1.99	50,239.29	4.302E-02	Pulse	0.30	3
Na	23	45	2	69.447	ppb	15.91	197,482.75	1.784E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	51.11	4.607E-04	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	135.56	1.222E-03	Pulse	0.30	3
K	39	45	2	4.512	ppb	58.47	27,031.68	2.441E-01	Pulse	0.30	3
Ca	44	45	3	7.538	ppb	159.30	17,304.32	5.989E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	448.92	4.050E-03	Pulse	0.30	3
Cr	52	45	2	1.422	ppb	9.82	11,258.51	1.017E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	38.41	3.471E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,575.32	2.326E-02	Pulse	0.30	3
Co	59	45	2	0.003	ppb	6.88	47.57	4.296E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	96.46	1.249E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	15,686.77	2.035E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	213.65	2.770E-03	Pulse	0.30	3
As	75	72	2	0.005	ppb	46.23	13.78	1.787E-04	Pulse	0.75	3
Se	78	72	1	0.005	ppb	86.61	2.22	2.282E-05	Pulse	0.30	3
Mo	95	103	2	0.019	ppb	41.57	122.23	5.669E-05	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,734.06	1.537E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13.39	-2.397E-06	Pulse	0.30	3
Sb	121	115	3	<0.000	ppb	---	245.57	4.395E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-9.35	-1.195E-06	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	796.72	1.795E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	322.75	7.271E-05	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	33.20	7.478E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,167,732.51	0.17	103.4	Analog	0.30	3
2	Sc	45	110,809.84	1.94	104.3	Pulse	0.30	3
3	Sc	45	2,889,926.69	0.04	103.9	Analog	0.30	3
1	Ge	72	96,578.83	1.46	106.7	Pulse	0.30	3
2	Ge	72	77,077.31	1.33	105.3	Pulse	0.30	3
2	Rh	103	2,157,494.69	0.94	101.6	Analog	0.30	3
3	Rh	103	5,031,488.78	0.26	101.4	Analog	0.30	3
3	In	115	5,588,038.57	0.33	101.0	Analog	0.30	3
3	Tb	159	7,778,321.27	0.59	98.9	Analog	0.30	3
3	Bi	209	4,439,085.32	0.17	99.2	Analog	0.30	3

Quantitation Report

File Name	A0308036.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:46
Sample Name	N018845-009B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.56	1.380E-05	Pulse	0.30	3
B	11	6	3	61.654	ppb	1.30	359,335.17	3.197E-01	Pulse	0.30	3
Na	23	45	2	54992.162	ppb	1.06	61,009,606.87	6.077E+02	Analog	0.30	3
Mg	26	45	2	1183.977	ppb	1.33	115,350.74	1.149E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	871.89	8.676E-03	Pulse	0.30	3
K	39	45	2	901.408	ppb	0.46	404,775.13	4.032E+00	Pulse	0.30	3
Ca	44	45	3	18644.428	ppb	0.61	26,591,697.66	9.226E+00	Analog	0.30	3
V	51	45	2	0.124	ppb	3.24	1,231.21	1.226E-02	Pulse	0.30	3
Cr	52	45	2	0.710	ppb	10.16	5,171.64	5.160E-02	Pulse	0.30	3
Mn	55	45	2	15.736	ppb	1.15	62,016.03	6.176E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,887.53	2.885E-02	Pulse	0.30	3
Co	59	45	2	0.007	ppb	35.85	102.27	1.012E-03	Pulse	0.30	3
Ni	60	72	2	0.058	ppb	15.55	266.30	3.997E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,061.06	1.658E-01	Pulse	0.30	3
Zn	66	72	2	2.059	ppb	2.39	3,156.17	4.733E-02	Pulse	0.30	3
As	75	72	2	0.065	ppb	9.47	59.65	8.950E-04	Pulse	0.75	3
Se	78	72	1	0.032	ppb	63.07	11.11	1.376E-04	Pulse	0.30	3
Mo	95	103	2	1.065	ppb	2.55	4,567.50	2.465E-03	Pulse	0.30	3
Ag	107	103	3	0.435	ppb	16.02	27,562.94	5.919E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-12,032.07	-2.271E-03	Pulse	0.30	3
Sb	121	115	3	0.013	ppb	26.85	707.82	1.336E-04	Pulse	0.30	3
Ba	137	159	3	5.480	ppb	0.96	72,048.25	9.602E-03	Pulse	0.30	3
Tl	205	209	3	0.102	ppb	1.18	8,278.18	2.085E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-23,862.73	-6.011E-03	Pulse	0.30	3
U	238	209	3	0.069	ppb	1.80	7,026.67	1.770E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,124,027.01	0.53	99.5	Analog	0.30	3
2	Sc	45	100,407.09	2.94	94.6	Pulse	0.30	3
3	Sc	45	2,882,361.52	0.55	103.6	Analog	0.30	3
1	Ge	72	81,130.24	1.18	89.6	Pulse	0.30	3
2	Ge	72	66,666.51	1.84	91.1	Pulse	0.30	3
2	Rh	103	1,852,266.17	2.27	87.2	Analog	0.30	3
3	Rh	103	4,656,406.32	0.51	93.8	Analog	0.30	3
3	In	115	5,298,894.12	0.29	95.8	Analog	0.30	3
3	Tb	159	7,503,894.19	0.41	95.4	Analog	0.30	3
3	Bi	209	3,969,933.17	0.93	88.7	Analog	0.30	3

Quantitation Report

File Name	A0308037.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:51
Sample Name	N018845-009B-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.091	ppb	1.08	11,084.02	1.139E-02	Pulse	0.30	3
B	11	6	3	584.464	ppb	0.38	2,829,959.18	2.907E+00	Analog	0.30	3
Na	23	45	2	252393.949	ppb	1.01	276,031,173.67	2.786E+03	Analog	0.30	3
Mg	26	45	2	5472.326	ppb	1.15	525,625.79	5.305E+00	Pulse	0.30	3
Al	27	45	2	41.517	ppb	3.97	9,352.80	9.441E-02	Pulse	0.30	3
K	39	45	2	4378.732	ppb	1.59	1,854,489.61	1.872E+01	Analog	0.30	3
Ca	44	45	3	87390.685	ppb	0.18	117,721,504.91	4.324E+01	Analog	0.30	3
V	51	45	2	2.571	ppb	1.33	14,651.47	1.479E-01	Pulse	0.30	3
Cr	52	45	2	3.161	ppb	1.94	22,193.80	2.240E-01	Pulse	0.30	3
Mn	55	45	2	93.005	ppb	0.87	361,447.99	3.648E+00	Pulse	0.30	3
Fe	56	45	2	17.207	ppb	0.66	106,038.77	1.070E+00	Pulse	0.30	3
Co	59	45	2	1.743	ppb	1.02	21,924.51	2.212E-01	Pulse	0.30	3
Ni	60	72	2	2.146	ppb	2.67	6,325.53	9.970E-02	Pulse	0.30	3
Cu	63	72	2	1.030	ppb	5.60	21,668.68	3.416E-01	Pulse	0.30	3
Zn	66	72	2	26.507	ppb	3.28	32,655.65	5.148E-01	Pulse	0.30	3
As	75	72	2	2.331	ppb	0.97	1,763.44	2.779E-02	Pulse	0.75	3
Se	78	72	1	2.105	ppb	4.94	716.71	9.104E-03	Pulse	0.30	3
Mo	95	103	2	7.320	ppb	1.38	28,668.64	1.687E-02	Pulse	0.30	3
Ag	107	103	3	1.453	ppb	4.70	59,816.34	1.457E-02	Pulse	0.30	3
Cd	111	115	3	1.834	ppb	3.74	14,920.79	3.139E-03	Pulse	0.30	3
Sb	121	115	3	2.059	ppb	0.46	59,828.74	1.258E-02	Pulse	0.30	3
Ba	137	159	3	51.608	ppb	0.21	622,380.91	9.009E-02	Pulse	0.30	3
Tl	205	209	3	1.712	ppb	0.71	105,920.38	3.051E-02	Pulse	0.30	3
Pb	208	209	3	1.973	ppb	0.24	163,996.26	4.724E-02	Pulse	0.30	3
U	238	209	3	2.745	ppb	0.10	242,245.81	6.978E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	973,390.14	0.80	86.2	Analog	0.30	3
2	Sc	45	99,095.60	1.14	93.3	Pulse	0.30	3
3	Sc	45	2,722,818.85	0.41	97.9	Analog	0.30	3
1	Ge	72	78,732.20	0.59	87.0	Pulse	0.30	3
2	Ge	72	63,460.46	2.19	86.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,699,107.39	0.63	80.0	Analog	0.30	3
3	Rh	103	4,105,222.96	0.73	82.7	Analog	0.30	3
3	In	115	4,754,348.48	0.87	86.0	Analog	0.30	3
3	Tb	159	6,908,620.73	0.49	87.8	Analog	0.30	3
3	Bi	209	3,471,704.74	0.79	77.6	Analog	0.30	3

Quantitation Report

File Name	A0308038.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 14:57
Sample Name	N018845-009B-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.100	ppb	1.55	11,059.58	1.144E-02	Pulse	0.30	3
B	11	6	3	607.633	ppb	1.93	2,921,991.64	3.022E+00	Analog	0.30	3
Na	23	45	2	263882.263	ppb	0.83	290,648,500.11	2.912E+03	Analog	0.30	3
Mg	26	45	2	5716.479	ppb	0.38	552,979.31	5.541E+00	Pulse	0.30	3
Al	27	45	2	38.870	ppb	2.08	8,894.25	8.914E-02	Pulse	0.30	3
K	39	45	2	4615.618	ppb	0.92	1,967,650.56	1.972E+01	Analog	0.30	3
Ca	44	45	3	91339.621	ppb	0.26	124,253,319.26	4.519E+01	Analog	0.30	3
V	51	45	2	2.635	ppb	0.84	15,109.60	1.514E-01	Pulse	0.30	3
Cr	52	45	2	3.469	ppb	1.47	24,513.20	2.456E-01	Pulse	0.30	3
Mn	55	45	2	97.704	ppb	1.44	382,424.32	3.832E+00	Pulse	0.30	3
Fe	56	45	2	18.998	ppb	1.64	117,566.88	1.178E+00	Pulse	0.30	3
Co	59	45	2	1.796	ppb	1.86	22,749.51	2.280E-01	Pulse	0.30	3
Ni	60	72	2	2.244	ppb	1.68	6,678.23	1.042E-01	Pulse	0.30	3
Cu	63	72	2	0.966	ppb	7.18	21,364.01	3.334E-01	Pulse	0.30	3
Zn	66	72	2	27.132	ppb	0.55	33,767.86	5.267E-01	Pulse	0.30	3
As	75	72	2	2.293	ppb	2.85	1,751.80	2.734E-02	Pulse	0.75	3
Se	78	72	1	2.189	ppb	5.12	742.27	9.469E-03	Pulse	0.30	3
Mo	95	103	2	7.723	ppb	1.73	30,385.22	1.780E-02	Pulse	0.30	3
Ag	107	103	3	1.684	ppb	0.61	68,219.93	1.654E-02	Pulse	0.30	3
Cd	111	115	3	1.860	ppb	2.26	15,216.54	3.183E-03	Pulse	0.30	3
Sb	121	115	3	2.059	ppb	1.05	60,166.71	1.258E-02	Pulse	0.30	3
Ba	137	159	3	53.292	ppb	0.53	646,793.23	9.303E-02	Pulse	0.30	3
Tl	205	209	3	1.791	ppb	1.80	111,155.74	3.190E-02	Pulse	0.30	3
Pb	208	209	3	2.012	ppb	0.24	167,883.04	4.818E-02	Pulse	0.30	3
U	238	209	3	2.806	ppb	1.11	248,578.45	7.133E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	966,917.78	0.18	85.6	Analog	0.30	3
2	Sc	45	99,793.86	1.05	94.0	Pulse	0.30	3
3	Sc	45	2,749,677.25	1.12	98.9	Analog	0.30	3
1	Ge	72	78,417.05	1.24	86.6	Pulse	0.30	3
2	Ge	72	64,108.52	2.44	87.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,706,509.92	1.89	80.4	Analog	0.30	3
3	Rh	103	4,125,648.58	0.72	83.1	Analog	0.30	3
3	In	115	4,780,767.86	0.80	86.4	Analog	0.30	3
3	Tb	159	6,953,109.48	1.34	88.4	Analog	0.30	3
3	Bi	209	3,484,595.72	0.87	77.9	Analog	0.30	3

Quantitation Report

File Name	A0308039.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:03
Sample Name	CCV2,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.595	ppb	0.62	113,870.65	1.011E-01	Pulse	0.30	3
B	11	6	3	206.301	ppb	2.05	1,166,274.28	1.036E+00	Analog	0.30	3
Na	23	45	2	340.609	ppb	3.38	503,317.98	4.775E+00	Pulse	0.30	3
Mg	26	45	2	194.916	ppb	0.88	20,105.98	1.907E-01	Pulse	0.30	3
Al	27	45	2	16.316	ppb	5.15	4,666.62	4.425E-02	Pulse	0.30	3
K	39	45	2	203.444	ppb	3.34	114,266.69	1.084E+00	Pulse	0.30	3
Ca	44	45	3	196.454	ppb	0.12	271,247.24	9.945E-02	Pulse	0.30	3
V	51	45	2	18.718	ppb	0.76	109,929.60	1.043E+00	Pulse	0.30	3
Cr	52	45	2	18.662	ppb	0.90	138,498.58	1.314E+00	Pulse	0.30	3
Mn	55	45	2	19.043	ppb	1.67	78,775.20	7.473E-01	Pulse	0.30	3
Fe	56	45	2	18.872	ppb	0.95	123,392.89	1.170E+00	Pulse	0.30	3
Co	59	45	2	18.480	ppb	1.65	247,131.04	2.344E+00	Pulse	0.30	3
Ni	60	72	2	18.817	ppb	0.82	61,590.81	8.641E-01	Pulse	0.30	3
Cu	63	72	2	18.856	ppb	1.50	187,815.59	2.635E+00	Pulse	0.30	3
Zn	66	72	2	18.616	ppb	1.31	25,934.18	3.639E-01	Pulse	0.30	3
As	75	72	2	18.769	ppb	1.96	15,887.40	2.229E-01	Pulse	0.75	3
Se	78	72	1	19.790	ppb	3.19	7,665.44	8.559E-02	Pulse	0.30	3
Mo	95	103	2	19.520	ppb	0.63	90,383.33	4.497E-02	Pulse	0.30	3
Ag	107	103	3	18.707	ppb	0.61	749,741.97	1.612E-01	Pulse	0.30	3
Cd	111	115	3	18.815	ppb	0.63	169,307.41	3.218E-02	Pulse	0.30	3
Sb	121	115	3	18.700	ppb	0.44	598,949.68	1.139E-01	Pulse	0.30	3
Ba	137	159	3	19.484	ppb	0.28	248,276.04	3.404E-02	Pulse	0.30	3
Tl	205	209	3	19.017	ppb	1.32	1,399,510.64	3.359E-01	Analog	0.30	3
Pb	208	209	3	18.982	ppb	0.57	1,886,571.65	4.528E-01	Analog	0.30	3
U	238	209	3	18.894	ppb	0.38	2,000,767.02	4.802E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,126,075.74	0.84	99.7	Analog	0.30	3
2	Sc	45	105,426.16	1.54	99.3	Pulse	0.30	3
3	Sc	45	2,727,540.34	0.33	98.1	Analog	0.30	3
1	Ge	72	89,564.82	0.51	98.9	Pulse	0.30	3
2	Ge	72	71,274.55	1.30	97.4	Pulse	0.30	3
2	Rh	103	2,009,935.09	1.27	94.6	Analog	0.30	3
3	Rh	103	4,652,387.67	0.19	93.7	Analog	0.30	3
3	In	115	5,260,480.88	0.21	95.1	Analog	0.30	3
3	Tb	159	7,294,303.71	0.74	92.7	Analog	0.30	3
3	Bi	209	4,166,475.15	0.95	93.1	Analog	0.30	3

Quantitation Report

File Name	A0308040.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:09
Sample Name	CCB2,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	93.03	36.67	3.218E-05	Pulse	0.30	3
B	11	6	3	16.017	ppb	2.41	106,510.92	9.382E-02	Pulse	0.30	3
Na	23	45	2	114.256	ppb	14.67	238,246.29	2.278E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	131.12	1.250E-03	Pulse	0.30	3
Al	27	45	2	0.067	ppb	414.13	1,247.87	1.191E-02	Pulse	0.30	3
K	39	45	2	10.989	ppb	32.96	28,400.61	2.714E-01	Pulse	0.30	3
Ca	44	45	3	1.426	ppb	6.89	8,207.91	2.965E-03	Pulse	0.30	3
V	51	45	2	0.019	ppb	32.22	672.27	6.419E-03	Pulse	0.30	3
Cr	52	45	2	0.258	ppb	14.83	2,076.63	1.987E-02	Pulse	0.30	3
Mn	55	45	2	0.002	ppb	117.80	71.70	6.827E-04	Pulse	0.30	3
Fe	56	45	2	0.027	ppb	29.94	3,660.49	3.495E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	4.19	4.005E-05	Pulse	0.30	3
Ni	60	72	2	0.001	ppb	738.91	97.52	1.366E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,892.78	2.085E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	531.32	7.441E-03	Pulse	0.30	3
As	75	72	2	0.003	ppb	95.59	11.56	1.617E-04	Pulse	0.75	3
Se	78	72	1	0.014	ppb	35.12	5.56	6.267E-05	Pulse	0.30	3
Mo	95	103	2	0.082	ppb	7.32	411.14	2.029E-04	Pulse	0.30	3
Ag	107	103	3	0.613	ppb	16.78	35,584.60	7.435E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20.74	-3.871E-06	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	2.81	1,226.77	2.290E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	266.02	3.533E-05	Pulse	0.30	3
Tl	205	209	3	0.039	ppb	2.25	4,180.76	9.767E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	535.96	1.252E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	26.57	277.50	6.480E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,135,399.00	1.91	100.5	Analog	0.30	3
2	Sc	45	104,728.18	2.61	98.6	Pulse	0.30	3
3	Sc	45	2,767,753.81	0.50	99.5	Analog	0.30	3
1	Ge	72	88,784.22	0.59	98.1	Pulse	0.30	3
2	Ge	72	71,417.71	0.99	97.6	Pulse	0.30	3
2	Rh	103	2,025,804.14	0.56	95.4	Analog	0.30	3
3	Rh	103	4,787,892.05	0.51	96.4	Analog	0.30	3
3	In	115	5,356,829.06	0.26	96.9	Analog	0.30	3
3	Tb	159	7,527,026.97	0.53	95.7	Analog	0.30	3
3	Bi	209	4,280,865.84	1.09	95.7	Analog	0.30	3

Quantitation Report

File Name	A0308041.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:14
Sample Name	N018845-009B-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.064	ppb	2.58	10,518.11	1.124E-02	Pulse	0.30	3
B	11	6	3	598.900	ppb	1.81	2,788,052.23	2.979E+00	Analog	0.30	3
Na	23	45	2	261887.209	ppb	1.16	280,817,931.37	2.890E+03	Analog	0.30	3
Mg	26	45	2	5666.321	ppb	1.07	533,636.78	5.493E+00	Pulse	0.30	3
Al	27	45	2	38.385	ppb	1.95	8,568.23	8.817E-02	Pulse	0.30	3
K	39	45	2	4573.261	ppb	0.92	1,898,275.18	1.954E+01	Analog	0.30	3
Ca	44	45	3	90982.921	ppb	0.90	118,214,377.13	4.501E+01	Analog	0.30	3
V	51	45	2	2.643	ppb	0.05	14,755.98	1.519E-01	Pulse	0.30	3
Cr	52	45	2	3.299	ppb	1.91	22,697.93	2.336E-01	Pulse	0.30	3
Mn	55	45	2	96.762	ppb	1.12	368,714.43	3.795E+00	Pulse	0.30	3
Fe	56	45	2	18.673	ppb	0.14	112,559.64	1.158E+00	Pulse	0.30	3
Co	59	45	2	1.790	ppb	1.74	22,077.38	2.272E-01	Pulse	0.30	3
Ni	60	72	2	2.247	ppb	2.58	6,578.97	1.044E-01	Pulse	0.30	3
Cu	63	72	2	1.070	ppb	8.22	21,863.19	3.468E-01	Pulse	0.30	3
Zn	66	72	2	26.640	ppb	1.96	32,613.68	5.173E-01	Pulse	0.30	3
As	75	72	2	2.311	ppb	5.74	1,737.19	2.756E-02	Pulse	0.75	3
Se	78	72	1	2.022	ppb	14.68	672.26	8.745E-03	Pulse	0.30	3
Mo	95	103	2	7.593	ppb	1.90	29,432.26	1.750E-02	Pulse	0.30	3
Ag	107	103	3	1.505	ppb	3.23	59,855.59	1.501E-02	Pulse	0.30	3
Cd	111	115	3	1.848	ppb	0.39	14,863.51	3.162E-03	Pulse	0.30	3
Sb	121	115	3	2.060	ppb	0.69	59,167.24	1.259E-02	Pulse	0.30	3
Ba	137	159	3	52.472	ppb	0.84	629,196.50	9.160E-02	Pulse	0.30	3
Tl	205	209	3	1.743	ppb	1.23	107,685.10	3.106E-02	Pulse	0.30	3
Pb	208	209	3	1.987	ppb	0.11	164,912.94	4.757E-02	Pulse	0.30	3
U	238	209	3	2.780	ppb	0.86	245,037.33	7.068E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	936,098.42	1.13	82.9	Analog	0.30	3
2	Sc	45	97,162.32	1.45	91.5	Pulse	0.30	3
3	Sc	45	2,626,390.15	0.87	94.4	Analog	0.30	3
1	Ge	72	76,796.35	2.93	84.8	Pulse	0.30	3
2	Ge	72	63,046.54	1.17	86.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,682,126.81	1.86	79.2	Analog	0.30	3
3	Rh	103	3,987,837.92	0.43	80.3	Analog	0.30	3
3	In	115	4,700,415.41	0.84	85.0	Analog	0.30	3
3	Tb	159	6,869,611.15	0.76	87.3	Analog	0.30	3
3	Bi	209	3,466,612.24	0.54	77.5	Analog	0.30	3

Quantitation Report

File Name	A0308042.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:20
Sample Name	N018845-010B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	204.41	26.67	2.530E-05	Pulse	0.30	3
B	11	6	3	204.514	ppb	0.90	1,079,955.12	1.027E+00	Analog	0.30	3
Na	23	45	2	61719.855	ppb	1.41	68,467,925.09	6.820E+02	Analog	0.30	3
Mg	26	45	2	1044.111	ppb	1.25	101,769.04	1.014E+00	Pulse	0.30	3
Al	27	45	2	7.265	ppb	6.45	2,633.51	2.624E-02	Pulse	0.30	3
K	39	45	2	922.389	ppb	1.32	413,668.89	4.120E+00	Pulse	0.30	3
Ca	44	45	3	4804.529	ppb	0.45	6,281,490.60	2.379E+00	Analog	0.30	3
V	51	45	2	0.194	ppb	12.00	1,619.04	1.611E-02	Pulse	0.30	3
Cr	52	45	2	0.223	ppb	6.74	1,745.57	1.739E-02	Pulse	0.30	3
Mn	55	45	2	45.832	ppb	1.32	180,500.78	1.798E+00	Pulse	0.30	3
Fe	56	45	2	8.835	ppb	1.13	56,794.23	5.657E-01	Pulse	0.30	3
Co	59	45	2	0.005	ppb	77.78	69.44	6.858E-04	Pulse	0.30	3
Ni	60	72	2	0.052	ppb	12.56	250.85	3.704E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	10,715.49	1.582E-01	Pulse	0.30	3
Zn	66	72	2	0.135	ppb	82.15	716.09	1.055E-02	Pulse	0.30	3
As	75	72	2	3.016	ppb	2.74	2,432.80	3.592E-02	Pulse	0.75	3
Se	78	72	1	0.030	ppb	33.81	11.11	1.300E-04	Pulse	0.30	3
Mo	95	103	2	8.235	ppb	0.98	35,201.70	1.898E-02	Pulse	0.30	3
Ag	107	103	3	0.177	ppb	12.96	16,247.07	3.724E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-12,628.47	-2.511E-03	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	13.79	745.60	1.482E-04	Pulse	0.30	3
Ba	137	159	3	5.860	ppb	2.04	74,578.81	1.027E-02	Pulse	0.30	3
Tl	205	209	3	0.066	ppb	2.25	5,711.33	1.458E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-24,156.42	-6.165E-03	Pulse	0.30	3
U	238	209	3	0.109	ppb	0.78	10,968.04	2.799E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,051,809.88	0.48	93.1	Analog	0.30	3
2	Sc	45	100,412.61	1.78	94.6	Pulse	0.30	3
3	Sc	45	2,640,252.44	0.41	94.9	Analog	0.30	3
1	Ge	72	85,266.71	1.30	94.2	Pulse	0.30	3
2	Ge	72	67,746.15	1.73	92.6	Pulse	0.30	3
2	Rh	103	1,854,561.31	1.45	87.3	Analog	0.30	3
3	Rh	103	4,363,370.32	0.39	87.9	Analog	0.30	3
3	In	115	5,030,127.94	0.49	90.9	Analog	0.30	3
3	Tb	159	7,265,718.64	0.46	92.4	Analog	0.30	3
3	Bi	209	3,918,296.19	0.57	87.6	Analog	0.30	3

Quantitation Report

File Name	A0308043.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:25
Sample Name	N018855-001B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	11.11	1.308E-05	Pulse	0.30	3
B	11	6	3	381.712	ppb	0.70	1,615,462.01	1.904E+00	Analog	0.30	3
Na	23	45	2	776124.572	ppb	0.93	798,638,050.32	8.564E+03	Analog	0.30	3
Mg	26	45	2	597.279	ppb	1.75	54,140.90	5.806E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	630.19	6.756E-03	Pulse	0.30	3
K	39	45	2	6598.466	ppb	0.82	2,619,627.90	2.809E+01	Analog	0.30	3
Ca	44	45	3	18650.191	ppb	0.83	22,458,564.39	9.229E+00	Analog	0.30	3
V	51	45	2	0.575	ppb	7.89	3,476.07	3.725E-02	Pulse	0.30	3
Cr	52	45	2	3.742	ppb	2.95	24,689.23	2.648E-01	Pulse	0.30	3
Mn	55	45	2	2.950	ppb	2.73	10,838.14	1.163E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-54,113.00	-5.802E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-756.41	-8.111E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-541.05	-9.254E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-7,804.48	-1.335E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,931.40	-3.304E-02	Pulse	0.30	3
As	75	72	2	0.464	ppb	7.96	328.74	5.627E-03	Pulse	0.75	3
Se	78	72	1	0.154	ppb	34.75	47.78	6.669E-04	Pulse	0.30	3
Mo	95	103	2	37.630	ppb	1.15	132,673.09	8.668E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,841.32	2.196E-03	Pulse	0.30	3
Cd	111	115	3	0.025	ppb	20.15	185.20	4.420E-05	Pulse	0.30	3
Sb	121	115	3	0.021	ppb	4.77	750.05	1.788E-04	Pulse	0.30	3
Ba	137	159	3	6.071	ppb	1.34	64,946.03	1.063E-02	Pulse	0.30	3
Tl	205	209	3	0.114	ppb	1.38	6,850.71	2.301E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,544.38	-1.527E-03	Pulse	0.30	3
U	238	209	3	0.015	ppb	10.00	1,223.57	4.113E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	848,551.97	0.70	75.1	Analog	0.30	3
2	Sc	45	93,272.48	2.52	87.8	Pulse	0.30	3
3	Sc	45	2,433,590.75	1.12	87.5	Analog	0.30	3
1	Ge	72	71,693.58	0.38	79.2	Pulse	0.30	3
2	Ge	72	58,465.30	1.93	79.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,530,470.62	0.97	72.1	Analog	0.30	3
3	Rh	103	3,569,512.69	1.16	71.9	Analog	0.30	3
3	In	115	4,194,974.74	1.25	75.8	Analog	0.30	3
3	Tb	159	6,108,381.16	1.26	77.7	Analog	0.30	3
3	Bi	209	2,976,798.98	1.21	66.5	Analog	0.30	3

Quantitation Report

File Name	A0308044.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:31
Sample Name	N018855-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	8.689E-06	Pulse	0.30	3
B	11	6	3	367.218	ppb	1.16	1,641,139.33	1.832E+00	Analog	0.30	3
Na	23	45	2	560091.742	ppb	1.05	578,714,884.71	6.180E+03	Analog	0.30	3
Mg	26	45	2	1819.353	ppb	1.13	165,235.62	1.765E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	351.32	3.751E-03	Pulse	0.30	3
K	39	45	2	5220.629	ppb	0.55	2,085,489.64	2.227E+01	Analog	0.30	3
Ca	44	45	3	18380.873	ppb	0.99	23,190,018.54	9.095E+00	Analog	0.30	3
V	51	45	2	0.220	ppb	8.60	1,644.60	1.758E-02	Pulse	0.30	3
Cr	52	45	2	6.850	ppb	0.98	45,253.05	4.833E-01	Pulse	0.30	3
Mn	55	45	2	7.413	ppb	1.80	27,268.47	2.913E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-23,561.16	-2.517E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-445.30	-4.756E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-133.15	-2.210E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-5,426.94	-8.991E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-386.02	-6.396E-03	Pulse	0.30	3
As	75	72	2	0.389	ppb	6.91	285.73	4.739E-03	Pulse	0.75	3
Se	78	72	1	0.014	ppb	86.60	4.45	6.175E-05	Pulse	0.30	3
Mo	95	103	2	14.545	ppb	1.15	52,592.49	3.351E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,777.36	1.256E-03	Pulse	0.30	3
Cd	111	115	3	0.002	ppb	256.80	21.57	4.842E-06	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	6.07	1,171.20	2.649E-04	Pulse	0.30	3
Ba	137	159	3	3.605	ppb	1.04	40,647.64	6.330E-03	Pulse	0.30	3
Tl	205	209	3	0.063	ppb	5.36	4,421.95	1.399E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,128.79	-1.306E-03	Pulse	0.30	3
U	238	209	3	1.069	ppb	1.07	85,913.69	2.718E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	895,796.29	0.32	79.3	Analog	0.30	3
2	Sc	45	93,644.40	2.29	88.2	Pulse	0.30	3
3	Sc	45	2,549,851.79	1.34	91.7	Analog	0.30	3
1	Ge	72	71,898.64	0.38	79.4	Pulse	0.30	3
2	Ge	72	60,392.33	3.54	82.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,569,196.33	1.16	73.9	Analog	0.30	3
3	Rh	103	3,802,575.78	0.72	76.6	Analog	0.30	3
3	In	115	4,422,318.96	0.90	80.0	Analog	0.30	3
3	Tb	159	6,421,551.36	0.54	81.6	Analog	0.30	3
3	Bi	209	3,160,901.17	0.84	70.7	Analog	0.30	3

Quantitation Report

File Name	A0308045.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:37
Sample Name	N018855-003B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	8.407E-06	Pulse	0.30	3
B	11	6	3	342.059	ppb	1.07	1,580,023.88	1.708E+00	Analog	0.30	3
Na	23	45	2	473120.021	ppb	1.71	508,629,250.20	5.221E+03	Analog	0.30	3
Mg	26	45	2	1273.699	ppb	1.22	120,432.15	1.236E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	545.80	5.596E-03	Pulse	0.30	3
K	39	45	2	3766.217	ppb	1.66	1,571,418.54	1.613E+01	Analog	0.30	3
Ca	44	45	3	19909.849	ppb	0.26	25,793,738.23	9.852E+00	Analog	0.30	3
V	51	45	2	1.317	ppb	0.99	7,635.41	7.835E-02	Pulse	0.30	3
Cr	52	45	2	5.959	ppb	2.14	40,980.32	4.207E-01	Pulse	0.30	3
Mn	55	45	2	1.171	ppb	2.63	4,531.87	4.652E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,770.69	-3.056E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-481.98	-4.951E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-181.60	-2.902E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-2,948.41	-4.720E-02	Pulse	0.30	3
Zn	66	72	2	0.005	ppb	2409.71	504.15	8.077E-03	Pulse	0.30	3
As	75	72	2	1.218	ppb	2.73	910.79	1.458E-02	Pulse	0.75	3
Se	78	72	1	0.037	ppb	69.10	12.22	1.591E-04	Pulse	0.30	3
Mo	95	103	2	19.051	ppb	1.83	71,567.51	4.389E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,402.57	1.126E-03	Pulse	0.30	3
Cd	111	115	3	0.009	ppb	39.17	78.20	1.727E-05	Pulse	0.30	3
Sb	121	115	3	0.007	ppb	6.75	445.58	9.831E-05	Pulse	0.30	3
Ba	137	159	3	3.832	ppb	0.88	44,103.87	6.726E-03	Pulse	0.30	3
Tl	205	209	3	0.020	ppb	7.91	2,100.24	6.441E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,115.99	-9.557E-04	Pulse	0.30	3
U	238	209	3	0.238	ppb	1.37	19,782.85	6.067E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	925,354.13	0.83	81.9	Analog	0.30	3
2	Sc	45	97,451.90	2.61	91.8	Pulse	0.30	3
3	Sc	45	2,618,150.29	0.44	94.1	Analog	0.30	3
1	Ge	72	77,143.46	1.00	85.2	Pulse	0.30	3
2	Ge	72	62,478.78	1.22	85.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,630,698.08	1.27	76.8	Analog	0.30	3
3	Rh	103	3,911,156.78	0.41	78.8	Analog	0.30	3
3	In	115	4,532,605.91	0.43	82.0	Analog	0.30	3
3	Tb	159	6,556,962.33	0.08	83.4	Analog	0.30	3
3	Bi	209	3,260,577.69	0.38	72.9	Analog	0.30	3

Quantitation Report

File Name	A0308046.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:42
Sample Name	N018855-004B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	12.22	1.311E-05	Pulse	0.30	3
B	11	6	3	324.477	ppb	1.03	1,511,677.91	1.621E+00	Analog	0.30	3
Na	23	45	2	458442.283	ppb	0.67	483,423,846.13	5.059E+03	Analog	0.30	3
Mg	26	45	2	1248.545	ppb	0.06	115,786.76	1.212E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	369.59	3.867E-03	Pulse	0.30	3
K	39	45	2	3685.879	ppb	1.56	1,509,051.82	1.579E+01	Analog	0.30	3
Ca	44	45	3	19273.099	ppb	0.88	24,956,157.41	9.537E+00	Analog	0.30	3
V	51	45	2	1.254	ppb	2.29	7,158.49	7.490E-02	Pulse	0.30	3
Cr	52	45	2	5.845	ppb	2.52	39,425.16	4.127E-01	Pulse	0.30	3
Mn	55	45	2	1.128	ppb	1.85	4,281.39	4.481E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,509.98	-3.088E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-478.44	-5.006E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-100.18	-1.607E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-3,137.86	-5.063E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	366.36	5.922E-03	Pulse	0.30	3
As	75	72	2	1.132	ppb	2.36	841.02	1.356E-02	Pulse	0.75	3
Se	78	72	1	0.034	ppb	46.83	11.11	1.465E-04	Pulse	0.30	3
Mo	95	103	2	18.255	ppb	1.63	67,672.09	4.206E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,229.58	1.083E-03	Pulse	0.30	3
Cd	111	115	3	0.004	ppb	57.37	37.74	8.344E-06	Pulse	0.30	3
Sb	121	115	3	0.004	ppb	38.73	335.57	7.423E-05	Pulse	0.30	3
Ba	137	159	3	3.712	ppb	0.90	42,410.52	6.517E-03	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	4.29	1,759.07	5.431E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,121.70	-9.637E-04	Pulse	0.30	3
U	238	209	3	0.230	ppb	0.55	18,980.76	5.860E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	932,858.42	0.44	82.6	Analog	0.30	3
2	Sc	45	95,558.55	1.33	90.0	Pulse	0.30	3
3	Sc	45	2,616,871.89	0.38	94.1	Analog	0.30	3
1	Ge	72	76,032.49	1.18	84.0	Pulse	0.30	3
2	Ge	72	62,036.52	1.78	84.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,608,885.72	1.08	75.8	Analog	0.30	3
3	Rh	103	3,905,405.39	0.49	78.7	Analog	0.30	3
3	In	115	4,520,819.51	0.40	81.7	Analog	0.30	3
3	Tb	159	6,507,427.54	0.03	82.7	Analog	0.30	3
3	Bi	209	3,239,041.55	0.41	72.4	Analog	0.30	3

Quantitation Report

File Name	A0308047.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:48
Sample Name	N018396-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.56	1.489E-05	Pulse	0.30	3
B	11	6	3	40.996	ppb	1.24	226,266.70	2.175E-01	Pulse	0.30	3
Na	23	45	2	16012.048	ppb	0.63	17,450,472.93	1.777E+02	Analog	0.30	3
Mg	26	45	2	3783.815	ppb	0.39	360,291.72	3.668E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	354.10	3.603E-03	Pulse	0.30	3
K	39	45	2	1093.827	ppb	0.66	475,775.36	4.844E+00	Pulse	0.30	3
Ca	44	45	3	21988.066	ppb	0.39	28,586,530.96	1.088E+01	Analog	0.30	3
V	51	45	2	0.913	ppb	3.07	5,496.71	5.597E-02	Pulse	0.30	3
Cr	52	45	2	58.465	ppb	0.39	403,881.79	4.112E+00	Pulse	0.30	3
Mn	55	45	2	0.150	ppb	6.28	637.02	6.487E-03	Pulse	0.30	3
Fe	56	45	2	0.644	ppb	0.56	7,082.90	7.211E-02	Pulse	0.30	3
Co	59	45	2	0.013	ppb	7.90	164.98	1.679E-03	Pulse	0.30	3
Ni	60	72	2	0.527	ppb	9.19	1,753.79	2.547E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,161.52	1.620E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	373.94	5.446E-03	Pulse	0.30	3
As	75	72	2	0.187	ppb	11.58	161.15	2.341E-03	Pulse	0.75	3
Se	78	72	1	0.218	ppb	12.83	84.45	9.416E-04	Pulse	0.30	3
Mo	95	103	2	0.696	ppb	4.45	2,945.95	1.617E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	7,121.55	1.667E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-3,290.06	-6.726E-04	Pulse	0.30	3
Sb	121	115	3	0.009	ppb	18.72	515.59	1.054E-04	Pulse	0.30	3
Ba	137	159	3	30.186	ppb	0.38	366,343.28	5.271E-02	Pulse	0.30	3
Tl	205	209	3	0.005	ppb	18.26	1,480.14	3.881E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-7,051.21	-1.848E-03	Pulse	0.30	3
U	238	209	3	4.030	ppb	1.02	390,795.43	1.024E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,040,633.07	1.15	92.1	Analog	0.30	3
2	Sc	45	98,218.07	1.12	92.5	Pulse	0.30	3
3	Sc	45	2,627,480.69	0.51	94.5	Analog	0.30	3
1	Ge	72	89,695.82	0.20	99.1	Pulse	0.30	3
2	Ge	72	68,874.29	1.82	94.1	Pulse	0.30	3
2	Rh	103	1,821,643.88	0.67	85.8	Analog	0.30	3
3	Rh	103	4,272,784.59	0.01	86.1	Analog	0.30	3
3	In	115	4,891,689.32	0.40	88.4	Analog	0.30	3
3	Tb	159	6,950,126.98	0.30	88.4	Analog	0.30	3
3	Bi	209	3,814,630.47	0.42	85.3	Analog	0.30	3

Quantitation Report

File Name	A0308048.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:53
Sample Name	N018861-004B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	10.00	1.003E-05	Pulse	0.30	3
B	11	6	3	88.570	ppb	0.96	452,391.28	4.529E-01	Pulse	0.30	3
Na	23	45	2	139861.868	ppb	0.39	152,220,253.29	1.544E+03	Analog	0.30	3
Mg	26	45	2	432.469	ppb	1.30	41,491.78	4.209E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	908.17	9.209E-03	Pulse	0.30	3
K	39	45	2	1385.248	ppb	0.36	598,880.25	6.075E+00	Pulse	0.30	3
Ca	44	45	3	15094.091	ppb	0.98	19,424,587.76	7.469E+00	Analog	0.30	3
V	51	45	2	0.128	ppb	14.94	1,231.21	1.248E-02	Pulse	0.30	3
Cr	52	45	2	5.444	ppb	1.79	37,900.68	3.845E-01	Pulse	0.30	3
Mn	55	45	2	1.535	ppb	3.68	5,991.66	6.077E-02	Pulse	0.30	3
Fe	56	45	2	4.485	ppb	2.47	29,921.30	3.036E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-83.91	-8.533E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	54.00	8.209E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	8,879.98	1.351E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-208.05	-3.163E-03	Pulse	0.30	3
As	75	72	2	0.505	ppb	2.08	402.11	6.117E-03	Pulse	0.75	3
Se	78	72	1	0.070	ppb	39.65	24.44	3.045E-04	Pulse	0.30	3
Mo	95	103	2	3.206	ppb	1.16	12,843.36	7.396E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,774.08	1.406E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-32.18	-6.829E-06	Pulse	0.30	3
Sb	121	115	3	0.001	ppb	112.57	268.90	5.712E-05	Pulse	0.30	3
Ba	137	159	3	2.557	ppb	1.28	30,235.91	4.502E-03	Pulse	0.30	3
Tl	205	209	3	0.012	ppb	14.69	1,740.17	4.967E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-977.48	-2.790E-04	Pulse	0.30	3
U	238	209	3	0.027	ppb	2.83	2,498.16	7.131E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	998,855.46	0.40	88.4	Analog	0.30	3
2	Sc	45	98,587.21	1.37	92.8	Pulse	0.30	3
3	Sc	45	2,600,666.99	0.86	93.5	Analog	0.30	3
1	Ge	72	80,373.15	0.70	88.8	Pulse	0.30	3
2	Ge	72	65,738.34	0.88	89.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,736,393.95	0.70	81.8	Analog	0.30	3
3	Rh	103	4,107,958.38	0.21	82.8	Analog	0.30	3
3	In	115	4,708,272.01	0.49	85.1	Analog	0.30	3
3	Tb	159	6,716,577.82	0.38	85.4	Analog	0.30	3
3	Bi	209	3,503,356.61	0.32	78.3	Analog	0.30	3

Quantitation Report

File Name	A0308049.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 15:59
Sample Name	N018861-005B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo Se only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	7.506E-06	Pulse	0.30	3
B	11	6	3	50.235	ppb	0.52	272,630.43	2.632E-01	Pulse	0.30	3
Na	23	45	2	77568.179	ppb	1.09	83,975,637.64	8.568E+02	Analog	0.30	3
Mg	26	45	2	1505.821	ppb	1.12	143,191.50	1.461E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	240.19	2.450E-03	Pulse	0.30	3
K	39	45	2	676.442	ppb	0.99	302,032.46	3.082E+00	Pulse	0.30	3
Ca	44	45	3	17757.910	ppb	0.41	22,985,092.43	8.787E+00	Analog	0.30	3
V	51	45	2	0.068	ppb	10.62	893.40	9.120E-03	Pulse	0.30	3
Cr	52	45	2	2.294	ppb	6.21	15,962.89	1.630E-01	Pulse	0.30	3
Mn	55	45	2	0.723	ppb	0.71	2,836.26	2.893E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,569.57	2.624E-02	Pulse	0.30	3
Co	59	45	2	0.006	ppb	65.07	83.81	8.591E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	52.14	7.878E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	10,557.68	1.589E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	198.56	2.988E-03	Pulse	0.30	3
As	75	72	2	0.072	ppb	25.78	65.35	9.815E-04	Pulse	0.75	3
Se	78	72	1	0.213	ppb	0.91	76.67	9.207E-04	Pulse	0.30	3
Mo	95	103	2	0.987	ppb	3.29	4,058.46	2.287E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,678.93	1.350E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-15,763.49	-3.287E-03	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	28.44	396.69	8.272E-05	Pulse	0.30	3
Ba	137	159	3	1.671	ppb	1.79	20,210.43	2.956E-03	Pulse	0.30	3
Tl	205	209	3	0.008	ppb	7.62	1,591.26	4.368E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-30,716.65	-8.432E-03	Pulse	0.30	3
U	238	209	3	0.110	ppb	1.49	10,256.83	2.816E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,035,927.79	0.31	91.7	Analog	0.30	3
2	Sc	45	98,028.44	2.68	92.3	Pulse	0.30	3
3	Sc	45	2,615,756.77	0.50	94.1	Analog	0.30	3
1	Ge	72	83,277.88	0.91	92.0	Pulse	0.30	3
2	Ge	72	66,453.46	2.33	90.8	Pulse	0.30	3
2	Rh	103	1,773,970.04	1.03	83.5	Analog	0.30	3
3	Rh	103	4,205,103.96	0.60	84.7	Analog	0.30	3
3	In	115	4,795,296.69	0.14	86.7	Analog	0.30	3
3	Tb	159	6,836,366.70	0.53	86.9	Analog	0.30	3
3	Bi	209	3,642,827.03	0.59	81.4	Analog	0.30	3

Quantitation Report

File Name	A0308050.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:04
Sample Name	N018861-006B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo Se only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	8.748E-06	Pulse	0.30	3
B	11	6	3	95.834	ppb	1.16	494,476.80	4.889E-01	Pulse	0.30	3
Na	23	45	2	152417.471	ppb	1.09	162,399,219.80	1.683E+03	Analog	0.30	3
Mg	26	45	2	279.406	ppb	1.99	26,304.60	2.726E-01	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	119.61	1.238E-03	Pulse	0.30	3
K	39	45	2	1527.444	ppb	1.18	644,275.63	6.675E+00	Pulse	0.30	3
Ca	44	45	3	15607.683	ppb	0.39	19,974,798.45	7.724E+00	Analog	0.30	3
V	51	45	2	0.066	ppb	48.18	875.62	9.046E-03	Pulse	0.30	3
Cr	52	45	2	0.110	ppb	20.29	912.84	9.481E-03	Pulse	0.30	3
Mn	55	45	2	0.773	ppb	2.51	2,979.88	3.088E-02	Pulse	0.30	3
Fe	56	45	2	8.381	ppb	0.76	51,960.50	5.383E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-161.21	-1.670E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-102.35	-1.587E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	7,382.72	1.147E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-205.12	-3.186E-03	Pulse	0.30	3
As	75	72	2	0.303	ppb	7.91	239.48	3.722E-03	Pulse	0.75	3
Se	78	72	1	0.150	ppb	39.31	52.23	6.486E-04	Pulse	0.30	3
Mo	95	103	2	2.381	ppb	2.62	9,464.27	5.496E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,131.59	1.252E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-48.51	-1.029E-05	Pulse	0.30	3
Sb	121	115	3	0.001	ppb	130.19	291.12	6.180E-05	Pulse	0.30	3
Ba	137	159	3	1.843	ppb	0.79	22,048.22	3.256E-03	Pulse	0.30	3
Tl	205	209	3	0.002	ppb	27.02	1,136.76	3.211E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-1,546.76	-4.369E-04	Pulse	0.30	3
U	238	209	3	0.005	ppb	8.98	536.78	1.515E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,011,454.94	0.61	89.5	Analog	0.30	3
2	Sc	45	96,534.03	2.41	90.9	Pulse	0.30	3
3	Sc	45	2,586,307.76	1.23	93.0	Analog	0.30	3
1	Ge	72	80,196.85	1.57	88.6	Pulse	0.30	3
2	Ge	72	64,352.77	1.31	88.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,722,104.75	0.86	81.1	Analog	0.30	3
3	Rh	103	4,097,922.09	0.64	82.5	Analog	0.30	3
3	In	115	4,713,228.78	0.71	85.2	Analog	0.30	3
3	Tb	159	6,771,469.97	0.53	86.1	Analog	0.30	3
3	Bi	209	3,540,394.32	0.96	79.1	Analog	0.30	3

Quantitation Report

File Name	A0308051.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:10
Sample Name	CCV3,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.729	ppb	1.32	110,441.68	1.019E-01	Pulse	0.30	3
B	11	6	3	196.681	ppb	2.16	1,071,208.01	9.880E-01	Analog	0.30	3
Na	23	45	2	327.643	ppb	4.97	469,907.46	4.632E+00	Pulse	0.30	3
Mg	26	45	2	197.275	ppb	2.87	19,579.75	1.930E-01	Pulse	0.30	3
Al	27	45	2	16.148	ppb	11.28	4,453.26	4.392E-02	Pulse	0.30	3
K	39	45	2	205.401	ppb	1.51	110,852.56	1.092E+00	Pulse	0.30	3
Ca	44	45	3	196.730	ppb	1.01	263,649.96	9.958E-02	Pulse	0.30	3
V	51	45	2	18.541	ppb	0.38	104,838.49	1.033E+00	Pulse	0.30	3
Cr	52	45	2	18.659	ppb	0.37	133,308.12	1.314E+00	Pulse	0.30	3
Mn	55	45	2	19.129	ppb	0.57	76,184.30	7.507E-01	Pulse	0.30	3
Fe	56	45	2	19.011	ppb	0.86	119,630.49	1.179E+00	Pulse	0.30	3
Co	59	45	2	18.570	ppb	0.37	239,104.18	2.356E+00	Pulse	0.30	3
Ni	60	72	2	18.999	ppb	1.21	59,751.92	8.725E-01	Pulse	0.30	3
Cu	63	72	2	18.626	ppb	1.04	178,463.91	2.606E+00	Pulse	0.30	3
Zn	66	72	2	18.884	ppb	1.11	25,277.64	3.690E-01	Pulse	0.30	3
As	75	72	2	18.941	ppb	1.15	15,407.35	2.249E-01	Pulse	0.75	3
Se	78	72	1	18.200	ppb	0.62	6,805.02	7.872E-02	Pulse	0.30	3
Mo	95	103	2	19.306	ppb	0.54	86,482.25	4.448E-02	Pulse	0.30	3
Ag	107	103	3	18.384	ppb	1.07	726,124.48	1.584E-01	Pulse	0.30	3
Cd	111	115	3	18.958	ppb	0.47	166,707.17	3.243E-02	Pulse	0.30	3
Sb	121	115	3	18.793	ppb	0.68	588,222.31	1.144E-01	Pulse	0.30	3
Ba	137	159	3	19.415	ppb	0.93	246,226.83	3.392E-02	Pulse	0.30	3
Tl	205	209	3	19.091	ppb	0.60	1,388,013.24	3.372E-01	Analog	0.30	3
Pb	208	209	3	19.109	ppb	0.52	1,876,220.88	4.558E-01	Analog	0.30	3
U	238	209	3	18.843	ppb	0.89	1,971,279.88	4.789E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,084,432.12	1.48	96.0	Analog	0.30	3
2	Sc	45	101,489.81	1.89	95.6	Pulse	0.30	3
3	Sc	45	2,647,576.89	0.54	95.2	Analog	0.30	3
1	Ge	72	86,449.58	0.32	95.5	Pulse	0.30	3
2	Ge	72	68,493.01	1.91	93.6	Pulse	0.30	3
2	Rh	103	1,944,448.15	1.87	91.6	Analog	0.30	3
3	Rh	103	4,583,936.60	0.25	92.3	Analog	0.30	3
3	In	115	5,140,725.75	0.76	92.9	Analog	0.30	3
3	Tb	159	7,260,162.32	1.08	92.3	Analog	0.30	3
3	Bi	209	4,115,991.88	0.70	92.0	Analog	0.30	3

Quantitation Report

File Name	A0308052.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:15
Sample Name	CCB3,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	16.67	1.529E-05	Pulse	0.30	3
B	11	6	3	9.324	ppb	3.33	66,263.25	6.069E-02	Pulse	0.30	3
Na	23	45	2	92.662	ppb	9.60	206,860.17	2.040E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	138.90	1.370E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,138.96	1.123E-02	Pulse	0.30	3
K	39	45	2	13.706	ppb	7.94	28,689.88	2.829E-01	Pulse	0.30	3
Ca	44	45	3	0.931	ppb	10.21	7,283.00	2.721E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	523.37	5.160E-03	Pulse	0.30	3
Cr	52	45	2	0.115	ppb	6.98	997.64	9.839E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	58.22	5.746E-04	Pulse	0.30	3
Fe	56	45	2	0.065	ppb	48.16	3,774.27	3.722E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	57.73	15.28	1.509E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	84.15	1.215E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,926.88	1.859E-01	Pulse	0.30	3
Zn	66	72	2	0.001	ppb	3883.47	555.53	7.993E-03	Pulse	0.30	3
As	75	72	2	0.012	ppb	25.41	18.22	2.617E-04	Pulse	0.75	3
Se	78	72	1	0.009	ppb	100.38	3.33	3.857E-05	Pulse	0.30	3
Mo	95	103	2	0.080	ppb	6.01	394.47	1.974E-04	Pulse	0.30	3
Ag	107	103	3	0.538	ppb	16.14	31,754.17	6.795E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-8.59	-1.645E-06	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	7.92	1,382.34	2.640E-04	Pulse	0.30	3
Ba	137	159	3	0.002	ppb	399.57	320.02	4.373E-05	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	8.45	2,216.92	5.328E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	482.46	1.160E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	22.04	305.31	7.340E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,092,136.34	1.63	96.7	Analog	0.30	3
2	Sc	45	101,413.78	0.60	95.5	Pulse	0.30	3
3	Sc	45	2,676,624.16	0.18	96.2	Analog	0.30	3
1	Ge	72	86,727.37	0.60	95.8	Pulse	0.30	3
2	Ge	72	69,526.83	1.69	95.0	Pulse	0.30	3
2	Rh	103	1,998,227.16	0.53	94.1	Analog	0.30	3
3	Rh	103	4,673,211.74	0.31	94.1	Analog	0.30	3
3	In	115	5,236,272.16	0.28	94.7	Analog	0.30	3
3	Tb	159	7,320,120.59	0.26	93.1	Analog	0.30	3
3	Bi	209	4,161,743.41	0.56	93.0	Analog	0.30	3

Quantitation Report

File Name	A0308053.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:21
Sample Name	N018861-007B,SAMP,125
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

dilution test for Mo

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	7.78	7.465E-06	Pulse	0.30	3
B	11	6	3	23.313	ppb	0.70	135,422.95	1.299E-01	Pulse	0.30	3
Na	23	45	2	27827.363	ppb	0.58	30,186,428.16	3.080E+02	Analog	0.30	3
Mg	26	45	2	27.161	ppb	2.90	2,758.12	2.815E-02	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	123.07	1.255E-03	Pulse	0.30	3
K	39	45	2	277.972	ppb	0.42	137,095.90	1.399E+00	Pulse	0.30	3
Ca	44	45	3	2322.804	ppb	1.10	2,966,176.69	1.151E+00	Analog	0.30	3
V	51	45	2	0.009	ppb	205.06	576.70	5.878E-03	Pulse	0.30	3
Cr	52	45	2	0.172	ppb	19.57	1,352.03	1.382E-02	Pulse	0.30	3
Mn	55	45	2	0.206	ppb	7.34	847.79	8.653E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	533.92	5.458E-03	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-20.40	-2.086E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	33.86	5.089E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,077.26	1.808E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	177.33	2.658E-03	Pulse	0.30	3
As	75	72	2	0.138	ppb	17.28	117.77	1.760E-03	Pulse	0.75	3
Se	78	72	1	0.012	ppb	114.43	4.44	5.237E-05	Pulse	0.30	3
Mo	95	103	2	0.607	ppb	6.99	2,628.11	1.411E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	8,946.81	2.048E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-5,593.07	-1.129E-03	Pulse	0.30	3
Sb	121	115	3	0.008	ppb	23.63	506.69	1.023E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-2,194.70	-3.137E-04	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	15.69	1,716.84	4.437E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,622.01	-2.744E-03	Pulse	0.30	3
U	238	209	3	0.001	ppb	53.23	184.94	4.783E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,042,322.94	0.77	92.3	Analog	0.30	3
2	Sc	45	98,003.79	1.29	92.3	Pulse	0.30	3
3	Sc	45	2,576,356.09	1.06	92.6	Analog	0.30	3
1	Ge	72	84,330.60	0.88	93.1	Pulse	0.30	3
2	Ge	72	66,816.05	1.36	91.3	Pulse	0.30	3
2	Rh	103	1,862,943.79	0.29	87.7	Analog	0.30	3
3	Rh	103	4,369,109.13	0.07	88.0	Analog	0.30	3
3	In	115	4,952,160.93	0.45	89.5	Analog	0.30	3
3	Tb	159	6,995,212.12	0.47	88.9	Analog	0.30	3
3	Bi	209	3,870,345.74	0.62	86.5	Analog	0.30	3

Quantitation Report

File Name	A0308054.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:26
Sample Name	N018861-007B-PS,PS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.413	ppb	5.05	2,180.23	2.262E-03	Pulse	0.30	3
B	11	6	3	164.516	ppb	0.73	798,945.10	8.288E-01	Pulse	0.30	3
Na	23	45	2	132604.020	ppb	1.30	137,762,864.62	1.464E+03	Analog	0.30	3
Mg	26	45	2	137.327	ppb	0.86	12,695.27	1.349E-01	Pulse	0.30	3
Al	27	45	2	3.600	ppb	7.05	1,782.24	1.894E-02	Pulse	0.30	3
K	39	45	2	1295.274	ppb	1.15	535,898.10	5.695E+00	Pulse	0.30	3
Ca	44	45	3	11081.385	ppb	0.50	13,751,659.24	5.484E+00	Analog	0.30	3
V	51	45	2	0.525	ppb	11.32	3,242.68	3.447E-02	Pulse	0.30	3
Cr	52	45	2	0.715	ppb	9.49	4,891.54	5.201E-02	Pulse	0.30	3
Mn	55	45	2	4.952	ppb	2.36	18,323.43	1.948E-01	Pulse	0.30	3
Fe	56	45	2	2.091	ppb	4.54	14,986.47	1.593E-01	Pulse	0.30	3
Co	59	45	2	0.377	ppb	3.53	4,507.16	4.787E-02	Pulse	0.30	3
Ni	60	72	2	0.365	ppb	5.24	1,149.92	1.804E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,171.18	1.909E-01	Pulse	0.30	3
Zn	66	72	2	3.285	ppb	3.34	4,511.19	7.077E-02	Pulse	0.30	3
As	75	72	2	1.065	ppb	5.20	813.77	1.277E-02	Pulse	0.75	3
Se	78	72	1	0.430	ppb	13.25	143.34	1.861E-03	Pulse	0.30	3
Mo	95	103	2	3.540	ppb	2.96	13,995.46	8.166E-03	Pulse	0.30	3
Ag	107	103	3	0.446	ppb	6.33	24,348.77	6.011E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13,678.83	-2.923E-03	Pulse	0.30	3
Sb	121	115	3	0.433	ppb	1.16	12,597.68	2.689E-03	Pulse	0.30	3
Ba	137	159	3	4.229	ppb	33.20	50,367.21	7.419E-03	Pulse	0.30	3
Tl	205	209	3	0.354	ppb	3.22	23,343.46	6.547E-03	Pulse	0.30	3
Pb	208	209	3	0.018	ppb	1818.32	2,277.98	6.267E-04	Pulse	0.30	3
U	238	209	3	0.453	ppb	1.31	41,167.39	1.155E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	963,989.17	0.60	85.3	Analog	0.30	3
2	Sc	45	94,114.85	2.03	88.6	Pulse	0.30	3
3	Sc	45	2,507,479.35	0.40	90.2	Analog	0.30	3
1	Ge	72	77,284.17	3.94	85.4	Pulse	0.30	3
2	Ge	72	63,742.80	0.15	87.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,714,053.65	1.08	80.7	Analog	0.30	3
3	Rh	103	4,050,459.11	0.06	81.6	Analog	0.30	3
3	In	115	4,684,436.47	0.50	84.7	Analog	0.30	3
3	Tb	159	6,784,022.19	0.52	86.2	Analog	0.30	3
3	Bi	209	3,565,362.35	0.47	79.7	Analog	0.30	3

Quantitation Report

File Name	A0308055.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:32
Sample Name	N018861-007B-MS,MS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.418	ppb	5.75	2,234.69	2.291E-03	Pulse	0.30	3
B	11	6	3	164.005	ppb	1.57	805,998.62	8.263E-01	Pulse	0.30	3
Na	23	45	2	133489.279	ppb	0.77	139,458,556.81	1.474E+03	Analog	0.30	3
Mg	26	45	2	141.887	ppb	2.92	13,182.32	1.393E-01	Pulse	0.30	3
Al	27	45	2	4.207	ppb	7.40	1,907.76	2.015E-02	Pulse	0.30	3
K	39	45	2	1305.486	ppb	0.51	543,004.05	5.738E+00	Pulse	0.30	3
Ca	44	45	3	11129.633	ppb	0.48	13,942,547.99	5.508E+00	Analog	0.30	3
V	51	45	2	0.535	ppb	2.72	3,314.92	3.504E-02	Pulse	0.30	3
Cr	52	45	2	0.746	ppb	2.64	5,127.66	5.419E-02	Pulse	0.30	3
Mn	55	45	2	4.931	ppb	0.90	18,354.23	1.939E-01	Pulse	0.30	3
Fe	56	45	2	2.133	ppb	0.83	15,313.28	1.618E-01	Pulse	0.30	3
Co	59	45	2	0.370	ppb	2.61	4,446.34	4.698E-02	Pulse	0.30	3
Ni	60	72	2	0.359	ppb	11.98	1,141.31	1.777E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	12,678.04	1.976E-01	Pulse	0.30	3
Zn	66	72	2	3.267	ppb	4.26	4,518.60	7.043E-02	Pulse	0.30	3
As	75	72	2	1.054	ppb	1.70	810.66	1.264E-02	Pulse	0.75	3
Se	78	72	1	0.346	ppb	9.79	117.78	1.495E-03	Pulse	0.30	3
Mo	95	103	2	3.552	ppb	1.44	14,159.00	8.194E-03	Pulse	0.30	3
Ag	107	103	3	0.614	ppb	1.48	30,312.95	7.437E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-5,357.74	-1.137E-03	Pulse	0.30	3
Sb	121	115	3	0.431	ppb	2.25	12,609.94	2.673E-03	Pulse	0.30	3
Ba	137	159	3	5.080	ppb	27.62	60,691.28	8.905E-03	Pulse	0.30	3
Tl	205	209	3	0.352	ppb	0.82	23,383.57	6.511E-03	Pulse	0.30	3
Pb	208	209	3	0.212	ppb	154.18	18,901.61	5.239E-03	Pulse	0.30	3
U	238	209	3	0.454	ppb	0.67	41,549.67	1.157E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	975,556.05	1.05	86.3	Analog	0.30	3
2	Sc	45	94,635.70	1.68	89.1	Pulse	0.30	3
3	Sc	45	2,531,274.27	0.47	91.0	Analog	0.30	3
1	Ge	72	78,753.00	1.01	87.0	Pulse	0.30	3
2	Ge	72	64,139.63	1.57	87.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,727,986.33	0.81	81.4	Analog	0.30	3
3	Rh	103	4,075,842.65	0.39	82.1	Analog	0.30	3
3	In	115	4,717,248.52	0.22	85.3	Analog	0.30	3
3	Tb	159	6,812,789.41	0.45	86.6	Analog	0.30	3
3	Bi	209	3,591,155.47	0.47	80.3	Analog	0.30	3

Quantitation Report

File Name	A0308056.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:37
Sample Name	N018861-007B-MSD,MSD,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Mo only

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.429	ppb	6.59	2,244.70	2.352E-03	Pulse	0.30	3
B	11	6	3	166.379	ppb	0.62	800,003.16	8.380E-01	Pulse	0.30	3
Na	23	45	2	132746.575	ppb	0.35	139,489,632.37	1.466E+03	Analog	0.30	3
Mg	26	45	2	136.930	ppb	1.35	12,801.93	1.345E-01	Pulse	0.30	3
Al	27	45	2	3.837	ppb	19.06	1,847.80	1.941E-02	Pulse	0.30	3
K	39	45	2	1310.744	ppb	0.31	548,260.68	5.760E+00	Pulse	0.30	3
Ca	44	45	3	11139.896	ppb	0.32	13,803,438.82	5.513E+00	Analog	0.30	3
V	51	45	2	0.531	ppb	5.00	3,314.91	3.482E-02	Pulse	0.30	3
Cr	52	45	2	0.718	ppb	4.96	4,964.28	5.218E-02	Pulse	0.30	3
Mn	55	45	2	4.925	ppb	0.88	18,438.72	1.937E-01	Pulse	0.30	3
Fe	56	45	2	2.105	ppb	6.79	15,240.42	1.602E-01	Pulse	0.30	3
Co	59	45	2	0.356	ppb	1.38	4,299.35	4.517E-02	Pulse	0.30	3
Ni	60	72	2	0.346	ppb	5.33	1,101.03	1.719E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,159.20	2.055E-01	Pulse	0.30	3
Zn	66	72	2	3.210	ppb	3.26	4,438.26	6.935E-02	Pulse	0.30	3
As	75	72	2	1.068	ppb	8.04	818.66	1.280E-02	Pulse	0.75	3
Se	78	72	1	0.348	ppb	4.05	120.01	1.507E-03	Pulse	0.30	3
Mo	95	103	2	3.501	ppb	1.77	14,166.77	8.076E-03	Pulse	0.30	3
Ag	107	103	3	0.650	ppb	0.78	31,541.49	7.743E-03	Pulse	0.30	3
Cd	111	115	3	0.390	ppb	3.18	3,153.10	6.692E-04	Pulse	0.30	3
Sb	121	115	3	0.428	ppb	1.76	12,524.32	2.658E-03	Pulse	0.30	3
Ba	137	159	3	5.872	ppb	0.63	69,943.65	1.029E-02	Pulse	0.30	3
Tl	205	209	3	0.354	ppb	0.50	23,464.80	6.545E-03	Pulse	0.30	3
Pb	208	209	3	0.404	ppb	2.27	35,231.12	9.829E-03	Pulse	0.30	3
U	238	209	3	0.452	ppb	0.98	41,286.28	1.152E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	954,627.04	0.41	84.5	Analog	0.30	3
2	Sc	45	95,179.82	1.20	89.6	Pulse	0.30	3
3	Sc	45	2,503,680.76	0.22	90.0	Analog	0.30	3
1	Ge	72	79,609.66	0.78	87.9	Pulse	0.30	3
2	Ge	72	64,011.43	2.56	87.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,754,014.73	1.05	82.6	Analog	0.30	3
3	Rh	103	4,073,437.37	0.07	82.1	Analog	0.30	3
3	In	115	4,712,240.55	0.42	85.2	Analog	0.30	3
3	Tb	159	6,799,707.12	0.59	86.4	Analog	0.30	3
3	Bi	209	3,585,016.96	0.98	80.1	Analog	0.30	3

Quantitation Report

File Name	A0308057.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:43
Sample Name	CCV4,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.756	ppb	1.91	105,890.44	1.020E-01	Pulse	0.30	3
B	11	6	3	192.859	ppb	0.61	1,006,105.00	9.691E-01	Analog	0.30	3
Na	23	45	2	279.728	ppb	3.28	408,166.33	4.104E+00	Pulse	0.30	3
Mg	26	45	2	192.479	ppb	1.98	18,737.70	1.883E-01	Pulse	0.30	3
Al	27	45	2	15.526	ppb	5.61	4,245.51	4.268E-02	Pulse	0.30	3
K	39	45	2	201.941	ppb	0.98	107,211.19	1.078E+00	Pulse	0.30	3
Ca	44	45	3	195.840	ppb	1.05	255,714.12	9.914E-02	Pulse	0.30	3
V	51	45	2	18.706	ppb	1.27	103,666.49	1.042E+00	Pulse	0.30	3
Cr	52	45	2	18.741	ppb	0.58	131,249.18	1.319E+00	Pulse	0.30	3
Mn	55	45	2	19.298	ppb	0.61	75,333.27	7.573E-01	Pulse	0.30	3
Fe	56	45	2	19.159	ppb	0.87	118,149.70	1.188E+00	Pulse	0.30	3
Co	59	45	2	18.646	ppb	0.39	235,319.37	2.366E+00	Pulse	0.30	3
Ni	60	72	2	18.977	ppb	1.57	59,479.16	8.715E-01	Pulse	0.30	3
Cu	63	72	2	18.577	ppb	0.71	177,444.71	2.599E+00	Pulse	0.30	3
Zn	66	72	2	18.984	ppb	2.22	25,315.86	3.709E-01	Pulse	0.30	3
As	75	72	2	19.210	ppb	0.75	15,573.76	2.281E-01	Pulse	0.75	3
Se	78	72	1	18.799	ppb	1.17	6,935.12	8.131E-02	Pulse	0.30	3
Mo	95	103	2	19.089	ppb	0.86	85,639.16	4.398E-02	Pulse	0.30	3
Ag	107	103	3	18.454	ppb	0.51	725,322.89	1.590E-01	Pulse	0.30	3
Cd	111	115	3	19.014	ppb	0.26	167,020.92	3.253E-02	Pulse	0.30	3
Sb	121	115	3	18.897	ppb	0.96	590,809.41	1.151E-01	Pulse	0.30	3
Ba	137	159	3	19.603	ppb	0.54	246,303.69	3.424E-02	Pulse	0.30	3
Tl	205	209	3	18.903	ppb	0.32	1,382,336.68	3.339E-01	Analog	0.30	3
Pb	208	209	3	18.952	ppb	0.39	1,871,632.20	4.521E-01	Analog	0.30	3
U	238	209	3	18.740	ppb	0.26	1,971,770.48	4.763E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,038,222.51	0.96	91.9	Analog	0.30	3
2	Sc	45	99,475.98	0.82	93.7	Pulse	0.30	3
3	Sc	45	2,579,262.86	0.25	92.7	Analog	0.30	3
1	Ge	72	85,295.29	0.49	94.2	Pulse	0.30	3
2	Ge	72	68,261.66	1.77	93.3	Pulse	0.30	3
2	Rh	103	1,947,126.26	1.43	91.7	Analog	0.30	3
3	Rh	103	4,561,791.18	0.65	91.9	Analog	0.30	3
3	In	115	5,135,113.27	0.49	92.8	Analog	0.30	3
3	Tb	159	7,192,413.85	0.46	91.4	Analog	0.30	3
3	Bi	209	4,139,863.06	0.33	92.5	Analog	0.30	3

Quantitation Report

File Name	A0308058.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:48
Sample Name	CCB4,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	420.78	18.89	1.829E-05	Pulse	0.30	3
B	11	6	3	6.762	ppb	3.14	49,543.44	4.801E-02	Pulse	0.30	3
Na	23	45	2	57.410	ppb	15.16	164,584.63	1.651E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	106.67	1.070E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,170.08	1.172E-02	Pulse	0.30	3
K	39	45	2	10.592	ppb	18.64	26,901.34	2.698E-01	Pulse	0.30	3
Ca	44	45	3	0.627	ppb	21.99	6,658.27	2.570E-03	Pulse	0.30	3
V	51	45	2	<0.000	ppb	---	476.70	4.775E-03	Pulse	0.30	3
Cr	52	45	2	0.087	ppb	13.26	778.77	7.813E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	288.97	61.48	6.169E-04	Pulse	0.30	3
Fe	56	45	2	0.025	ppb	24.82	3,473.91	3.483E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	75.26	15.38	1.545E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	89.82	1.303E-03	Pulse	0.30	3
Cu	63	72	2	0.010	ppb	164.08	14,516.38	2.104E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	539.33	7.815E-03	Pulse	0.30	3
As	75	72	2	0.007	ppb	102.65	13.78	1.995E-04	Pulse	0.75	3
Se	78	72	1	0.009	ppb	100.13	3.33	3.923E-05	Pulse	0.30	3
Mo	95	103	2	0.079	ppb	5.57	384.46	1.946E-04	Pulse	0.30	3
Ag	107	103	3	0.554	ppb	17.46	32,128.18	6.929E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-3.79	-7.397E-07	Pulse	0.30	3
Sb	121	115	3	0.029	ppb	9.09	1,198.98	2.322E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	293.80	4.041E-05	Pulse	0.30	3
Tl	205	209	3	0.014	ppb	10.87	2,246.92	5.456E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	534.02	1.296E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	29.10	274.45	6.667E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,032,051.97	0.56	91.3	Analog	0.30	3
2	Sc	45	99,751.76	1.58	93.9	Pulse	0.30	3
3	Sc	45	2,590,687.27	1.05	93.2	Analog	0.30	3
1	Ge	72	84,744.97	0.54	93.6	Pulse	0.30	3
2	Ge	72	68,994.71	0.97	94.3	Pulse	0.30	3
2	Rh	103	1,975,849.37	0.43	93.0	Analog	0.30	3
3	Rh	103	4,636,786.01	0.43	93.4	Analog	0.30	3
3	In	115	5,164,013.45	0.78	93.4	Analog	0.30	3
3	Tb	159	7,270,892.88	0.40	92.4	Analog	0.30	3
3	Bi	209	4,118,973.44	0.64	92.1	Analog	0.30	3

Quantitation Report

File Name	A0308059.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:54
Sample Name	LLCCV1,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.457	ppb	5.20	2,585.87	2.502E-03	Pulse	0.30	3
B	11	6	3	58.583	ppb	1.90	314,560.23	3.045E-01	Pulse	0.30	3
Na	23	45	2	49.688	ppb	15.81	157,907.98	1.566E+00	Pulse	0.30	3
Mg	26	45	2	6.406	ppb	68.62	812.06	8.037E-03	Pulse	0.30	3
Al	27	45	2	36.853	ppb	0.80	8,589.13	8.512E-02	Pulse	0.30	3
K	39	45	2	9.506	ppb	23.34	26,747.70	2.652E-01	Pulse	0.30	3
Ca	44	45	3	18.754	ppb	2.40	30,204.95	1.154E-02	Pulse	0.30	3
V	51	45	2	0.936	ppb	3.13	5,775.69	5.724E-02	Pulse	0.30	3
Cr	52	45	2	1.054	ppb	3.56	7,648.55	7.579E-02	Pulse	0.30	3
Mn	55	45	2	0.527	ppb	5.66	2,142.09	2.123E-02	Pulse	0.30	3
Fe	56	45	2	10.410	ppb	2.83	66,659.76	6.606E-01	Pulse	0.30	3
Co	59	45	2	0.455	ppb	2.09	5,835.47	5.784E-02	Pulse	0.30	3
Ni	60	72	2	0.979	ppb	5.75	3,132.31	4.621E-02	Pulse	0.30	3
Cu	63	72	2	1.166	ppb	3.20	24,336.41	3.591E-01	Pulse	0.30	3
Zn	66	72	2	10.780	ppb	2.16	14,506.87	2.141E-01	Pulse	0.30	3
As	75	72	2	0.106	ppb	7.08	93.33	1.377E-03	Pulse	0.75	3
Se	78	72	1	0.493	ppb	0.48	181.12	2.130E-03	Pulse	0.30	3
Mo	95	103	2	0.517	ppb	2.49	2,404.77	1.205E-03	Pulse	0.30	3
Ag	107	103	3	0.059	ppb	16.61	12,642.02	2.728E-03	Pulse	0.30	3
Cd	111	115	3	0.464	ppb	6.70	4,201.96	7.962E-04	Pulse	0.30	3
Sb	121	115	3	0.500	ppb	1.09	16,355.72	3.099E-03	Pulse	0.30	3
Ba	137	159	3	1.056	ppb	2.40	14,075.71	1.884E-03	Pulse	0.30	3
Tl	205	209	3	0.341	ppb	1.34	26,781.48	6.316E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	0.960	ppb	0.80	97,842.17	2.307E-02	Pulse	0.30	3
U	238	209	3	0.456	ppb	0.47	49,299.00	1.163E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,033,182.56	1.06	91.4	Analog	0.30	3
2	Sc	45	100,900.85	1.38	95.0	Pulse	0.30	3
3	Sc	45	2,617,916.87	0.37	94.1	Analog	0.30	3
1	Ge	72	85,012.93	0.70	93.9	Pulse	0.30	3
2	Ge	72	67,758.90	1.15	92.6	Pulse	0.30	3
2	Rh	103	1,996,379.31	1.20	94.0	Analog	0.30	3
3	Rh	103	4,633,589.55	0.30	93.3	Analog	0.30	3
3	In	115	5,278,308.04	0.40	95.4	Analog	0.30	3
3	Tb	159	7,472,138.78	0.28	95.0	Analog	0.30	3
3	Bi	209	4,240,212.47	0.25	94.8	Analog	0.30	3

Quantitation Report

File Name	A0308060.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 16:59
Sample Name	ICSA2,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	195.81	20.00	2.020E-05	Pulse	0.30	3
B	11	6	3	1.977	ppb	5.81	24,104.18	2.433E-02	Pulse	0.30	3
Na	23	45	2	97053.645	ppb	1.80	105,008,125.10	1.072E+03	Analog	0.30	3
Mg	26	45	2	98833.234	ppb	1.67	9,383,367.98	9.577E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-98.00	-1.010E-03	Pulse	0.30	3
K	39	45	2	105149.801	ppb	0.92	43,534,979.63	4.443E+02	Analog	0.30	3
Ca	44	45	3	91675.602	ppb	0.18	124,838,053.69	4.536E+01	Analog	0.30	3
V	51	45	2	<0.000	ppb	---	372.24	3.805E-03	Pulse	0.30	3
Cr	52	45	2	0.259	ppb	4.17	1,950.46	1.990E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-9,278.13	-9.465E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,925.83	-4.008E-02	Pulse	0.30	3
Co	59	45	2	0.006	ppb	21.11	77.76	7.964E-04	Pulse	0.30	3
Ni	60	72	2	0.306	ppb	6.96	992.89	1.533E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,362.25	1.755E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,250.72	-1.933E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	-9.03	-1.404E-04	Pulse	0.75	3
Se	78	72	1	0.023	ppb	88.32	7.78	9.981E-05	Pulse	0.30	3
Mo	95	103	2	0.047	ppb	11.22	210.01	1.219E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-21,881.64	-5.183E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20,424.38	-4.240E-03	Pulse	0.30	3
Sb	121	115	3	0.017	ppb	6.08	753.38	1.564E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-77,856.52	-1.132E-02	Pulse	0.30	3
Tl	205	209	3	0.016	ppb	9.92	1,961.32	5.815E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-116,943.87	-3.467E-02	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-7,563.43	-2.242E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	990,949.82	0.87	87.7	Analog	0.30	3
2	Sc	45	98,014.41	3.51	92.3	Pulse	0.30	3
3	Sc	45	2,752,456.52	0.97	99.0	Analog	0.30	3
1	Ge	72	77,384.68	2.85	85.5	Pulse	0.30	3
2	Ge	72	64,707.40	1.73	88.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,721,848.61	1.98	81.1	Analog	0.30	3
3	Rh	103	4,221,997.37	0.72	85.0	Analog	0.30	3
3	In	115	4,816,932.15	0.20	87.1	Analog	0.30	3
3	Tb	159	6,877,793.65	1.08	87.4	Analog	0.30	3
3	Bi	209	3,373,251.68	0.54	75.4	Analog	0.30	3

Quantitation Report

File Name	A0308061.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 17:04
Sample Name	ICSAB2,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.753	ppb	0.65	110,160.98	1.129E-01	Pulse	0.30	3
B	11	6	3	206.503	ppb	2.79	1,011,748.35	1.037E+00	Analog	0.30	3
Na	23	45	2	99271.218	ppb	0.48	105,775,436.20	1.096E+03	Analog	0.30	3
Mg	26	45	2	100927.001	ppb	0.99	9,436,013.96	9.780E+01	Analog	0.30	3
Al	27	45	2	16.506	ppb	8.79	4,302.15	4.463E-02	Pulse	0.30	3
K	39	45	2	104515.673	ppb	1.52	42,607,999.64	4.416E+02	Analog	0.30	3
Ca	44	45	3	93150.524	ppb	0.74	128,790,359.19	4.608E+01	Analog	0.30	3
V	51	45	2	21.762	ppb	1.68	116,876.52	1.211E+00	Pulse	0.30	3
Cr	52	45	2	20.953	ppb	1.02	142,290.93	1.475E+00	Pulse	0.30	3
Mn	55	45	2	17.858	ppb	0.71	67,624.03	7.009E-01	Pulse	0.30	3
Fe	56	45	2	19.404	ppb	2.28	116,011.68	1.202E+00	Pulse	0.30	3
Co	59	45	2	20.100	ppb	1.01	246,020.85	2.550E+00	Pulse	0.30	3
Ni	60	72	2	21.123	ppb	1.21	60,337.36	9.699E-01	Pulse	0.30	3
Cu	63	72	2	19.404	ppb	1.28	168,350.70	2.706E+00	Pulse	0.30	3
Zn	66	72	2	16.717	ppb	3.03	20,384.49	3.276E-01	Pulse	0.30	3
As	75	72	2	20.856	ppb	0.40	15,408.49	2.477E-01	Pulse	0.75	3
Se	78	72	1	19.634	ppb	2.42	6,285.92	8.492E-02	Pulse	0.30	3
Mo	95	103	2	23.732	ppb	1.53	91,784.08	5.467E-02	Pulse	0.30	3
Ag	107	103	3	18.689	ppb	0.56	686,810.69	1.610E-01	Pulse	0.30	3
Cd	111	115	3	17.407	ppb	0.54	144,829.88	2.978E-02	Pulse	0.30	3
Sb	121	115	3	20.962	ppb	0.54	620,766.79	1.276E-01	Pulse	0.30	3
Ba	137	159	3	18.962	ppb	0.50	228,178.05	3.313E-02	Pulse	0.30	3
Tl	205	209	3	22.579	ppb	0.99	1,319,143.78	3.988E-01	Analog	0.30	3
Pb	208	209	3	20.746	ppb	0.73	1,636,957.23	4.949E-01	Mix	0.30	3
U	238	209	3	23.281	ppb	1.01	1,957,218.25	5.917E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	976,066.51	0.33	86.4	Analog	0.30	3
2	Sc	45	96,492.20	2.29	90.9	Pulse	0.30	3
3	Sc	45	2,794,748.29	0.76	100.5	Analog	0.30	3
1	Ge	72	74,009.89	2.45	81.7	Pulse	0.30	3
2	Ge	72	62,212.35	1.51	85.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,678,560.69	1.72	79.0	Analog	0.30	3
3	Rh	103	4,265,903.55	0.32	85.9	Analog	0.30	3
3	In	115	4,864,103.36	0.56	87.9	Analog	0.30	3
3	Tb	159	6,888,023.30	0.55	87.6	Analog	0.30	3
3	Bi	209	3,307,873.49	0.59	73.9	Analog	0.30	3

Quantitation Report

File Name	A0308062.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 18:45
Sample Name	MB-56504,MBLK,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	309.21	22.22	2.150E-05	Pulse	0.30	3
B	11	6	3	8.823	ppb	1.59	60,058.48	5.821E-02	Pulse	0.30	3
Na	23	45	2	48.805	ppb	21.61	149,314.53	1.556E+00	Pulse	0.30	3
Mg	26	45	2	1.413	ppb	29.44	307.80	3.199E-03	Pulse	0.30	3
Al	27	45	2	2.241	ppb	33.81	1,557.90	1.624E-02	Pulse	0.30	3
K	39	45	2	18.604	ppb	12.68	29,149.53	3.036E-01	Pulse	0.30	3
Ca	44	45	3	1.813	ppb	5.29	8,461.35	3.157E-03	Pulse	0.30	3
V	51	45	2	0.013	ppb	169.35	585.59	6.084E-03	Pulse	0.30	3
Cr	52	45	2	0.132	ppb	34.78	1,053.27	1.097E-02	Pulse	0.30	3
Mn	55	45	2	0.002	ppb	339.01	64.23	6.725E-04	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,987.70	3.113E-02	Pulse	0.30	3
Co	59	45	2	0.001	ppb	23.16	22.06	2.296E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	60.92	9.260E-04	Pulse	0.30	3
Cu	63	72	2	0.215	ppb	54.30	15,585.47	2.367E-01	Pulse	0.30	3
Zn	66	72	2	0.230	ppb	35.85	814.92	1.236E-02	Pulse	0.30	3
As	75	72	2	0.007	ppb	45.93	13.78	2.091E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	0.00	0.000E+00	Pulse	0.30	3
Mo	95	103	2	0.031	ppb	8.11	164.45	8.441E-05	Pulse	0.30	3
Ag	107	103	3	0.622	ppb	15.88	35,701.05	7.508E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	6.72	1.271E-06	Pulse	0.30	3
Sb	121	115	3	0.010	ppb	26.19	611.15	1.157E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	132.11	1.815E-05	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	1,115.64	2.718E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Pb	208	209	3	<0.000	ppb	---	704.86	1.717E-04	Pulse	0.30	3
U	238	209	3	0.000	ppb	90.51	112.57	2.743E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,031,745.31	0.81	91.3	Analog	0.30	3
2	Sc	45	96,055.92	2.04	90.5	Pulse	0.30	3
3	Sc	45	2,680,358.67	0.36	96.4	Analog	0.30	3
1	Ge	72	80,074.82	4.76	88.4	Pulse	0.30	3
2	Ge	72	65,826.63	1.49	90.0	Pulse	0.30	3
2	Rh	103	1,947,488.93	0.90	91.7	Analog	0.30	3
3	Rh	103	4,753,837.67	0.52	95.8	Analog	0.30	3
3	In	115	5,281,315.11	0.15	95.5	Analog	0.30	3
3	Tb	159	7,280,099.40	0.21	92.6	Analog	0.30	3
3	Bi	209	4,104,195.43	0.49	91.7	Analog	0.30	3

Quantitation Report

File Name	A0308063.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 18:51
Sample Name	LCS-56504,LCS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.125	ppb	1.32	56,875.09	5.507E-02	Pulse	0.30	3
B	11	6	3	1966.147	ppb	2.47	10,064,175.65	9.746E+00	Analog	0.30	3
Na	23	45	2	261.238	ppb	2.65	402,926.37	3.900E+00	Pulse	0.30	3
Mg	26	45	2	99.662	ppb	0.61	10,169.02	9.840E-02	Pulse	0.30	3
Al	27	45	2	198.933	ppb	1.29	42,127.82	4.077E-01	Pulse	0.30	3
K	39	45	2	101.990	ppb	2.03	67,754.94	6.557E-01	Pulse	0.30	3
Ca	44	45	3	142.358	ppb	1.28	199,516.15	7.269E-02	Pulse	0.30	3
V	51	45	2	10.010	ppb	0.22	57,892.86	5.602E-01	Pulse	0.30	3
Cr	52	45	2	9.940	ppb	1.79	72,388.21	7.006E-01	Pulse	0.30	3
Mn	55	45	2	99.349	ppb	0.35	402,654.15	3.896E+00	Pulse	0.30	3
Fe	56	45	2	100.415	ppb	1.16	628,633.51	6.084E+00	Pulse	0.30	3
Co	59	45	2	9.594	ppb	0.19	125,795.06	1.217E+00	Pulse	0.30	3
Ni	60	72	2	10.183	ppb	1.97	33,315.99	4.682E-01	Pulse	0.30	3
Cu	63	72	2	10.425	ppb	1.60	110,327.46	1.550E+00	Pulse	0.30	3
Zn	66	72	2	99.934	ppb	1.59	136,517.42	1.919E+00	Pulse	0.30	3
As	75	72	2	10.013	ppb	3.05	8,468.06	1.190E-01	Pulse	0.75	3
Se	78	72	1	10.263	ppb	2.44	4,000.69	4.439E-02	Pulse	0.30	3
Mo	95	103	2	10.252	ppb	2.41	48,387.04	2.362E-02	Pulse	0.30	3
Ag	107	103	3	9.712	ppb	0.95	412,111.89	8.473E-02	Pulse	0.30	3
Cd	111	115	3	10.091	ppb	0.12	95,113.21	1.726E-02	Pulse	0.30	3
Sb	121	115	3	10.048	ppb	0.28	337,230.29	6.120E-02	Pulse	0.30	3
Ba	137	159	3	107.987	ppb	0.69	1,468,092.44	1.885E-01	Analog	0.30	3
Tl	205	209	3	7.477	ppb	0.92	587,458.01	1.323E-01	Pulse	0.30	3
Pb	208	209	3	10.057	ppb	0.63	1,066,069.52	2.400E-01	Pulse	0.30	3
U	238	209	3	9.930	ppb	0.87	1,121,082.29	2.524E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,032,842.40	1.26	91.4	Analog	0.30	3
2	Sc	45	103,344.50	1.70	97.3	Pulse	0.30	3
3	Sc	45	2,745,055.79	0.70	98.7	Analog	0.30	3
1	Ge	72	90,132.32	0.50	99.5	Pulse	0.30	3
2	Ge	72	71,167.60	2.05	97.3	Pulse	0.30	3
2	Rh	103	2,048,066.60	0.37	96.4	Analog	0.30	3
3	Rh	103	4,863,646.00	0.24	98.0	Analog	0.30	3
3	In	115	5,509,967.56	0.31	99.6	Analog	0.30	3
3	Tb	159	7,789,861.83	0.47	99.0	Analog	0.30	3
3	Bi	209	4,441,850.35	0.63	99.3	Analog	0.30	3

Quantitation Report

File Name	A0308064.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:02
Sample Name	N018898-003A,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	53.14	21.11	2.538E-05	Pulse	0.30	3
B	11	6	3	159.784	ppb	0.14	669,760.45	8.054E-01	Pulse	0.30	3
Na	23	45	2	47387.391	ppb	0.97	48,265,948.73	5.238E+02	Analog	0.30	3
Mg	26	45	2	16857.427	ppb	0.88	1,505,334.39	1.634E+01	Analog	0.30	3
Al	27	45	2	11.975	ppb	6.92	3,282.58	3.561E-02	Pulse	0.30	3
K	39	45	2	1580.741	ppb	0.69	635,811.96	6.900E+00	Pulse	0.30	3
Ca	44	45	3	37552.675	ppb	0.39	43,506,147.68	1.858E+01	Analog	0.30	3
V	51	45	2	1.323	ppb	4.38	7,251.88	7.872E-02	Pulse	0.30	3
Cr	52	45	2	0.255	ppb	7.10	1,807.16	1.962E-02	Pulse	0.30	3
Mn	55	45	2	2.138	ppb	4.50	7,777.20	8.442E-02	Pulse	0.30	3
Fe	56	45	2	46.147	ppb	1.84	259,248.27	2.814E+00	Pulse	0.30	3
Co	59	45	2	0.031	ppb	12.07	364.80	3.963E-03	Pulse	0.30	3
Ni	60	72	2	0.258	ppb	10.71	837.34	1.314E-02	Pulse	0.30	3
Cu	63	72	2	157.596	ppb	0.24	1,305,768.82	2.049E+01	Analog	0.30	3
Zn	66	72	2	3.489	ppb	3.62	4,759.19	7.468E-02	Pulse	0.30	3
As	75	72	2	0.618	ppb	3.95	475.06	7.454E-03	Pulse	0.75	3
Se	78	72	1	0.668	ppb	8.56	245.57	2.890E-03	Pulse	0.30	3
Mo	95	103	2	3.376	ppb	3.49	13,696.33	7.788E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	2,075.43	5.303E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-8,576.21	-1.851E-03	Pulse	0.30	3
Sb	121	115	3	0.052	ppb	7.17	1,712.39	3.695E-04	Pulse	0.30	3
Ba	137	159	3	19.688	ppb	0.66	237,016.05	3.439E-02	Pulse	0.30	3
Tl	205	209	3	0.100	ppb	3.93	7,485.52	2.059E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,661.02	-2.932E-03	Pulse	0.30	3
U	238	209	3	3.790	ppb	0.56	350,403.63	9.635E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	831,601.78	0.21	73.6	Pulse	0.30	3
2	Sc	45	92,147.61	1.24	86.8	Pulse	0.30	3
3	Sc	45	2,341,580.36	0.46	84.2	Analog	0.30	3
1	Ge	72	84,989.38	0.40	93.9	Pulse	0.30	3
2	Ge	72	63,732.63	0.10	87.1	Pulse	0.30	3
2	Rh	103	1,758,873.03	0.85	82.8	Analog	0.30	3
3	Rh	103	3,914,818.14	0.69	78.9	Analog	0.30	3
3	In	115	4,633,684.90	0.11	83.8	Analog	0.30	3
3	Tb	159	6,891,503.72	0.39	87.6	Analog	0.30	3
3	Bi	209	3,636,725.40	0.89	81.3	Analog	0.30	3

Quantitation Report

File Name	A0308065.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:08
Sample Name	N018910-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	228.92	15.56	1.940E-05	Pulse	0.30	3
B	11	6	3	244.514	ppb	0.43	979,874.98	1.225E+00	Analog	0.30	3
Na	23	45	2	76950.549	ppb	0.35	73,003,627.25	8.500E+02	Analog	0.30	3
Mg	26	45	2	34515.128	ppb	0.48	2,872,604.26	3.345E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	735.80	8.563E-03	Pulse	0.30	3
K	39	45	2	8907.468	ppb	0.68	3,250,070.33	3.784E+01	Analog	0.30	3
Ca	44	45	3	37432.268	ppb	0.37	42,664,046.59	1.852E+01	Analog	0.30	3
V	51	45	2	1.057	ppb	1.79	5,493.35	6.397E-02	Pulse	0.30	3
Cr	52	45	2	0.014	ppb	87.44	231.21	2.694E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-4,492.04	-5.233E-02	Pulse	0.30	3
Fe	56	45	2	10.055	ppb	1.26	54,900.50	6.392E-01	Pulse	0.30	3
Co	59	45	2	0.018	ppb	12.43	203.17	2.368E-03	Pulse	0.30	3
Ni	60	72	2	0.080	ppb	20.54	293.47	5.002E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,174.84	5.420E-02	Pulse	0.30	3
Zn	66	72	2	0.599	ppb	7.42	1,137.91	1.942E-02	Pulse	0.30	3
As	75	72	2	6.080	ppb	4.35	4,239.11	7.229E-02	Pulse	0.75	3
Se	78	72	1	0.393	ppb	6.68	126.67	1.699E-03	Pulse	0.30	3
Mo	95	103	2	5.831	ppb	1.47	21,804.42	1.344E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-781.27	-2.073E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-13,424.30	-2.999E-03	Pulse	0.30	3
Sb	121	115	3	0.367	ppb	2.72	10,240.39	2.288E-03	Pulse	0.30	3
Ba	137	159	3	44.577	ppb	0.67	521,946.71	7.782E-02	Pulse	0.30	3
Tl	205	209	3	0.264	ppb	2.61	17,245.02	4.951E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-29,732.33	-8.536E-03	Pulse	0.30	3
U	238	209	3	6.794	ppb	0.48	601,499.67	1.727E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	800,078.73	1.24	70.8	Analog	0.30	3
2	Sc	45	85,887.90	1.40	80.9	Pulse	0.30	3
3	Sc	45	2,303,627.08	0.18	82.8	Analog	0.30	3
1	Ge	72	74,538.99	0.28	82.3	Pulse	0.30	3
2	Ge	72	58,624.74	1.88	80.1	Pulse	0.30	3
2	Rh	103	1,621,994.97	0.97	76.4	Analog	0.30	3
3	Rh	103	3,768,730.71	0.32	75.9	Analog	0.30	3
3	In	115	4,476,345.40	0.23	80.9	Analog	0.30	3
3	Tb	159	6,707,034.55	0.21	85.3	Analog	0.30	3
3	Bi	209	3,483,316.17	0.56	77.9	Analog	0.30	3

Quantitation Report

File Name	A0308066.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:13
Sample Name	N018910-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	85.04	20.00	2.523E-05	Pulse	0.30	3
B	11	6	3	134.914	ppb	0.47	540,925.72	6.823E-01	Pulse	0.30	3
Na	23	45	2	679218.194	ppb	0.94	629,157,839.51	7.495E+03	Analog	0.30	3
Mg	26	45	2	131.262	ppb	7.51	10,819.58	1.290E-01	Pulse	0.30	3
Al	27	45	2	56.362	ppb	8.88	10,396.20	1.240E-01	Pulse	0.30	3
K	39	45	2	25043.497	ppb	0.87	8,896,961.95	1.060E+02	Analog	0.30	3
Ca	44	45	3	37360.332	ppb	1.61	46,761,308.75	1.848E+01	Analog	0.30	3
V	51	45	2	18.707	ppb	1.92	87,472.65	1.042E+00	Pulse	0.30	3
Cr	52	45	2	22.266	ppb	2.17	131,538.39	1.567E+00	Pulse	0.30	3
Mn	55	45	2	1.527	ppb	1.98	5,078.60	6.047E-02	Pulse	0.30	3
Fe	56	45	2	1424.554	ppb	0.95	7,208,399.43	8.587E+01	Analog	0.30	3
Co	59	45	2	66.615	ppb	1.79	709,347.94	8.451E+00	Pulse	0.30	3
Ni	60	72	2	28.281	ppb	0.69	69,849.73	1.298E+00	Pulse	0.30	3
Cu	63	72	2	104.598	ppb	1.00	735,429.20	1.367E+01	Pulse	0.30	3
Zn	66	72	2	37.959	ppb	1.80	39,476.32	7.337E-01	Pulse	0.30	3
As	75	72	2	720.190	ppb	0.79	459,974.83	8.549E+00	Pulse	0.75	3
Se	78	72	1	2.370	ppb	10.57	728.94	1.025E-02	Pulse	0.30	3
Mo	95	103	2	319.519	ppb	0.43	1,082,960.13	7.359E-01	Analog	0.30	3
Ag	107	103	3	1.789	ppb	5.62	62,703.31	1.742E-02	Pulse	0.30	3
Cd	111	115	3	0.831	ppb	4.54	6,078.87	1.423E-03	Pulse	0.30	3
Sb	121	115	3	27.340	ppb	11.74	710,026.03	1.664E-01	Analog	0.30	3
Ba	137	159	3	15.652	ppb	0.77	171,278.05	2.735E-02	Pulse	0.30	3
Tl	205	209	3	1.360	ppb	0.63	73,009.54	2.429E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-15,209.49	-5.060E-03	Pulse	0.30	3
U	238	209	3	0.011	ppb	9.29	929.52	3.094E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	792,785.18	0.74	70.2	Pulse	0.30	3
2	Sc	45	83,961.14	2.61	79.1	Pulse	0.30	3
3	Sc	45	2,529,856.82	0.53	91.0	Analog	0.30	3
1	Ge	72	71,386.51	7.00	78.8	Pulse	0.30	3
2	Ge	72	53,811.60	1.99	73.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,471,542.74	1.48	69.3	Analog	0.30	3
3	Rh	103	3,599,516.44	0.95	72.5	Analog	0.30	3
3	In	115	4,269,427.71	1.04	77.2	Analog	0.30	3
3	Tb	159	6,262,349.00	1.13	79.6	Analog	0.30	3
3	Bi	209	3,005,820.06	1.13	67.2	Analog	0.30	3

Quantitation Report

File Name	A0308067.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:19
Sample Name	N018910-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	4.39	20.00	2.553E-05	Pulse	0.30	3
B	11	6	3	129.929	ppb	0.55	515,325.92	6.576E-01	Pulse	0.30	3
Na	23	45	2	274583.245	ppb	17.48	446,115.84	3.030E+03	Pulse	0.30	3
Mg	26	45	2	2402.991	ppb	28.27	340.02	2.330E+00	Pulse	0.30	3
Al	27	45	2	171.142	ppb	24.08	53.30	3.524E-01	Pulse	0.30	3
K	39	45	2	46605.799	ppb	16.69	29,030.47	1.970E+02	Pulse	0.30	3
Ca	44	45	3	43963.423	ppb	2.42	51,185,195.90	2.175E+01	Analog	0.30	3
V	51	45	2	2.978	ppb	34.54	25.56	1.704E-01	Pulse	0.30	3
Cr	52	45	2	37.531	ppb	13.01	390.66	2.640E+00	Pulse	0.30	3
Mn	55	45	2	16.670	ppb	17.58	96.40	6.543E-01	Pulse	0.30	3
Fe	56	45	2	870.450	ppb	16.61	7,738.98	5.248E+01	Pulse	0.30	3
Co	59	45	2	231.286	ppb	15.92	4,336.93	2.934E+01	Pulse	0.30	3
Ni	60	72	2	93.768	ppb	13.50	121.72	4.301E+00	Pulse	0.30	3
Cu	63	72	2	994.956	ppb	35.65	3,315.33	1.282E+02	Pulse	0.30	3
Zn	66	72	2	156.310	ppb	12.37	81.70	2.997E+00	Pulse	0.30	3
As	75	72	2	261.393	ppb	30.66	81.78	3.103E+00	Pulse	0.75	3
Se	78	72	1	11.864	ppb	173.21	2.22	5.131E-02	Pulse	0.30	3
Mo	95	103	2	896.222	ppb	6.88	6,918.40	2.064E+00	Pulse	0.30	3
Ag	107	103	3	1.313	ppb	2.11	47,018.26	1.338E-02	Pulse	0.30	3
Cd	111	115	3	1.030	ppb	2.84	7,260.89	1.763E-03	Pulse	0.30	3
Sb	121	115	3	19.662	ppb	25.83	492,951.23	1.197E-01	Analog	0.30	3
Ba	137	159	3	22.629	ppb	0.98	240,833.12	3.952E-02	Pulse	0.30	3
Tl	205	209	3	1.140	ppb	0.54	55,853.38	2.042E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,844.69	-4.697E-03	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-149.27	-5.462E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	783,619.68	1.51	69.4	Pulse	0.30	3
2	Sc	45	150.01	16.02	0.1	Pulse	0.30	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	2,354,175.43	2.89	84.6	Analog	0.30	3
1	Ge	72	31.11	34.44	0.0	Pulse	0.30	3
2	Ge	72	27.78	30.20	0.0	Pulse	0.30	3
2	Rh	103	3,359.36	5.08	0.2	Pulse	0.30	3
3	Rh	103	3,513,060.26	1.10	70.8	Analog	0.30	3
3	In	115	4,116,870.20	1.14	74.4	Analog	0.30	3
3	Tb	159	6,093,402.82	1.32	77.5	Analog	0.30	3
3	Bi	209	2,735,116.69	2.79	61.1	Analog	0.30	3

Quantitation Report

File Name	A0308068.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:24
Sample Name	N018918-001C,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.003	ppb	64.35	22.22	3.372E-05	Pulse	0.30	3
B	11	6	3	890.382	ppb	2.18	2,920,479.71	4.421E+00	Analog	0.30	3
Na	23	45	2	1309000.372	ppb	0.93	1,154,079,413.91	1.444E+04	Analog	0.30	3
Mg	26	45	2	32683.370	ppb	0.69	2,530,912.20	3.167E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	785.44	9.834E-03	Pulse	0.30	3
K	39	45	2	14555.436	ppb	1.09	4,929,363.75	6.169E+01	Analog	0.30	3
Ca	44	45	3	162235.660	ppb	0.82	176,038,155.16	8.026E+01	Analog	0.30	3
V	51	45	2	7.976	ppb	1.74	35,747.23	4.474E-01	Pulse	0.30	3
Cr	52	45	2	625.227	ppb	1.60	3,512,290.06	4.396E+01	Analog	0.30	3
Mn	55	45	2	16.497	ppb	1.20	51,734.09	6.475E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-68,879.82	-8.620E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-424.33	-5.320E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,307.55	-2.595E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-22,746.57	-4.517E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,227.47	-2.437E-02	Pulse	0.30	3
As	75	72	2	2.851	ppb	3.13	1,710.75	3.396E-02	Pulse	0.75	3
Se	78	72	1	3.884	ppb	6.29	1,113.42	1.680E-02	Pulse	0.30	3
Mo	95	103	2	20.968	ppb	0.45	62,907.34	4.831E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,564.64	1.445E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-417.14	-1.107E-04	Pulse	0.30	3
Sb	121	115	3	0.031	ppb	6.93	920.06	2.442E-04	Pulse	0.30	3
Ba	137	159	3	28.717	ppb	0.51	278,496.96	5.015E-02	Pulse	0.30	3
Tl	205	209	3	0.133	ppb	3.68	5,449.00	2.638E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-14,024.87	-6.790E-03	Pulse	0.30	3
U	238	209	3	5.336	ppb	3.38	280,172.06	1.356E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	660,636.24	1.17	58.5	Analog	0.30	3
2	Sc	45	79,907.07	1.29	75.2	Pulse	0.30	3
3	Sc	45	2,193,357.22	0.62	78.9	Analog	0.30	3
1	Ge	72	66,291.81	0.18	73.2	Pulse	0.30	3
2	Ge	72	50,358.69	1.46	68.8	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,302,222.46	1.33	61.3	Analog	0.30	3
3	Rh	103	3,159,721.24	0.45	63.7	Analog	0.30	3
3	In	115	3,767,256.59	0.36	68.1	Analog	0.30	3
3	Tb	159	5,553,495.34	0.72	70.6	Analog	0.30	3
3	Bi	209	2,067,426.17	4.17	46.2	Analog	0.30	3

Quantitation Report

File Name	A0308069.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:30
Sample Name	N018918-002E,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	1.178E-05	Pulse	0.30	3
B	11	6	3	922.857	ppb	2.84	3,470,657.02	4.582E+00	Analog	0.30	3
Na	23	45	2	1045333.087	ppb	1.51	1,000,203,265.09	1.153E+04	Analog	0.30	3
Mg	26	45	2	30572.821	ppb	1.97	2,568,994.77	2.963E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	399.39	4.592E-03	Pulse	0.30	3
K	39	45	2	13835.956	ppb	0.84	5,087,300.38	5.865E+01	Analog	0.30	3
Ca	44	45	3	55326.891	ppb	0.30	67,645,544.55	2.737E+01	Analog	0.30	3
V	51	45	2	0.112	ppb	18.46	1,005.63	1.158E-02	Pulse	0.30	3
Cr	52	45	2	0.455	ppb	1.21	2,923.19	3.369E-02	Pulse	0.30	3
Mn	55	45	2	3.721	ppb	1.85	12,704.16	1.465E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-20,497.92	-2.364E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-114.76	-1.341E-03	Pulse	0.30	3
Ni	60	72	2	1.314	ppb	0.64	3,476.31	6.158E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,617.27	-3.298E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-2,129.42	-3.774E-02	Pulse	0.30	3
As	75	72	2	0.106	ppb	31.74	78.07	1.383E-03	Pulse	0.75	3
Se	78	72	1	3.736	ppb	2.54	1,115.64	1.616E-02	Pulse	0.30	3
Mo	95	103	2	20.143	ppb	1.12	66,849.57	4.641E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	1,554.91	4.288E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-70.91	-1.662E-05	Pulse	0.30	3
Sb	121	115	3	0.034	ppb	3.99	1,100.09	2.584E-04	Pulse	0.30	3
Ba	137	159	3	18.315	ppb	0.21	195,923.05	3.200E-02	Pulse	0.30	3
Tl	205	209	3	0.090	ppb	2.10	4,898.79	1.876E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-10,487.72	-4.017E-03	Pulse	0.30	3
U	238	209	3	3.573	ppb	1.38	237,135.42	9.082E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	757,599.85	1.42	67.1	Analog	0.30	3
2	Sc	45	86,748.91	3.42	81.7	Pulse	0.30	3
3	Sc	45	2,471,224.83	0.60	88.9	Analog	0.30	3
1	Ge	72	69,042.03	1.25	76.3	Pulse	0.30	3
2	Ge	72	56,447.03	2.44	77.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,440,758.02	2.41	67.8	Analog	0.30	3
3	Rh	103	3,624,870.99	0.67	73.0	Analog	0.30	3
3	In	115	4,257,428.47	0.77	77.0	Analog	0.30	3
3	Tb	159	6,123,100.95	0.85	77.8	Analog	0.30	3
3	Bi	209	2,611,673.85	2.91	58.4	Analog	0.30	3

Quantitation Report

File Name	A0308070.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:35
Sample Name	N018918-003C,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	11.11	-1.324E-04	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	5,549,126.39	-6.114E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.666E-04	Error	0.30	3
Mg	26	45	2	208523.438	ppb	0.85	12,131,021.07	2.021E+02	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-675.39	-1.125E-02	Pulse	0.30	3
K	39	45	2	99346.602	ppb	1.17	25,199,448.52	4.198E+02	Analog	0.30	3
Ca	44	45	3	311565.994	ppb	0.85	251,837,760.69	1.541E+02	Analog	0.30	3
V	51	45	2	1.762	ppb	2.58	6,185.85	1.031E-01	Pulse	0.30	3
Cr	52	45	2	2.508	ppb	0.36	10,691.42	1.781E-01	Pulse	0.30	3
Mn	55	45	2	5.898	ppb	3.06	13,921.00	2.319E-01	Pulse	0.30	3
Fe	56	45	2	28.560	ppb	2.42	105,303.41	1.754E+00	Pulse	0.30	3
Co	59	45	2	0.599	ppb	5.84	4,569.95	7.612E-02	Pulse	0.30	3
Ni	60	72	2	15.277	ppb	0.42	22,442.49	7.019E-01	Pulse	0.30	3
Cu	63	72	2	0.974	ppb	6.98	10,690.66	3.344E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,908.35	-5.970E-02	Pulse	0.30	3
As	75	72	2	0.538	ppb	11.71	208.06	6.503E-03	Pulse	0.75	3
Se	78	72	1	25.136	ppb	3.62	4,271.85	1.087E-01	Pulse	0.30	3
Mo	95	103	2	166.391	ppb	3.66	286,082.57	3.832E-01	Pulse	0.30	3
Ag	107	103	3	1.946	ppb	6.91	35,212.76	1.876E-02	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-292.66	-1.328E-04	Pulse	0.30	3
Sb	121	115	3	0.187	ppb	2.81	2,626.99	1.189E-03	Pulse	0.30	3
Ba	137	159	3	129.661	ppb	0.74	717,126.71	2.263E-01	Pulse	0.30	3
Tl	205	209	3	0.263	ppb	1.47	6,207.11	4.926E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-54,453.12	-4.322E-02	Pulse	0.30	3
U	238	209	3	27.140	ppb	0.14	869,002.56	6.898E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-91,882.11	-14.40	-8.1	Analog	0.30	3
2	Sc	45	60,039.89	1.30	56.5	Pulse	0.30	3
3	Sc	45	1,634,020.78	2.73	58.8	Analog	0.30	3
1	Ge	72	39,304.74	1.20	43.4	Pulse	0.30	3
2	Ge	72	31,976.50	0.88	43.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	747,098.77	3.44	35.2	Pulse	0.30	3
3	Rh	103	1,876,523.49	1.72	37.8	Analog	0.30	3
3	In	115	2,209,828.82	2.14	40.0	Analog	0.30	3
3	Tb	159	3,169,454.50	1.99	40.3	Analog	0.30	3
3	Bi	209	1,259,827.41	1.45	28.2	Analog	0.30	3

Quantitation Report

File Name	A0308071.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:41
Sample Name	N018918-003C,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	5.56	8.196E-06	Pulse	0.30	3
B	11	6	3	752.936	ppb	2.43	2,570,181.15	3.741E+00	Analog	0.30	3
Na	23	45	2	1825160.682	ppb	0.22	1,828,383,012.75	2.014E+04	Analog	0.30	3
Mg	26	45	2	47969.899	ppb	0.21	4,220,331.39	4.649E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	261.36	2.871E-03	Pulse	0.30	3
K	39	45	2	21420.895	ppb	0.57	8,234,025.85	9.068E+01	Analog	0.30	3
Ca	44	45	3	67300.384	ppb	1.97	90,175,781.99	3.330E+01	Analog	0.30	3
V	51	45	2	0.411	ppb	2.69	2,554.75	2.814E-02	Pulse	0.30	3
Cr	52	45	2	0.313	ppb	9.96	2,155.84	2.376E-02	Pulse	0.30	3
Mn	55	45	2	3.418	ppb	1.71	12,224.15	1.346E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-119,621.00	-1.317E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-600.17	-6.625E-03	Pulse	0.30	3
Ni	60	72	2	2.753	ppb	3.80	6,868.62	1.276E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-35,959.95	-6.675E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-5,391.48	-1.001E-01	Pulse	0.30	3
As	75	72	2	0.156	ppb	17.06	106.46	1.971E-03	Pulse	0.75	3
Se	78	72	1	5.744	ppb	3.78	1,615.71	2.484E-02	Pulse	0.30	3
Mo	95	103	2	33.530	ppb	1.61	106,648.29	7.724E-02	Pulse	0.30	3
Ag	107	103	3	0.073	ppb	28.51	9,976.20	2.842E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-47.07	-1.150E-05	Pulse	0.30	3
Sb	121	115	3	0.050	ppb	12.82	1,454.58	3.550E-04	Pulse	0.30	3
Ba	137	159	3	28.968	ppb	0.11	294,425.73	5.059E-02	Pulse	0.30	3
Tl	205	209	3	0.065	ppb	6.47	3,815.09	1.448E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-19,104.07	-7.251E-03	Pulse	0.30	3
U	238	209	3	5.598	ppb	0.40	374,887.53	1.423E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	687,205.49	2.20	60.8	Analog	0.30	3
2	Sc	45	90,792.00	2.44	85.5	Pulse	0.30	3
3	Sc	45	2,709,016.77	2.09	97.4	Analog	0.30	3
1	Ge	72	65,033.32	1.42	71.8	Pulse	0.30	3
2	Ge	72	53,870.79	2.74	73.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,380,468.71	1.85	65.0	Analog	0.30	3
3	Rh	103	3,510,379.56	0.27	70.7	Analog	0.30	3
3	In	115	4,095,709.37	0.46	74.1	Analog	0.30	3
3	Tb	159	5,820,356.93	0.57	74.0	Analog	0.30	3
3	Bi	209	2,634,591.63	0.70	58.9	Analog	0.30	3

Quantitation Report

File Name	A0308072.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:47
Sample Name	CCV5,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.881	ppb	0.70	115,504.15	1.027E-01	Pulse	0.30	3
B	11	6	3	209.008	ppb	0.95	1,180,027.01	1.049E+00	Analog	0.30	3
Na	23	45	2	1208.538	ppb	2.77	1,628,414.97	1.435E+01	Analog	0.30	3
Mg	26	45	2	193.058	ppb	1.45	21,436.50	1.889E-01	Pulse	0.30	3
Al	27	45	2	15.473	ppb	4.72	4,830.97	4.257E-02	Pulse	0.30	3
K	39	45	2	235.109	ppb	0.92	138,207.53	1.218E+00	Pulse	0.30	3
Ca	44	45	3	199.528	ppb	0.94	300,042.46	1.010E-01	Pulse	0.30	3
V	51	45	2	18.718	ppb	1.50	118,333.32	1.043E+00	Pulse	0.30	3
Cr	52	45	2	18.549	ppb	1.29	148,179.62	1.306E+00	Pulse	0.30	3
Mn	55	45	2	18.984	ppb	2.13	84,535.11	7.450E-01	Pulse	0.30	3
Fe	56	45	2	19.031	ppb	1.09	133,910.23	1.180E+00	Pulse	0.30	3
Co	59	45	2	18.485	ppb	1.57	266,115.91	2.345E+00	Pulse	0.30	3
Ni	60	72	2	18.896	ppb	1.04	66,952.37	8.678E-01	Pulse	0.30	3
Cu	63	72	2	17.524	ppb	1.33	190,106.62	2.464E+00	Pulse	0.30	3
Zn	66	72	2	18.382	ppb	1.68	27,731.28	3.594E-01	Pulse	0.30	3
As	75	72	2	18.789	ppb	0.68	17,217.63	2.231E-01	Pulse	0.75	3
Se	78	72	1	18.809	ppb	3.47	7,962.24	8.135E-02	Pulse	0.30	3
Mo	95	103	2	19.662	ppb	1.52	97,499.82	4.530E-02	Pulse	0.30	3
Ag	107	103	3	18.293	ppb	0.39	803,117.25	1.576E-01	Pulse	0.30	3
Cd	111	115	3	18.701	ppb	0.74	181,621.69	3.199E-02	Pulse	0.30	3
Sb	121	115	3	18.634	ppb	0.46	644,137.45	1.135E-01	Pulse	0.30	3
Ba	137	159	3	19.736	ppb	0.65	267,556.25	3.448E-02	Pulse	0.30	3
Tl	205	209	3	18.949	ppb	0.89	1,465,506.24	3.347E-01	Analog	0.30	3
Pb	208	209	3	18.878	ppb	0.98	1,971,662.06	4.503E-01	Analog	0.30	3
U	238	209	3	18.764	ppb	0.52	2,088,138.95	4.769E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,124,897.44	0.24	99.6	Analog	0.30	3
2	Sc	45	113,489.40	1.19	106.9	Pulse	0.30	3
3	Sc	45	2,971,828.25	1.17	106.9	Analog	0.30	3
1	Ge	72	97,876.36	1.32	108.1	Pulse	0.30	3
2	Ge	72	77,161.11	1.11	105.5	Pulse	0.30	3
2	Rh	103	2,152,401.72	0.39	101.3	Analog	0.30	3
3	Rh	103	5,094,769.51	0.84	102.6	Analog	0.30	3
3	In	115	5,677,363.77	0.24	102.7	Analog	0.30	3
3	Tb	159	7,760,574.47	0.49	98.7	Analog	0.30	3
3	Bi	209	4,378,449.38	0.82	97.9	Analog	0.30	3

Quantitation Report

File Name	A0308073.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:52
Sample Name	CCB5,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	1082.09	20.00	1.782E-05	Pulse	0.30	3
B	11	6	3	16.713	ppb	2.55	109,780.48	9.726E-02	Pulse	0.30	3
Na	23	45	2	658.557	ppb	6.22	913,400.89	8.283E+00	Pulse	0.30	3
Mg	26	45	2	0.197	ppb	168.48	223.34	2.021E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,265.64	1.146E-02	Pulse	0.30	3
K	39	45	2	26.890	ppb	13.98	37,340.21	3.386E-01	Pulse	0.30	3
Ca	44	45	3	0.883	ppb	10.24	7,953.33	2.697E-03	Pulse	0.30	3
V	51	45	2	0.059	ppb	5.64	952.30	8.627E-03	Pulse	0.30	3
Cr	52	45	2	0.057	ppb	35.75	630.23	5.730E-03	Pulse	0.30	3
Mn	55	45	2	0.005	ppb	39.30	86.27	7.817E-04	Pulse	0.30	3
Fe	56	45	2	0.114	ppb	34.72	4,428.62	4.016E-02	Pulse	0.30	3
Co	59	45	2	0.015	ppb	15.16	212.42	1.929E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	61.30	8.135E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	8,734.29	1.159E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	543.84	7.223E-03	Pulse	0.30	3
As	75	72	2	0.029	ppb	30.11	35.56	4.719E-04	Pulse	0.75	3
Se	78	72	1	0.003	ppb	173.21	1.11	1.153E-05	Pulse	0.30	3
Mo	95	103	2	0.192	ppb	2.34	967.85	4.561E-04	Pulse	0.30	3
Ag	107	103	3	0.664	ppb	15.40	39,614.99	7.862E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-105.88	-1.876E-05	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	11.22	1,577.92	2.796E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	176.26	2.281E-05	Pulse	0.30	3
Tl	205	209	3	0.013	ppb	9.08	2,271.38	5.252E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	278.09	6.430E-05	Pulse	0.30	3
U	238	209	3	0.003	ppb	20.42	449.30	1.039E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,128,910.33	1.34	99.9	Analog	0.30	3
2	Sc	45	110,358.43	2.19	103.9	Pulse	0.30	3
3	Sc	45	2,949,368.08	0.40	106.0	Analog	0.30	3
1	Ge	72	96,681.94	1.10	106.8	Pulse	0.30	3
2	Ge	72	75,341.55	1.66	103.0	Pulse	0.30	3
2	Rh	103	2,121,941.93	1.31	99.9	Analog	0.30	3
3	Rh	103	5,040,187.74	0.87	101.5	Analog	0.30	3
3	In	115	5,644,968.22	0.26	102.1	Analog	0.30	3
3	Tb	159	7,730,206.83	0.31	98.3	Analog	0.30	3
3	Bi	209	4,324,409.55	0.21	96.7	Analog	0.30	3

Quantitation Report

File Name	A0308074.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 19:58
Sample Name	N018919-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	6.68	37.78	4.465E-05	Pulse	0.30	3
B	11	6	3	761.202	ppb	1.80	3,198,672.19	3.782E+00	Analog	0.30	3
Na	23	45	2	1181964.367	ppb	0.26	1,311,747,696.01	1.304E+04	Analog	0.30	3
Mg	26	45	2	32556.768	ppb	0.97	3,173,121.27	3.155E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	154.67	1.540E-03	Pulse	0.30	3
K	39	45	2	11943.468	ppb	0.76	5,095,862.74	5.066E+01	Analog	0.30	3
Ca	44	45	3	161867.812	ppb	0.30	233,039,589.86	8.008E+01	Analog	0.30	3
V	51	45	2	6.242	ppb	0.74	35,331.80	3.513E-01	Pulse	0.30	3
Cr	52	45	2	70.228	ppb	0.57	496,776.23	4.939E+00	Pulse	0.30	3
Mn	55	45	2	49.689	ppb	0.44	196,046.84	1.949E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-103,223.70	-1.026E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-668.99	-6.656E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,499.24	-2.462E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,277.61	-3.001E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-3,000.38	-4.927E-02	Pulse	0.30	3
As	75	72	2	2.077	ppb	3.65	1,508.36	2.478E-02	Pulse	0.75	3
Se	78	72	1	0.529	ppb	23.26	170.01	2.288E-03	Pulse	0.30	3
Mo	95	103	2	15.126	ppb	1.16	54,220.10	3.485E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,747.77	1.227E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-631.54	-1.380E-04	Pulse	0.30	3
Sb	121	115	3	0.035	ppb	7.51	1,226.77	2.682E-04	Pulse	0.30	3
Ba	137	159	3	27.850	ppb	0.34	320,699.34	4.864E-02	Pulse	0.30	3
Tl	205	209	3	0.064	ppb	4.46	4,295.23	1.428E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,737.81	-1.242E-03	Pulse	0.30	3
U	238	209	3	5.320	ppb	0.68	406,787.90	1.352E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	845,833.35	0.90	74.9	Analog	0.30	3
2	Sc	45	100,583.42	2.02	94.7	Pulse	0.30	3
3	Sc	45	2,910,093.19	0.13	104.6	Analog	0.30	3
1	Ge	72	74,360.68	4.44	82.1	Pulse	0.30	3
2	Ge	72	60,896.33	1.33	83.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,555,650.55	1.47	73.2	Analog	0.30	3
3	Rh	103	3,870,648.66	0.37	78.0	Analog	0.30	3
3	In	115	4,575,720.08	0.60	82.7	Analog	0.30	3
3	Tb	159	6,593,906.50	0.60	83.8	Analog	0.30	3
3	Bi	209	3,008,202.39	0.90	67.2	Analog	0.30	3

Quantitation Report

File Name	A0308075.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:03
Sample Name	N018919-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.005	ppb	38.68	34.45	4.267E-05	Pulse	0.30	3
B	11	6	3	930.072	ppb	2.07	3,723,808.74	4.618E+00	Analog	0.30	3
Na	23	45	2	1338094.511	ppb	1.17	1,457,740,227.17	1.476E+04	Analog	0.30	3
Mg	26	45	2	32322.071	ppb	1.45	3,092,483.53	3.132E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	813.89	8.238E-03	Pulse	0.30	3
K	39	45	2	15001.199	ppb	1.06	6,277,440.88	6.357E+01	Analog	0.30	3
Ca	44	45	3	183157.686	ppb	0.12	254,227,016.21	9.061E+01	Analog	0.30	3
V	51	45	2	8.117	ppb	0.97	44,964.35	4.553E-01	Pulse	0.30	3
Cr	52	45	2	718.808	ppb	1.08	4,990,053.76	5.054E+01	Analog	0.30	3
Mn	55	45	2	8.314	ppb	1.87	32,255.81	3.266E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-108,949.67	-1.103E+00	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-1,220.12	-1.236E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,720.37	-2.831E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-31,856.11	-5.242E-01	Pulse	0.30	3
Zn	66	72	2	4.091	ppb	4.78	5,236.36	8.620E-02	Pulse	0.30	3
As	75	72	2	2.827	ppb	2.51	2,046.88	3.368E-02	Pulse	0.75	3
Se	78	72	1	4.527	ppb	6.90	1,467.90	1.958E-02	Pulse	0.30	3
Mo	95	103	2	21.375	ppb	3.01	74,650.22	4.924E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-4,586.60	-1.226E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-676.43	-1.535E-04	Pulse	0.30	3
Sb	121	115	3	0.014	ppb	9.79	605.59	1.375E-04	Pulse	0.30	3
Ba	137	159	3	28.568	ppb	0.33	317,810.43	4.989E-02	Pulse	0.30	3
Tl	205	209	3	0.099	ppb	2.91	4,947.67	2.041E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-20,270.87	-8.363E-03	Pulse	0.30	3
U	238	209	3	4.915	ppb	2.37	302,838.65	1.249E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	806,508.66	1.11	71.4	Analog	0.30	3
2	Sc	45	98,756.03	2.65	93.0	Pulse	0.30	3
3	Sc	45	2,805,648.95	0.65	100.9	Analog	0.30	3
1	Ge	72	74,936.49	0.89	82.8	Pulse	0.30	3
2	Ge	72	60,774.94	2.70	83.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,515,870.76	1.22	71.4	Analog	0.30	3
3	Rh	103	3,739,273.56	1.10	75.3	Analog	0.30	3
3	In	115	4,405,273.30	0.74	79.7	Analog	0.30	3
3	Tb	159	6,370,514.98	0.70	81.0	Analog	0.30	3
3	Bi	209	2,425,236.96	3.23	54.2	Analog	0.30	3

Quantitation Report

File Name	A0308076.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:09
Sample Name	N018935-001B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.006	ppb	32.24	55.56	4.766E-05	Pulse	0.30	3
B	11	6	3	881.798	ppb	0.37	5,103,637.88	4.379E+00	Analog	0.30	3
Na	23	45	2	311055.652	ppb	2.55	317,751,064.15	3.433E+03	Analog	0.30	3
Mg	26	45	2	64004.449	ppb	2.73	5,741,254.39	6.202E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	255.29	2.747E-03	Pulse	0.30	3
K	39	45	2	7507.642	ppb	3.27	2,956,663.81	3.193E+01	Analog	0.30	3
Ca	44	45	3	145004.294	ppb	3.56	223,088,723.34	7.174E+01	Analog	0.30	3
V	51	45	2	3.522	ppb	4.03	18,573.29	2.006E-01	Pulse	0.30	3
Cr	52	45	2	5.676	ppb	2.47	37,094.98	4.008E-01	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-11,753.95	-1.270E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	1,604.15	1.801E-02	Pulse	0.30	3
Co	59	45	2	0.038	ppb	34.14	464.26	4.937E-03	Pulse	0.30	3
Ni	60	72	2	0.304	ppb	18.81	1,029.49	1.526E-02	Pulse	0.30	3
Cu	63	72	2	5.181	ppb	2.96	58,782.02	8.758E-01	Pulse	0.30	3
Zn	66	72	2	36.339	ppb	3.93	47,199.29	7.028E-01	Pulse	0.30	3
As	75	72	2	0.514	ppb	7.06	417.46	6.226E-03	Pulse	0.75	3
Se	78	72	1	1.265	ppb	5.41	361.13	5.470E-03	Pulse	0.30	3
Mo	95	103	2	0.506	ppb	6.18	2,019.09	1.178E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,205.92	-4.546E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-709.64	-1.324E-04	Pulse	0.30	3
Sb	121	115	3	0.002	ppb	42.37	341.13	6.366E-05	Pulse	0.30	3
Ba	137	159	3	33.269	ppb	0.21	454,731.64	5.809E-02	Pulse	0.30	3
Tl	205	209	3	0.033	ppb	2.81	1,294.56	8.707E-04	Pulse	0.30	3
Pb	208	209	3	1.113	ppb	3.23	39,745.01	2.674E-02	Pulse	0.30	3
U	238	209	3	148.293	ppb	2.16	5,602,197.15	3.769E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,165,490.96	0.28	103.2	Analog	0.30	3
2	Sc	45	92,447.75	7.72	87.1	Pulse	0.30	3
3	Sc	45	3,111,390.34	2.16	111.9	Analog	0.30	3
1	Ge	72	66,035.17	3.46	72.9	Pulse	0.30	3
2	Ge	72	67,057.39	6.09	91.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,718,201.80	6.97	80.9	Analog	0.30	3
3	Rh	103	4,852,389.62	0.30	97.7	Analog	0.30	3
3	In	115	5,361,746.43	1.44	96.9	Analog	0.30	3
3	Tb	159	7,828,046.20	0.82	99.5	Analog	0.30	3
3	Bi	209	1,487,012.84	2.64	33.2	Analog	0.30	3

Quantitation Report

File Name	A0308077.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:14
Sample Name	N018936-001A,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	191.87	27.78	2.888E-05	Pulse	0.30	3
B	11	6	3	493.478	ppb	2.19	2,374,295.37	2.457E+00	Analog	0.30	3
Na	23	45	2	690092.333	ppb	0.86	701,003,731.78	7.615E+03	Analog	0.30	3
Mg	26	45	2	25795.207	ppb	0.85	2,301,346.51	2.500E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	449.41	4.876E-03	Pulse	0.30	3
K	39	45	2	9681.849	ppb	0.95	3,784,086.27	4.111E+01	Analog	0.30	3
Ca	44	45	3	80892.265	ppb	0.55	122,200,880.40	4.002E+01	Analog	0.30	3
V	51	45	2	5.634	ppb	0.68	29,237.80	3.176E-01	Pulse	0.30	3
Cr	52	45	2	0.703	ppb	5.81	4,724.51	5.115E-02	Pulse	0.30	3
Mn	55	45	2	101.321	ppb	0.20	365,906.62	3.974E+00	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-43,431.17	-4.715E-01	Pulse	0.30	3
Co	59	45	2	0.071	ppb	8.89	836.07	9.052E-03	Pulse	0.30	3
Ni	60	72	2	0.973	ppb	7.49	2,704.93	4.594E-02	Pulse	0.30	3
Cu	63	72	2	13.611	ppb	0.86	115,034.67	1.960E+00	Pulse	0.30	3
Zn	66	72	2	0.668	ppb	16.65	1,219.14	2.075E-02	Pulse	0.30	3
As	75	72	2	3.133	ppb	3.73	2,188.84	3.731E-02	Pulse	0.75	3
Se	78	72	1	0.049	ppb	66.64	12.22	2.099E-04	Pulse	0.30	3
Mo	95	103	2	18.171	ppb	0.59	61,194.66	4.186E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-2,307.83	-5.337E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-168.03	-3.367E-05	Pulse	0.30	3
Sb	121	115	3	0.062	ppb	3.63	2,139.12	4.296E-04	Pulse	0.30	3
Ba	137	159	3	18.574	ppb	0.50	227,764.75	3.245E-02	Pulse	0.30	3
Tl	205	209	3	0.256	ppb	3.90	14,846.85	4.815E-03	Pulse	0.30	3
Pb	208	209	3	0.025	ppb	22.63	2,437.44	7.922E-04	Pulse	0.30	3
U	238	209	3	3.455	ppb	1.55	270,871.13	8.782E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	966,475.78	1.00	85.5	Analog	0.30	3
2	Sc	45	92,077.15	8.60	86.7	Pulse	0.30	3
3	Sc	45	3,053,587.84	1.34	109.8	Analog	0.30	3
1	Ge	72	57,857.69	3.83	63.9	Pulse	0.30	3
2	Ge	72	58,659.82	8.01	80.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,461,305.99	8.24	68.8	Analog	0.30	3
3	Rh	103	4,325,800.14	1.16	87.1	Analog	0.30	3
3	In	115	4,980,877.14	1.46	90.1	Analog	0.30	3
3	Tb	159	7,019,090.80	0.88	89.2	Analog	0.30	3
3	Bi	209	3,085,366.07	3.08	69.0	Analog	0.30	3

Quantitation Report

File Name	A0308078.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:20
Sample Name	N018936-002B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	83.26	30.00	3.577E-05	Pulse	0.30	3
B	11	6	3	1049.861	ppb	0.95	4,371,776.71	5.211E+00	Analog	0.30	3
Na	23	45	2	976182.553	ppb	0.25	951,381,612.49	1.077E+04	Analog	0.30	3
Mg	26	45	2	34763.322	ppb	0.75	2,974,458.88	3.369E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	554.52	6.282E-03	Pulse	0.30	3
K	39	45	2	17147.125	ppb	0.63	6,414,957.34	7.264E+01	Analog	0.30	3
Ca	44	45	3	80424.305	ppb	0.31	115,351,674.95	3.979E+01	Analog	0.30	3
V	51	45	2	8.742	ppb	0.62	43,271.83	4.899E-01	Pulse	0.30	3
Cr	52	45	2	759.012	ppb	0.21	4,712,824.10	5.337E+01	Analog	0.30	3
Mn	55	45	2	8.972	ppb	1.70	31,120.06	3.524E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-30,410.08	-3.439E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-568.25	-6.449E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-1,004.32	-1.755E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-13,326.45	-2.330E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-761.21	-1.330E-02	Pulse	0.30	3
As	75	72	2	2.941	ppb	8.01	1,996.57	3.503E-02	Pulse	0.75	3
Se	78	72	1	4.751	ppb	5.64	1,167.87	2.055E-02	Pulse	0.30	3
Mo	95	103	2	22.248	ppb	1.27	73,084.55	5.126E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-4,225.14	-1.043E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-162.31	-3.450E-05	Pulse	0.30	3
Sb	121	115	3	0.021	ppb	5.67	852.28	1.809E-04	Pulse	0.30	3
Ba	137	159	3	30.826	ppb	0.54	360,033.38	5.383E-02	Pulse	0.30	3
Tl	205	209	3	0.101	ppb	7.24	5,527.92	2.072E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-15,388.16	-5.762E-03	Pulse	0.30	3
U	238	209	3	4.885	ppb	2.75	331,645.26	1.242E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	839,022.04	0.73	74.3	Analog	0.30	3
2	Sc	45	88,320.89	6.76	83.2	Pulse	0.30	3
3	Sc	45	2,899,140.37	0.95	104.2	Analog	0.30	3
1	Ge	72	56,808.74	3.72	62.7	Pulse	0.30	3
2	Ge	72	57,194.51	6.66	78.2	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,425,959.37	5.75	67.1	Analog	0.30	3
3	Rh	103	4,049,790.46	1.16	81.6	Analog	0.30	3
3	In	115	4,710,113.93	0.84	85.2	Analog	0.30	3
3	Tb	159	6,688,848.86	1.12	85.0	Analog	0.30	3
3	Bi	209	2,672,865.81	4.18	59.7	Analog	0.30	3

Quantitation Report

File Name	A0308079.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:26
Sample Name	N018910-003B,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	163.87	26.67	2.700E-05	Pulse	0.30	3
B	11	6	3	141.904	ppb	0.30	707,422.52	7.169E-01	Pulse	0.30	3
Na	23	45	2	730985.509	ppb	0.73	709,753,958.31	8.066E+03	Analog	0.30	3
Mg	26	45	2	289.539	ppb	0.87	24,849.13	2.824E-01	Pulse	0.30	3
Al	27	45	2	107.263	ppb	3.63	19,826.84	2.253E-01	Pulse	0.30	3
K	39	45	2	29559.685	ppb	0.41	11,006,586.43	1.251E+02	Analog	0.30	3
Ca	44	45	3	46026.425	ppb	0.38	65,176,592.36	2.277E+01	Analog	0.30	3
V	51	45	2	18.173	ppb	1.30	89,086.22	1.013E+00	Pulse	0.30	3
Cr	52	45	2	22.785	ppb	0.51	141,113.38	1.604E+00	Pulse	0.30	3
Mn	55	45	2	2.863	ppb	1.39	9,924.84	1.128E-01	Pulse	0.30	3
Fe	56	45	2	1331.363	ppb	0.25	7,063,376.04	8.025E+01	Analog	0.30	3
Co	59	45	2	56.628	ppb	1.27	631,885.81	7.184E+00	Pulse	0.30	3
Ni	60	72	2	20.097	ppb	0.92	51,756.60	9.229E-01	Pulse	0.30	3
Cu	63	72	2	15.548	ppb	0.92	123,946.04	2.210E+00	Pulse	0.30	3
Zn	66	72	2	40.798	ppb	1.67	44,206.12	7.880E-01	Pulse	0.30	3
As	75	72	2	580.670	ppb	0.36	386,673.45	6.893E+00	Pulse	0.75	3
Se	78	72	1	2.459	ppb	8.81	568.92	1.064E-02	Pulse	0.30	3
Mo	95	103	2	331.640	ppb	1.93	1,088,482.52	7.638E-01	Analog	0.30	3
Ag	107	103	3	0.289	ppb	8.77	19,128.10	4.684E-03	Pulse	0.30	3
Cd	111	115	3	1.041	ppb	0.46	8,479.17	1.783E-03	Pulse	0.30	3
Sb	121	115	3	13.888	ppb	5.91	401,979.14	8.457E-02	Pulse	0.30	3
Ba	137	159	3	23.270	ppb	0.28	275,499.44	4.064E-02	Pulse	0.30	3
Tl	205	209	3	1.089	ppb	1.24	61,182.07	1.950E-02	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-17,973.01	-5.731E-03	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-180.03	-5.743E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	986,791.59	0.46	87.3	Analog	0.30	3
2	Sc	45	88,017.17	8.11	82.9	Pulse	0.30	3
3	Sc	45	2,862,169.30	0.95	102.9	Analog	0.30	3
1	Ge	72	53,444.88	1.99	59.0	Pulse	0.30	3
2	Ge	72	56,102.21	7.79	76.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,423,746.45	7.11	67.0	Analog	0.30	3
3	Rh	103	4,083,688.06	0.67	82.3	Analog	0.30	3
3	In	115	4,754,834.76	0.96	86.0	Analog	0.30	3
3	Tb	159	6,778,584.83	0.73	86.2	Analog	0.30	3
3	Bi	209	3,137,108.29	1.86	70.1	Analog	0.30	3

Quantitation Report

File Name	A0308080.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:39
Sample Name	N018910-002B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	5.55	5.330E-06	Pulse	0.30	3
B	11	6	3	18.665	ppb	3.14	111,707.15	1.069E-01	Pulse	0.30	3
Na	23	45	2	33348.605	ppb	1.08	35,969,811.41	3.689E+02	Analog	0.30	3
Mg	26	45	2	6.228	ppb	3.63	766.72	7.865E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	851.09	8.732E-03	Pulse	0.30	3
K	39	45	2	1161.982	ppb	0.37	500,401.30	5.132E+00	Pulse	0.30	3
Ca	44	45	3	1891.464	ppb	0.49	2,640,867.18	9.380E-01	Analog	0.30	3
V	51	45	2	0.877	ppb	3.62	5,262.16	5.398E-02	Pulse	0.30	3
Cr	52	45	2	1.312	ppb	10.99	9,150.31	9.396E-02	Pulse	0.30	3
Mn	55	45	2	0.078	ppb	4.85	356.17	3.651E-03	Pulse	0.30	3
Fe	56	45	2	70.918	ppb	1.89	419,801.97	4.306E+00	Pulse	0.30	3
Co	59	45	2	3.804	ppb	2.45	47,046.21	4.826E-01	Pulse	0.30	3
Ni	60	72	2	1.345	ppb	1.81	4,179.32	6.299E-02	Pulse	0.30	3
Cu	63	72	2	4.608	ppb	1.98	53,229.45	8.021E-01	Pulse	0.30	3
Zn	66	72	2	1.843	ppb	11.02	2,866.12	4.320E-02	Pulse	0.30	3
As	75	72	2	33.468	ppb	0.85	26,372.53	3.974E-01	Pulse	0.75	3
Se	78	72	1	0.127	ppb	27.14	45.56	5.504E-04	Pulse	0.30	3
Mo	95	103	2	13.039	ppb	0.79	55,980.73	3.005E-02	Pulse	0.30	3
Ag	107	103	3	0.491	ppb	8.69	29,662.80	6.394E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-6,619.92	-1.255E-03	Pulse	0.30	3
Sb	121	115	3	0.749	ppb	0.29	24,331.82	4.614E-03	Pulse	0.30	3
Ba	137	159	3	0.101	ppb	21.34	1,578.82	2.174E-04	Pulse	0.30	3
Tl	205	209	3	0.045	ppb	6.29	4,244.12	1.088E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,597.76	-3.486E-03	Pulse	0.30	3
U	238	209	3	0.002	ppb	33.98	314.98	8.081E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,044,944.91	1.03	92.5	Analog	0.30	3
2	Sc	45	97,508.61	2.07	91.8	Pulse	0.30	3
3	Sc	45	2,815,541.31	0.84	101.2	Analog	0.30	3
1	Ge	72	82,709.35	1.63	91.3	Pulse	0.30	3
2	Ge	72	66,361.91	1.33	90.7	Pulse	0.30	3
2	Rh	103	1,863,134.21	1.20	87.7	Analog	0.30	3
3	Rh	103	4,638,603.30	0.50	93.4	Analog	0.30	3
3	In	115	5,273,876.64	0.83	95.4	Analog	0.30	3
3	Tb	159	7,266,110.65	0.55	92.4	Analog	0.30	3
3	Bi	209	3,901,393.76	0.97	87.2	Analog	0.30	3

Quantitation Report

File Name	A0308081.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:45
Sample Name	N018910-003B,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	10.00	9.554E-06	Pulse	0.30	3
B	11	6	3	15.862	ppb	0.97	97,708.82	9.305E-02	Pulse	0.30	3
Na	23	45	2	32909.411	ppb	1.22	32,900,800.90	3.641E+02	Analog	0.30	3
Mg	26	45	2	11.979	ppb	2.98	1,213.43	1.344E-02	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	982.17	1.084E-02	Pulse	0.30	3
K	39	45	2	1295.135	ppb	2.40	514,220.59	5.694E+00	Pulse	0.30	3
Ca	44	45	3	2066.938	ppb	0.56	2,848,562.42	1.025E+00	Analog	0.30	3
V	51	45	2	0.826	ppb	1.17	4,625.29	5.118E-02	Pulse	0.30	3
Cr	52	45	2	1.105	ppb	3.93	7,168.96	7.943E-02	Pulse	0.30	3
Mn	55	45	2	0.124	ppb	1.53	491.03	5.431E-03	Pulse	0.30	3
Fe	56	45	2	62.210	ppb	2.21	341,566.96	3.782E+00	Pulse	0.30	3
Co	59	45	2	2.703	ppb	2.04	30,982.51	3.430E-01	Pulse	0.30	3
Ni	60	72	2	0.917	ppb	3.92	2,734.14	4.339E-02	Pulse	0.30	3
Cu	63	72	2	0.452	ppb	10.97	16,826.17	2.672E-01	Pulse	0.30	3
Zn	66	72	2	1.776	ppb	4.40	2,644.52	4.193E-02	Pulse	0.30	3
As	75	72	2	25.741	ppb	1.05	19,272.51	3.057E-01	Pulse	0.75	3
Se	78	72	1	0.100	ppb	32.18	24.44	4.317E-04	Pulse	0.30	3
Mo	95	103	2	12.858	ppb	1.08	49,478.70	2.963E-02	Pulse	0.30	3
Ag	107	103	3	0.163	ppb	0.50	16,693.36	3.612E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-6,393.26	-1.218E-03	Pulse	0.30	3
Sb	121	115	3	0.660	ppb	0.39	21,355.37	4.069E-03	Pulse	0.30	3
Ba	137	159	3	0.401	ppb	2.05	5,383.71	7.401E-04	Pulse	0.30	3
Tl	205	209	3	0.033	ppb	3.79	3,410.54	8.702E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-13,526.49	-3.452E-03	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	39.00	9.973E-06	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,050,178.27	1.52	93.0	Analog	0.30	3
2	Sc	45	90,426.52	8.71	85.2	Pulse	0.30	3
3	Sc	45	2,779,755.34	1.13	99.9	Analog	0.30	3
1	Ge	72	56,375.90	2.15	62.3	Pulse	0.30	3
2	Ge	72	63,043.74	7.09	86.2	Pulse	0.30	3
2	Rh	103	1,669,382.14	6.66	78.6	Analog	0.30	3
3	Rh	103	4,621,197.64	1.10	93.1	Analog	0.30	3
3	In	115	5,247,869.40	1.14	94.9	Analog	0.30	3
3	Tb	159	7,274,748.36	0.86	92.5	Analog	0.30	3
3	Bi	209	3,918,805.98	0.94	87.6	Analog	0.30	3

Quantitation Report

File Name	A0308082.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:53
Sample Name	N018918-001C,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	2975.69	15.56	1.711E-05	Pulse	0.30	3
B	11	6	3	199.039	ppb	1.44	922,092.94	9.997E-01	Mix	0.30	3
Na	23	45	2	221632.059	ppb	21.30	86,380,161.77	2.446E+03	Analog	0.30	3
Mg	26	45	2	6553.248	ppb	6.45	215,071.62	6.352E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	130.78	4.223E-03	Pulse	0.30	3
K	39	45	2	2271.438	ppb	23.88	348,938.49	9.817E+00	Pulse	0.30	3
Ca	44	45	3	36252.344	ppb	0.91	45,738,108.76	1.794E+01	Analog	0.30	3
V	51	45	2	1.710	ppb	4.32	3,307.17	1.002E-01	Pulse	0.30	3
Cr	52	45	2	138.065	ppb	1.35	323,481.02	9.709E+00	Pulse	0.30	3
Mn	55	45	2	3.462	ppb	7.59	4,628.81	1.364E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-1,065.99	-8.607E-04	Pulse	0.30	3
Co	59	45	2	0.211	ppb	69.82	710.84	2.685E-02	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-74.38	-3.378E-03	Pulse	0.30	3
Cu	63	72	2	0.752	ppb	236.74	4,848.06	3.058E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	30.14	2.709E-03	Pulse	0.30	3
As	75	72	2	0.774	ppb	16.30	185.58	9.304E-03	Pulse	0.75	3
Se	78	72	1	3.966	ppb	154.00	2.22	1.715E-02	Pulse	0.30	3
Mo	95	103	2	4.349	ppb	3.45	5,917.01	1.003E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,109.65	1.294E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-83.55	-1.814E-05	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	9.46	390.02	8.513E-05	Pulse	0.30	3
Ba	137	159	3	6.338	ppb	0.80	72,487.03	1.110E-02	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	37.98	1,439.02	4.591E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,626.55	-1.151E-03	Pulse	0.30	3
U	238	209	3	0.865	ppb	2.59	69,315.22	2.201E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	922,122.51	3.85	81.6	Analog	0.30	3
2	Sc	45	33,245.48	45.05	31.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Sc	45	2,550,811.89	5.52	91.7	Analog	0.30	3
1	Ge	72	315.57	148.72	0.3	Pulse	0.30	3
2	Ge	72	21,131.43	52.34	28.9	Pulse	0.30	3
2	Rh	103	595,782.98	45.60	28.1	Pulse	0.30	3
3	Rh	103	3,954,014.49	4.00	79.7	Analog	0.30	3
3	In	115	4,584,717.67	4.56	82.9	Analog	0.30	3
3	Tb	159	6,532,117.54	4.58	83.0	Analog	0.30	3
3	Bi	209	3,151,911.52	6.13	70.5	Analog	0.30	3

Quantitation Report

File Name	A0308083.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 20:59
Sample Name	N018918-002E,SAMP,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.001	ppb	326.82	18.89	2.250E-05	Pulse	0.30	3
B	11	6	3	941.821	ppb	1.46	3,944,664.34	4.676E+00	Analog	0.30	3
Na	23	45	2	483338.509	ppb	99.87	350,038,054.77	5.334E+03	Mix	0.30	3
Mg	26	45	2	10964.396	ppb	158.25	914,981.28	1.063E+01	Mix	0.30	3
Al	27	45	2	78.553	ppb	92.56	175.43	1.681E-01	Pulse	0.30	3
K	39	45	2	28071.838	ppb	44.94	1,768,259.58	1.188E+02	Mix	0.30	3
Ca	44	45	3	56890.384	ppb	0.08	80,890,349.90	2.815E+01	Analog	0.30	3
V	51	45	2	2.802	ppb	87.92	384.47	1.607E-01	Pulse	0.30	3
Cr	52	45	2	16.718	ppb	86.15	1,359.88	1.177E+00	Pulse	0.30	3
Mn	55	45	2	6.545	ppb	39.09	4,353.46	2.572E-01	Pulse	0.30	3
Fe	56	45	2	198.244	ppb	88.70	-3,783.02	1.198E+01	Pulse	0.30	3
Co	59	45	2	24.012	ppb	86.77	584.50	3.046E+00	Pulse	0.30	3
Ni	60	72	2	21.565	ppb	83.48	1,292.22	9.902E-01	Pulse	0.30	3
Cu	63	72	2	1082.584	ppb	88.54	-725.17	1.395E+02	Pulse	0.30	3
Zn	66	72	2	62.853	ppb	90.74	-790.08	1.210E+00	Pulse	0.30	3
As	75	72	2	41.549	ppb	94.95	38.59	4.933E-01	Pulse	0.75	3
Se	78	72	1	19.248	ppb	100.00	2.22	8.325E-02	Pulse	0.30	3
Mo	95	103	2	49.219	ppb	53.53	22,147.45	1.134E-01	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-3,461.55	-8.463E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-110.78	-2.331E-05	Pulse	0.30	3
Sb	121	115	3	0.024	ppb	12.28	937.85	1.969E-04	Pulse	0.30	3
Ba	137	159	3	18.508	ppb	0.59	218,151.97	3.233E-02	Pulse	0.30	3
Tl	205	209	3	0.078	ppb	4.81	4,145.19	1.667E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-12,897.35	-5.193E-03	Pulse	0.30	3
U	238	209	3	4.065	ppb	3.93	256,700.11	1.033E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	843,581.02	0.89	74.7	Analog	0.30	3
2	Sc	45	30,604.20	171.92	28.8	Pulse	0.30	3
3	Sc	45	2,873,916.66	1.57	103.3	Analog	0.30	3
1	Ge	72	28.89	35.25	0.0	Pulse	0.30	3
2	Ge	72	19,686.10	172.91	26.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	498,948.46	172.18	23.5	Mix	0.30	3
3	Rh	103	4,090,316.43	1.43	82.4	Analog	0.30	3
3	In	115	4,763,257.68	1.19	86.1	Analog	0.30	3
3	Tb	159	6,746,951.85	1.20	85.8	Analog	0.30	3
3	Bi	209	2,487,906.23	5.55	55.6	Analog	0.30	3

Quantitation Report

File Name	A0308084.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:05
Sample Name	CCV6,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	18.933	ppb	1.69	111,535.21	1.030E-01	Pulse	0.30	3
B	11	6	3	203.550	ppb	0.75	1,107,220.38	1.022E+00	Analog	0.30	3
Na	23	45	2	473.207	ppb	5.16	717,554.66	6.238E+00	Pulse	0.30	3
Mg	26	45	2	190.200	ppb	1.12	21,414.31	1.861E-01	Pulse	0.30	3
Al	27	45	2	16.318	ppb	3.21	5,091.05	4.425E-02	Pulse	0.30	3
K	39	45	2	211.850	ppb	1.97	128,804.32	1.120E+00	Pulse	0.30	3
Ca	44	45	3	199.026	ppb	0.33	295,626.76	1.007E-01	Pulse	0.30	3
V	51	45	2	18.606	ppb	0.53	119,254.26	1.037E+00	Pulse	0.30	3
Cr	52	45	2	18.303	ppb	0.49	148,239.25	1.289E+00	Pulse	0.30	3
Mn	55	45	2	19.060	ppb	0.21	86,058.14	7.480E-01	Pulse	0.30	3
Fe	56	45	2	18.973	ppb	0.77	135,354.97	1.177E+00	Pulse	0.30	3
Co	59	45	2	18.510	ppb	0.16	270,176.58	2.348E+00	Pulse	0.30	3
Ni	60	72	2	18.580	ppb	1.57	67,001.52	8.533E-01	Pulse	0.30	3
Cu	63	72	2	17.805	ppb	0.79	196,333.28	2.500E+00	Pulse	0.30	3
Zn	66	72	2	18.464	ppb	2.24	28,345.91	3.610E-01	Pulse	0.30	3
As	75	72	2	18.720	ppb	1.81	17,459.20	2.223E-01	Pulse	0.75	3
Se	78	72	1	18.670	ppb	0.97	8,224.63	8.075E-02	Pulse	0.30	3
Mo	95	103	2	19.497	ppb	1.31	96,156.19	4.492E-02	Pulse	0.30	3
Ag	107	103	3	18.340	ppb	0.67	795,910.01	1.580E-01	Pulse	0.30	3
Cd	111	115	3	18.825	ppb	0.76	181,818.06	3.220E-02	Pulse	0.30	3
Sb	121	115	3	18.559	ppb	0.28	638,044.51	1.130E-01	Pulse	0.30	3
Ba	137	159	3	19.934	ppb	0.67	267,150.88	3.482E-02	Pulse	0.30	3
Tl	205	209	3	19.123	ppb	1.05	1,448,597.81	3.378E-01	Analog	0.30	3
Pb	208	209	3	18.924	ppb	0.55	1,935,988.74	4.514E-01	Analog	0.30	3
U	238	209	3	18.776	ppb	1.06	2,046,424.37	4.772E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,083,367.98	0.98	95.9	Analog	0.30	3
2	Sc	45	115,049.72	0.78	108.3	Pulse	0.30	3
3	Sc	45	2,935,115.93	0.55	105.5	Analog	0.30	3
1	Ge	72	101,857.22	0.16	112.5	Pulse	0.30	3
2	Ge	72	78,527.62	1.22	107.3	Pulse	0.30	3
2	Rh	103	2,140,680.49	0.48	100.8	Analog	0.30	3
3	Rh	103	5,036,412.57	0.59	101.5	Analog	0.30	3
3	In	115	5,646,208.89	0.16	102.1	Analog	0.30	3
3	Tb	159	7,671,778.36	0.33	97.5	Analog	0.30	3
3	Bi	209	4,288,697.75	1.04	95.9	Analog	0.30	3

Quantitation Report

File Name	A0308085.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:10
Sample Name	CCB6,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	15.56	1.446E-05	Pulse	0.30	3
B	11	6	3	12.371	ppb	0.22	81,554.48	7.577E-02	Pulse	0.30	3
Na	23	45	2	161.177	ppb	10.08	307,597.31	2.796E+00	Pulse	0.30	3
Mg	26	45	2	<0.000	ppb	---	193.34	1.757E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,241.18	1.128E-02	Pulse	0.30	3
K	39	45	2	12.568	ppb	21.15	30,602.12	2.781E-01	Pulse	0.30	3
Ca	44	45	3	0.863	ppb	22.98	7,713.20	2.687E-03	Pulse	0.30	3
V	51	45	2	0.061	ppb	14.06	962.29	8.740E-03	Pulse	0.30	3
Cr	52	45	2	0.058	ppb	22.85	638.62	5.796E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	62.91	5.718E-04	Pulse	0.30	3
Fe	56	45	2	0.084	ppb	15.00	4,225.17	3.839E-02	Pulse	0.30	3
Co	59	45	2	0.009	ppb	18.27	129.69	1.178E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	40.78	5.367E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,068.28	1.725E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	558.88	7.378E-03	Pulse	0.30	3
As	75	72	2	0.023	ppb	73.44	30.22	3.977E-04	Pulse	0.75	3
Se	78	72	1	0.008	ppb	100.39	3.33	3.464E-05	Pulse	0.30	3
Mo	95	103	2	0.122	ppb	9.28	617.82	2.944E-04	Pulse	0.30	3
Ag	107	103	3	0.609	ppb	18.95	36,796.91	7.400E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-16.07	-2.891E-06	Pulse	0.30	3
Sb	121	115	3	0.036	ppb	7.84	1,524.58	2.741E-04	Pulse	0.30	3
Ba	137	159	3	0.001	ppb	359.96	322.32	4.223E-05	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	11.45	1,952.43	4.565E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	514.81	1.204E-04	Pulse	0.30	3
U	238	209	3	0.002	ppb	3.44	377.04	8.815E-05	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	1,076,344.29	0.77	95.3	Analog	0.30	3
2	Sc	45	110,068.15	1.06	103.6	Pulse	0.30	3
3	Sc	45	2,870,859.19	0.13	103.2	Analog	0.30	3
1	Ge	72	96,761.97	0.85	106.9	Pulse	0.30	3
2	Ge	72	75,776.00	1.46	103.6	Pulse	0.30	3
2	Rh	103	2,097,932.47	0.46	98.8	Analog	0.30	3
3	Rh	103	4,971,476.18	0.27	100.1	Analog	0.30	3
3	In	115	5,561,542.15	0.31	100.6	Analog	0.30	3
3	Tb	159	7,633,056.48	0.52	97.0	Analog	0.30	3
3	Bi	209	4,277,145.04	0.25	95.6	Analog	0.30	3

Quantitation Report

File Name	A0308086.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:16
Sample Name	N018918-002E,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	8.933E-06	Pulse	0.30	3
B	11	6	3	216.992	ppb	1.41	1,081,850.24	1.089E+00	Analog	0.30	3
Na	23	45	2	229795.876	ppb	0.09	268,096,849.34	2.536E+03	Analog	0.30	3
Mg	26	45	2	6588.648	ppb	0.40	675,094.90	6.386E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	126.01	1.195E-03	Pulse	0.30	3
K	39	45	2	3055.683	ppb	0.85	1,387,888.26	1.313E+01	Analog	0.30	3
Ca	44	45	3	12345.860	ppb	1.03	17,751,836.82	6.110E+00	Analog	0.30	3
V	51	45	2	0.044	ppb	6.46	824.50	7.799E-03	Pulse	0.30	3
Cr	52	45	2	0.117	ppb	4.74	1,051.18	9.945E-03	Pulse	0.30	3
Mn	55	45	2	0.817	ppb	2.83	3,448.59	3.262E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,107.84	-2.938E-02	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-32.87	-3.145E-04	Pulse	0.30	3
Ni	60	72	2	0.313	ppb	0.92	1,087.75	1.566E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	3,933.76	5.663E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-435.43	-6.268E-03	Pulse	0.30	3
As	75	72	2	0.024	ppb	25.98	28.64	4.117E-04	Pulse	0.75	3
Se	78	72	1	0.918	ppb	4.62	333.35	3.971E-03	Pulse	0.30	3
Mo	95	103	2	4.190	ppb	0.86	17,537.99	9.664E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,685.83	1.271E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	6.89	1.336E-06	Pulse	0.30	3
Sb	121	115	3	0.016	ppb	5.18	783.38	1.518E-04	Pulse	0.30	3
Ba	137	159	3	4.032	ppb	1.32	51,286.06	7.076E-03	Pulse	0.30	3
Tl	205	209	3	0.008	ppb	13.80	1,547.92	4.304E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,591.70	-7.207E-04	Pulse	0.30	3
U	238	209	3	0.677	ppb	0.88	61,938.53	1.722E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	993,846.65	0.46	88.0	Analog	0.30	3
2	Sc	45	105,705.69	1.77	99.5	Pulse	0.30	3
3	Sc	45	2,905,662.91	1.28	104.5	Analog	0.30	3
1	Ge	72	83,939.60	2.03	92.7	Pulse	0.30	3
2	Ge	72	69,437.90	2.64	94.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,814,749.83	1.81	85.4	Analog	0.30	3
3	Rh	103	4,475,642.43	0.68	90.2	Analog	0.30	3
3	In	115	5,161,574.36	0.42	93.3	Analog	0.30	3
3	Tb	159	7,247,450.38	0.42	92.1	Analog	0.30	3
3	Bi	209	3,596,819.18	0.93	80.4	Analog	0.30	3

Quantitation Report

File Name	A0308087.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:21
Sample Name	N018918-002E,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	8.89	8.464E-06	Pulse	0.30	3
B	11	6	3	51.154	ppb	1.42	281,303.15	2.677E-01	Pulse	0.30	3
Na	23	45	2	48148.277	ppb	0.41	58,161,215.25	5.322E+02	Analog	0.30	3
Mg	26	45	2	1383.956	ppb	0.52	146,748.80	1.343E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	115.37	1.055E-03	Pulse	0.30	3
K	39	45	2	632.097	ppb	0.61	316,292.72	2.894E+00	Pulse	0.30	3
Ca	44	45	3	2566.582	ppb	0.32	3,729,311.26	1.272E+00	Analog	0.30	3
V	51	45	2	0.081	ppb	0.91	1,075.64	9.843E-03	Pulse	0.30	3
Cr	52	45	2	0.065	ppb	10.32	683.54	6.257E-03	Pulse	0.30	3
Mn	55	45	2	0.162	ppb	7.43	759.95	6.955E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,400.35	2.194E-02	Pulse	0.30	3
Co	59	45	2	0.004	ppb	25.11	66.66	6.091E-04	Pulse	0.30	3
Ni	60	72	2	0.048	ppb	3.23	267.15	3.538E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	11,503.73	1.524E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	48.66	6.460E-04	Pulse	0.30	3
As	75	72	2	0.021	ppb	24.10	28.00	3.711E-04	Pulse	0.75	3
Se	78	72	1	0.207	ppb	27.12	85.56	8.939E-04	Pulse	0.30	3
Mo	95	103	2	0.847	ppb	4.43	3,938.42	1.965E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	5,568.74	1.158E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-10,820.58	-2.001E-03	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	27.73	460.03	8.506E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-1,146.50	-1.538E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	891.18	2.260E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-20,945.26	-5.311E-03	Pulse	0.30	3
U	238	209	3	0.129	ppb	1.76	13,024.18	3.302E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,050,802.50	0.93	93.0	Analog	0.30	3
2	Sc	45	109,277.26	1.04	102.9	Pulse	0.30	3
3	Sc	45	2,931,928.22	0.46	105.4	Analog	0.30	3
1	Ge	72	95,696.38	0.80	105.7	Pulse	0.30	3
2	Ge	72	75,518.05	0.95	103.2	Pulse	0.30	3
2	Rh	103	2,003,976.92	1.06	94.4	Analog	0.30	3
3	Rh	103	4,808,900.24	0.15	96.9	Analog	0.30	3
3	In	115	5,407,867.65	0.09	97.8	Analog	0.30	3
3	Tb	159	7,454,702.81	0.21	94.8	Analog	0.30	3
3	Bi	209	3,944,195.81	0.66	88.2	Analog	0.30	3

Quantitation Report

File Name	A0308088.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:41
Sample Name	N018918-003C,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	11.11	1.230E-05	Pulse	0.30	3
B	11	6	3	149.153	ppb	0.30	681,335.44	7.528E-01	Pulse	0.30	3
Na	23	45	2	393755.309	ppb	0.84	404,019,309.53	4.345E+03	Analog	0.30	3
Mg	26	45	2	10206.591	ppb	1.14	919,728.47	9.892E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	147.17	1.581E-03	Pulse	0.30	3
K	39	45	2	4395.029	ppb	0.43	1,746,815.04	1.878E+01	Analog	0.30	3
Ca	44	45	3	14836.801	ppb	0.21	20,043,186.65	7.342E+00	Analog	0.30	3
V	51	45	2	0.104	ppb	10.84	1,034.52	1.112E-02	Pulse	0.30	3
Cr	52	45	2	0.185	ppb	29.09	1,362.33	1.471E-02	Pulse	0.30	3
Mn	55	45	2	0.778	ppb	2.61	2,894.15	3.111E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-21,908.59	-2.355E-01	Pulse	0.30	3
Co	59	45	2	0.141	ppb	17.85	1,662.70	1.794E-02	Pulse	0.30	3
Ni	60	72	2	0.608	ppb	4.50	1,763.65	2.918E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	5,127.75	8.474E-02	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,009.49	-1.670E-02	Pulse	0.30	3
As	75	72	2	0.039	ppb	9.85	35.46	5.864E-04	Pulse	0.75	3
Se	78	72	1	1.220	ppb	15.78	366.69	5.276E-03	Pulse	0.30	3
Mo	95	103	2	6.457	ppb	1.68	24,111.14	1.489E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,519.18	1.089E-03	Pulse	0.30	3
Cd	111	115	3	0.001	ppb	428.97	16.81	3.521E-06	Pulse	0.30	3
Sb	121	115	3	0.014	ppb	11.35	655.60	1.360E-04	Pulse	0.30	3
Ba	137	159	3	6.121	ppb	0.51	73,173.13	1.072E-02	Pulse	0.30	3
Tl	205	209	3	0.009	ppb	14.94	1,516.80	4.540E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,800.49	-1.137E-03	Pulse	0.30	3
U	238	209	3	1.074	ppb	0.81	91,265.81	2.732E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	905,102.12	0.77	80.1	Analog	0.30	3
2	Sc	45	92,994.58	2.68	87.6	Pulse	0.30	3
3	Sc	45	2,729,842.39	0.84	98.2	Analog	0.30	3
1	Ge	72	69,618.67	2.09	76.9	Pulse	0.30	3
2	Ge	72	60,472.34	1.48	82.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,619,671.54	0.97	76.3	Analog	0.30	3
3	Rh	103	4,152,069.70	0.95	83.6	Analog	0.30	3
3	In	115	4,818,110.90	0.72	87.1	Analog	0.30	3
3	Tb	159	6,824,907.40	0.89	86.8	Analog	0.30	3
3	Bi	209	3,340,876.72	1.02	74.7	Analog	0.30	3

Quantitation Report

File Name	A0308089.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:47
Sample Name	N018918-003C,SAMP,125
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	1.280E-05	Pulse	0.30	3
B	11	6	3	35.663	ppb	0.29	198,985.69	1.911E-01	Pulse	0.30	3
Na	23	45	2	79020.161	ppb	1.14	94,067,856.38	8.728E+02	Analog	0.30	3
Mg	26	45	2	2053.407	ppb	1.34	214,639.20	1.992E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	88.60	8.209E-04	Pulse	0.30	3
K	39	45	2	911.665	ppb	1.35	439,160.24	4.075E+00	Pulse	0.30	3
Ca	44	45	3	3060.807	ppb	0.48	4,372,728.34	1.516E+00	Analog	0.30	3
V	51	45	2	0.092	ppb	5.31	1,125.64	1.045E-02	Pulse	0.30	3
Cr	52	45	2	0.057	ppb	8.78	613.89	5.700E-03	Pulse	0.30	3
Mn	55	45	2	0.146	ppb	12.17	681.80	6.318E-03	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,259.66	-3.023E-02	Pulse	0.30	3
Co	59	45	2	0.007	ppb	29.47	99.26	9.173E-04	Pulse	0.30	3
Ni	60	72	2	0.133	ppb	15.55	540.12	7.413E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,470.73	1.986E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-130.50	-1.791E-03	Pulse	0.30	3
As	75	72	2	0.016	ppb	29.60	22.47	3.082E-04	Pulse	0.75	3
Se	78	72	1	0.285	ppb	26.25	114.45	1.234E-03	Pulse	0.30	3
Mo	95	103	2	1.251	ppb	3.33	5,582.31	2.894E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	3,612.89	7.743E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-17,526.99	-3.276E-03	Pulse	0.30	3
Sb	121	115	3	0.002	ppb	72.40	354.46	6.629E-05	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-3,435.03	-4.627E-04	Pulse	0.30	3
Tl	205	209	3	<0.000	ppb	---	726.71	1.877E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-34,089.42	-8.806E-03	Pulse	0.30	3
U	238	209	3	0.207	ppb	1.64	20,474.78	5.289E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,041,520.19	0.04	92.2	Analog	0.30	3
2	Sc	45	107,792.12	2.15	101.5	Pulse	0.30	3
3	Sc	45	2,883,537.21	0.63	103.7	Analog	0.30	3
1	Ge	72	92,745.86	0.42	102.4	Pulse	0.30	3
2	Ge	72	72,870.57	0.27	99.6	Pulse	0.30	3
2	Rh	103	1,928,963.30	0.98	90.8	Analog	0.30	3
3	Rh	103	4,665,932.33	0.66	94.0	Analog	0.30	3
3	In	115	5,350,344.64	0.74	96.7	Analog	0.30	3
3	Tb	159	7,425,911.90	0.66	94.4	Analog	0.30	3
3	Bi	209	3,871,176.78	0.34	86.5	Analog	0.30	3

Quantitation Report

File Name	A0308090.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:53
Sample Name	N018918-003C-PS,PS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	24,528.31	-3.397E-01	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	8,171,291.98	-1.132E+02	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.684E-04	Error	0.30	3
Mg	26	45	2	206055.335	ppb	0.85	11,857,614.55	1.997E+02	Analog	0.30	3
Al	27	45	2	181.895	ppb	2.75	22,198.76	3.738E-01	Pulse	0.30	3
K	39	45	2	101836.036	ppb	1.45	25,552,168.51	4.303E+02	Analog	0.30	3
Ca	44	45	3	316540.513	ppb	4.29	283,459,073.55	1.566E+02	Analog	0.30	3
V	51	45	2	12.043	ppb	2.52	39,959.07	6.728E-01	Pulse	0.30	3
Cr	52	45	2	11.216	ppb	1.60	46,930.89	7.903E-01	Pulse	0.30	3
Mn	55	45	2	94.203	ppb	1.23	219,408.43	3.695E+00	Pulse	0.30	3
Fe	56	45	2	108.356	ppb	1.00	389,700.66	6.562E+00	Pulse	0.30	3
Co	59	45	2	7.521	ppb	1.78	56,664.40	9.541E-01	Pulse	0.30	3
Ni	60	72	2	23.834	ppb	0.99	35,125.71	1.094E+00	Pulse	0.30	3
Cu	63	72	2	9.878	ppb	3.22	47,497.41	1.480E+00	Pulse	0.30	3
Zn	66	72	2	66.287	ppb	3.24	40,921.05	1.275E+00	Pulse	0.30	3
As	75	72	2	9.495	ppb	1.74	3,621.35	1.128E-01	Pulse	0.75	3
Se	78	72	1	33.430	ppb	2.26	5,641.22	1.446E-01	Pulse	0.30	3
Mo	95	103	2	177.205	ppb	0.83	303,500.65	4.082E-01	Pulse	0.30	3
Ag	107	103	3	8.112	ppb	0.69	143,847.97	7.115E-02	Pulse	0.30	3
Cd	111	115	3	7.093	ppb	0.11	28,997.81	1.214E-02	Pulse	0.30	3
Sb	121	115	3	8.753	ppb	0.25	127,414.21	5.332E-02	Pulse	0.30	3
Ba	137	159	3	241.335	ppb	1.81	1,385,504.46	4.211E-01	Analog	0.30	3
Tl	205	209	3	7.850	ppb	4.47	180,065.48	1.388E-01	Pulse	0.30	3
Pb	208	209	3	9.042	ppb	1.04	279,910.46	2.158E-01	Pulse	0.30	3
U	238	209	3	39.948	ppb	1.56	1,316,866.21	1.015E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-73,297.31	-16.11	-6.5	Analog	0.30	3
2	Sc	45	59,384.12	0.50	55.9	Pulse	0.30	3
3	Sc	45	1,812,157.04	4.11	65.2	Analog	0.30	3
1	Ge	72	39,016.34	0.97	43.1	Pulse	0.30	3
2	Ge	72	32,104.76	3.06	43.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	743,539.92	1.64	35.0	Pulse	0.30	3
3	Rh	103	2,021,910.11	1.10	40.7	Analog	0.30	3
3	In	115	2,389,599.15	0.70	43.2	Analog	0.30	3
3	Tb	159	3,290,041.20	0.36	41.8	Analog	0.30	3
3	Bi	209	1,297,078.58	0.40	29.0	Analog	0.30	3

Quantitation Report

File Name	A0308091.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 21:59
Sample Name	N018918-003C-PS,PS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.644	ppb	2.51	9,187.29	1.440E-02	Pulse	0.30	3
B	11	6	3	1169.535	ppb	0.66	3,704,067.65	5.803E+00	Analog	0.30	3
Na	23	45	2	1976987.267	ppb	1.39	1,935,630,335.60	2.181E+04	Analog	0.30	3
Mg	26	45	2	46046.244	ppb	1.05	3,959,709.76	4.462E+01	Analog	0.30	3
Al	27	45	2	35.005	ppb	3.29	7,230.44	8.145E-02	Pulse	0.30	3
K	39	45	2	21073.533	ppb	1.34	7,917,692.52	8.922E+01	Analog	0.30	3
Ca	44	45	3	77970.111	ppb	0.77	101,707,527.37	3.857E+01	Analog	0.30	3
V	51	45	2	2.641	ppb	0.78	13,463.74	1.517E-01	Pulse	0.30	3
Cr	52	45	2	2.262	ppb	4.16	14,264.96	1.607E-01	Pulse	0.30	3
Mn	55	45	2	24.048	ppb	2.21	83,747.11	9.436E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-29,051.85	-3.272E-01	Pulse	0.30	3
Co	59	45	2	1.677	ppb	1.84	18,888.58	2.128E-01	Pulse	0.30	3
Ni	60	72	2	4.658	ppb	2.89	11,478.77	2.149E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-24,320.19	-4.552E-01	Pulse	0.30	3
Zn	66	72	2	11.163	ppb	1.94	11,832.61	2.214E-01	Pulse	0.30	3
As	75	72	2	2.255	ppb	2.76	1,436.21	2.689E-02	Pulse	0.75	3
Se	78	72	1	7.659	ppb	2.04	2,190.24	3.313E-02	Pulse	0.30	3
Mo	95	103	2	35.775	ppb	0.79	111,517.44	8.241E-02	Pulse	0.30	3
Ag	107	103	3	1.689	ppb	1.38	58,207.49	1.657E-02	Pulse	0.30	3
Cd	111	115	3	1.782	ppb	3.36	12,497.92	3.051E-03	Pulse	0.30	3
Sb	121	115	3	2.121	ppb	0.14	53,118.06	1.296E-02	Pulse	0.30	3
Ba	137	159	3	50.900	ppb	0.64	513,712.87	8.885E-02	Pulse	0.30	3
Tl	205	209	3	1.820	ppb	1.82	83,593.82	3.241E-02	Pulse	0.30	3
Pb	208	209	3	2.019	ppb	0.62	124,660.99	4.833E-02	Pulse	0.30	3
U	238	209	3	8.054	ppb	0.13	527,995.33	2.047E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	638,252.85	1.31	56.5	Analog	0.30	3
2	Sc	45	88,750.38	2.66	83.6	Pulse	0.30	3
3	Sc	45	2,636,847.32	2.39	94.8	Analog	0.30	3
1	Ge	72	66,122.08	1.41	73.0	Pulse	0.30	3
2	Ge	72	53,430.52	2.38	73.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,353,065.50	2.08	63.7	Analog	0.30	3
3	Rh	103	3,511,726.89	1.82	70.7	Analog	0.30	3
3	In	115	4,097,946.86	2.19	74.1	Analog	0.30	3
3	Tb	159	5,782,067.76	2.14	73.5	Analog	0.30	3
3	Bi	209	2,579,338.41	1.87	57.7	Analog	0.30	3

Quantitation Report

File Name	A0308092.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:04
Sample Name	N018918-003C-PS,PS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.459	ppb	4.02	2,391.38	2.511E-03	Pulse	0.30	3
B	11	6	3	249.733	ppb	0.31	1,190,975.82	1.251E+00	Analog	0.30	3
Na	23	45	2	409301.614	ppb	2.09	479,651,108.41	4.517E+03	Analog	0.30	3
Mg	26	45	2	9766.220	ppb	1.10	1,005,701.80	9.465E+00	Mix	0.30	3
Al	27	45	2	2.886	ppb	3.77	1,861.01	1.752E-02	Pulse	0.30	3
K	39	45	2	4360.901	ppb	1.48	1,979,769.29	1.864E+01	Analog	0.30	3
Ca	44	45	3	16604.929	ppb	0.48	24,674,646.58	8.217E+00	Analog	0.30	3
V	51	45	2	0.573	ppb	7.77	3,942.85	3.716E-02	Pulse	0.30	3
Cr	52	45	2	0.522	ppb	3.32	4,084.60	3.844E-02	Pulse	0.30	3
Mn	55	45	2	5.046	ppb	3.63	21,065.70	1.984E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,102.01	-2.929E-02	Pulse	0.30	3
Co	59	45	2	0.378	ppb	0.65	5,107.35	4.807E-02	Pulse	0.30	3
Ni	60	72	2	0.921	ppb	4.48	3,004.73	4.354E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,258.84	-1.829E-02	Pulse	0.30	3
Zn	66	72	2	2.426	ppb	3.25	3,750.82	5.436E-02	Pulse	0.30	3
As	75	72	2	0.460	ppb	8.64	385.00	5.587E-03	Pulse	0.75	3
Se	78	72	1	1.618	ppb	8.85	577.81	6.999E-03	Pulse	0.30	3
Mo	95	103	2	7.136	ppb	3.01	29,649.36	1.645E-02	Pulse	0.30	3
Ag	107	103	3	0.312	ppb	1.68	21,860.23	4.879E-03	Pulse	0.30	3
Cd	111	115	3	0.392	ppb	3.87	3,472.58	6.718E-04	Pulse	0.30	3
Sb	121	115	3	0.452	ppb	1.37	14,480.47	2.801E-03	Pulse	0.30	3
Ba	137	159	3	10.593	ppb	0.81	133,549.66	1.852E-02	Pulse	0.30	3
Tl	205	209	3	0.471	ppb	1.01	30,373.01	8.603E-03	Pulse	0.30	3
Pb	208	209	3	0.400	ppb	1.07	34,322.94	9.724E-03	Pulse	0.30	3
U	238	209	3	1.512	ppb	0.32	135,711.38	3.844E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	952,327.55	0.44	84.3	Analog	0.30	3
2	Sc	45	106,236.88	3.16	100.0	Pulse	0.30	3
3	Sc	45	3,003,002.18	1.14	108.0	Analog	0.30	3
1	Ge	72	82,639.93	2.18	91.3	Pulse	0.30	3
2	Ge	72	68,963.43	2.63	94.3	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,802,404.00	1.37	84.9	Analog	0.30	3
3	Rh	103	4,480,579.31	0.82	90.3	Analog	0.30	3
3	In	115	5,169,095.11	0.45	93.5	Analog	0.30	3
3	Tb	159	7,209,286.84	0.53	91.7	Analog	0.30	3
3	Bi	209	3,530,143.63	1.05	78.9	Analog	0.30	3

Quantitation Report

File Name	A0308093.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:10
Sample Name	N018918-003C-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	24,340.29	-2.649E-01	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	7,663,242.12	-8.330E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.780E-04	Error	0.30	3
Mg	26	45	2	229807.550	ppb	0.55	12,510,034.54	2.227E+02	Analog	0.30	3
Al	27	45	2	204.115	ppb	0.62	23,484.52	4.180E-01	Pulse	0.30	3
K	39	45	2	114251.001	ppb	0.51	27,117,189.04	4.827E+02	Analog	0.30	3
Ca	44	45	3	440135.193	ppb	1.03	340,619,823.81	2.177E+02	Analog	0.30	3
V	51	45	2	12.916	ppb	0.58	40,515.85	7.212E-01	Pulse	0.30	3
Cr	52	45	2	12.267	ppb	1.24	48,552.18	8.642E-01	Pulse	0.30	3
Mn	55	45	2	104.412	ppb	0.49	230,043.95	4.095E+00	Pulse	0.30	3
Fe	56	45	2	134.424	ppb	0.46	456,884.21	8.133E+00	Pulse	0.30	3
Co	59	45	2	8.336	ppb	0.96	59,411.14	1.058E+00	Pulse	0.30	3
Ni	60	72	2	23.967	ppb	2.23	37,036.69	1.100E+00	Pulse	0.30	3
Cu	63	72	2	9.432	ppb	1.29	47,889.76	1.423E+00	Pulse	0.30	3
Zn	66	72	2	64.484	ppb	0.90	41,766.24	1.241E+00	Pulse	0.30	3
As	75	72	2	9.385	ppb	1.63	3,754.08	1.115E-01	Pulse	0.75	3
Se	78	72	1	35.260	ppb	1.11	6,144.72	1.525E-01	Pulse	0.30	3
Mo	95	103	2	167.092	ppb	1.20	291,429.29	3.849E-01	Pulse	0.30	3
Ag	107	103	3	6.450	ppb	1.00	113,757.04	5.702E-02	Pulse	0.30	3
Cd	111	115	3	6.947	ppb	0.89	28,295.43	1.188E-02	Pulse	0.30	3
Sb	121	115	3	8.777	ppb	1.31	127,288.83	5.347E-02	Pulse	0.30	3
Ba	137	159	3	242.453	ppb	0.48	1,378,195.45	4.231E-01	Analog	0.30	3
Tl	205	209	3	8.328	ppb	0.99	187,108.75	1.473E-01	Pulse	0.30	3
Pb	208	209	3	9.157	ppb	0.40	277,636.34	2.185E-01	Pulse	0.30	3
U	238	209	3	39.962	ppb	0.44	1,290,308.00	1.016E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-92,905.36	-12.55	-8.2	Analog	0.30	3
2	Sc	45	56,179.52	1.13	52.9	Pulse	0.30	3
3	Sc	45	1,564,302.39	0.60	56.2	Analog	0.30	3
1	Ge	72	40,292.86	0.83	44.5	Pulse	0.30	3
2	Ge	72	33,658.90	0.76	46.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	757,274.65	1.19	35.7	Pulse	0.30	3
3	Rh	103	1,995,215.16	1.01	40.2	Analog	0.30	3
3	In	115	2,380,915.78	0.91	43.0	Analog	0.30	3
3	Tb	159	3,257,453.74	0.68	41.4	Analog	0.30	3
3	Bi	209	1,270,456.15	0.24	28.4	Analog	0.30	3

Quantitation Report

File Name	A0308094.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:15
Sample Name	N018918-003C-MS,MS,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.463	ppb	3.47	8,084.44	1.341E-02	Pulse	0.30	3
B	11	6	3	1102.770	ppb	1.18	3,299,523.22	5.473E+00	Analog	0.30	3
Na	23	45	2	1966579.236	ppb	0.71	1,810,170,177.47	2.170E+04	Analog	0.30	3
Mg	26	45	2	46412.600	ppb	0.97	3,752,060.40	4.498E+01	Analog	0.30	3
Al	27	45	2	35.071	ppb	2.93	6,805.40	8.158E-02	Pulse	0.30	3
K	39	45	2	20919.433	ppb	0.27	7,389,438.43	8.857E+01	Analog	0.30	3
Ca	44	45	3	100695.966	ppb	0.86	119,931,491.54	4.982E+01	Analog	0.30	3
V	51	45	2	2.513	ppb	3.45	12,064.85	1.447E-01	Pulse	0.30	3
Cr	52	45	2	2.226	ppb	4.46	13,193.85	1.582E-01	Pulse	0.30	3
Mn	55	45	2	23.887	ppb	0.58	78,194.00	9.373E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-4,965.17	-5.950E-02	Pulse	0.30	3
Co	59	45	2	1.642	ppb	1.84	17,376.22	2.083E-01	Pulse	0.30	3
Ni	60	72	2	4.570	ppb	3.58	10,946.74	2.109E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-22,535.71	-4.342E-01	Pulse	0.30	3
Zn	66	72	2	10.468	ppb	1.90	10,801.43	2.081E-01	Pulse	0.30	3
As	75	72	2	2.077	ppb	4.77	1,286.16	2.478E-02	Pulse	0.75	3
Se	78	72	1	7.334	ppb	2.44	1,992.42	3.172E-02	Pulse	0.30	3
Mo	95	103	2	34.662	ppb	1.74	105,372.60	7.985E-02	Pulse	0.30	3
Ag	107	103	3	1.392	ppb	1.45	46,906.14	1.405E-02	Pulse	0.30	3
Cd	111	115	3	1.688	ppb	0.83	11,348.94	2.890E-03	Pulse	0.30	3
Sb	121	115	3	2.056	ppb	0.67	49,342.60	1.256E-02	Pulse	0.30	3
Ba	137	159	3	49.298	ppb	0.40	481,041.14	8.606E-02	Pulse	0.30	3
Tl	205	209	3	1.989	ppb	0.69	89,676.60	3.540E-02	Pulse	0.30	3
Pb	208	209	3	1.957	ppb	0.66	118,733.12	4.687E-02	Pulse	0.30	3
U	238	209	3	7.774	ppb	0.46	500,615.10	1.976E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	602,963.63	1.14	53.4	Analog	0.30	3
2	Sc	45	83,433.33	1.81	78.6	Pulse	0.30	3
3	Sc	45	2,407,450.54	0.35	86.6	Analog	0.30	3
1	Ge	72	62,785.90	2.83	69.3	Pulse	0.30	3
2	Ge	72	51,899.74	0.59	70.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,319,698.04	0.67	62.1	Analog	0.30	3
3	Rh	103	3,338,608.22	1.16	67.3	Analog	0.30	3
3	In	115	3,927,256.67	0.61	71.0	Analog	0.30	3
3	Tb	159	5,589,840.12	0.39	71.1	Analog	0.30	3
3	Bi	209	2,533,438.52	0.22	56.6	Analog	0.30	3

Quantitation Report

File Name	A0308095.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:21
Sample Name	N018918-003C-MS,MS,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.442	ppb	3.73	2,130.22	2.422E-03	Pulse	0.30	3
B	11	6	3	241.610	ppb	0.81	1,064,347.71	1.210E+00	Analog	0.30	3
Na	23	45	2	400674.553	ppb	0.15	438,610,149.02	4.422E+03	Analog	0.30	3
Mg	26	45	2	9355.794	ppb	0.46	899,477.29	9.068E+00	Pulse	0.30	3
Al	27	45	2	2.680	ppb	14.68	1,697.13	1.711E-02	Pulse	0.30	3
K	39	45	2	4259.472	ppb	1.57	1,806,705.91	1.821E+01	Analog	0.30	3
Ca	44	45	3	20451.889	ppb	0.10	28,103,232.36	1.012E+01	Analog	0.30	3
V	51	45	2	0.527	ppb	4.83	3,431.61	3.461E-02	Pulse	0.30	3
Cr	52	45	2	0.470	ppb	4.64	3,448.63	3.476E-02	Pulse	0.30	3
Mn	55	45	2	5.018	ppb	1.38	19,576.89	1.974E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	2,606.10	2.624E-02	Pulse	0.30	3
Co	59	45	2	0.353	ppb	6.31	4,448.04	4.482E-02	Pulse	0.30	3
Ni	60	72	2	0.988	ppb	7.78	3,029.20	4.663E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,491.12	-2.298E-02	Pulse	0.30	3
Zn	66	72	2	2.332	ppb	6.34	3,414.13	5.255E-02	Pulse	0.30	3
As	75	72	2	0.498	ppb	0.70	391.53	6.030E-03	Pulse	0.75	3
Se	78	72	1	1.526	ppb	9.43	531.14	6.599E-03	Pulse	0.30	3
Mo	95	103	2	6.945	ppb	0.58	27,235.02	1.601E-02	Pulse	0.30	3
Ag	107	103	3	0.283	ppb	7.48	19,480.58	4.625E-03	Pulse	0.30	3
Cd	111	115	3	0.401	ppb	3.89	3,351.90	6.884E-04	Pulse	0.30	3
Sb	121	115	3	0.440	ppb	2.01	13,283.81	2.729E-03	Pulse	0.30	3
Ba	137	159	3	10.014	ppb	0.69	120,502.11	1.751E-02	Pulse	0.30	3
Tl	205	209	3	0.480	ppb	0.81	29,732.83	8.772E-03	Pulse	0.30	3
Pb	208	209	3	0.386	ppb	1.07	31,859.82	9.400E-03	Pulse	0.30	3
U	238	209	3	1.467	ppb	0.80	126,438.57	3.731E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	879,404.04	1.23	77.8	Analog	0.30	3
2	Sc	45	99,200.32	1.71	93.4	Pulse	0.30	3
3	Sc	45	2,777,006.98	0.48	99.8	Analog	0.30	3
1	Ge	72	80,486.03	3.52	88.9	Pulse	0.30	3
2	Ge	72	64,933.89	1.51	88.7	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,701,171.55	1.70	80.1	Analog	0.30	3
3	Rh	103	4,212,715.81	0.52	84.9	Analog	0.30	3
3	In	115	4,868,059.01	0.71	88.0	Analog	0.30	3
3	Tb	159	6,880,863.16	0.62	87.5	Analog	0.30	3
3	Bi	209	3,389,384.53	0.88	75.8	Analog	0.30	3

Quantitation Report

File Name	A0308096.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:27
Sample Name	CCV7,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	19.114	ppb	0.40	102,207.79	1.039E-01	Pulse	0.30	3
B	11	6	3	215.217	ppb	0.87	1,061,632.63	1.080E+00	Analog	0.30	3
Na	23	45	2	1371.628	ppb	1.21	1,710,869.18	1.615E+01	Analog	0.30	3
Mg	26	45	2	190.545	ppb	2.10	19,755.44	1.865E-01	Pulse	0.30	3
Al	27	45	2	15.783	ppb	5.37	4,576.62	4.319E-02	Pulse	0.30	3
K	39	45	2	223.210	ppb	1.55	123,689.50	1.168E+00	Pulse	0.30	3
Ca	44	45	3	201.030	ppb	0.22	284,463.15	1.017E-01	Pulse	0.30	3
V	51	45	2	18.960	ppb	0.54	111,891.44	1.056E+00	Pulse	0.30	3
Cr	52	45	2	18.548	ppb	0.86	138,328.17	1.306E+00	Pulse	0.30	3
Mn	55	45	2	19.265	ppb	0.49	80,094.54	7.560E-01	Pulse	0.30	3
Fe	56	45	2	19.248	ppb	1.18	126,394.15	1.193E+00	Pulse	0.30	3
Co	59	45	2	18.657	ppb	0.61	250,745.48	2.367E+00	Pulse	0.30	3
Ni	60	72	2	18.558	ppb	0.16	62,591.14	8.523E-01	Pulse	0.30	3
Cu	63	72	2	17.530	ppb	0.80	181,006.14	2.465E+00	Pulse	0.30	3
Zn	66	72	2	18.635	ppb	1.40	26,750.85	3.643E-01	Pulse	0.30	3
As	75	72	2	18.911	ppb	0.99	16,494.66	2.246E-01	Pulse	0.75	3
Se	78	72	1	18.016	ppb	1.38	7,366.40	7.792E-02	Pulse	0.30	3
Mo	95	103	2	19.532	ppb	0.79	91,668.69	4.500E-02	Pulse	0.30	3
Ag	107	103	3	18.338	ppb	1.57	759,162.88	1.580E-01	Pulse	0.30	3
Cd	111	115	3	18.456	ppb	0.80	172,368.09	3.157E-02	Pulse	0.30	3
Sb	121	115	3	18.412	ppb	0.61	612,077.16	1.121E-01	Pulse	0.30	3
Ba	137	159	3	19.744	ppb	0.91	256,304.28	3.449E-02	Pulse	0.30	3
Tl	205	209	3	19.196	ppb	0.45	1,430,149.39	3.391E-01	Analog	0.30	3
Pb	208	209	3	18.834	ppb	0.69	1,894,871.19	4.493E-01	Analog	0.30	3
U	238	209	3	18.818	ppb	0.64	2,017,087.75	4.783E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	983,254.63	0.77	87.0	Analog	0.30	3
2	Sc	45	105,941.25	0.93	99.8	Pulse	0.30	3
3	Sc	45	2,796,742.88	0.47	100.6	Analog	0.30	3
1	Ge	72	94,531.70	0.92	104.4	Pulse	0.30	3
2	Ge	72	73,439.78	0.95	100.4	Pulse	0.30	3
2	Rh	103	2,036,985.54	0.98	95.9	Analog	0.30	3
3	Rh	103	4,804,454.06	0.63	96.8	Analog	0.30	3
3	In	115	5,459,982.09	0.86	98.7	Analog	0.30	3
3	Tb	159	7,431,358.43	0.38	94.5	Analog	0.30	3
3	Bi	209	4,217,615.84	0.69	94.3	Analog	0.30	3

Quantitation Report

File Name	A0308097.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:32
Sample Name	CCB7,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	80.01	27.78	2.757E-05	Pulse	0.30	3
B	11	6	3	20.767	ppb	1.91	118,570.73	1.173E-01	Pulse	0.30	3
Na	23	45	2	840.277	ppb	6.44	1,095,618.80	1.029E+01	Analog	0.30	3
Mg	26	45	2	0.962	ppb	90.23	293.35	2.762E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,204.52	1.131E-02	Pulse	0.30	3
K	39	45	2	23.726	ppb	19.49	34,633.54	3.252E-01	Pulse	0.30	3
Ca	44	45	3	2.536	ppb	9.99	9,936.72	3.515E-03	Pulse	0.30	3
V	51	45	2	0.092	ppb	9.38	1,117.87	1.049E-02	Pulse	0.30	3
Cr	52	45	2	0.046	ppb	7.34	530.02	4.974E-03	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	54.57	5.117E-04	Pulse	0.30	3
Fe	56	45	2	0.144	ppb	36.86	4,483.15	4.203E-02	Pulse	0.30	3
Co	59	45	2	0.003	ppb	54.84	41.12	3.882E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	30.00	4.051E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	9,647.36	1.299E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	576.69	7.760E-03	Pulse	0.30	3
As	75	72	2	0.022	ppb	27.39	28.45	3.828E-04	Pulse	0.75	3
Se	78	72	1	0.011	ppb	114.90	4.44	4.679E-05	Pulse	0.30	3
Mo	95	103	2	0.163	ppb	10.19	802.28	3.882E-04	Pulse	0.30	3
Ag	107	103	3	0.508	ppb	19.14	32,151.35	6.536E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-137.51	-2.508E-05	Pulse	0.30	3
Sb	121	115	3	0.036	ppb	8.72	1,483.47	2.706E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	187.81	2.493E-05	Pulse	0.30	3
Tl	205	209	3	0.068	ppb	1.97	6,349.38	1.495E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	153.76	3.613E-05	Pulse	0.30	3
U	238	209	3	0.003	ppb	6.83	430.96	1.015E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	1,010,778.96	1.67	89.5	Analog	0.30	3
2	Sc	45	106,576.72	2.00	100.4	Pulse	0.30	3
3	Sc	45	2,827,706.10	0.88	101.7	Analog	0.30	3
1	Ge	72	95,435.67	0.65	105.4	Pulse	0.30	3
2	Ge	72	74,235.85	1.30	101.5	Pulse	0.30	3
2	Rh	103	2,066,639.86	0.16	97.3	Analog	0.30	3
3	Rh	103	4,920,068.85	0.28	99.1	Analog	0.30	3
3	In	115	5,483,057.40	0.28	99.1	Analog	0.30	3
3	Tb	159	7,535,929.68	0.41	95.8	Analog	0.30	3
3	Bi	209	4,247,841.71	0.68	94.9	Analog	0.30	3

Quantitation Report

File Name	A0308098.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:38
Sample Name	N018918-003C-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	21,514.24	-2.392E-01	Pulse	0.30	3
B	11	6	3	<0.000	ppb	---	7,117,691.15	-7.912E+01	Analog	0.30	3
Na	23	45	2	OR	ppb	---	OR	-1.891E-04	Error	0.30	3
Mg	26	45	2	230265.432	ppb	2.24	11,801,292.05	2.231E+02	Analog	0.30	3
Al	27	45	2	206.396	ppb	2.62	22,347.85	4.226E-01	Pulse	0.30	3
K	39	45	2	113616.071	ppb	1.94	25,388,385.45	4.800E+02	Analog	0.30	3
Ca	44	45	3	487917.723	ppb	0.35	350,618,585.89	2.414E+02	Analog	0.30	3
V	51	45	2	12.693	ppb	2.78	37,487.63	7.088E-01	Pulse	0.30	3
Cr	52	45	2	12.336	ppb	1.53	45,964.07	8.690E-01	Pulse	0.30	3
Mn	55	45	2	104.881	ppb	2.50	217,543.25	4.113E+00	Pulse	0.30	3
Fe	56	45	2	135.343	ppb	2.50	433,063.19	8.188E+00	Pulse	0.30	3
Co	59	45	2	8.176	ppb	1.58	54,865.67	1.037E+00	Pulse	0.30	3
Ni	60	72	2	23.025	ppb	0.14	34,347.39	1.057E+00	Pulse	0.30	3
Cu	63	72	2	9.654	ppb	1.36	47,154.37	1.451E+00	Pulse	0.30	3
Zn	66	72	2	63.759	ppb	1.23	39,865.80	1.227E+00	Pulse	0.30	3
As	75	72	2	9.446	ppb	2.19	3,646.84	1.122E-01	Pulse	0.75	3
Se	78	72	1	35.048	ppb	1.47	5,736.79	1.516E-01	Pulse	0.30	3
Mo	95	103	2	165.799	ppb	1.24	277,223.19	3.819E-01	Pulse	0.30	3
Ag	107	103	3	6.431	ppb	0.27	109,435.66	5.686E-02	Pulse	0.30	3
Cd	111	115	3	6.975	ppb	0.33	27,407.26	1.193E-02	Pulse	0.30	3
Sb	121	115	3	8.919	ppb	0.39	124,797.35	5.433E-02	Pulse	0.30	3
Ba	137	159	3	239.404	ppb	0.52	1,338,215.86	4.178E-01	Analog	0.30	3
Tl	205	209	3	8.426	ppb	1.29	188,584.92	1.490E-01	Pulse	0.30	3
Pb	208	209	3	9.120	ppb	0.82	275,484.14	2.177E-01	Pulse	0.30	3
U	238	209	3	39.396	ppb	1.24	1,267,216.12	1.001E+00	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	-91,064.69	-12.96	-8.1	Analog	0.30	3
2	Sc	45	52,902.78	1.70	49.8	Pulse	0.30	3
3	Sc	45	1,452,542.20	0.59	52.2	Analog	0.30	3
1	Ge	72	37,843.64	1.33	41.8	Pulse	0.30	3
2	Ge	72	32,492.02	0.99	44.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	725,932.57	0.21	34.2	Pulse	0.30	3
3	Rh	103	1,924,642.33	0.31	38.8	Analog	0.30	3
3	In	115	2,296,989.10	0.39	41.5	Analog	0.30	3
3	Tb	159	3,203,292.77	0.05	40.7	Analog	0.30	3
3	Bi	209	1,265,695.82	0.54	28.3	Analog	0.30	3

Quantitation Report

File Name	A0308099.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:43
Sample Name	N018918-003C-MSD,MSD,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.467	ppb	4.08	7,157.34	1.343E-02	Pulse	0.30	3
B	11	6	3	1083.626	ppb	0.71	2,865,804.69	5.378E+00	Analog	0.30	3
Na	23	45	2	1981755.971	ppb	0.99	1,593,445,327.37	2.187E+04	Analog	0.30	3
Mg	26	45	2	46454.092	ppb	1.22	3,280,572.87	4.502E+01	Analog	0.30	3
Al	27	45	2	34.529	ppb	1.15	5,867.52	8.050E-02	Pulse	0.30	3
K	39	45	2	21001.797	ppb	1.40	6,479,613.65	8.891E+01	Analog	0.30	3
Ca	44	45	3	99811.811	ppb	0.18	102,767,375.13	4.938E+01	Analog	0.30	3
V	51	45	2	2.528	ppb	1.46	10,606.04	1.455E-01	Pulse	0.30	3
Cr	52	45	2	2.283	ppb	2.82	11,820.73	1.623E-01	Pulse	0.30	3
Mn	55	45	2	24.088	ppb	0.42	68,886.34	9.452E-01	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-6,697.85	-9.156E-02	Pulse	0.30	3
Co	59	45	2	1.666	ppb	4.64	15,391.00	2.114E-01	Pulse	0.30	3
Ni	60	72	2	4.502	ppb	3.24	9,591.97	2.077E-01	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-18,737.30	-4.057E-01	Pulse	0.30	3
Zn	66	72	2	10.610	ppb	2.33	9,735.18	2.108E-01	Pulse	0.30	3
As	75	72	2	2.177	ppb	3.53	1,199.11	2.596E-02	Pulse	0.75	3
Se	78	72	1	7.257	ppb	9.92	1,799.07	3.139E-02	Pulse	0.30	3
Mo	95	103	2	34.773	ppb	0.80	93,056.73	8.010E-02	Pulse	0.30	3
Ag	107	103	3	1.365	ppb	1.02	40,548.89	1.382E-02	Pulse	0.30	3
Cd	111	115	3	1.691	ppb	2.71	9,964.57	2.894E-03	Pulse	0.30	3
Sb	121	115	3	2.073	ppb	0.31	43,622.41	1.267E-02	Pulse	0.30	3
Ba	137	159	3	49.241	ppb	0.24	421,434.42	8.596E-02	Pulse	0.30	3
Tl	205	209	3	2.039	ppb	1.87	81,995.35	3.628E-02	Pulse	0.30	3
Pb	208	209	3	1.945	ppb	0.40	105,272.39	4.657E-02	Pulse	0.30	3
U	238	209	3	7.738	ppb	0.12	444,554.71	1.967E-01	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	532,893.97	0.65	47.2	Analog	0.30	3
2	Sc	45	72,887.50	3.00	68.6	Pulse	0.30	3
3	Sc	45	2,081,156.67	1.09	74.8	Analog	0.30	3
1	Ge	72	57,314.56	0.24	63.3	Pulse	0.30	3
2	Ge	72	46,197.31	3.60	63.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,161,595.56	2.31	54.7	Analog	0.30	3
3	Rh	103	2,933,030.34	1.65	59.1	Analog	0.30	3
3	In	115	3,443,332.42	1.24	62.3	Analog	0.30	3
3	Tb	159	4,902,747.85	1.33	62.3	Analog	0.30	3
3	Bi	209	2,260,393.98	0.70	50.5	Analog	0.30	3

Quantitation Report

File Name	A0308100.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:49
Sample Name	N018918-003C-MSD,MSD,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.415	ppb	1.05	1,815.73	2.271E-03	Pulse	0.30	3
B	11	6	3	230.613	ppb	3.54	923,909.70	1.156E+00	Mix	0.30	3
Na	23	45	2	399823.617	ppb	0.31	408,985,349.46	4.412E+03	Analog	0.30	3
Mg	26	45	2	9356.085	ppb	0.76	840,492.03	9.068E+00	Pulse	0.30	3
Al	27	45	2	2.554	ppb	10.19	1,562.99	1.686E-02	Pulse	0.30	3
K	39	45	2	4308.414	ppb	1.20	1,707,555.20	1.842E+01	Analog	0.30	3
Ca	44	45	3	20480.795	ppb	0.35	25,595,815.73	1.013E+01	Analog	0.30	3
V	51	45	2	0.546	ppb	4.35	3,306.02	3.564E-02	Pulse	0.30	3
Cr	52	45	2	0.483	ppb	0.88	3,309.10	3.570E-02	Pulse	0.30	3
Mn	55	45	2	5.019	ppb	1.62	18,305.77	1.974E-01	Pulse	0.30	3
Fe	56	45	2	0.044	ppb	84.77	3,330.95	3.597E-02	Pulse	0.30	3
Co	59	45	2	0.368	ppb	2.69	4,331.67	4.675E-02	Pulse	0.30	3
Ni	60	72	2	0.973	ppb	1.72	2,819.62	4.594E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	585.25	9.509E-03	Pulse	0.30	3
Zn	66	72	2	2.293	ppb	5.24	3,179.26	5.182E-02	Pulse	0.30	3
As	75	72	2	0.438	ppb	2.04	326.82	5.324E-03	Pulse	0.75	3
Se	78	72	1	1.565	ppb	5.84	527.81	6.771E-03	Pulse	0.30	3
Mo	95	103	2	6.821	ppb	3.36	25,379.70	1.572E-02	Pulse	0.30	3
Ag	107	103	3	0.232	ppb	7.16	16,333.61	4.197E-03	Pulse	0.30	3
Cd	111	115	3	0.388	ppb	3.89	3,014.86	6.663E-04	Pulse	0.30	3
Sb	121	115	3	0.442	ppb	2.10	12,402.02	2.740E-03	Pulse	0.30	3
Ba	137	159	3	10.074	ppb	1.05	112,830.94	1.762E-02	Pulse	0.30	3
Tl	205	209	3	0.468	ppb	1.18	27,241.36	8.545E-03	Pulse	0.30	3
Pb	208	209	3	0.378	ppb	1.05	29,334.55	9.202E-03	Pulse	0.30	3
U	238	209	3	1.456	ppb	0.74	118,020.61	3.702E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	799,693.44	2.51	70.8	Analog	0.30	3
2	Sc	45	92,700.41	2.67	87.3	Pulse	0.30	3
3	Sc	45	2,525,704.13	0.74	90.8	Analog	0.30	3
1	Ge	72	77,969.40	0.91	86.1	Pulse	0.30	3
2	Ge	72	61,377.01	1.79	83.9	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,613,717.58	1.31	76.0	Analog	0.30	3
3	Rh	103	3,891,858.14	0.33	78.4	Analog	0.30	3
3	In	115	4,525,454.62	0.87	81.8	Analog	0.30	3
3	Tb	159	6,404,653.03	0.85	81.4	Analog	0.30	3
3	Bi	209	3,187,946.86	0.35	71.3	Analog	0.30	3

Quantitation Report

File Name	A0308101.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 22:55
Sample Name	N018919-002B,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	13.33	1.598E-05	Pulse	0.30	3
B	11	6	3	226.900	ppb	0.94	950,393.88	1.138E+00	Mix	0.30	3
Na	23	45	2	300147.439	ppb	1.28	307,575,615.42	3.312E+03	Analog	0.30	3
Mg	26	45	2	6896.631	ppb	1.37	620,685.52	6.685E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	270.34	2.911E-03	Pulse	0.30	3
K	39	45	2	3360.041	ppb	1.92	1,338,217.38	1.441E+01	Analog	0.30	3
Ca	44	45	3	45082.320	ppb	0.71	57,629,831.36	2.230E+01	Analog	0.30	3
V	51	45	2	1.801	ppb	3.84	9,776.61	1.052E-01	Pulse	0.30	3
Cr	52	45	2	164.771	ppb	1.08	1,075,843.95	1.159E+01	Analog	0.30	3
Mn	55	45	2	1.939	ppb	2.36	7,114.14	7.663E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-20,433.58	-2.201E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-235.62	-2.532E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-334.63	-5.405E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-1,099.71	-1.775E-02	Pulse	0.30	3
Zn	66	72	2	0.857	ppb	13.43	1,509.34	2.435E-02	Pulse	0.30	3
As	75	72	2	0.666	ppb	11.00	496.82	8.027E-03	Pulse	0.75	3
Se	78	72	1	0.966	ppb	12.60	324.46	4.178E-03	Pulse	0.30	3
Mo	95	103	2	4.505	ppb	2.82	17,273.22	1.039E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	4,516.16	1.128E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-155.44	-3.300E-05	Pulse	0.30	3
Sb	121	115	3	0.006	ppb	43.29	408.91	8.683E-05	Pulse	0.30	3
Ba	137	159	3	6.337	ppb	0.45	75,302.72	1.110E-02	Pulse	0.30	3
Tl	205	209	3	0.093	ppb	4.46	6,513.90	1.932E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-4,297.35	-1.275E-03	Pulse	0.30	3
U	238	209	3	0.837	ppb	1.05	71,756.24	2.129E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	835,466.80	0.33	73.9	Analog	0.30	3
2	Sc	45	92,874.87	2.90	87.5	Pulse	0.30	3
3	Sc	45	2,583,800.55	0.61	92.9	Analog	0.30	3
1	Ge	72	77,689.35	0.37	85.8	Pulse	0.30	3
2	Ge	72	61,930.20	1.53	84.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,663,024.59	1.35	78.3	Analog	0.30	3
3	Rh	103	4,005,526.05	0.62	80.7	Analog	0.30	3
3	In	115	4,709,997.73	0.49	85.2	Analog	0.30	3
3	Tb	159	6,785,299.28	0.52	86.3	Analog	0.30	3
3	Bi	209	3,370,987.52	1.05	75.3	Analog	0.30	3

Quantitation Report

File Name	A0308102.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:00
Sample Name	N018919-002B-MS,MS,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	10.524	ppb	3.40	40,930.78	5.724E-02	Pulse	0.30	3
B	11	6	3	2671.254	ppb	1.19	9,465,207.76	1.324E+01	Analog	0.30	3
Na	23	45	2	1303119.201	ppb	1.09	1,342,405,695.55	1.438E+04	Analog	0.30	3
Mg	26	45	2	31055.811	ppb	1.10	2,809,937.25	3.010E+01	Analog	0.30	3
Al	27	45	2	195.602	ppb	1.14	37,446.07	4.011E-01	Pulse	0.30	3
K	39	45	2	14664.803	ppb	0.71	5,803,169.43	6.215E+01	Analog	0.30	3
Ca	44	45	3	189502.379	ppb	0.60	240,593,618.64	9.375E+01	Analog	0.30	3
V	51	45	2	17.441	ppb	0.79	90,764.29	9.720E-01	Pulse	0.30	3
Cr	52	45	2	704.993	ppb	1.01	4,627,928.77	4.957E+01	Analog	0.30	3
Mn	55	45	2	100.136	ppb	1.00	366,674.17	3.927E+00	Pulse	0.30	3
Fe	56	45	2	67.037	ppb	1.53	380,226.58	4.073E+00	Pulse	0.30	3
Co	59	45	2	8.044	ppb	0.73	95,294.63	1.021E+00	Pulse	0.30	3
Ni	60	72	2	8.456	ppb	1.45	22,891.31	3.891E-01	Pulse	0.30	3
Cu	63	72	2	3.009	ppb	3.12	35,077.12	5.963E-01	Pulse	0.30	3
Zn	66	72	2	85.196	ppb	1.71	96,292.00	1.637E+00	Pulse	0.30	3
As	75	72	2	12.286	ppb	2.69	8,586.39	1.459E-01	Pulse	0.75	3
Se	78	72	1	13.509	ppb	3.81	4,256.28	5.843E-02	Pulse	0.30	3
Mo	95	103	2	29.189	ppb	2.92	98,283.31	6.724E-02	Pulse	0.30	3
Ag	107	103	3	4.066	ppb	9.40	129,640.49	3.677E-02	Pulse	0.30	3
Cd	111	115	3	8.281	ppb	1.10	59,247.04	1.417E-02	Pulse	0.30	3
Sb	121	115	3	9.760	ppb	1.04	248,634.53	5.945E-02	Pulse	0.30	3
Ba	137	159	3	131.630	ppb	0.44	1,411,798.63	2.297E-01	Analog	0.30	3
Tl	205	209	3	22.623	ppb	3.73	505,313.77	3.996E-01	Pulse	0.30	3
Pb	208	209	3	23.108	ppb	4.44	696,931.07	5.512E-01	Pulse	0.30	3
U	238	209	3	35.184	ppb	4.58	1,130,565.68	8.942E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	715,173.56	0.94	63.3	Analog	0.30	3
2	Sc	45	93,376.21	1.57	87.9	Pulse	0.30	3
3	Sc	45	2,566,354.30	0.46	92.3	Analog	0.30	3
1	Ge	72	72,769.22	4.48	80.4	Pulse	0.30	3
2	Ge	72	58,839.83	2.02	80.4	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,461,474.87	0.73	68.8	Analog	0.30	3
3	Rh	103	3,526,136.34	0.24	71.0	Analog	0.30	3
3	In	115	4,182,447.72	0.48	75.6	Analog	0.30	3
3	Tb	159	6,145,877.41	0.43	78.1	Analog	0.30	3
3	Bi	209	1,266,039.44	4.42	28.3	Analog	0.30	3

Quantitation Report

File Name	A0308103.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:06
Sample Name	N018919-002B-MSD,MSD,1
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	2.245	ppb	3.87	10,499.23	1.222E-02	Pulse	0.30	3
B	11	6	3	686.648	ppb	0.73	2,932,324.97	3.413E+00	Analog	0.30	3
Na	23	45	2	292996.519	ppb	0.12	323,553,646.29	3.234E+03	Analog	0.30	3
Mg	26	45	2	6911.441	ppb	0.18	670,306.88	6.699E+00	Pulse	0.30	3
Al	27	45	2	40.972	ppb	2.87	9,336.18	9.332E-02	Pulse	0.30	3
K	39	45	2	3335.642	ppb	1.50	1,432,061.96	1.431E+01	Analog	0.30	3
Ca	44	45	3	43480.702	ppb	0.08	57,456,816.92	2.151E+01	Analog	0.30	3
V	51	45	2	3.999	ppb	0.81	22,712.96	2.270E-01	Pulse	0.30	3
Cr	52	45	2	164.977	ppb	0.78	1,160,691.65	1.160E+01	Analog	0.30	3
Mn	55	45	2	23.302	ppb	0.45	91,494.96	9.144E-01	Pulse	0.30	3
Fe	56	45	2	16.498	ppb	0.77	102,807.52	1.027E+00	Pulse	0.30	3
Co	59	45	2	1.930	ppb	0.45	24,511.14	2.450E-01	Pulse	0.30	3
Ni	60	72	2	1.981	ppb	2.28	5,976.96	9.217E-02	Pulse	0.30	3
Cu	63	72	2	0.271	ppb	10.92	15,820.73	2.440E-01	Pulse	0.30	3
Zn	66	72	2	21.625	ppb	0.29	27,334.84	4.214E-01	Pulse	0.30	3
As	75	72	2	2.916	ppb	1.48	2,252.84	3.473E-02	Pulse	0.75	3
Se	78	72	1	3.295	ppb	6.82	1,157.87	1.425E-02	Pulse	0.30	3
Mo	95	103	2	7.075	ppb	1.01	28,635.37	1.631E-02	Pulse	0.30	3
Ag	107	103	3	2.842	ppb	6.64	109,398.29	2.637E-02	Pulse	0.30	3
Cd	111	115	3	2.057	ppb	2.57	17,277.58	3.521E-03	Pulse	0.30	3
Sb	121	115	3	2.232	ppb	1.21	66,931.35	1.364E-02	Pulse	0.30	3
Ba	137	159	3	29.288	ppb	0.23	363,225.48	5.114E-02	Pulse	0.30	3
Tl	205	209	3	1.611	ppb	1.83	101,537.69	2.873E-02	Pulse	0.30	3
Pb	208	209	3	2.260	ppb	1.00	191,141.51	5.408E-02	Pulse	0.30	3
U	238	209	3	3.282	ppb	0.32	294,858.72	8.342E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	859,168.32	1.08	76.0	Analog	0.30	3
2	Sc	45	100,061.34	1.47	94.2	Pulse	0.30	3
3	Sc	45	2,670,846.56	0.09	96.0	Analog	0.30	3
1	Ge	72	81,301.82	1.76	89.8	Pulse	0.30	3
2	Ge	72	64,859.32	1.64	88.6	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,756,059.77	2.24	82.7	Analog	0.30	3
3	Rh	103	4,148,184.28	0.17	83.6	Analog	0.30	3
3	In	115	4,908,084.92	0.62	88.7	Analog	0.30	3
3	Tb	159	7,102,187.95	0.31	90.3	Analog	0.30	3
3	Bi	209	3,534,494.32	0.21	79.0	Analog	0.30	3

Quantitation Report

File Name	A0308104.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:11
Sample Name	N018935-001A,SAMP,25
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.002	ppb	54.13	24.44	2.684E-05	Pulse	0.30	3
B	11	6	3	71.972	ppb	0.97	337,504.93	3.708E-01	Pulse	0.30	3
Na	23	45	2	12083.492	ppb	0.93	13,692,144.80	1.343E+02	Analog	0.30	3
Mg	26	45	2	2396.112	ppb	1.38	236,832.25	2.324E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	77.49	7.590E-04	Pulse	0.30	3
K	39	45	2	273.450	ppb	2.05	140,617.85	1.380E+00	Pulse	0.30	3
Ca	44	45	3	10846.456	ppb	0.42	14,396,202.56	5.368E+00	Analog	0.30	3
V	51	45	2	0.186	ppb	6.72	1,596.81	1.567E-02	Pulse	0.30	3
Cr	52	45	2	0.264	ppb	2.07	2,063.59	2.025E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-438.15	-4.302E-03	Pulse	0.30	3
Fe	56	45	2	0.032	ppb	49.81	3,593.19	3.526E-02	Pulse	0.30	3
Co	59	45	2	0.005	ppb	41.66	68.21	6.691E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	87.39	1.231E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,101.77	1.845E-01	Pulse	0.30	3
Zn	66	72	2	1.417	ppb	3.97	2,488.53	3.506E-02	Pulse	0.30	3
As	75	72	2	0.038	ppb	5.75	41.07	5.785E-04	Pulse	0.75	3
Se	78	72	1	0.056	ppb	95.68	22.22	2.423E-04	Pulse	0.30	3
Mo	95	103	2	0.129	ppb	5.10	603.37	3.101E-04	Pulse	0.30	3
Ag	107	103	3	0.294	ppb	18.70	21,776.42	4.718E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-2,546.81	-4.815E-04	Pulse	0.30	3
Sb	121	115	3	0.003	ppb	53.90	381.13	7.205E-05	Pulse	0.30	3
Ba	137	159	3	1.285	ppb	0.78	16,900.15	2.283E-03	Pulse	0.30	3
Tl	205	209	3	0.081	ppb	4.75	7,015.28	1.729E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-2,530.42	-6.234E-04	Pulse	0.30	3
U	238	209	3	2.376	ppb	0.27	245,199.69	6.042E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	910,323.20	0.42	80.6	Analog	0.30	3
2	Sc	45	101,939.01	2.19	96.0	Pulse	0.30	3
3	Sc	45	2,681,836.59	0.44	96.4	Analog	0.30	3
1	Ge	72	91,426.40	1.38	101.0	Pulse	0.30	3
2	Ge	72	70,984.45	1.14	97.0	Pulse	0.30	3
2	Rh	103	1,946,987.42	1.82	91.7	Analog	0.30	3
3	Rh	103	4,615,552.08	0.14	93.0	Analog	0.30	3
3	In	115	5,289,067.96	0.22	95.6	Analog	0.30	3
3	Tb	159	7,402,134.40	0.64	94.1	Analog	0.30	3
3	Bi	209	4,058,157.48	0.65	90.7	Analog	0.30	3

Quantitation Report

File Name	A0308105.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:17
Sample Name	N018936-002A,SAMP,5
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.000	ppb	680.81	15.55	1.917E-05	Pulse	0.30	3
B	11	6	3	240.616	ppb	1.38	989,214.49	1.205E+00	Analog	0.30	3
Na	23	45	2	371386.491	ppb	1.45	392,751,380.82	4.098E+03	Analog	0.30	3
Mg	26	45	2	7168.595	ppb	1.75	665,825.59	6.948E+00	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	202.50	2.111E-03	Pulse	0.30	3
K	39	45	2	3424.631	ppb	0.85	1,407,702.32	1.469E+01	Analog	0.30	3
Ca	44	45	3	39654.894	ppb	0.34	49,275,470.37	1.962E+01	Analog	0.30	3
V	51	45	2	1.848	ppb	3.64	10,326.93	1.078E-01	Pulse	0.30	3
Cr	52	45	2	168.295	ppb	0.36	1,134,302.81	1.183E+01	Analog	0.30	3
Mn	55	45	2	2.185	ppb	2.62	8,267.24	8.629E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-19,119.84	-1.995E-01	Pulse	0.30	3
Co	59	45	2	<0.000	ppb	---	-326.11	-3.405E-03	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	-364.44	-5.899E-03	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	-64.47	-1.009E-03	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-715.17	-1.158E-02	Pulse	0.30	3
As	75	72	2	0.704	ppb	4.21	524.24	8.474E-03	Pulse	0.75	3
Se	78	72	1	1.060	ppb	5.48	346.68	4.585E-03	Pulse	0.30	3
Mo	95	103	2	4.837	ppb	2.06	18,415.61	1.115E-02	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	3,704.68	9.486E-04	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-111.23	-2.408E-05	Pulse	0.30	3
Sb	121	115	3	0.005	ppb	18.11	378.91	8.203E-05	Pulse	0.30	3
Ba	137	159	3	6.662	ppb	1.11	78,595.82	1.167E-02	Pulse	0.30	3
Tl	205	209	3	0.058	ppb	4.90	4,368.59	1.318E-03	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-3,818.80	-1.152E-03	Pulse	0.30	3
U	238	209	3	0.897	ppb	0.91	75,704.95	2.283E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	820,770.38	2.37	72.6	Analog	0.30	3
2	Sc	45	95,854.76	2.63	90.3	Pulse	0.30	3
3	Sc	45	2,511,533.21	0.54	90.3	Analog	0.30	3
1	Ge	72	75,628.57	0.95	83.5	Pulse	0.30	3
2	Ge	72	61,844.10	1.94	84.5	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,650,983.88	0.81	77.7	Analog	0.30	3
3	Rh	103	3,905,411.33	0.35	78.7	Analog	0.30	3
3	In	115	4,619,320.07	0.48	83.5	Analog	0.30	3
3	Tb	159	6,737,556.29	0.07	85.7	Analog	0.30	3
3	Bi	209	3,315,948.21	0.76	74.1	Analog	0.30	3

Quantitation Report

File Name	A0308106.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:22
Sample Name	CCV8,CCV,1
Sample Type	6-CCV
Comment	20/200 ug/L,5<50mL of 2MWST- 151207H
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	19.342	ppb	0.83	94,787.25	1.052E-01	Pulse	0.30	3
B	11	6	3	214.401	ppb	1.23	969,415.86	1.076E+00	Mix	0.30	3
Na	23	45	2	664.548	ppb	5.48	855,539.67	8.349E+00	Pulse	0.30	3
Mg	26	45	2	188.159	ppb	1.68	18,876.70	1.842E-01	Pulse	0.30	3
Al	27	45	2	15.699	ppb	1.97	4,409.98	4.302E-02	Pulse	0.30	3
K	39	45	2	209.368	ppb	1.97	113,695.50	1.109E+00	Pulse	0.30	3
Ca	44	45	3	201.313	ppb	0.85	265,281.11	1.019E-01	Pulse	0.30	3
V	51	45	2	18.639	ppb	0.84	106,446.51	1.038E+00	Pulse	0.30	3
Cr	52	45	2	18.366	ppb	0.70	132,548.50	1.293E+00	Pulse	0.30	3
Mn	55	45	2	19.571	ppb	0.44	78,733.77	7.680E-01	Pulse	0.30	3
Fe	56	45	2	19.212	ppb	0.80	122,080.84	1.191E+00	Pulse	0.30	3
Co	59	45	2	18.554	ppb	0.67	241,294.66	2.354E+00	Pulse	0.30	3
Ni	60	72	2	18.350	ppb	1.29	59,655.93	8.427E-01	Pulse	0.30	3
Cu	63	72	2	18.192	ppb	0.45	180,513.75	2.550E+00	Pulse	0.30	3
Zn	66	72	2	18.626	ppb	2.91	25,776.15	3.641E-01	Pulse	0.30	3
As	75	72	2	18.619	ppb	1.40	15,652.49	2.211E-01	Pulse	0.75	3
Se	78	72	1	18.628	ppb	1.64	7,117.41	8.057E-02	Pulse	0.30	3
Mo	95	103	2	19.179	ppb	2.95	88,854.56	4.419E-02	Pulse	0.30	3
Ag	107	103	3	18.375	ppb	0.22	729,166.13	1.583E-01	Pulse	0.30	3
Cd	111	115	3	18.417	ppb	0.82	166,159.83	3.150E-02	Pulse	0.30	3
Sb	121	115	3	18.400	ppb	0.26	590,877.94	1.120E-01	Pulse	0.30	3
Ba	137	159	3	19.562	ppb	0.15	251,839.04	3.417E-02	Pulse	0.30	3
Tl	205	209	3	18.997	ppb	1.16	1,422,235.17	3.356E-01	Analog	0.30	3
Pb	208	209	3	18.858	ppb	0.86	1,906,600.10	4.499E-01	Analog	0.30	3
U	238	209	3	18.898	ppb	0.56	2,035,708.50	4.803E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	901,182.80	1.02	79.8	Analog	0.30	3
2	Sc	45	102,516.95	1.50	96.5	Pulse	0.30	3
3	Sc	45	2,604,612.43	0.30	93.7	Analog	0.30	3
1	Ge	72	88,295.37	5.84	97.5	Pulse	0.30	3
2	Ge	72	70,791.69	1.23	96.8	Pulse	0.30	3
2	Rh	103	2,010,966.60	0.60	94.7	Analog	0.30	3
3	Rh	103	4,605,359.24	0.21	92.8	Analog	0.30	3
3	In	115	5,274,150.16	0.44	95.4	Analog	0.30	3
3	Tb	159	7,369,362.04	0.52	93.7	Analog	0.30	3
3	Bi	209	4,238,339.10	0.31	94.7	Analog	0.30	3

Quantitation Report

File Name	A0308107.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:28
Sample Name	CCB8,CCB,1
Sample Type	6-CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.004	ppb	154.02	37.78	4.066E-05	Pulse	0.30	3
B	11	6	3	18.601	ppb	1.63	99,266.70	1.066E-01	Pulse	0.30	3
Na	23	45	2	366.331	ppb	7.17	516,703.02	5.059E+00	Pulse	0.30	3
Mg	26	45	2	0.880	ppb	53.78	274.46	2.683E-03	Pulse	0.30	3
Al	27	45	2	<0.000	ppb	---	1,201.18	1.176E-02	Pulse	0.30	3
K	39	45	2	8.387	ppb	22.05	26,605.28	2.604E-01	Pulse	0.30	3
Ca	44	45	3	3.263	ppb	6.26	10,063.41	3.874E-03	Pulse	0.30	3
V	51	45	2	0.057	ppb	5.77	872.29	8.535E-03	Pulse	0.30	3
Cr	52	45	2	0.033	ppb	32.64	413.93	4.057E-03	Pulse	0.30	3
Mn	55	45	2	0.001	ppb	850.36	62.40	6.125E-04	Pulse	0.30	3
Fe	56	45	2	0.127	ppb	12.40	4,185.33	4.097E-02	Pulse	0.30	3
Co	59	45	2	0.003	ppb	47.55	50.58	4.934E-04	Pulse	0.30	3
Ni	60	72	2	<0.000	ppb	---	31.66	4.523E-04	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	14,664.96	2.090E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	441.65	6.297E-03	Pulse	0.30	3
As	75	72	2	0.007	ppb	107.54	14.67	2.088E-04	Pulse	0.75	3
Se	78	72	1	0.000	ppb	---	0.00	0.000E+00	Pulse	0.30	3
Mo	95	103	2	0.101	ppb	5.40	498.92	2.468E-04	Pulse	0.30	3
Ag	107	103	3	0.563	ppb	18.88	32,581.10	7.009E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-65.53	-1.234E-05	Pulse	0.30	3
Sb	121	115	3	0.037	ppb	1.10	1,483.47	2.793E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	260.76	3.480E-05	Pulse	0.30	3
Tl	205	209	3	0.038	ppb	4.48	4,096.28	9.628E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	413.84	9.726E-05	Pulse	0.30	3
U	238	209	3	0.003	ppb	13.42	441.87	1.039E-04	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	931,148.65	1.24	82.4	Analog	0.30	3
2	Sc	45	102,178.57	1.35	96.2	Pulse	0.30	3
3	Sc	45	2,597,724.28	0.79	93.4	Analog	0.30	3
1	Ge	72	88,875.05	1.04	98.2	Pulse	0.30	3
2	Ge	72	70,155.49	1.45	95.9	Pulse	0.30	3
2	Rh	103	2,021,292.47	0.74	95.2	Analog	0.30	3
3	Rh	103	4,648,758.05	0.17	93.6	Analog	0.30	3
3	In	115	5,310,915.50	0.06	96.0	Analog	0.30	3
3	Tb	159	7,486,902.53	0.59	95.2	Analog	0.30	3
3	Bi	209	4,254,381.53	0.14	95.1	Analog	0.30	3

Quantitation Report

File Name	A0308108.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:33
Sample Name	LLCCV2,CCV2,1
Sample Type	6-ICB
Comment	2MWST- 151207J
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	0.481	ppb	1.88	2,384.71	2.631E-03	Pulse	0.30	3
B	11	6	3	70.618	ppb	0.19	329,936.02	3.641E-01	Pulse	0.30	3
Na	23	45	2	305.821	ppb	5.68	444,560.00	4.392E+00	Pulse	0.30	3
Mg	26	45	2	5.514	ppb	11.65	726.71	7.173E-03	Pulse	0.30	3
Al	27	45	2	36.726	ppb	3.58	8,595.78	8.487E-02	Pulse	0.30	3
K	39	45	2	12.736	ppb	23.68	28,224.78	2.788E-01	Pulse	0.30	3
Ca	44	45	3	22.559	ppb	5.08	34,781.38	1.342E-02	Pulse	0.30	3
V	51	45	2	0.958	ppb	2.28	5,921.28	5.847E-02	Pulse	0.30	3
Cr	52	45	2	0.982	ppb	6.67	7,171.36	7.079E-02	Pulse	0.30	3
Mn	55	45	2	0.544	ppb	2.26	2,218.98	2.192E-02	Pulse	0.30	3
Fe	56	45	2	10.213	ppb	1.12	65,682.43	6.487E-01	Pulse	0.30	3
Co	59	45	2	0.449	ppb	3.25	5,771.80	5.699E-02	Pulse	0.30	3
Ni	60	72	2	0.992	ppb	3.56	3,143.13	4.683E-02	Pulse	0.30	3
Cu	63	72	2	1.373	ppb	2.64	25,898.90	3.857E-01	Pulse	0.30	3
Zn	66	72	2	10.619	ppb	1.01	14,167.97	2.110E-01	Pulse	0.30	3
As	75	72	2	0.129	ppb	2.14	111.11	1.655E-03	Pulse	0.75	3
Se	78	72	1	0.497	ppb	2.39	181.12	2.148E-03	Pulse	0.30	3
Mo	95	103	2	0.525	ppb	6.40	2,425.84	1.223E-03	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	9,709.29	2.105E-03	Pulse	0.30	3
Cd	111	115	3	0.472	ppb	1.18	4,292.46	8.083E-04	Pulse	0.30	3
Sb	121	115	3	0.482	ppb	1.93	15,863.01	2.987E-03	Pulse	0.30	3
Ba	137	159	3	1.099	ppb	1.74	14,746.54	1.959E-03	Pulse	0.30	3
Tl	205	209	3	0.346	ppb	2.36	27,466.24	6.407E-03	Pulse	0.30	3
Pb	208	209	3	0.945	ppb	0.51	97,439.28	2.273E-02	Pulse	0.30	3
U	238	209	3	0.446	ppb	1.13	48,699.92	1.136E-02	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det	Time(sec)	Rep
3	Li	6	906,259.04	0.24	80.2	Analog	0.30	3
2	Sc	45	101,259.46	1.04	95.4	Pulse	0.30	3
3	Sc	45	2,591,834.58	0.19	93.2	Analog	0.30	3
1	Ge	72	84,281.88	3.49	93.1	Pulse	0.30	3
2	Ge	72	67,141.51	1.09	91.8	Pulse	0.30	3
2	Rh	103	1,983,588.30	0.64	93.4	Analog	0.30	3
3	Rh	103	4,613,092.64	0.17	92.9	Analog	0.30	3
3	In	115	5,310,243.61	0.20	96.0	Analog	0.30	3
3	Tb	159	7,526,403.22	0.53	95.7	Analog	0.30	3
3	Bi	209	4,286,572.72	0.38	95.8	Analog	0.30	3

Quantitation Report

File Name	A0308109.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:39
Sample Name	ICSA3,ICSA,1
Sample Type	Sample
Comment	2MWST- 151207K
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	<0.000	ppb	---	12.22	1.342E-05	Pulse	0.30	3
B	11	6	3	10.101	ppb	1.33	58,701.37	6.454E-02	Pulse	0.30	3
Na	23	45	2	94166.001	ppb	0.22	107,613,812.84	1.040E+03	Analog	0.30	3
Mg	26	45	2	96159.726	ppb	0.53	9,642,853.05	9.318E+01	Analog	0.30	3
Al	27	45	2	<0.000	ppb	---	-2.75	-2.260E-05	Pulse	0.30	3
K	39	45	2	106150.208	ppb	0.24	46,412,455.42	4.485E+02	Analog	0.30	3
Ca	44	45	3	92465.004	ppb	0.69	129,839,288.06	4.575E+01	Analog	0.30	3
V	51	45	2	0.011	ppb	77.22	620.04	5.996E-03	Pulse	0.30	3
Cr	52	45	2	0.181	ppb	6.60	1,493.17	1.443E-02	Pulse	0.30	3
Mn	55	45	2	<0.000	ppb	---	-9,641.04	-9.320E-02	Pulse	0.30	3
Fe	56	45	2	<0.000	ppb	---	-3,267.40	-3.151E-02	Pulse	0.30	3
Co	59	45	2	0.002	ppb	135.76	38.77	3.727E-04	Pulse	0.30	3
Ni	60	72	2	0.274	ppb	10.92	932.80	1.387E-02	Pulse	0.30	3
Cu	63	72	2	<0.000	ppb	---	13,261.65	1.971E-01	Pulse	0.30	3
Zn	66	72	2	<0.000	ppb	---	-1,336.25	-1.986E-02	Pulse	0.30	3
As	75	72	2	<0.000	ppb	---	1.74	2.496E-05	Pulse	0.75	3
Se	78	72	1	0.023	ppb	110.93	7.78	9.755E-05	Pulse	0.30	3
Mo	95	103	2	0.057	ppb	5.11	257.79	1.454E-04	Pulse	0.30	3
Ag	107	103	3	<0.000	ppb	---	-25,322.59	-5.789E-03	Pulse	0.30	3
Cd	111	115	3	<0.000	ppb	---	-20,494.48	-4.075E-03	Pulse	0.30	3
Sb	121	115	3	0.018	ppb	13.50	826.73	1.643E-04	Pulse	0.30	3
Ba	137	159	3	<0.000	ppb	---	-79,358.84	-1.116E-02	Pulse	0.30	3
Tl	205	209	3	0.033	ppb	0.50	3,029.32	8.770E-04	Pulse	0.30	3
Pb	208	209	3	<0.000	ppb	---	-120,327.49	-3.484E-02	Pulse	0.30	3
U	238	209	3	<0.000	ppb	---	-7,867.74	-2.278E-03	Pulse	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	909,566.56	0.29	80.5	Analog	0.30	3
2	Sc	45	103,484.25	1.87	97.4	Pulse	0.30	3
3	Sc	45	2,838,465.20	1.33	102.1	Analog	0.30	3
1	Ge	72	82,140.89	4.50	90.7	Pulse	0.30	3
2	Ge	72	67,286.52	1.83	92.0	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,772,888.20	1.18	83.5	Analog	0.30	3
3	Rh	103	4,374,428.41	0.97	88.1	Analog	0.30	3
3	In	115	5,029,766.84	0.59	90.9	Analog	0.30	3
3	Tb	159	7,112,905.17	0.24	90.4	Analog	0.30	3
3	Bi	209	3,454,236.58	0.47	77.2	Analog	0.30	3

Quantitation Report

File Name	A0308110.D
File Path	C:\ICPMH\1\DATA\160308A.B
Method File	DEFAULT.M
Method Path	C:\ICPMH\1\METHODS\
Acq Time	03/08/2016 23:45
Sample Name	ICSAB3,ICSAB,1
Sample Type	Sample
Comment	2MWST- 151207L
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	03/08/2016 19:14
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	Acq. Defined
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	h2.u
2	he.u
3	nogas.u

Analyte Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be	9	6	3	20.854	ppb	0.17	101,028.49	1.134E-01	Pulse	0.30	3
B	11	6	3	220.155	ppb	0.96	983,614.77	1.104E+00	Analog	0.30	3
Na	23	45	2	96624.816	ppb	1.73	111,073,240.57	1.067E+03	Analog	0.30	3
Mg	26	45	2	98514.510	ppb	1.61	9,937,356.66	9.546E+01	Analog	0.30	3
Al	27	45	2	16.534	ppb	9.07	4,647.85	4.468E-02	Pulse	0.30	3
K	39	45	2	108015.406	ppb	0.80	47,513,245.96	4.564E+02	Analog	0.30	3
Ca	44	45	3	94661.224	ppb	0.46	133,115,001.35	4.683E+01	Analog	0.30	3
V	51	45	2	20.885	ppb	0.92	121,069.42	1.163E+00	Pulse	0.30	3
Cr	52	45	2	20.115	ppb	1.22	147,407.39	1.416E+00	Pulse	0.30	3
Mn	55	45	2	18.164	ppb	2.29	74,196.08	7.128E-01	Pulse	0.30	3
Fe	56	45	2	19.297	ppb	2.14	124,521.06	1.196E+00	Pulse	0.30	3
Co	59	45	2	19.176	ppb	1.94	253,230.72	2.433E+00	Pulse	0.30	3
Ni	60	72	2	20.072	ppb	0.44	62,115.69	9.217E-01	Pulse	0.30	3
Cu	63	72	2	18.603	ppb	0.12	175,414.41	2.603E+00	Pulse	0.30	3
Zn	66	72	2	16.454	ppb	1.53	21,738.56	3.226E-01	Pulse	0.30	3
As	75	72	2	20.582	ppb	1.21	16,471.59	2.444E-01	Pulse	0.75	3
Se	78	72	1	20.599	ppb	0.36	7,535.36	8.909E-02	Pulse	0.30	3
Mo	95	103	2	23.735	ppb	1.27	96,355.76	5.468E-02	Pulse	0.30	3
Ag	107	103	3	18.104	ppb	1.49	671,329.07	1.560E-01	Pulse	0.30	3
Cd	111	115	3	17.223	ppb	0.76	146,181.56	2.946E-02	Pulse	0.30	3
Sb	121	115	3	20.649	ppb	0.36	623,771.91	1.257E-01	Pulse	0.30	3
Ba	137	159	3	19.171	ppb	0.85	234,301.29	3.349E-02	Pulse	0.30	3
Tl	205	209	3	22.794	ppb	0.57	1,364,458.66	4.026E-01	Analog	0.30	3
Pb	208	209	3	20.800	ppb	0.35	1,681,579.95	4.962E-01	Analog	0.30	3
U	238	209	3	23.533	ppb	0.54	2,027,074.66	5.981E-01	Analog	0.30	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
3	Li	6	890,820.77	0.61	78.8	Analog	0.30	3
2	Sc	45	104,127.07	2.79	98.1	Pulse	0.30	3
3	Sc	45	2,842,428.15	0.44	102.2	Analog	0.30	3
1	Ge	72	84,576.28	1.59	93.4	Pulse	0.30	3
2	Ge	72	67,392.95	1.34	92.1	Pulse	0.30	3

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
2	Rh	103	1,762,275.32	1.32	83.0	Analog	0.30	3
3	Rh	103	4,302,549.07	0.18	86.7	Analog	0.30	3
3	In	115	4,961,647.27	0.32	89.7	Analog	0.30	3
3	Tb	159	6,995,997.88	0.04	88.9	Analog	0.30	3
3	Bi	209	3,389,166.44	0.27	75.8	Analog	0.30	3

STANDARDS LOG

MERCURY Stock Standard Log

Stock STD							Exp Date		
Stock Std Code	STD Name	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Manufacturer	Comments	Initials
2MSST-121025B	7500 Series PA Tuning 1	2.5, 5.0, 10, 50 ppm	Agilent	19-64VYY2	10/28/12	11/1/12	12/31/2013		MI
C	7500 Series PA Tuning 2	5, 10 ppm	↓	19-62VYY2	↓	11/1/12	↓		↓
D	Germanium	1000 ppm	High Purity Stds	1215310	10/25/12	11/6/12	4/15/2014		MI
2MSST-130301A	ICPMS major cations	50 ppm	ERA	750412	3/1/13	8/7/13	6/2015		MI
B	ICPMS Trace Metals	10 ppm	↓	740412	↓	8/7/13	10/2014		↓
C	ICPMS IS 1	10 ppm	High Purity Std	1211618	3/1/13	4/25/13	1/14/14		MI
2MSST-130329A	ICPMS Tuning Solution	10 ppm	ERA	140309	3/29/13	3/29/13	4/2014		MI
↓	ICPMS IS 1	10 ppm	High Purity Std	1301405	↓	5/26/13	3/20/14		↓
2MSST-130603A	ICPMS IS 1	10 ppm	High Purity Std	1301405	6/3/13	8/7/13	5/29/14		WS
2MSST-130910C ~~2MSST-130910A~~ MC 2/14/14	Hg - STD (1°) mercury	1000 ppm	High Purity Std	1316504	9/10/13	9/11/13	3/4/15		MC
2MSST-130910A	ICPMS Trace Metals	10 ppm	ERA	740412	9/10/13	1/7/14	10/2014		HSG
2MSST-130910B	ICPMS Major Cations	50 ppm	↓	750412	9/10/13	↓	6/2015		HSG
2MSST-130913A	ICPMS IS 1	10 ppm	High Purity Std	1301405	9/13/13	↓	9/9/14		HSC
2MSST-131220A	7500 Series PA Tuning 1	Multi concentration of Analytes	Agilent	20-47VYY2	12/20/13	1/2/14	02/28/15		MI
B	7500 Series PA Tuning 2	↓	↓	20-45VYY2	↓	1/2/14	02/28/15		MI
2MSST-140113A	Hg 2° Standard Mercury	1000 ppm	Ultra Scientific	P00139	MC 3/4/14 ~~14~~ 01/13/14	MC 3/4/14 ~~R~~ 2/10/14	3/31/19		MC
2MSST-140217B	ICPMS IS 1	10 ppm	High Purity Stds	1333708	2/17/14	4/15/14	2/10/15	→ exp: 3/18/15 MI 3/18/14	PLN
2MSST ~~2MSST~~ - 140317A MI 3/17/14	Uranium	1000 ppm	High Purity Stds	1326239	3/17/14	3/18/14	9/11/15		MI
2MSST-140404A	Germanium	1000 ppm	High Purity Stds	1309919	4/4/14	4/15/14 ~~9/28/15~~ MI 4/4/14	9/28/15		MI

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Logbool #1

3/6/14 9/24/13 3/28/13 9/29

MERCURY Stock Standard Log

Stock STD							Exp Date		
Stock Std Code	STD Name	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Manufacturer	Comments	Initials
2MSST-140530A	Cerium, 10 ppm	10 ppm	High Purity Stds	1321107	5/30/14	11/4/14	5/23/2015		mi
2MSST-140530B	ICP-MS-Internal Standard 1	10 ppm	↓	1333708	5/30/14	6/13/14	5/23/2015		mi
2MSST-140630A	ICP-MS Major cations	50 ppm	ERA	111013	6/30/14	11/1/14	4/2016	Exp: 11/1/15	mi
2MSST ~~2MSST~~ mi 8/5/14 -140805A	ICP-MS Internal Standard 1	10 ppm	High Purity Stds	1333708	8/5/14	11/4/14	7/29/15		mi
2MSST-141025A	ICP-MS trace metals	10 ppm	ERA	170913	10/25/14	11/1/14	3/2016	Exp: 11/1/15	mi
2MSST-150310A	Mercury	1000 ppm	High Purity Stds	1434315	3/10/15		9/10/16		mi
2MSST-150413A	7500 Series PA tuning 1	multi concentration of analytes	Agilent	21-169XYZ	4/13/15	4/13/15	7/31/16		mi
↓ B	↓ 2	↓	↓	↓	↓	↓	↓		↓
2MSST-150601A	ICP-MS Internal Std 1	10 ppm	High Purity Std	1420416	6/1/15	6/1/15	5/26/16		mi
2MSST-150907A	ICP-MS Internal Std 1	10 ppm	High Purity Std	1420416	9/7/15	9/7/15	9/29/16		mi
↓ B	Germanium	1000 ppm	High Purity Std	1506202	↓	↓	1/7/17		↓
2MSST-151019A	Uranium, 1000 ppm	1000 ppm	High Purity Std	1410530	10/~~20~~ 19/15 mi 10/19/15	10/19/15	4/16/17		mi

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Logbool #1

1123

8/9/14/09

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
4/6/09	Zinc	MSST090406F	1000ppm	Ultra Scientific	J00510	4/6/9	4/30/09	7/31/15	NJ
↓	Silicon	↓ G	10,000ppm	↓	J00332	↓	4/30/09	5/31/15	↓
4/8/09	Potassium	MSST090408A	10,000ppm	High Purity Stds	0902312	4/8/9	4/9/09.	10/2/2010	NJ
↓	Sodium	↓ B	↓	↓	0815801	↓	↓	↓	↓
4/10/09	Potassium	MSST090410A	10,000ppm	Ultra Scientific	J01077	4/10/9	4/10/09	12/31/15	NJ
4/22/09	Chromium	MSST090422A	1000ppm	Ultra Scientific	J00073	4/22/09	4/30/09	3/31/15	[illegible]
7/13/09	BISMUTH	MSST-090713A	1000ppm	High Purity Stds	0901405	7/13/7	7/16/9	1/10/11	NJ
7/20/9	BISMUTH	MSST-090720A	1000ppm	EMD	HC764424A	7/20/9		7/31/10	NJ
7/24/9	ALUMINUM	MSST-090724A	10,000ppm	High Purity Stds	0909814	7/24/9	8-13-09	1/20/11	NJ
↓	CALCIUM	↓ B	↓	↓	0914001	↓	↓	↓	↓
↓	MAGNESIUM	↓ C	↓	↓	0909104	↓	↓	↓	↓
↓	POTASSIUM	↓ D	↓	↓	0902312	↓	10-20-9	↓	↓
↓	SODIUM	↓ E	↓	↓	0916903	↓	↓	↓	↓
7/28/9	ARSENIC	MSST-090728A	1000ppm	Ultra Scientific	J01103	7/28/9	8-13-9	12/31/15	NJ
↓	MANGANESE	↓ B	10,000ppm	↓	J00797	↓	↓	10/31/15	↓
↓	VANADIUM	↓ C	1000ppm	↓	J01242	↓	↓	01/31/16	↓
10/2/9	MANGANESE	MSST-091002A	10,000ppm	High Purity Stds	0911903	10/2/9	10-28-9	3/11/2011	NJ
12/28/9	TELLURIUM	MSST-091228A	1000ppm	High Purity Stds	0931525	12/28/9	1/3/10	6/21/2011	NJ
↓	TELLURIUM	↓ B	↓	CPI Int'l	09L129	↓	↓	6/21/2011	NJ

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8 12/8/09

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
1/18/10	Selenium	MSST-100118A	1000 ppm	Ultra Scientific	J00739	1/18/10	1-~~22~~-10	9-30-2015	NJ
	Barium	B			J01041			12-31-2015	
	Lead	C			K00652			8-31-16	
	Boron	D	10,000 ppm		J01243		1-25-10	1-31-16	
	Potassium	E			J01077		2-18-10	12-31-15	
	Sodium	F			K00911			10-31-16	
1/21/10	Aluminum	MSST-100121A	10,000 ppm	High Purity Stds	0930228	1/21/10	1-~~22~~-10 NJ	7-14-2011	NJ
	Calcium	B			0927502				
	Magnesium	C			0909104				
	Iron	D			1001301				
	Strontium	E	1000ppm		0926711		1-~~22~~-10 NJ		
	Tin	F			0930609				
	Potassium	G	10,000ppm		0917022		2-18-10		
	Sodium	H			0911811				
3/18/10	Yttrium	MSST-100318A	1000 ppm	High Purity Stds	0915912	3/18/10	~~3/18/10~~ 4/16/10	9-15-2011	NJ
4-22-10	Tin	MSST-100422A	1000 ppm	CPI International	09K050	4-22-10	5-19-10 NJ	10-20-11	NJ
	Titanium	B			08J039				
	Strontium	C			10B149				
4-28-10	Antimony	MSST-100428A	1000 ppm	High Purity Stds	1009601	4-28-10	~~10-22-11~~ 5-19-10 NJ	10-22-11	NJ

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ICP Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
6/21/13	Magnesium	MSST-130621C	10,000 ppm	High Purity Standards	1301003	6/21/13	7/25/13	12/14/14	WES
7/31/13	Yttrium	MSST-130731A	1000 ppm	High Purity standards	1305206	7/31/13	8/1/13	1/25/15	AM
7/31/13	Scandium	MSST-130731B	1000 ppm	High Purity standards	1231735	7/31/13	8/1/13	1/25/15	AM
9/13/13	Boron 1°	MSST-130913A	5000 ppm	High Purity Standards	1221604	9/13/13	9/16/13	3/9/15	AM
	Molybdenum 1°	MSST-130913B	1000 ppm		1222707	9/13/13	9/16/13		
	Chromium 1°	MSST-130913C	1000 ppm		1230012	9/13/13	9/16/13		
	Aluminum 1°	MSST-130913D	10000 ppm		1318241	9/13/13	~~9/16/13~~ 9/17/13		
9/13/13	Antimony 2°	MSST-130913E	1000 ppm	Ultra Scientific	L012826	9/13/13		12/31/17	MI
11/26/13	Aluminum 2°	MSST-131126A	10000 ppm	Ultra Scientific	M002666B	11/26/13		4/30/17	AM
12/9/13	Yttrium	MSST-131209A	1000 ppm	High Purity Standards	1222829	12/9/13	3/24/14	3/24/14 ~~5/27/15~~	AM
12/9/13	Scandium	MSST-131209B	1000 ppm	High Purity Standards	1309122	12/9/13	3/24/14	3/24/14 ~~5/27/15~~ 3/24/14	AM
12/23/13	Calcium 1°	MSST-131223A	10,000 ppm	High Purity Standards	1320711	12/23/13	1/6/14	6/13/15	AM
12/23/13	Magnesium 1°	MSST-131223B			1330907		1/6/14		AM
12/23/13	Manganese 1°	MSST-131223C			1331633		1/6/14		AM
AM 1/10/14	Aluminum 1°	MSST-140110A	10000 ppm	High Purity Standards	1334617	1/10/14	~~7/7/15~~ AM 1/10/14	7/7/15	AM
1/20/14	Nickel 2° AM 1/21/14	MSST-140120A	1000 ppm	~~High Purity Standards~~ Ultra Scientific	M00866	1/20/14		9/30/18	AM
	Sodium 2°	MSST-140120B	10000 ppm	AM 1/21/14	R01257			12/31/20	
	Beryllium 2°	MSST-140120C	1000 ppm		R00202			4/30/20	
1/21/14	Strontium 2°	MSST-140121A	1000 ppm	CPI International	14A095	1/21/14	1/21/14	7/16/2015	MI

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AM 9/24/13

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ICP Stock Standard Logbook

G 3/25/14

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
1/21/14	Tin 2°	MSST-140121B	1000 ppm	CPI International	1340860	1/21/14	1/21/14	7/16/2015	MI
↓	Titanium 2°	MSST-140121C	1000 ppm	CPI International	126230	1/21/14	1/21/14	7/16/2015	MI
2/18/14	Wave Cal Solution	MSST-140218A	1/20/100 ppm	Perkin Elmer Pure	10-133-YPX1	2/18/14		3/30/2015	MI
	Optima Family Multi-Element Standard	B	1/10/50 ppm		10-134YPX1			6/30/2015	
	VIS Wavecal Solution	C	1/10/50 ppm		10-71YPT1			6/30/2015	
	Instrument Calibration Standard 4	D	50/100 ppm		10-117YPY1			6/30/2015	
↓	Solution - Optimal Blank	E	—	Perkin Elmer Pure Plus	1-76KFX1			6/30/2015	↓
4/4/14	Magnesium 2°	MSST-140404A	10,000 ppm	Ultra Scientific	R00244	4/4/14	4/4/14	4/30/2020	MI
STF 5/28/14 4/5/28/14	Bismuth 1000ppm (1°)	MSST-140528A	1000ppm	High Purity Standards	1404513	5/28/14	5/28/14	11/27/2015	STF
5/28/14	Lithium 1000ppm (1°)	MSST-140528B	1000ppm		1231934	5/28/14	5/28/14	11/27/2015	STF
5/30/14	Calcium (Ca) 1°	MSST-140530A	10000 ppm	High Purity Standards	1404943	5/30/14	6/13/14	11/23/15	STF
	Iron (Fe) 1°	B	10000ppm		1324617		6/16/14	11/23/15	STF
	Magnesium (Mg) 1°	C	10,000ppm		1409813		6/13/14	11/23/15	STF
	Strontium (Sr) 1°	D	1000ppm		1401301		6/13/14	11/23/15	STF
6/3/14	Magnesium (Mg) 2°	MSST-140603A	10,000ppm	Ultra Scientific	R00244	6/3/14	STF 6/13/14	4/30/2020	STF
6/11/14	Copper	MSST-140611A	1000 ppm	High Purity Standards	1403501	6/11/14	6/12/14	12-5-15	MC
	Cobalt	B	1000ppm		1303712				
	Barium	C			1323402				
	Silver	D			1401302				

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ICP Stock Standard Logbook

Date	Stock STD: STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Exp Date: Stock/Manufact.	Initials
6/11/14	Arsenic	MSST-140611E	1000ppm	High Purity Standards	1312102	6/11/14	6/12/14	12-5/15	MC
	Vanadium	F			1308605			12-5-15	MC
	Antimony	G			1302425				
	Nickel	H			1314925				
	Potassium	J	10,000ppm		1407203		6/13/14		
	Sodium	J			1313419		6/13/14		
	Selenium	K	1,000ppm		MC 6/11/14 ~~1315~~ 1307213		6/12/14		
	Lead	L			1315823 11/4/14				
	Beryllium	M			1412111				
	Thallium	N			1325905				
	Titanium	O			1401005				
	Zinc	P			1310535				
	Cadmium	Q			1312903				
	Tin	R			1315803		9/19/14		
	Silicon	S	10,000ppm		1411821		6/12/14		
9/19/14	Tin	MSST-140919A	1000 ppm	High Purity Standards	1414148	9/19/14		3-15-16	MI
11/5/15	Magnesium	MSST-150105A	10000 ppm	High Purity Stds	1409813	11/5/15 MI 11/5/15		6-10-16	MI
	Calcium	B	1000ppm		1422607				
	Aluminum	C	1000 ppm		1422333				

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
1/15/15	Strontium 1°	MSST-150115D	1000 ppm	High Purity Stds	1412501	1/15/15	2/10/15	6/10/16	MEJ
↓	Scandium E	↓	1000 ppm m 1/15/15	↓	1414317	↓	1/20/15	↓	↓
↓	Yttrium F	↓	↓	↓	1423204	↓	1/20/15	↓	↓
1/12/15	Arsenic 2°	MISS-150112A	1000 ppm	Ultra Scientific	R005943	1/12/15		9/30/2020	MEJ
↓	Copper 2°	↓ B	↓	↓	BH02515 ~~RF058487~~ m 1/14/15	↓		6/30/2021	↓
↓	Antimony 2°	↓ C	↓	↓	RM058187	↓		9/30/2021	↓
↓	Chromium 2°	↓ D	↓	↓	BH013V5	↓	1/30/15	12/31/2019	↓
↓	Molybdenum 2°	↓ E	↓	↓	RM07695	↓	1/30/15	1/31/2022	↓
↓	Thallium 2°	↓ F	↓	↓	BH02110	↓	1/30/15	7/31/2020	↓
3/9/15	Chromium 1°	MSST-150309A	1000 ppm	High Purity Standards	1320011	3/9/15	3/9/15	9/3/16	MEJ
↓	Molybdenum 1°	↓ B	↓	↓	1420609	↓	↓	↓	↓
↓	Boron 1°	↓ C	5000	↓	1421703	↓	↓	↓	↓
3/10/15	Mercury 1°	MSST-150310A	100 ppm	High Purity Standards	14343	3/10/15	4/5/15	9/10/16	[illegible]
5/14/15	Cadmium 2°	MSST-150514A	100 ppm	Ultra Scientific	CL-2608	5/14/15		8/31/21	[illegible]
5/14/15	Zinc 2°	MSST-150514B	100 ppm	Ultra Scientific	TU0108	5/14/15		2/28/21	[illegible]
5/18/15	Manganese 1°	MSST-150518A	10000 ppm	High Purity Standards	1413613	5/18/15	6/1/15	11/8/16	[illegible]
6/15/15	Barium 2°	MISS-150615A	1000 ppm	Ultra Scientific	CM-2359	6/15/15	6/15/15	6/30/22	MJ
↓	Lead 2°	↓ B	↓	↓	CL-4072	↓	↓	11/30/21 ~~10/16/22~~ m 6/16/15	↓
↓	Silicon 2°	↓ C	10000	↓	CL-2940	↓	↓	8/31/2021	↓

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ICP Stock Standard Logbook

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
6/15/15	tin 2°	MSST-150615D	1000 ppm	CPI	13H086	6/15/15		12/15/16	MI
	Titanium 2°	↓ E	↓	↓	14K176	↓		↓	↓
7/2/15	Aluminum	MSST-150702A	10000 ppm	High Purity Standards	1516016	7/2/15	11/23/15	12/25/16	HSG
	Calcium	↓ B	↓	↓	1511140	↓	↓	↓	↓
	Magnesium	↓ C	↓	↓	1510445	↓	↓	↓	↓
7/17/15	Strontium 2°	MSST-150717A	1000	CPI	15F052	7/17/15	9/10/15	01/14/17	HSG
9/9/15	Selenium 2°	MSST-150909A	1000 ppm	Ultra Scientific	R00180	9/9/15	9/10/15	4/30/20	AA
9/23/15	Scandium primary	MSST-150923A	1000 ppm	High Purity Standards	1506438	9/23/15	9/28/15	3/17/17	AM
9/23/15	Yttrium primary	MSST-150923B	1000 ppm	High Purity Standards	1507112	9/23/15	9/28/15	3/17/17	AM
9/28/15	Lead secondary	MSST-150928A	1000 ppm	Ultra Scientific	CM-3389	9/28/15		7/3/22	AM
10/29/15	Calcium	MSST-151029A	10000 ppm	Ultra Scientific	CM-4634	10/29/15 ~~9/30/22~~	11/2/15	9/30/22	Am
10/29/15	Manganese	MSST-151029B	1000 ppm	Ultra Scientific	CM-2432	10/29/15	10/29/15	6/30/22	Am
10/29/15	Thallium	MSST-151029C	1000	Ultra Scientific	CM-1100	10/29/15		4/30/22	Am
11/10/15	Iron	MSST-151102A	10000 ppm	High Purity Standards	1524703	11/2/15	11/23/15	4/28/17	Am
11/10/15	Strontium	MSST-151102B	1000 ppm	High Purity Standards	1429002	11/2/15	↓	4/28/17	Am
11/10/15	Bismuth	MSST-151102C	1000 ppm	High Purity Standards	1404513	11/2/15	11/23/15	4/28/17	Am
11/10/15	Lithium	MSST-151102D	1000 ppm	High Purity Standards	1516729	11/2/15	↓	↓	
12/11/15	Titanium	MSST-151207A	1000 ppm	High purity standards	1510001	12/7/15	4/15/16	6/1/17	Am
12/11/15	Cadmium	MSST-151207B	1000 ppm	High purity standards	1512903	12/7/15	↓	6/1/17	Am

Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
12/11/15	Arsenic	MSST-151207C	1000 ppm	High Purity Standards	1500712	12/7/15	12/5/15	6/1/18	Am
	Cobalt	MSST-151207D	1000 ppm		1425215	12/7/15		6/1/18	
	Zinc	MSST-151207E			1403401			6/1/17	
	Beryllium	MSST-151207F			1412111				
	Nickel	MSST-151207G			1512402				
	Barium	MSST-151207H			1431507				
	Antimony	-151207I			1520412				
	Copper	-151207J			1403501				
	Selenium	151207K			1427632				
	Silver	151207L			~~1527709~~ 1527902 Am 12/8/15				
	Tin	151207M			1516806				
	lead	151207N			1513919				
	Vanadium	151207O			1420604				
	Thallium	151207P			1523215				
	Silicon	151208Q			1528501				
	Potassium	151207R	10000 ppm		1512614				
	Sodium	151207S			1526616				
	Aluminum	151207T			1526032				
	Calcium	151207U			1527523				

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Date	Stock STD							Exp Date	
	STD Name	Stock Code	Conc.	Supplier	Lot #	Date Rec'd	Date Opened	Stock/Manufact.	Initials
12/11/17	Magnesium	MSST-151207V	10000 ppm	High Purity Standards	1510445	12/7/15	12/15/15	6/1/17	AM

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
9/7/15	~~2MW~~ 500 ppb Hg 2°	2MWST-150907B	2MSST-140113A	1000 ppm	0.05 ml
mi 9/7/15 10/8/15	mi 9/7/15 500 ppb Hg 1°	2MWST-150008A	2MSST-150310A	1000 ppm	0.05 ml
↓	500 ppb Hg 2°	↓ B	2MSST-140113A	1000 ppm	0.05 ml
9/7/15	Mix internal Standard A	2MWST-150907C	2MSST-150907A	10 ppm	500 ml
↓	↓	↓	2MSST-150907B	1000 ppm	5 ml
	2000 mL of 50 ppb IS	2MWST-150907D	2MWST-150907C	10 ppm	12.5 ml
	~~LCS~~ ICV/LCS/MS/MSD Solution B	2MWST-150907E	MSST-150717A (Sr)	1000 ppm	10 ml
	mi 10/8/15 ↓	↓	MSST-150615D (Sn)	↓	↓
			↓ E (Sr Ti) mi 10/8/15		
	↓	↓	MSST-100118D (B)	10,000 ppm	↓
	LLCCV / LLICV Solution B	2MWST-150907F	MSST-150717A (Sr)	1000 ppm	1 ml
	↓	↓	MSST-150615D (Sn)	↓	↓
			↓ E (Ti)		
↓	↓	↓	MSST-100118D (B)	10000 ppm	5 ml
mi 10/8/15	~~200 / 2000 ppb ICAL~~	~~2MWST-150907G~~	~~2MSST-140630A / 2MSST-141025A~~	~~10/50 ppm~~	~~10/20 ml~~
↓	ICAL (Si Sn Ti Sr B)	2MWST-150907G	MSST-140611~~E~~S (Si)	10000 ppm	10 ml
	↓	↓	mi 10/8/15 MSST-140910A (Sn)	1000 ppm	↓
			MSST-140611D (Ti)	↓	
			MSST-150105D (Sr)	1000 ppm	↓
↓	↓	~~MSST-150309C~~ mi 10/8/15	MSST-150309C (B)	5000 ppm	20 ml

	PREPARATION INFORMATION									
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	100 ml	500 ppb	2% HNO3 4% HCl	JT Baker	11532/ 977262	10/9/15 ~~10/7/15~~ 11/9/15	3/31/16		MI
	100 ml	500 ppb	2% HNO3 4% HCl	JT Baker	11532/ 977262	11/8/15	9/10/16		MI
	100 ml	500 ppb	2% HNO3 4% HCl	↓	↓	11/8/15	3/31/19		↓
	500 ml	~ 10 ppm				9/7/16	9/7/16		MEJ
5	↓	↓				↓	1/7/17		
	250	50 ppb	1% HNO3 0.5% HCl	Omnitrace	557248/ 54527	9/7/16	9/7/16		
	1000	10/100 ppm	2.5% HNO3		55148	1/31/16	1/14/17		
	↓	↓	↓		↓	↓	12/15/16		
							↓		
10	↓	↓	↓		↓	↓	1/31/16		
	1000 ml	1 ppm	2.5% HNO3		55148	1/31/16	1/14/17 ~~10/15/16~~ MI 10/15/15		
	↓	↓	↓		↓	↓	12/15/16		
							↓		
	↓	50 ppm	↓		↓	↓	1/31/16		
15	500 ml	100/200 ppb	1% HNO3; 0.5% HCl		~~557148/ 54527~~		~~4/2016; 11/1/15~~		
	1000 ml	100 ppm	2.5% HNO3		55148	12/4/15	12/5/15		
		0 ppm					3/15/16		
		↓					12/4/15		
							6/10/16		
20		100 ppm	↓	↓	↓	↓	9/3/16		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
9/7/15	200/2000 ppb ICAL	2MWST-150907H	2MSST-140630A / 2MSST-141025A	50/10 ppm	20/10 ml
			2MWST-150907G	10/100	10
			2MWST-150907C mi 10/8/15	10	2.5
	ICV (10/100 ppb) mi 10/8/15	2MWST-150907I	2MWST-150601D/F	1/10/100 ppm	5 ml
			2MWST-150907E		
			2MWST-150907C	10 ppm	2.5 ml
	LLICV/LLCCV Working Solution	2MWST-150907J	2MWST-150601H	0.1/0.5/1.0/10 ppm	0.5 ml
			2MWST-150907F	1/10 ppm	
			2MWST-150907C	10 ppm	2.5 ml
	ICSA (100 ppm NaKCaMg)	2MWST-150907K	2MWST-150105A/B (CaMg)	10000 ppm	5.0 ml
			2MWST-140611I/J (NaK)		
			2MWST-150907C	10 ppm	2.5 ml
	ICSAB (100 ppm NaKCaMg) + (20/200 ppb target analytes)	2MWST-150907L	2MWST-150105A/B (CaMg)	10000 ppm	5.0 ml
			2MWST-140611I/J (NaK)		
			2MWST-150907C	10 ppm	2.5 ml
			2MSST-141025A		1 ml
			2MWST-150907G ~~2MSST-140630A~~ mi 10/8/15	10/100 ppm ~~50 ppm~~ mi 10/8/15	1 ml
10/19/15	ICV/LCS/MS/MSD Solution D	2MWST-151019A	2MSST-151019A	1000 ppm	1 ml
	LLICV/LLCCV Solution A	2MWST-151019B	2MSST-140611E (As)	1000 ppm	0.10 ml
			mi 10/19/15 M (Be)		0.50 ml

Logbook #2
ICPMS &Hg WK Std Log

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Advanced Technology Laboratories, Inc. 3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691
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	PREPARATION INFORMATION									
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	500 ml	200/200 ppb	1.0% HNO3 0.5% HCl	Omnitrace	55148/54828	11/1/15	4/20/16; 11/1/15		MFI
	↓	↓	↓	↓	↓	↓	12/5/15		↓
	↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
	500 ml	10/100 ppb	1% HNO3 0.5% HCl		55148/54828	11/23/15	11/23/15; 12/1/15		↓
5	↓	↓	↓	↓	↓	↓	1/31/16		↓
	↓	50 ppb	↓	↓	↓	↓	~~12/~~ 9/7/16		↓
	500 ml	0.1/0.5/1.0/10 ppb	↓	↓	↓	11/23/15	mi 12/5/15 11/23/15		↓
	↓	1/50 ppb	↓	↓	↓	↓	1/31/16		↓
	↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
10	500 ml	100 ppm	↓	↓	↓	12/5/15	4/10/16		↓
	↓	↓	↓	↓	↓	↓	12/5/15		↓
	↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
	500 ml	100 ppm	↓	↓	↓	11/1/15	4/10/16		↓
	↓	~~10 ppm~~	↓	↓	↓	↓	12/5/15		↓
15		50 ppb	↓	↓	↓	↓	9/7/16 11/1/15		↓
		20 ppb	↓	↓	↓	↓	~~12/5/15~~		↓
	↓	20/200 ppb	↓	↓	↓	↓	11/1/15 12/5/15		↓
	1000 ml	1000 ppb	1% HNO3 0.5% HCl	Omnitrace	55148/54828	4/19/16	4/16/17 ~~12/5/15~~ 10/19/15		MFI
	1000 ml	0.1 ppm	2.5% HNO3	↓	55148	11/23/15	12/5/15		↓
20		0.5 ↓	↓	↓	↓	↓	↓		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

1. Act | 2. InAct

INDEX

7461	HYDROCHLORIC
7460	NITRIC ACID
7459	HYDROCHLORIC
7458	HYDROCHLORIC
7457	HYDROCHLORIC
7456	HYDROCHLORIC
7455	HYDROCHLORIC
7454	HYDROCHLORIC
7399	NITRIC ACID
7398	NITRIC ACID
7397	NITRIC ACID
7396	NITRIC ACID
7395	NITRIC ACID
7394	NITRIC ACID
7393	NITRIC ACID
7392	NITRIC ACID
7370	HYDROCHLORIC
7344	SAND
7343	STANNOUS CHL
7342	HEXANES
7302	NITRIC ACID
7301	NITRIC ACID
7300	HYDROGEN PER
7299	SODIUM Chloride
7298	HYDROCHLORIC
7297	HYDROCHLORIC

3647 Records

Bottle #: 7461 Chemical: HYDROCHLORIC ACID ☑ Active

Received:	7/31/2014	Expires:	3/9/2017
Synonyms:	MURIATIC ACID	Status:	Opened
Formula:	HCL	CAS #:	7647-01-0
Location:	Inorganics	Formula Wt:	36.46
8 Vendor:	omnitrace	Lot #:	54028
		Catalog #	HX0607-2
		Conc/Purity:	34-37%
		Amount:	2.5
		Units:	L
		Notes:	

opened: 3/9/2015

Merck Index:

Add to Reagents database

1. Act | 2. InAct

INDEX

7858	NITRIC ACID
7857	HEXANES
7856	HEXANES
7855	HEXANES
7854	HEXANES
7853	ACETONE
7852	ACETONE
7851	ACETONE
7850	ACETONE
7845	DICHLOROMETH
7844	DICHLOROMETH
7843	DICHLOROMETH
7842	DICHLOROMETH
7841	DICHLOROMETH
7840	DICHLOROMETH
7839	DICHLOROMETH
7838	DICHLOROMETH
7837	DICHLOROMETH
7836	DICHLOROMETH
7835	DICHLOROMETH
7834	DICHLOROMETH
7805	NITRIC ACID
7804	NITRIC ACID
7803	HEXANES
7802	HEXANES
7799	SODIUM CHLOR

3647 Records

Bottle #: 7858 Chemical: NITRIC ACID ☑ Active

Received:	9/1/2015	Expires:	9/7/2017
Synonyms:		Status:	New
Formula:	HNO3	CAS #:	7697-37-2
Location:	Inorganics	Formula Wt:	63.01
8 Vendor:	Emd	Lot #:	55148
		Catalog #	NX0407-2
		Conc/Purity:	67-70%
		Amount:	2.5
		Units:	L
		Notes:	

EMD Chemicals Inc.
480 S. Democrat Rd.
Gibbstown,, NJ 08027
TEL: (800) 222-0342
Fax:

Merck Index:

Add to Reagents database

opened: 9/7/2015

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)	
11/23/15	LLICV / LLCCV Selection A	2MWST - 151123C	MSST - 140611HD (Ni) m 11/23/15	1000 ppm	1.0 ml	1
			A (Cu)			
			C (Ba)			
			L (Pb)			
			2MSST - B-1019 A (Cu)		0.5 ml	5
			2MSST - 152518 A (Mn) m 11/23/15	10000 ppm	0.05 ml	
			MSST - 140611 F (V)	1000 ppm	1.0 ml	
			MSST - 151152 A (Fe)	10000 ppm		
			MSST - 140611 P (Zn)	1000 ppm	10 ml	
			MSST - 150105C (Al)	10000 ppm	1.0 ml	10
	ICV (10/100 ppb)	2MWST - 151123D	2MWST - 151123 A/B	1/10/100 ppm	5 ml	
			2MWST - 150907 G			
			2MSST - B-1019 A m 11/23/15	1000 ppm m 11/23/15		
			2MWST - 150907 C	100 ppm	2.5 ml	
	LLICV / LLCCV Working Selection	2MWST - 151123E	2MWST - 151123 C	0.1/0.5/1.0/10/50 ppm	0.5 ml	15
			2MWST - 150907 F			
			2MWST - 150907 C	10 ppm	2.5 ml	
12/5/15	ICAV (Si Sn Ti Sr B)	2MWST - 151207A m 12/5/15	MSST - 151207Q (Si)	1000 ppm	10 ml	
			MSST - 151207N (Sn)	100 ppm m 12/5/15		
			MSST - 151207A (B-Ti) m 12/5/15			20

	PREPARATION INFORMATION								
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	1000 ml	1.0 ppm	2.5% HNO_3	Omnitrace	55148	12/5/15	12/5/15		MET
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	↓		↓
5	↓	0.5 ppm	↓	↓	↓	↓	4/14/17		↓
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	1.0 ppm	↓	↓	↓	↓	↓		↓
	↓	2 ppm	↓	↓	↓	↓	4/28/17		↓
	↓	↓	↓	↓	↓	↓	↓		↓
10	↓	↓	↓	↓	↓	↓	6/10/16		↓
	500 ml	10/100 ppb	1.0% HNO_3; 0.5% HCl	Omnitrace	55146, 57026	12/5/15	12/5/15;		MET
	↓	↓	↓	↓	↓	↓	12/5/15		↓
	↓	↓	↓	↓	↓	↓	4/14/17		↓
	↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
15	500 ml	0.1, 0.5, 1.0, 10, 50 ppb	↓	↓	↓	12/5/15	12/5/15		↓
	↓	↓	↓	↓	↓	↓	1/31/16		↓
	↓	50 ppb	↓	↓	↓	↓	9/7/16		↓
	1000 ml	100 ppm	2.5% HNO_3	Omnitrace	55148	6/5/16	6/1/17		MET
	↓	10 ppm	↓	↓	↓	↓	6/1/17		↓
20	↓	↓	↓	↓	↓	↓	6/1/17		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/8/15	ICAL (Si Sn Ti Sr B)	2MWST-151207A	MSST-151102A (Sr)	1000 ppm	10 mL
12/8/15	↓	↓ 12/8/15	MSST-150307C (B)	5000 ppm	205 mL
	ICV/LCS/MS/MSL Solution A	2MWST-151207B	MSST-151207B (Cd)	1000 ppm	1.0 mL
			C (As)		
			D (Co)		
			E (Zn)		
			F (Be)		
			G (Ni)		
			H (Ba)		
			I (Sb)		
			J (Cu)		
			K (Se)		
			Kp (Tl)		
			M1 12/8/15 MN (Al)		
			M1 12/8/15 O (V)		
			MSST-150307B (Mo)		
			A (Cr)		
			MSST-150518A (Mn)	10000 ppm	
			MSST-151207R (K)		
			S (Na)		

PREPARATION INFORMATION								
Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
		Solvent	Supplier	Lot #	Working STD	Manufacturer		
1000 ml	10 ppm	2.5% HNO_3	Omnitrace	55148	6/5/16	4/28/17		MT
↓	100ppm	↓	↓	↓	↓	9/3/16		↓
1000 ml	1/10 ppm	2.5% HNO_3	Omnitrace	55148	6/5/16	6/1/17		↓
↓	↓	↓	↓	↓	↓	↓		↓
						9/3/16		
						↓		
						11/8/16		
						6/1/17		
↓	↓	↓	↓	↓	↓	↓		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Advanced Technology Laboratories, Inc. 3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

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Logbook #2
ICPMS &Hg WK Std Log

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Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/7/15 m 12/8/15	ICV/LCS/MS/MSD Solution A	2MWST ~~2MSST~~ - 151207B m 12/8/15	MSST - 151207T (Al)	10000 ppm	1.0 ml
			U (Ca)		
			X (Mg)		
			MSST - 151102A (Fe)		
	ICV/LCS/MS/MSD Solution B	2MWST - 151207C m 12/8/15	MSST - 150717A (Sr)	1000 ppm	10 ml
			MSST - 150615D (Sn)		
			E (Ti)		
			MSST - 100118 D (B)	10000 ppm	
			MSST - 150615C (Si)		
	ICV/LCS/MS/MSD Solution C	2MWST - 151207D m 12/8/15	MSST - 151207L (Ag)	1000 ppm	1.0 ml
	ICV/LCS/MS/MSD Solution D	2MWST - 151207E m 12/8/15	2MSST - 151019A (Cu)	1000 ppm	
	LL ICV/LLCCV Solution A	2MWST - 151207F	MSST - 151207C (As)	1000 ppm	0.10 ml
			F (Be)		0.50 ml
			D (Co)		
			K (Se)		
			MSST - 150909B (Mo)		
			L (Ag)		
			B (Cd)		
			I (Sb)		
			P (Tl)		

	PREPARATION INFORMATION					Exp Date *			
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent	Supplier	Lot #	Working STD	Manufacturer	Comments	Initial
1	1000 mL	1/10 ppm	2.5% HNO3	Omnitrace	55148	6/5/16	6/1/17		MCT
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	4/22/17		↓
5	100 mL	1/100 ppm	↓	↓	↓	1/13/16 ~~6/5/16~~ MT 12/5/15	1/14/17		↓
	↓	↓	↓	↓	↓	↓	12/15/16		↓
	↓	↓	↓	↓	↓	↓	12/15/16 ~~1/31/16~~		↓
	↓	↓	↓	↓	↓	↓	1/13/16 ~~8/31/21~~ MT 12/5/15		↓
	↓	↓	↓	↓	↓	↓	8/31/21		↓
10	1000 mL	1 ppm	↓	↓	↓	6/5/16	6/1/17		↓
	↓	↓	↓	↓	↓	6/5/16	4/14/17		↓
	100 mL	0.1 ppm	↓	↓	↓	6/5/16	6/1/17		↓
	↓	0.5 ppm	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	↓		↓
15	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	9/3/16		↓
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	↓		↓
	↓	↓	↓	↓	↓	↓	↓		↓
20	↓	↓	↓	↓	↓	↓	↓		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)	
12/8/15 ~12/8/15	LLICV / LLCCV Solution A	2MWST - 151207~~8~~7F ~12/8/15	MSST - 150307A (Cr)	1000 ppm	1.0 ml	1
			MSST - 151207G (Ni)			
			J (Cu)			
			H (Ba)			
			N (Pb)			5
			2MSST - 151619A (Cu)		0.5	
			MSST - 150518A (Mn)	10000 ppm	0.05	
			MSST - 151207O (V)	1000 ppm	1.0	
			MSST - 151102A (Fe)	10000 ppm	1.0	
			MSST - 151207E (Zn)	1000 ppm	10	10
			MSST - 151207T (Al)	10000 ppm	1.0	
	LLCCV / LLCCV Solution B	2MWST - 151207~~8~~7G ~12/8/15	MSST - 150717A (Cr)	1000 ppm	1.0 ml	
			MSST - 150615D (Sn)			
			E (Ti)			
			MSST - 100118D (B)	10000 ppm	1.0 ml	15
			MSST - 150615C (Si)			
	ICAL (200/2000 ppb)	2MWST - 151207~~8~~7H ~12/8/15	2MSST - 140623A / 2MSST - 141623A	50/10 ppm	20/10 ml	
			2MWST - 151207~~8~~7A ~12/8/15	10/100 ppm	10 ml	
			2MWST - 150907C	10 ppm	2.5 ml	
	ICV (10/100 ppb)	2MWST - 151207~~8~~7I ~12/8/15	2MWST - 151207~~8~~7B/C/D/E ~12/8/15	1/10/100 ppm	5 ml	20

	PREPARATION INFORMATION								
	Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
			Solvent	Supplier	Lot #	Working STD	Manufacturer		
1	100 ml	1.0 ppm	2.5% HNO_3	Omnitrace	55148	6/5/16	6/1/17		MCT
5									
		0.5 ppm					4/16/17		
							11/3/16		
		1.0 ppm					6/1/17		
		10 ppm					4/28/17		
10							6/1/17		
	100 ml	1 ppm				1/31/16	1/14/17		
							12/15/16		
15		50 ppm					1/31/16		
		1 ppm					8/31/21		
	100 ml	200/2000 ppb	1.0% HNO_3; 0.5% HCl		5514?; 174028	3/2016	4/2016; 3/2016		
							6/1/16		
		500 ppb					9/7/16		
20	500 ml	10/100 ppb				1/31/16	6/5/16; 1/31/16		

* Working std expiration date must not exceed the manufacturer's expiration date.

Date	STD Name	Working STD Code	STOCK INFORMATION: Stock STD Code (See stock STD Log for Ref)	Stock Conc. (ppm)	Amount Taken from Stock (uL)
12/8/15	ICV (10/100 ppb)	2MWST-151207 I	2MSST-150907C	10 ppm	2.5 ml
~12/8/17	LLCV ILLCV Working Solution	2MWST-151207 J ~12/8/15	2MWST-151207 F/G	0.1/0.5/1.0/10/50 ppm	0.5 ml
	↓	↓	2MWST-151207 C ~12/8/15	10 ppm	2.5
	ICSA (100 ppm KNaCaMg)	2MWST-151207 K ~12/8/15	MSST-151207 R/S/T/U/V ~12/8/15	10000 ppm	5.0 ml
	↓	↓	2MWST-150907C	10 ppm	2.5 ml
	ICSAB (100 ppm KNaCaMg)	2MWST-151207 L ~12/8/15	MSST-151207 R/S/U/V	10000 ppm	5.0 ml
	+ 20/200 ppb target analytes	↓	2MSST-141025A	10 ppm	1.0 ml
	↓	↓	2MWST-150907C	10 ppm	2.5 ml
↓	↓	↓	2MWST-151207 A	10/100 ppm	1.0 ml
12/8/15	500 ppb Hg (1°)	2MWST-151208 A	2MSST-150310 A ~12/8/15	1000 ppm	0.05 ml
	500 ppb Hg (2°)	↓ B	2MSST-140113A	↓	↓

PREPARATION INFORMATION								
Final Vol. (ml)	Final Conc. (ug/ml)	Solvent			Exp Date *		Comments	Initial
		Solvent	Supplier	Lot #	Working STD	Manufacturer		
500 ml	50 ppb	1% HNO_3 ; 0.5% HCl	omnitrace	55148 ; 54028	1/31/16	9/7/16		MEJ
500 ml	0.1/0.5/1/10 50 ppb				1/31/16	6/5/16 ; 1/31/16		
↓	50 ppb				↓	9/7/16		
500 ml	100 ppm				6/5/16	6/1/17		
↓	50 ppb				↓	9/7/16		
500 ml	100 ppm				3/20/16 ~~5/5/16~~	6/1/17		
	20/200 ppb				m1 12/5/15	3/20/16		
	50 ppb					9/7/16		
↓	20/200 ppb	↓	↓	↓	↓	6/5/16		↓
100 ml	500 ppb	2% HNO_3 4% HCl	JT Baker	11532/97262	1/8/16	9/10/16		MEJ
↓	↓	↓	↓	↓	1/8/16	3/31/19		↓

* Working std expiration date must not exceed the manufacturer's expiration date.

ARCADIS

Project: PG&E Topock – PMP

Project No.: RC000753.0801

ASSET Laboratories Work Order: N018936

ANALYTICAL and QC RESULTS

SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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March 18, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N018936

RE: PG&E Topock - PMP, RC000753.0801

Attention: Dan Bush

Enclosed are the results for sample(s) received on March 02, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *18-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP, RC000753.0801
Lab Order: N018936

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling;sample was received and analyzed past the regulatory holding time.

Analytical Comments for EPA 200.7_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N018843-010B-MS1 and N018843-010B-MSD1 possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium on QC samples N018936-001A-MS2 and N018936-001A-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 200.8_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium on QC samples N018918-003C-MS, N018918-003C-MSD and N018919-002B-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
CALIFORNIA
11060 Artesia Blvd., Ste C, Cerritos, CA 90703
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NEVADA
3151 W. Post Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *18-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PMP, RC000753.0801
Lab Order: N018936
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N018936-001A	PE-01-0316	Groundwater	3/2/2016 9:20:00 AM	3/2/2016	3/18/2016
N018936-001B	PE-01-0316	Groundwater	3/2/2016 9:20:00 AM	3/2/2016	3/18/2016
N018936-001C	PE-01-0316	Groundwater	3/2/2016 9:20:00 AM	3/2/2016	3/18/2016
N018936-001D	PE-01-0316	Groundwater	3/2/2016 9:20:00 AM	3/2/2016	3/18/2016
N018936-002A	TW-3D-0316	Groundwater	3/2/2016 9:11:00 AM	3/2/2016	3/18/2016
N018936-002B	TW-3D-0316	Groundwater	3/2/2016 9:11:00 AM	3/2/2016	3/18/2016
N018936-002C	TW-3D-0316	Groundwater	3/2/2016 9:11:00 AM	3/2/2016	3/18/2016
N018936-002D	TW-3D-0316	Groundwater	3/2/2016 9:11:00 AM	3/2/2016	3/18/2016

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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160303D**	QC Batch: **R106207**			PrepDate			Analyst: **LR**
Specific Conductance	4100	0.10	0.10		umhos/cm	1	3/3/2016 09:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160303D**	QC Batch: **R106207**			PrepDate			Analyst: **LR**
Specific Conductance	7800	0.10	0.10		umhos/cm	1	3/3/2016 09:45 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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Date: *18-Mar-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N018928-001BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106207**
Client ID: **ZZZZZZ** Batch ID: **R106207** TestNo: **EPA 120.1** Analysis Date: **3/3/2016** SeqNo: **2250183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	0.850	0.10						0.8800	3.47	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160303C**	QC Batch: **R106206**			PrepDate			Analyst: **LR**
pH	7.6	0.10	0.10	H	pH Units	1	3/3/2016 09:00 AM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	3/3/2016 09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH							
			SM4500-H+B				
RunID: **WETCHEM_160303C**	QC Batch: **R106206**			PrepDate			Analyst: **LR**
pH	7.2	0.10	0.10	H	pH Units	1	3/3/2016 09:00 AM
Temp. at time of pH Analysis	18	0.10	0.10	H	°C	1	3/3/2016 09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1_4500H+B_W

Sample ID **N018936-001BDUP** SampType: **DUP** TestCode: **150.1_4500H** Units: **pH Units** Prep Date: RunNo: **106206**
Client ID: **ZZZZZZ** Batch ID: **R106206** TestNo: **SM4500-H+B** Analysis Date: **3/3/2016** SeqNo: **2250173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.520	0.10						7.550	0.398	10	H
Temp. at time of pH Analysis	17.300	0.10						17.50	1.15	10	H

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160303E**	QC Batch: **56498**				PrepDate	**3/3/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	2500	33	33		mg/L	1	3/3/2016 02:35 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160303E**	QC Batch: **56498**				PrepDate	**3/3/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4700	50	50		mg/L	1	3/3/2016 02:35 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID **MB-56498** SampType: **MBLK** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **3/3/2016** RunNo: **106221**
Client ID: **PBW** Batch ID: **56498** TestNo: **SM2540C** Analysis Date: **3/3/2016** SeqNo: **2250778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID **LCS-56498** SampType: **LCS** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **3/3/2016** RunNo: **106221**
Client ID: **LCSW** Batch ID: **56498** TestNo: **SM2540C** Analysis Date: **3/3/2016** SeqNo: **2250779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	982.000	10	1000	0	98.2	80	120				

Sample ID **N018936-002CDUP** SampType: **DUP** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **3/3/2016** RunNo: **106221**
Client ID: **ZZZZZZ** Batch ID: **56498** TestNo: **SM2540C** Analysis Date: **3/3/2016** SeqNo: **2250783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4835.000	50						4715	2.51	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **ICP2_160308A**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Calcium	120	0.031	0.50		mg/L	1	3/8/2016 04:03 PM
Iron	ND	0.017	0.50		mg/L	1	3/8/2016 04:03 PM
Magnesium	26	0.086	0.10		mg/L	1	3/8/2016 04:03 PM
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **ICP2_160309B**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Sodium	820	1.2	50		mg/L	100	3/9/2016 01:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **ICP2_160308A**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Calcium	240	0.031	0.50		mg/L	1	3/8/2016 03:28 PM
Iron	ND	0.017	0.50		mg/L	1	3/8/2016 03:28 PM
Magnesium	32	0.086	0.10		mg/L	1	3/8/2016 03:28 PM
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **ICP2_160309B**	QC Batch: **56545**				PrepDate	**3/8/2016**	Analyst: **CEI**
Sodium	1600	1.2	50		mg/L	100	3/9/2016 01:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **MB-56545** SampType: **MBLK** TestCode: **200.7_WD** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **PBW** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Iron	ND	0.50									
Magnesium	ND	0.10									

Sample ID **LCS1-56545** SampType: **LCS** TestCode: **200.7_WD** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **LCSW** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.198	0.50	10.00	0	102	85	115				
Iron	0.111	0.50	0.1000	0	111	85	115				
Magnesium	11.066	0.10	10.00	0	111	85	115				

Sample ID **N018843-010B-MS1** SampType: **MS** TestCode: **200.7_WD** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	86.148	0.50	10.00	80.00	61.5	75	125				S
Iron	0.114	0.50	10.00	0	1.14	75	125				S
Magnesium	36.263	0.10	10.00	26.65	96.1	75	125				

Sample ID **N018843-010B-MSD** SampType: **MSD** TestCode: **200.7_WD** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255530**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	86.007	0.50	10.00	80.00	60.1	75	125	86.15	0.164	20	S
Iron	0.120	0.50	10.00	0	1.20	75	125	0.1140	0	20	S
Magnesium	36.300	0.10	10.00	26.65	96.5	75	125	36.26	0.102	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD1

Sample ID **MB-56545** SampType: **MBLK** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106329**
Client ID: **PBW** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	ND	0.50									

Sample ID **LCS2-56545** SampType: **LCS** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106329**
Client ID: **LCSW** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	20.716	0.50	20.00	0	104	85	115				

Sample ID **N018936-001A-MS2** SampType: **MS** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106329**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	876.887	50	20.00	823.9	265	75	125				S

Sample ID **N018936-001A-MSD** SampType: **MSD** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: **3/8/2016** RunNo: **106329**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	899.266	50	20.00	823.9	377	75	125	876.9	2.52	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
EPA 200.8							
RunID: **ICP7_160308C**	QC Batch: **56504**				PrepDate	**3/4/2016**	Analyst: **CEI**
Manganese	100	0.023	0.50		µg/L	1	3/8/2016 08:14 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
EPA 200.8							
RunID: **ICP7_160308C**	QC Batch: **56504**				PrepDate	**3/4/2016**	Analyst: **CEI**
Manganese	9.0	0.023	0.50		µg/L	1	3/8/2016 08:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **MB-56504** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **PBW** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **LCS-56504** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **LCSW** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	99.349	0.50	100.0	0	99.3	85	115				

Sample ID **N018918-003C-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	125.462	12	100.0	19.46	106	75	125				

Sample ID **N018918-003C-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	125.487	12	100.0	19.46	106	75	125	125.5	0.0199	20	

Sample ID **N018919-002B-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	100.136	0.50	100.0	8.314	91.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A**	QC Batch: **R106264**			PrepDate			Analyst: **RB**
Hexavalent Chromium	0.79	0.015	0.20		µg/L	1	3/4/2016 07:43 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **ICP7_160308C**	QC Batch: **56504**			PrepDate		**3/4/2016**	Analyst: **CEI**
Chromium	ND	0.086	1.0		µg/L	1	3/8/2016 08:14 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC7_160304A**	QC Batch: **R106264**			PrepDate			Analyst: **RB**
Hexavalent Chromium	790	1.5	20		µg/L	100	3/4/2016 07:24 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **ICP7_160308C**	QC Batch: **56504**			PrepDate	**3/4/2016**		Analyst: **CEI**
Chromium	840	0.43	5.0		µg/L	5	3/8/2016 11:17 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **MB-56504** SampType: **MBLK** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **PBW** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.132	1.0									

Sample ID **LCS-56504** SampType: **LCS** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **LCSW** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.940	1.0	10.00	0	99.4	85	115				

Sample ID **N018918-003C-MS** SampType: **MS** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.747	25	10.00	4.620	71.3	75	125				S

Sample ID **N018918-003C-MSD** SampType: **MSD** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	12.083	25	10.00	4.620	74.6	75	125	11.75	0	20	S

Sample ID **N018919-002B-MS** SampType: **MS** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: **3/4/2016** RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	824.885	5.0	10.00	823.9	10.3	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R106264** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **PBW** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106264** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **LCSW** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.945	0.20	5.000	0	98.9	90	110				

Sample ID **N018918-001BDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	676.240	10						667.2	1.34	20	

Sample ID **N018918-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	918.905	10	250.0	667.2	101	90	110				

Sample ID **N018918-001BMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	914.080	10	250.0	667.2	98.7	90	110	918.9	0.526	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018861-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1042.890	20	500.0	555.6	97.5	90	110				

Sample ID **N018861-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	101.584	2.0	50.00	52.96	97.3	90	110				

Sample ID **N018861-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252832**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.069	0.20	1.000	0.06650	100	90	110				

Sample ID **N018861-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.208	1.0	5.000	0	104	90	110				

Sample ID **N018861-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.218	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N018861-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	31.353	1.0	25.00	6.007	101	90	110				

Sample ID **N018936-001DMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.724	0.20	5.000	0.7916	98.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID **MB-R106264** SampType: **MBLK** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **PBW** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R106264** SampType: **LCS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **LCSW** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.945	0.20	5.000	0	98.9	90	110				

Sample ID **N018918-001BDUP** SampType: **DUP** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	676.240	10						667.2	1.34	20	

Sample ID **N018918-001BMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	918.905	10	250.0	667.2	101	90	110				

Sample ID **N018918-001BMSD** SampType: **MSD** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	914.080	10	250.0	667.2	98.7	90	110	918.9	0.526	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID **N018918-002CMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.226	0.20	1.000	0.2119	101	90	110				

Sample ID **N018918-003BMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.269	1.0	5.000	2.180	102	90	110				

Sample ID **N018936-002AMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1297.530	20	500.0	793.8	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160303B**	QC Batch: **R106205**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	3/3/2016 01:15 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	3/3/2016 01:15 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	3/3/2016 01:15 PM
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	3/3/2016 01:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160303B**	QC Batch: **R106205**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	130	1.2	5.0		mg/L	1	3/3/2016 01:15 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	3/3/2016 01:15 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	3/3/2016 01:15 PM
Alkalinity, Total (As CaCO3)	130	1.2	5.0		mg/L	1	3/3/2016 01:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R106205** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106205**
Client ID: **LCSW** Batch ID: **R106205** TestNo: **SM 2320 B** Analysis Date: **3/3/2016** SeqNo: **2250157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.418	5.0	100.0	0	100	85	115				
Alkalinity, Total (As CaCO3)	100.418	5.0	100.0	0	100	85	115				

Sample ID **MB-R106205** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106205**
Client ID: **PBW** Batch ID: **R106205** TestNo: **SM 2320 B** Analysis Date: **3/3/2016** SeqNo: **2250158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N018919-001ADUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106205**
Client ID: **ZZZZZZ** Batch ID: **R106205** TestNo: **SM 2320 B** Analysis Date: **3/3/2016** SeqNo: **2250163**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	158.996	5.0						161.1	1.31	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	158.996	5.0						161.1	1.31	30	

Sample ID **N018919-002AMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106205**
Client ID: **ZZZZZZ** Batch ID: **R106205** TestNo: **SM 2320 B** Analysis Date: **3/3/2016** SeqNo: **2250165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	225.941	5.0	100.0	133.9	92.1	75	125				
Alkalinity, Total (As CaCO3)	225.941	5.0	100.0	133.9	92.1	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **N018919-002AMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106205**
Client ID: **ZZZZZZ** Batch ID: **R106205** TestNo: **SM 2320 B** Analysis Date: **3/3/2016** SeqNo: **2250166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	228.033	5.0	100.0	133.9	94.1	75	125	225.9	0.922	20	
Alkalinity, Total (As CaCO3)	228.033	5.0	100.0	133.9	94.1	75	125	225.9	0.922	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160303A** QC Batch: **R106215**				PrepDate			Analyst: **QBM**
Chloride	1000	6.3	100		mg/L	200	3/3/2016 12:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160303A** QC Batch: **R106215**				PrepDate			Analyst: **QBM**
Sulfate	370	1.6	25		mg/L	50	3/3/2016 05:31 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **IC2_160303A** QC Batch: **R106215** PrepDate Analyst: **QBM**							
Chloride	2300	16	250		mg/L	500	3/3/2016 02:23 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **IC2_160303A** QC Batch: **R106215** PrepDate Analyst: **QBM**							
Sulfate	520	1.6	25		mg/L	50	3/3/2016 06:33 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **MB-R106215_CL** SampType: **MBLK** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **PBW** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **LCS-R106215_CL** SampType: **LCS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **LCSW** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.442	0.50	2.500	0	97.7	90	110				

Sample ID **N018936-001BDUP** SampType: **DUP** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ZZZZZZ** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	997.800	100						1007	0.898	20	

Sample ID **N018936-001BMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ZZZZZZ** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1530.200	100	500.0	1007	105	80	120				

Sample ID **N018936-001BMSD** SampType: **MSD** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ZZZZZZ** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1533.600	100	500.0	1007	105	80	120	1530	0.222	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **MB-R106215_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **PBW** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250507**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **LCS-R106215_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **LCSW** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.780	0.50	5.000	0	95.6	90	110				

Sample ID **N018936-001BDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ZZZZZZ** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	371.600	25						370.8	0.216	20	

Sample ID **N018936-001BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ZZZZZZ** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	631.550	25	250.0	370.8	104	80	120				

Sample ID **N018936-001BMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ZZZZZZ** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	626.750	25	250.0	370.8	102	80	120	631.6	0.763	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PE-01-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:20:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
SM4500-NO3F							
RunID: **WETCHEM_160308F** QC Batch: **R106334** PrepDate Analyst: **RB**							
Nitrate/Nitrite as N	ND	0.022	0.050		mg/L	1	3/8/2016

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *18-Mar-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-3D-0316
Lab Order:	N018936	**Collection Date:**	3/2/2016 9:11:00 AM
Project:	PG&E Topock - PMP, RC000753.0801	**Matrix:**	GROUNDWATER
Lab ID:	N018936-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160308F**	QC Batch: **R106334**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	3.7	0.11	0.25		mg/L	5	3/8/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106334** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **PBW** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106334** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **LCSW** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.518	0.050	0.5000	0	104	85	115				

Sample ID **N018844-001EDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.495	0.050						0.5301	6.91	20	

Sample ID **N018844-001EMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.073	0.050	0.5000	0.5301	109	75	125				

Sample ID **N018844-001EMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ZZZZZZ** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.090	0.050	0.5000	0.5301	112	75	125	1.073	1.59	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.3072691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD ☐
Address: Roseville, CA 95661	Email: Dan.Bush@arcadis.com, Daniel.Moore@critigen.com		Geotracker ☐
Phone: 916.786.3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com PO#	Labspec ☐
Submitted By:		Phone: 949.727.1400, ext 200 Fax:	Others ☑
Title:	Phone: 916.786.3302 Fax:		Specify: EQ EDD
Signature: Date:	Sampled By:		Global ID:

I hereby authorize ASSET Labs to perform the tests indicated below:

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Project Name: PG&E Topock - PMP

Project Number: RC000753.0801

Signature: Date

QA/QC	
RTNE	☐
RWQCB	☐
CalTrans	☐
Level III	☐
LEVEL IV	☑
Regulatory	☐

Specify State:

Sampe Receipt Condition	Y	N
1. Chilled	☑	☐
2. Headspace	☐	☐
3. Container Intact	☐	☐
4. Seal Present	☐	☐
5. IR number	2	
6. Method of Cooling	ice	

Sample Temp: 2-62

Courier:

Tracking No.

Matrix			
Ground	☑	Sediment	☐
Potable	☐	Soil	☐
NPDES	☐	Other Solid	☐
Surface	☐		

Item No.	Laboratory Work Order No.	Sample ID/Location	Date	Time	Water	Solid	Others	Cr(VI) (SM3500B) 4°C; 250 ml Poly	Metals Dissolved (E200.7 LF) Ca, Fe, Mg, Na 4°C; 500 ml Poly	Metals Dissolved (E200.8 LF) Mn, Cr 4°C; 500 ml Poly	pH (SM4500HB) 4°C; 500 ml Poly	Turbidity (SM2130); 4°C; 1000ml Poly	Specific Conductance (E120.1); 4°C; 1000ml Poly	Anions (E300.0) Chloride,Sulfate, 4°C; 1000ml Poly	Anions (SM4500NO3E) Nitrate/Nitrite; H2SO4, 4°C; 125ml Poly	TDS (SM2540C); 4°C; 1000ml Poly	Total Alkalinity, speciated (SM2320B); 4°C; 1 L poly	Ammonia (SM4500NH3); H2SO4, 4°C; 125 mL poly	Gross Alpha/Beta (E900); HNO3; 2x1000ml Poly	Metals Dissolved (6020AFF) Cr; HNO3 4°C; 500 ml Poly	Ortho-Phosphate (E300.0); 4°C; 1000ml Poly	Turn Around Time	No. of container	Remarks
1	N018936-1	PE-01-0316	3-2-16	920	X				X	X	X		X	X	X	X	X					10	4	
2	1 -2	TW-3D-0316	3-2-16	911	X			X	X	X	X		X	X	X	X	X					10	4	
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

Relinquished by (Signature and Printed Name):	Date / Time	Received by (Signature and Printed Name):	Date / Time
[signature]	3-2-16 1400	[signature]	3/2/16 1400
[signature]	3/2/16 1946	[signature]	3/2/16 1946
[signature]		[signature]	

Turn Around Time (TAT)
- ☐ A < 24 Hrs or Same Day TAT
- ☐ B = Next Workday
- ☐ C = 2 Workdays
- ☐ D = 3 Workdays
- ☐ E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00 PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days upon receipt and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35% 4 Workdays = 20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 Days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H = HCl	N = HNO_3	S = H_2SO_4	C = 4°C	T = Tube	V = VOA	P = Pint
Z = $Zn(AC)_2$	O = NaOH	T = $Na_2S_2O_3$		J = Jar	B = Tedlar	G = Glass
Others/Specify:				M = Metal	P = Plastic	C = Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	3/2/2016	Workorder:	N018936
Rep sample Temp (Deg C):	2.6	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☐	No ☑	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☐	No ☑	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: Samples for metals were lab filtered and preserved. Samples for pH was pastholding time upon receipt.

Checklist Completed By HG 3/4/2016

Reviewed By: 03/07/16

ASSET Laboratories

WORK ORDER Summary

03-Mar-16

WorkOrder: N018936

Client ID: ARCUS02

Project: PG&E Topock - PMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 3/2/2016

Comments: EQ EDD

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018936-001A	PE-01-0316	3/2/2016 9:20:00 AM	3/16/2016	Groundwater		AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2016		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/16/2016		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/16/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2016		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			3/16/2016		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N018936-001B			3/16/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/16/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/16/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			3/16/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			3/16/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			3/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			3/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			3/16/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N018936-001C			3/16/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018936-002A	TW-3D-0316	3/2/2016 9:11:00 AM	3/16/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N018936-002B			3/16/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2016		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/16/2016		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			3/16/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2016		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			3/16/2016		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-Mar-16

WorkOrder: N018936

Client ID: ARCUS02

Project: PG&E Topock - PMP, RC000753.0801 **QC Level:** Level IV **Date Received:** 3/2/2016

Comments: EQ EDD

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N018936-002C	TW-3D-0316	3/2/2016 9:11:00 AM	3/16/2016	Groundwater	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/16/2016		SM4500-H+B	pH	☐	☐	☐	WW
			3/16/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			3/16/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			3/16/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			3/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			3/16/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			3/16/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N018936-002D			3/16/2016		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N018936-003A	FOLDER		3/16/2016		EDD	Client specific project	☐	☐	☐	LAB
			3/16/2016		Folder	Folder	☐	☐	☐	LAB

ASSET LV Sample Control

From: Marlon B. Cartin <marlon@assetlaboratories.com>
Sent: Thursday, March 03, 2016 12:45 PM
To: 'ASSET LV Sample Control'
Subject: FW: Extra Container

Forwarding.

Thanks,

Marlon B. Cartin
Project Manager
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421

From: Madsen, Laura [mailto:Laura.Madsen@arcadis.com]
Sent: Thursday, March 03, 2016 12:19 PM
To: Marlon Cartin
Subject: RE: Extra Container

Hi Marlon,
Yes PE-01 need Cr6 by Method 218.6. Please add to the COC and run the sample.

Thanks,
Laura

From: Marlon Cartin [mailto:marlon@assetlaboratories.com]
Sent: Thursday, March 03, 2016 1:08 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: samplecontrol.lv@assetlaboratories.com
Subject: Fwd: Extra Container

Hi Laura,

We receive Cr+6 sample for the PE sample but not on COC, please advise if we need to run.

Thanks,

Marlon B. Cartin
ASSET Laboratories
P: 702.307.2659 ext 410 M:702.439.0421

Sent from my iPhone

Begin forwarded message:

> **From:** "ASSET LV Sample Control" <samplecontrol.lv@assetlaboratories.com>
> **Date:** March 3, 2016 at 11:53:29 AM PST

To: <marlon@assetlaboratories.com>
Subject: Extra Container

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List of Analysts

ASSET Laboratories Work Order: **N018936**

NAME	TEST METHOD
Quennie Manimtim	EPA 300.0
Claire Ignacio	EPA 200.7, EPA 200.8
Ryan Balilu	EPA 218.6, SM 4500-NO3F
Lilia Ramit	EPA 120.1, EPA 4500 H+B, SM 2540C, SM 2320B

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106207 **Analyst:** LSR

ASSET #: N018936 **Date Analyzed:** 3/3/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. ~~MS/MSD~~, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/8/2016

2nd Level Reviewer Nancy 3/17/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Conductivity Logbook

Date: 3/3/16 @ 945
Analyst: L&R

Standard	Std ID	Reading	Comments
9.78 µS/cm	CNV-150619A	9.73 µS/cm @ 21.6°C	% Rec: (90-110%)
1412	-151012A	1423 @ 21.8°C	
9992	-160111B	10320 @ 21.8°C	
99797	-151012B	101400 @ 21.7°C	

	Sample ID	Matrix	Reading	Comments
1	N018928-001B	Water	0.88 µS/cm @ 21.5°C	
2	N018929-001B		953 @ 21.4°C	
3	N018930-001B		1058 @ 21.3°C	
4	N018936-001B		4110 @ 18.6°C	
5	N018936-002C		7830 @ 18.6°C	
6	N018928-001B DUP		0.85 @ 21.3°C	
7				
8				
9	1413 µS/cm	CNV-150527A	1448 µS/cm @ 21.3°C	
10	10000	-150909A	10570 @ 21.5°C	
Dup	99893	-151130A	99500 @ 21.7°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Date: 3/4/16 @ 1630
Analyst: L&R

Julia Ramit 3/8/2016

Standard	Std ID	Reading	Comments
9.78 µS/cm	CNV-150619A	9.86 µS/cm @ 26.2°C	% Rec: (90-110%)
1412	151012A	1448 @ 26.0°C	
9992	160111B	10570 @ 25.8°C	
99797	151012B		

	Sample ID	Matrix	Reading	Comments
1	N018956-001B	Water	1042 µS/cm @ 24.7°C	
2	N018957-001B		1053 @ 24.8°C	
3	N018958-001B		1028 @ 24.7°C	
4	N018959-001B		1.19 @ 25.1°C	
5	N018960-001B		1102 @ 24.9°C	
6	N018959-001B		1.12 @ 25.4°C	
7				
8				
9	1418 µS/cm	CNV-150527A	1463 µS/cm @ 25.8°C	
10	10000	150909A	10520 @ 25.5°C	
Dup	99893	151130A	98900 @ 25.7°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Logbook # 5

SM 4500 H+B

pH Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106206 **Instrument ID:** pH meter

ASSET #: N018936 **Analyst:** LSR

Date Analyzed: 3/3/2016

Method: EPA 150.1

	Ist Level Review			2nd Level Review		
pH Meter Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Was the meter calibrated using 3 buffers (4,7 and 10)?	X					
2. Was a closing buffer used at the end of analysis?	X					
3. Was the meter checked every 10 samples?			X			
Sample Information						
4. Are all samples analyzed within hold time.		X				
QC Items						
5. Was a duplicate sample analyzed?	X					
Raw Data and Miscellaneous Information						
6. Are Non-Conformances documented			X			
7. Runlog complete and included in package.	X					
Preliminary Report						
8. Does the raw data match the preliminary report?	X					
9. Are analytical results correct?	X					
10. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/10/2016

2nd Level Reviewer Mary 3/17/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

pH Logbook

Date: 3/3/16 900
Analyst: LSR

Standard	Std ID	pH	Comments
Buffer 7	CNW-150825A	6.99 @ 21.3°C	SLOPE: 98.4%
Buffer 4	↓ B	4.01 @ 21.3°C	
Buffer 10	CNW-150708A	10.05 @ 21.0°C	

	Sample ID	Matrix	pH	Comments
1	N018928-001B	Water	5.52 @ 20.5°C	
2	N018929-001B	↓	7.72 @ 20.3°C	
3	N018930-001B	↓	7.72 @ 20.0°C	
4	N018936-001B	↓	7.55 @ 17.5°C	
5	↓ 1B DUP	↓	7.52 @ 17.3°C	
6	↓ 2C	↓	7.25 @ 17.6°C	
7				
8				
9				BR 3/3/16
10				
Dup				Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CNW-150624A	7.02 @ 20.5°C	Accept: +/-0.1 pH units from expected value

Silia Ramit 3/10/2016

Date: 3/4/16 1500
Analyst: LSR

Standard	Std ID	pH	Comments
Buffer 7	CNW-150825A	6.99 @ 25.8°C	SLOPE: 98.4%
Buffer 4	↓ B	3.99 @ 25.3°C	
Buffer 10	CNW-150708A	10.00 @ 25.5°C	

	Sample ID	Matrix	pH	Comments
1	N018921-001A	Soil	3.03 @ 23.5°C	
2	N018937-002A	↓	8.03 @ 23.5°C	
3	↓ 2A DUP	↓	7.97 @ 22.8°C	
4	↓ 5A	↓	7.76 @ 22.2°C	
5	↓ 10A	↓	8.05 @ 23.5°C	
6	↓ 17A	↓	7.81 @ 23.2°C	7.81 @ 23.2°C
7	↓ 24A	↓	7.75 @ 23.4°C	
8	N018951-001B	↓	8.16 @ 23.2°C	
9	↓ 2B	↓	8.44 @ 23.3°C	
10	↓ 3B	↓	8.22 @ 22.9°C	
Dup	↓ 4B	↓	8.64 @ 23.3°C	Accept: 10% water, 20% soil
	Buffer 7, 4, 10 (Circle one)	CNW-150624A	7.01 @ 26.2°C	Accept: +/-0.1 pH units from expected value

Logbook #8

SM 2540C

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56498 **Analyst:** LSR

ASSET #: N018936 **Date Analyzed:** 3/3/2016

Method: EPA 160.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. ~~MS/MS~~D, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/7/2016

2nd Level Reviewer 3/17/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: ~~Water~~ Groundwater

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N018936-001B,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(64.0544–63.9798)*1000000}{30}$$
$$= 2486.6667 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 2500 mg/L

Lilia Ramit 3/7/2016

SAMPLE PREPARATION LOG

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.2691
www.assetlaboratories.com

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/3/2016 2:35:26 P**
Prep End Date: **3/4/2016 10:40:00 A**

Initials/ Date: Lilia Ramit 3/7/2016

Prep Batch **56498** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **180**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56498	Water		100	☐	0	0	100	1.000		
MB-56498	Water		100	☐	0	0	100	1.000		
N018935-001D	Groundwater		50	☐	0	0	100	2.000		
N018936-001B	Groundwater		30	☐	0	0	100	3.333		
N018936-002C	Groundwater		20	☐	0	0	100	5.000		
N018936-002C-DU	Groundwater		20	☐	0	0	100	5.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160209A	1000 ppm NaCl	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/3/2016 2:35:26 P**
Prep End Date:

Initials/ Date: Lilia Ramit 3/7/2016

Prep Batch **56498** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units
mL / mL

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56498	Water	IWST166209A	100	☐	0	0	100	1.000		
MB-56498	Water		100	☐	0	0	100	1.000		
N018935-001D	Groundwater	2720	100/50	☐	0	0	100	1.000		
N018936-001B	Groundwater	4110	100/30	☐	0	0	100	1.000		
N018936-002C	Groundwater	7830	100/20	☐	0	0	100	1.000		
N018936-002C-DU	Groundwater	↓	100/20	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #:
T604110

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST :TSS/TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
3/3/16 1435 CC	MB 56498	100	63.4243 63.4244	63.4246 63.4246	
1A	LCS 56498	100	76.7414 76.7415	76.8394 76.8397	
2	N018935-001D	50	55.0690 55.0691	55.1709 55.1711	
RR	N018936-001B	30	63.9800 63.9798	64.0547 64.0544	
4	2C	20	54.2439 54.2435	54.3376 54.3378	
16	2C DUP	20	53.5870 53.5868	53.6833 53.6835	

Silia Ramit 3/7/2016

ASSET Laboratories

Logbook#1

TOTAL DISSOLVED SOLIDS, TDS

TDS, mg/L = (A-B) X 10000*PF

where:
A = weight in grams of dish + residue after drying
B = weight of dish in grams
PF = 100/volume of sample used in mL

	vol of sample (mL)	weight of dish in grams (B)	weight in grams of dish + residue after drying (A)	(A-B)*10000	prep fact (PF)	TDS, mg/L	CONDUCTIVITY	RATIO
Date Finished:3/4/16								
MB-56498	100	63.4244	63.4246	2	1	2		
LCS56498	100	76.7415	76.8397	982	1	982		
N018935-001D	50	55.0691	55.1711	1020	2	2040	2720	0.750
N018936-001B	30	63.9798	64.0544	746	3.33333333	2486.66667	4110	0.605
N018936-002C	20	54.2435	54.3378	943	5	4715	7830	0.602
N018936-002C DUP	20	53.5868	53.6835	967	5	4835	7830	0.617

Silia Ramit 3/7/2016

EPA 200.7
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56545 **Instrument ID:** ICP-02
ASSET #: N018936 **Analyst:** CEI
Method: **Date Analyzed:** 3/8/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.		X				
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018936-00A & 002B only.
~~Dilution test of Mg in N018843-010B failed. However PS passed criteria.~~
% Rec of Ca & Fe in N018843-010B PS/MS/MSD failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 03/18/2016 Date:
2nd Level Reviewer 3/18/2016 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56545
ASSET #: N018936

Instrument ID: ICP-02
Analyst: CEI

Method:
[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Date Analyzed: 3/9/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:
For N018936-001A & 002B Na run only.
% Rec Na in N018936-001A PS/MS/MSD failed, due to high analyte concentration present in the sample.
However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 03/18/2016 Date: ____

2nd Level Reviewer 3/18/2016 Date: ____

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA ~~6010B~~ 200.7
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Sodium concentration, in mg/L , in the original sample as f

Sodium , mg/L = A * DF * PF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, ml

For Sample **N018936-001A** , the concentration in mg/L is calculated as

Sodium , mg/L = 8.23921 * 100 * (25/25)

Sodium , mg/L = 823.921

Reporting results in two significant figures,

Sodium , mg/L = 820.~~00~~

% RSD SUMMARY

RSD SUMMARY: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Ca	0	2.9	15	PASS
Standard1	ICAL	1	Ca	0.2	11.21	15	PASS
Standard2	ICAL	1	Ca	1	2.55	15	PASS
Standard3	ICAL	1	Ca	2	2.04	15	PASS
Standard4	ICAL	1	Ca	5	0.59	15	PASS
Standard5	ICAL	1	Ca	7.5	0.66	15	PASS
Standard6	ICAL	1	Ca	10	0.044	15	PASS
Standard7	ICAL	1	Ca	20	0.15	15	PASS
ICV	ICV	1	Ca	9.85	0.39	15	PASS
ICB	ICB	1	Ca	0.012	232.39	15	<PQL
~~LLCCV1~~ LLICV	CCV1	1	Ca	0.17	18.36	20	PASS
ICSA1	ICSA	1	Ca	546.26	0.087	15	PASS
ICSAB1	ICSAB	1	Ca	565.94	0.056	15	PASS
MB-56545	MBLK	1	Ca	0.002	894.86	15	<PQL
LCS1-56545	LCS	1	Ca	10.2	0.3	15	PASS
N018843-009B	SAMP	1	Ca	64.1	37.54	15	NR!
N018843-010B	SAMP	1	Ca	-0.75	18196.19	15	<PQL
N018844-001B	SAMP	1	Ca	74.67	0.23	15	PASS
N018936-001A	SAMP	1	Ca	80.58	93.37	15	NR!
N018936-002B	SAMP	1	Ca	241.61	0.26	15	PASS
N018843-010B	SAMP	5	Ca	16.5	0.2	15	PASS
N018843-010B-PS	PS	1	Ca	85.95	0.095	15	PASS
N018843-010B-MS1	MS	1	Ca	86.15	0.53	15	PASS
CCV1	CCV	1	Ca	9.97	0.98	15	PASS
CCB1	CCB	1	Ca	0.00059	7962.25	15	<PQL
N018843-010B-MSD1	MSD	1	Ca	86.007	0.47	15	PASS
N018936-001A	SAMP	1	Ca	124.82	0.19	15	PASS
CCV2	CCV	1	Ca	9.91	0.79	15	PASS
CCB2	CCB	1	Ca	-0.022	155.71	15	<PQL
~~LLCCV2~~ LLCCV1	CCV2	1	Ca	0.2	8.22	20	PASS
ICSA2	ICSA	1	Ca	465.73	29.56	15	NR!
ICSAB2	ICSAB	1	Ca	565.7	0.14	15	PASS
ICSA2	ICSA	1	Ca	546.93	0.11	15	PASS
ICSAB2	ICSAB	1	Ca	566.39	0.051	15	PASS
CalBlk	IBLK	1	Fe	0	5.38	15	PASS
Standard1	ICAL	1	Fe	0.02	3.52	15	PASS
Standard2	ICAL	1	Fe	0.05	0.46	15	PASS
Standard3	ICAL	1	Fe	2	0.4	15	PASS
Standard4	ICAL	1	Fe	5	0.4	15	PASS
Standard5	ICAL	1	Fe	7.5	0.12	15	PASS
Standard6	ICAL	1	Fe	10	0.1	15	PASS
Standard7	ICAL	1	Fe	20	0.094	15	PASS

RSD SUMMARY: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
ICV	ICV	1	Fe	10.013	0.051	15	PASS
ICB	ICB	1	Fe	0.001	50.32	15	<PQL
~~LLCCV1~~ LLICV	CCV1	1	Fe	0.023	5.15	20	PASS
ICSA1	ICSA	1	Fe	208.61	0.28	15	PASS
ICSAB1	ICSAB	1	Fe	187.55	0.57	15	PASS
MB-56545	MBLK	1	Fe	0.0068	21.78	15	<PQL
LCS1-56545	LCS	1	Fe	0.11	0.7	15	PASS
N018843-009B	SAMP	1	Fe	0.0058	27.73	15	<PQL
N018843-010B	SAMP	1	Fe	-1.009	174.43	15	<PQL
N018844-001B	SAMP	1	Fe	0.017	4.57	15	PASS
N018936-001A	SAMP	1	Fe	-0.074	181.68	15	<PQL
N018936-002B	SAMP	1	Fe	0.0021	125.57	15	<PQL
N018843-010B	SAMP	5	Fe	0.0024	55.51	15	<PQL
N018843-010B-PS	PS	1	Fe	0.11	0.46	15	PASS
N018843-010B-MS1	MS	1	Fe	0.11	0.45	15	PASS
CCV1	CCV	1	Fe	10.15	0.057	15	PASS
CCB1	CCB	1	Fe	0.0016	111.97	15	<PQL
N018843-010B-MSD1	MSD	1	Fe	0.12	0.45	15	PASS
N018936-001A	SAMP	1	Fe	0.0022	32.64	15	<PQL
CCV2	CCV	1	Fe	10.15	0.015	15	PASS
CCB2	CCB	1	Fe	0.00019	197.95	15	<PQL
~~LLCCV2~~ LLCCV1	CCV2	1	Fe	0.025	10.24	20	PASS
ICSA2	ICSA	1	Fe	6429	167.62	15	NR!
ICSAB2	ICSAB	1	Fe	186.34	0.66	15	PASS
ICSA2	ICSA	1	Fe	207.36	0.22	15	PASS
ICSAB2	ICSAB	1	Fe	187.48	0.24	15	PASS
CalBlk	IBLK	1	Mg	0	16.31	15	<PQL
Standard1	ICAL	1	Mg	0.1	1.017	15	PASS
Standard2	ICAL	1	Mg	1	0.82	15	PASS
Standard3	ICAL	1	Mg	2	0.36	15	PASS
Standard4	ICAL	1	Mg	5	0.46	15	PASS
Standard5	ICAL	1	Mg	7.5	0.21	15	PASS
Standard6	ICAL	1	Mg	10	0.2	15	PASS
Standard7	ICAL	1	Mg	20	0.2	15	PASS
ICV	ICV	1	Mg	10.017	0.12	15	PASS
ICB	ICB	1	Mg	-0.001	66.17	15	<PQL
~~LLCCV1~~ LLICV	CCV1	1	Mg	0.1	0.22	20	PASS
ICSA1	ICSA	1	Mg	509	0.28	15	PASS
ICSAB1	ICSAB	1	Mg	528.39	0.63	15	PASS
MB-56545	MBLK	1	Mg	0.013	8.17	15	PASS
LCS1-56545	LCS	1	Mg	11.066	0.14	15	PASS
N018843-009B	SAMP	1	Mg	26.44	0.11	15	PASS

RSD SUMMARY: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N018843-010B	SAMP	1	Mg	25.15	9.61	15	PASS
N018844-001B	SAMP	1	Mg	25.17	0.24	15	PASS
N018936-001A	SAMP	1	Mg	23.59	18.39	15	NR!
N018936-002B	SAMP	1	Mg	32.47	0.13	15	PASS
N018843-010B	SAMP	5	Mg	5.74	0.47	15	PASS
N018843-010B-PS	PS	1	Mg	36.12	0.12	15	PASS
N018843-010B-MS1	MS	1	Mg	36.26	0.056	15	PASS
CCV1	CCV	1	Mg	10.21	0.041	15	PASS
CCB1	CCB	1	Mg	0.00073	76.4	15	<PQL
N018843-010B-MSD1	MSD	1	Mg	36.3	0.15	15	PASS
N018936-001A	SAMP	1	Mg	26.37	0.14	15	PASS
CCV2	CCV	1	Mg	10.17	0.2	15	PASS
CCB2	CCB	1	Mg	-0.00037	227.61	15	<PQL
~~LLCCV2~~ LLCCV1	CCV2	1	Mg	0.1	1.32	20	PASS
ICSA2	ICSA	1	Mg	14128	167	15	NR!
ICSAB2	ICSAB	1	Mg	525.41	0.57	15	PASS
ICSA2	ICSA	1	Mg	507.61	0.29	15	PASS
ICSAB2	ICSAB	1	Mg	531.2	0.29	15	PASS

03/18/2016

RSD SUMMARY: 160309B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Na	0	10.62	15	PASS
Standard1	ICAL	1	Na	0.1	5.55	15	PASS
Standard2	ICAL	1	Na	1	0.31	15	PASS
Standard3	ICAL	1	Na	5	0.28	15	PASS
Standard4	ICAL	1	Na	10	0.18	15	PASS
Standard5	ICAL	1	Na	20	0.076	15	PASS
Standard6	ICAL	1	Na	40	0.055	15	PASS
ICV	ICV	1	Na	10.38	0.13	15	PASS
ICB	ICB	1	Na	-0.026	16.94	15	<PQL
ICSA1	ICSA	1	Na	1.026	0.35	15	PASS
ICSA1	ICSA	1	Na	-0.037	4.73	15	PASS
ICSAB1	ICSAB	1	Na	10.36	0.15	15	PASS
MB-56545	MBLK	1	Na	8.62	0.046	15	PASS
MB-56545	MBLK	1	Na	-0.047	12.83	15	PASS
LCS2-56545	LCS	1	Na	20.72	0.23	15	PASS
N018936-001A	SAMP	100	Na	8.24	0.13	15	PASS
N018936-002B	SAMP	100	Na	16.42	0.095	15	PASS
CCV1	CCV	1	Na	20.62	0.28	15	PASS
CCV1	CCV	1	Na	10.46	0.17	15	PASS
CCB1	CCB	1	Na	-0.058	15.73	15	<PQL
N018936-001A	SAMP	500	Na	-11.6	48.71	15	<PQL
N018936-001A-PS	PS	100	Na	8.78	1.25	15	PASS
N018936-001A-MS2	MS	100	Na	8.77	0.25	15	PASS
CCV2	CCV	1	Na	10.41	0.3	15	PASS
CCB2	CCB	1	Na	-0.063	2.39	15	PASS
N018936-001A-MSD2	MSD	100	Na	8.99	0.089	15	PASS
N018936-001A	SAMP	500	Na	1.62	0.3	15	PASS
CCV3	CCV	1	Na	10.42	0.22	15	PASS
CCB3	CCB	1	Na	-0.06	3.097	15	PASS
ICSA2	ICSA	1	Na	-0.065	11.94	15	PASS
ICSAB2	ICSAB	1	Na	10.45	0.027	15	PASS

RSD SUMMARY: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Ca	0	4.53	20	PASS
Standard1	ICAL	1	Ca	0.2	9.87	20	PASS
Standard2	ICAL	1	Ca	1	1.72	20	PASS
Standard3	ICAL	1	Ca	2	1.65	20	PASS
Standard4	ICAL	1	Ca	5	0.55	20	PASS
Standard5	ICAL	1	Ca	7.5	0.64	20	PASS
Standard6	ICAL	1	Ca	10	0.36	20	PASS
Standard7	ICAL	1	Ca	20	0.63	20	PASS
ICV	ICV	1	Ca	9.73	4.044	20	PASS
ICB	ICB	1	Ca	-0.02	201.17	20	<PQL
LLICV	CCV1	1	Ca	0.21	9.99	20	PASS
ICSA1	ICSA	1	Ca	562.75	0.096	20	PASS
ICSAB1	ICSAB	1	Ca	559.12	0.12	20	PASS
N018843-010B	SAMP	1	Ca	80	0.61	20	PASS
CCV1	CCV	1	Ca	9.9	0.78	20	PASS
CCB1	CCB	1	Ca	-0.002	982.73	20	<PQL
LLCCV1	CCV1	1	Ca	0.19	12.58	20	PASS
ICSA2	ICSA	1	Ca	562.78	0.048	20	PASS
ICSAB2	ICSAB	1	Ca	558.62	0.059	20	PASS
CalBlk	IBLK	1	Fe	0	13.85	20	PASS
Standard1	ICAL	1	Fe	0.02	1.77	20	PASS
Standard2	ICAL	1	Fe	0.05	0.96	20	PASS
Standard3	ICAL	1	Fe	2	0.46	20	PASS
Standard4	ICAL	1	Fe	5	0.18	20	PASS
Standard5	ICAL	1	Fe	7.5	0.012	20	PASS
Standard6	ICAL	1	Fe	10	0.067	20	PASS
Standard7	ICAL	1	Fe	20	0.087	20	PASS
ICV	ICV	1	Fe	10.019	0.23	20	PASS
ICB	ICB	1	Fe	-0.0035	17.95	20	PASS
LLICV	CCV1	1	Fe	0.019	4.21	20	PASS
ICSA1	ICSA	1	Fe	215.3	0.16	20	PASS
ICSAB1	ICSAB	1	Fe	186.78	0.086	20	PASS
N018843-010B	SAMP	1	Fe	0.0086	18.43	20	PASS
CCV1	CCV	1	Fe	10.011	0.11	20	PASS
CCB1	CCB	1	Fe	-0.0039	8.61	20	PASS
LLCCV1	CCV1	1	Fe	0.019	2.063	20	PASS
ICSA2	ICSA	1	Fe	215.41	0.023	20	PASS
ICSAB2	ICSAB	1	Fe	188.59	1.25	20	PASS
CalBlk	IBLK	1	Mg	0	17.85	20	PASS
Standard1	ICAL	1	Mg	0.1	1.018	20	PASS
Standard2	ICAL	1	Mg	1	0.33	20	PASS
Standard3	ICAL	1	Mg	2	0.36	20	PASS

RSD SUMMARY: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
Standard4	ICAL	1	Mg	5	0.12	20	PASS
Standard5	ICAL	1	Mg	7.5	0.11	20	PASS
Standard6	ICAL	1	Mg	10	0.16	20	PASS
Standard7	ICAL	1	Mg	20	0.19	20	PASS
ICV	ICV	1	Mg	10.013	0.28	20	PASS
ICB	ICB	1	Mg	-0.0068	5.36	20	PASS
LLICV	CCV1	1	Mg	0.097	0.61	20	PASS
ICSA1	ICSA	1	Mg	521.64	0.12	20	PASS
ICSAB1	ICSAB	1	Mg	520.49	0.12	20	PASS
N018843-010B	SAMP	1	Mg	26.65	0.29	20	PASS
CCV1	CCV	1	Mg	10.025	0.15	20	PASS
CCB1	CCB	1	Mg	-0.0046	12.29	20	PASS
LLCCV1	CCV1	1	Mg	0.099	2.37	20	PASS
ICSA2	ICSA	1	Mg	523.74	0.042	20	PASS
ICSAB2	ICSAB	1	Mg	527.34	1.27	20	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160308A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/08/2016	01:54:36 PM
2	Standard1	ICAL	1	03/08/2016	01:58:55 PM
3	Standard2	ICAL	1	03/08/2016	02:03:43 PM
4	Standard3	ICAL	1	03/08/2016	02:08:33 PM
5	Standard4	ICAL	1	03/08/2016	02:13:42 PM
6	Standard5	ICAL	1	03/08/2016	02:18:35 PM
7	Standard6	ICAL	1	03/08/2016	02:22:57 PM
8	Standard7	ICAL	1	03/08/2016	02:27:20 PM
9	ICV	ICV	1	03/08/2016	02:34:25 PM
1	ICB	ICB	1	03/08/2016	02:38:49 PM
2	~~LLCCV1~~ LLICV	CCV1	1	03/08/2016	02:43:08 PM
10	ICSA1	ICSA	1	03/08/2016	02:47:56 PM
11	ICSAB1	ICSAB	1	03/08/2016	02:53:57 PM
62	MB-56545	MBLK	1	03/08/2016	02:59:29 PM
63	LCS1-56545	LCS	1	03/08/2016	03:03:49 PM
64	N018843-009B	SAMP	1	03/08/2016	03:08:39 PM
65	N018843-010B	SAMP	1	03/08/2016	03:13:31 PM
66	N018844-001B	SAMP	1	03/08/2016	03:18:22 PM
67	N018936-001A	SAMP	1	03/08/2016	03:23:13 PM
68	N018936-002B	SAMP	1	03/08/2016	03:28:05 PM
69	N018843-010B	SAMP	5	03/08/2016	03:33:57 PM
70	N018843-010B-PS	PS	1	03/08/2016	03:38:48 PM
71	N018843-010B-MS1	MS	1	03/08/2016	03:43:39 PM
7	CCV1	CCV	1	03/08/2016	03:48:30 PM
1	CCB1	CCB	1	03/08/2016	03:53:53 PM
72	N018843-010B-MSD1	MSD	1	03/08/2016	03:58:12 PM
67	N018936-001A	SAMP	1	03/08/2016	04:03:03 PM
7	CCV2	CCV	1	03/08/2016	04:08:55 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CCB2	CCB	1	03/08/2016	04:14:18 PM
2	~~LLCCV2~~ LLCCV1	CCV2	1	03/08/2016	04:18:36 PM
10	ICSA2	ICSA	1	03/08/2016	04:23:25 PM
11	ICSAB2	ICSAB	1	03/08/2016	04:29:29 PM
10	ICSA2	ICSA	1	03/08/2016	04:34:12 PM
11	ICSAB2	ICSAB	1	03/08/2016	04:40:16 PM

03/18/2016

INJECTION LOG: 160309B

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207G,0.025<50mL
Standard2	MWST-151207G,0.25<50mL
Standard3	MWST-151207G,1.25<50mL
Standard4	MWST-151207G,2.5<50mL
Standard5	MWST-151207G,5<50mL
Standard6	MWST-151207G,10<50mL
ICV	MSST-140120B/-111006A/-150717A
CCV	MWST-151207G,2.5<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207H
Int. Std. (Sc):	MSST-150923A
PS Spike	MSST-140120B/-111006A/-150717A

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/09/2016	12:08:02 PM
2	Standard1	ICAL	1	03/09/2016	12:11:19 PM
3	Standard2	ICAL	1	03/09/2016	12:14:37 PM
4	Standard3	ICAL	1	03/09/2016	12:18:26 PM
5	Standard4	ICAL	1	03/09/2016	12:22:17 PM
6	Standard5	ICAL	1	03/09/2016	12:26:10 PM
7	Standard6	ICAL	1	03/09/2016	12:30:04 PM
8	ICV	ICV	1	03/09/2016	12:35:35 PM
1	ICB	ICB	1	03/09/2016	12:39:27 PM
3	ICSA1	ICSA	1	03/09/2016	12:42:44 PM
4	ICSA1	ICSA	1	03/09/2016	12:51:30 PM
5	ICSAB1	ICSAB	1	03/09/2016	12:54:50 PM
85	MB-56545	MBLK	1	03/09/2016	12:58:43 PM
86	MB-56545	MBLK	1	03/09/2016	01:02:03 PM
87	LCS2-56545	LCS	1	03/09/2016	01:05:23 PM
88	N018936-001A	SAMP	100	03/09/2016	01:13:35 PM
89	N018936-002B	SAMP	100	03/09/2016	01:17:08 PM
63	MB-56540	MBLK	1	03/09/2016	01:20:28 PM
64	LCS-56540	LCS	1	03/09/2016	01:23:48 PM
65	LCSD-56540	LCSD	1	03/09/2016	01:27:41 PM
66	N018565-001A	SAMP	1	03/09/2016	01:31:35 PM
67	N018565-001A-DUP	DUP	1	03/09/2016	01:35:26 PM
6	CCV1	CCV	1	03/09/2016	01:39:17 PM
6	CCV1	CCV	1	03/09/2016	01:43:43 PM
1	CCB1	CCB	1	03/09/2016	01:47:31 PM
68	N018565-001A	SAMP	5	03/09/2016	01:50:48 PM
69	N018565-001A-DUP	DUP	5	03/09/2016	01:54:38 PM
70	N018565-001A	SAMP	25	03/09/2016	01:58:27 PM
71	N018565-001A-DUP	DUP	25	03/09/2016	02:01:47 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
72	N016437-001A	SAMP	1	03/09/2016	02:05:07 PM
73	N016437-001A	SAMP	5	03/09/2016	02:08:59 PM
74	N016437-001A	SAMP	25	03/09/2016	02:12:20 PM
90	N018936-001A	SAMP	500	03/09/2016	02:15:40 PM
91	N018936-001A-PS	PS	100	03/09/2016	02:27:22 PM
92	N018936-001A-MS2	MS	100	03/09/2016	02:30:41 PM
6	CCV2	CCV	1	03/09/2016	02:34:13 PM
1	CCB2	CCB	1	03/09/2016	02:38:01 PM
93	N018936-001A-MSD2	MSD	100	03/09/2016	02:41:19 PM
90	N018936-001A	SAMP	500	03/09/2016	02:44:39 PM
6	CCV3	CCV	1	03/09/2016	02:47:59 PM
1	CCB3	CCB	1	03/09/2016	02:51:51 PM
4	ICSA2	ICSA	1	03/09/2016	02:55:07 PM
5	ICSAB2	ICSAB	1	03/09/2016	02:58:27 PM

INJECTION LOG: 160310A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	03/10/2016	10:51:48 AM
2	Standard1	ICAL	1	03/10/2016	10:56:42 AM
3	Standard2	ICAL	1	03/10/2016	11:01:30 AM
4	Standard3	ICAL	1	03/10/2016	11:06:19 AM
5	Standard4	ICAL	1	03/10/2016	11:11:11 AM
6	Standard5	ICAL	1	03/10/2016	11:16:04 AM
7	Standard6	ICAL	1	03/10/2016	11:20:26 AM
8	Standard7	ICAL	1	03/10/2016	11:24:49 AM
9	ICV	ICV	1	03/10/2016	11:35:46 AM
1	ICB	ICB	1	03/10/2016	11:41:10 AM
2	~~LLCCV1~~ LLICV	CCV1	1	03/10/2016	11:45:59 AM
4	ICSA1	ICSA	1	03/10/2016	11:50:48 AM
5	ICSAB1	ICSAB	1	03/10/2016	11:56:51 AM
38	N018843-010B	SAMP	1	03/10/2016	12:22:59 PM
7	CCV1	CCV	1	03/10/2016	12:27:50 PM
1	CCB1	CCB	1	03/10/2016	12:32:14 PM
2	~~LLCCV2~~ LLCCV1	CCV2	1	03/10/2016	12:36:32 PM
4	ICSA2	ICSA	1	03/10/2016	12:41:21 PM
5	ICSAB2	ICSAB	1	03/10/2016	12:47:25 PM

03/18/2016

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/8/2016 8:19:19 A**
Prep End Date: **3/8/2016 12:30:00**

For: Initials/ Date: *03/18/2016*

Prep Batch **56545** Prep Code: **200.7_PR** Technician **Amy Mata**

Prep Factor Units	Temp. (°C):	Location:
mL / mL	**94.6**	**01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-56545	Aqueous		25	☐	0	0	25	1.000		
LCS2-56545	Aqueous		25	☐	0	0	25	1.000		
MB-56545	Aqueous		25	☐	0	0	25	1.000		
N018843-009B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018843-010B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018844-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-002B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8276	HYDROCHLORIC ACID
8296	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MSST-111006A	Potassium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MSST-140120B	Sodium, 10000ppm (Secondary)	LCS/MS/MSD	0.05
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Magnesium								
CalBlk	03/08/2016	01:54:36 PM	Mg	279.079	62	0.00	mg/L	
Standard1	03/08/2016	01:58:55 PM	Mg	279.079	1347	0.1000	mg/L	
Standard2	03/08/2016	02:03:43 PM	Mg	279.079	13570	1.000	mg/L	
Standard3	03/08/2016	02:08:33 PM	Mg	279.079	26632	2.000	mg/L	
Standard4	03/08/2016	02:13:42 PM	Mg	279.079	66778	5.000	mg/L	
Standard5	03/08/2016	02:18:35 PM	Mg	279.079	97582	7.500	mg/L	
Standard6	03/08/2016	02:22:57 PM	Mg	279.079	130499	10.000	mg/L	
Standard7	03/08/2016	02:27:20 PM	Mg	279.079	260358	20.000	mg/L	1.0000
Calcium								
CalBlk	03/08/2016	01:54:36 PM	Ca	227.546	-117	0.00	mg/L	
Standard1	03/08/2016	01:58:55 PM	Ca	227.546	72	0.2000	mg/L	
Standard2	03/08/2016	02:03:43 PM	Ca	227.546	364	1.000	mg/L	
Standard3	03/08/2016	02:08:33 PM	Ca	227.546	756	2.000	mg/L	
Standard4	03/08/2016	02:13:42 PM	Ca	227.546	1908	5.000	mg/L	
Standard5	03/08/2016	02:18:35 PM	Ca	227.546	2837	7.500	mg/L	
Standard6	03/08/2016	02:22:57 PM	Ca	227.546	3806	10.000	mg/L	
Standard7	03/08/2016	02:27:20 PM	Ca	227.546	7769	20.000	mg/L	0.9999
Iron								
CalBlk	03/08/2016	01:54:36 PM	Fe	273.953	-219	0.00	mg/L	
Standard1	03/08/2016	01:58:55 PM	Fe	273.953	724	0.0200	mg/L	
Standard2	03/08/2016	02:03:43 PM	Fe	273.953	1838	0.050	mg/L	
Standard3	03/08/2016	02:08:33 PM	Fe	273.953	66371	2.000	mg/L	
Standard4	03/08/2016	02:13:42 PM	Fe	273.953	166623	5.000	mg/L	
Standard5	03/08/2016	02:18:35 PM	Fe	273.953	242004	7.500	mg/L	
Standard6	03/08/2016	02:22:57 PM	Fe	273.953	323449	10.000	mg/L	
Standard7	03/08/2016	02:27:20 PM	Fe	273.953	640779	20.000	mg/L	1.0000

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160309B

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Sodium								
CalBlk	03/09/2016	12:08:02 PM	Na	589.594	143	0.00	mg/L	
Standard1	03/09/2016	12:11:19 PM	Na	589.594	277	0.1000	mg/L	
Standard2	03/09/2016	12:14:37 PM	Na	589.594	2981	1.000	mg/L	
Standard3	03/09/2016	12:18:26 PM	Na	589.594	15076	5.000	mg/L	
Standard4	03/09/2016	12:22:17 PM	Na	589.594	29597	10.000	mg/L	
Standard5	03/09/2016	12:26:10 PM	Na	589.594	58679	20.000	mg/L	
Standard6	03/09/2016	12:30:04 PM	Na	589.594	115189	40.000	mg/L	1.0000

INITIAL CALIBRATION SUMMARY: 160310A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Magnesium								
CalBlk	03/10/2016	10:51:48 AM	Mg	279.079	145	0.00	mg/L	
Standard1	03/10/2016	10:56:42 AM	Mg	279.079	1347	0.1000	mg/L	
Standard2	03/10/2016	11:01:30 AM	Mg	279.079	13914	1.000	mg/L	
Standard3	03/10/2016	11:06:19 AM	Mg	279.079	26771	2.000	mg/L	
Standard4	03/10/2016	11:11:11 AM	Mg	279.079	68288	5.000	mg/L	
Standard5	03/10/2016	11:16:04 AM	Mg	279.079	98623	7.500	mg/L	
Standard6	03/10/2016	11:20:26 AM	Mg	279.079	134619	10.000	mg/L	
Standard7	03/10/2016	11:24:49 AM	Mg	279.079	270350	20.000	mg/L	1.0000
Calcium								
CalBlk	03/10/2016	10:51:48 AM	Ca	227.546	-133	0.00	mg/L	
Standard1	03/10/2016	10:56:42 AM	Ca	227.546	70	0.2000	mg/L	
Standard2	03/10/2016	11:01:30 AM	Ca	227.546	378	1.000	mg/L	
Standard3	03/10/2016	11:06:19 AM	Ca	227.546	738	2.000	mg/L	
Standard4	03/10/2016	11:11:11 AM	Ca	227.546	1894	5.000	mg/L	
Standard5	03/10/2016	11:16:04 AM	Ca	227.546	2744	7.500	mg/L	
Standard6	03/10/2016	11:20:26 AM	Ca	227.546	3722	10.000	mg/L	
Standard7	03/10/2016	11:24:49 AM	Ca	227.546	7600	20.000	mg/L	0.9999
Iron								
CalBlk	03/10/2016	10:51:48 AM	Fe	273.953	-43	0.00	mg/L	
Standard1	03/10/2016	10:56:42 AM	Fe	273.953	646	0.0200	mg/L	
Standard2	03/10/2016	11:01:30 AM	Fe	273.953	1728	0.050	mg/L	
Standard3	03/10/2016	11:06:19 AM	Fe	273.953	65870	2.000	mg/L	
Standard4	03/10/2016	11:11:11 AM	Fe	273.953	168486	5.000	mg/L	
Standard5	03/10/2016	11:16:04 AM	Fe	273.953	241656	7.500	mg/L	
Standard6	03/10/2016	11:20:26 AM	Fe	273.953	328730	10.000	mg/L	
Standard7	03/10/2016	11:24:49 AM	Fe	273.953	656893	20.000	mg/L	1.0000

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **ICV** SampType: **ICV** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ICV** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.846	0.50	10.00	0	98.5	95	105				
Iron	10.013	0.50	10.00	0	100	95	105				
Magnesium	10.017	0.10	10.00	0	100	95	105				

Sample ID **LLICV** SampType: **CCV1** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.171	0.50	0.2000	0	85.5	80	120				
Iron	0.023	0.50	0.02000	0	115	80	120				
Magnesium	0.102	0.10	0.1000	0	102	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **CCV** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.975	0.50	10.00	0	99.7	90	110				
Iron	10.153	0.50	10.00	0	102	90	110				
Magnesium	10.215	0.10	10.00	0	102	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **CCV** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.909	0.50	10.00	0	99.1	90	110				
Iron	10.154	0.50	10.00	0	102	90	110				
Magnesium	10.172	0.10	10.00	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID	LLCCV1	SampType:	CCV1	TestCode:	200.7_WD	Units:	mg/L	Prep Date:		RunNo:	106302
Client ID:	ZZZZZZ	Batch ID:	R106302	TestNo:	EPA 200.7			Analysis Date:	3/8/2016	SeqNo:	2255534

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.199	0.50	0.2000	0	99.6	70	130				
Iron	0.025	0.50	0.02000	0	123	70	130				
Magnesium	0.105	0.10	0.1000	0	105	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **ICV** SampType: **ICV** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ICV** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.734	0.50	10.00	0	97.3	95	105				
Iron	10.019	0.50	10.00	0	100	95	105				
Magnesium	10.013	0.10	10.00	0	100	95	105				

Sample ID **LLICV** SampType: **CCV1** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ZZZZZZ** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.214	0.50	0.2000	0	107	80	120				
Iron	0.019	0.50	0.02000	0	94.9	80	120				
Magnesium	0.097	0.10	0.1000	0	96.6	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **CCV** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.904	0.50	10.00	0	99.0	90	110				
Iron	10.011	0.50	10.00	0	100	90	110				
Magnesium	10.025	0.10	10.00	0	100	90	110				

Sample ID **LLCCV1** SampType: **CCV1** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ZZZZZZ** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270314**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.195	0.50	0.2000	0	97.3	70	130				
Iron	0.019	0.50	0.02000	0	95.8	70	130				
Magnesium	0.099	0.10	0.1000	0	99.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD1

Sample ID **ICV** SampType: **ICV** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: RunNo: **106329**
Client ID: **ICV** Batch ID: **R106329** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.383	0.50	10.00	0	104	95	105				

Sample ID **CCV1** SampType: **CCV** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: RunNo: **106329**
Client ID: **CCV** Batch ID: **R106329** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258175**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.461	0.50	10.00	0	105	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: RunNo: **106329**
Client ID: **CCV** Batch ID: **R106329** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.412	0.50	10.00	0	104	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: RunNo: **106329**
Client ID: **CCV** Batch ID: **R106329** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.424	0.50	10.00	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **ICB** SampType: **ICB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ICB** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.012	0.50									
Iron	0.001	0.50									
Magnesium	-0.001027	0.10									

Sample ID **CCB1** SampType: **CCB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **CCB** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.000587	0.50									
Iron	0.002	0.50									
Magnesium	0.000727	0.10									

Sample ID **CCB2** SampType: **CCB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **CCB** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255533**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.021664	0.50									
Iron	0.000192	0.50									
Magnesium	-0.000374	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID	ICB	SampType:	ICB	TestCode:	200.7_WD	Units:	mg/L	Prep Date:		RunNo:	106355
Client ID:	ICB	Batch ID:	R106355	TestNo:	EPA 200.7			Analysis Date:	3/10/2016	SeqNo:	2270307

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.020504	0.50									
Iron	-0.003534	0.50									
Magnesium	-0.006787	0.10									

Sample ID	CCB1	SampType:	CCB	TestCode:	200.7_WD	Units:	mg/L	Prep Date:		RunNo:	106355
Client ID:	CCB	Batch ID:	R106355	TestNo:	EPA 200.7			Analysis Date:	3/10/2016	SeqNo:	2270313

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.002034	0.50									
Iron	-0.003898	0.50									
Magnesium	-0.00462	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD1

Sample ID	ICB	SampType:	ICB	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	ICB	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258160

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-0.025725	0.50									

Sample ID	CCB1	SampType:	CCB	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	CCB	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258176

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-0.058501	0.50									

Sample ID	CCB2	SampType:	CCB	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	CCB	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-0.063285	0.50									

Sample ID	CCB3	SampType:	CCB	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	CCB	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258192

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-0.06019	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **ICSA1** SampType: **ICSA** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ICSA** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	549.586	0.50	500.0	0	110	80	120				
Calcium	546.260	0.50	500.0	0	109	80	120				
Iron	208.607	0.50	200.0	0	104	80	120				
Magnesium	509.001	0.10	500.0	0	102	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ICSAB** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	570.411	0.50	500.0	0	114	80	120				
Calcium	565.943	0.50	500.0	0	113	80	120				
Iron	187.546	0.50	200.0	0	93.8	80	120				
Magnesium	528.393	0.10	500.0	0	106	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ICSA** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533.094	0.50	500.0	0	107	80	120				
Calcium	546.931	0.50	500.0	0	109	80	120				
Iron	207.360	0.50	200.0	0	104	80	120				
Magnesium	507.615	0.10	500.0	0	102	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ICSAB** Batch ID: **R106302** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	570.780	0.50	500.0	0	114	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	200.7_WD	Units:	mg/L	Prep Date:		RunNo:	106302
Client ID:	ICSAB	Batch ID:	R106302	TestNo:	EPA 200.7			Analysis Date:	3/8/2016	SeqNo:	2255538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	566.393	0.50	500.0	0	113	80	120				
Iron	187.476	0.50	200.0	0	93.7	80	120				
Magnesium	531.198	0.10	500.0	0	106	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **ICSA1** SampType: **ICSA** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ICSA** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	550.763	0.50	500.0	0	110	80	120				
Calcium	562.747	0.50	500.0	0	113	80	120				
Iron	215.298	0.50	200.0	0	108	80	120				
Magnesium	521.639	0.10	500.0	0	104	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	563.221	0.50	500.0	0	113	80	120				
Calcium	559.124	0.50	500.0	0	112	80	120				
Iron	186.777	0.50	200.0	0	93.4	80	120				
Magnesium	520.493	0.10	500.0	0	104	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ICSA** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	550.141	0.50	500.0	0	110	80	120				
Calcium	562.777	0.50	500.0	0	113	80	120				
Iron	215.414	0.50	200.0	0	108	80	120				
Magnesium	523.742	0.10	500.0	0	105	80	120				

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	563.145	0.50	500.0	0	113	80	120				
Calcium	558.624	0.50	500.0	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106355**
Client ID: **ICSAB** Batch ID: **R106355** TestNo: **EPA 200.7** Analysis Date: **3/10/2016** SeqNo: **2270316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	188.588	0.50	200.0	0	94.3	80	120				
Magnesium	527.340	0.10	500.0	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD1

Sample ID	ICSA1	SampType:	ICSA	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	ICSA	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258162

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-0.037467	0.50									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	ICSAB	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258163

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.360	0.50	10.00	0	104	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	ICSA	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258193

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-0.065049	0.50									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	200.7_WD1	Units:	mg/L	Prep Date:		RunNo:	106329
Client ID:	ICSAB	Batch ID:	R106329	TestNo:	EPA 200.7			Analysis Date:	3/9/2016	SeqNo:	2258194

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.450	0.50	10.00	0	105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160308A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	0.99	99.34	65-125	PASS
Standard2	ICAL	1	1.014	101.35	65-125	PASS
Standard3	ICAL	1	1.033	103.34	65-125	PASS
Standard4	ICAL	1	1.013	101.28	65-125	PASS
Standard5	ICAL	1	1.0054	100.54	65-125	PASS
Standard6	ICAL	1	0.98	97.56	65-125	PASS
Standard7	ICAL	1	0.96	96.46	65-125	PASS
ICV	ICV	1	0.98	98.058	65-125	PASS
ICB	ICB	1	0.98	98.26	65-125	PASS
~~LLCCV1~~ LLICV	CCV1	1	0.99	99.31	65-125	PASS
ICSA1	ICSA	1	0.93	93.45	65-125	PASS
ICSAB1	ICSAB	1	0.88	87.66	65-125	PASS
MB-56545	MBLK	1	0.99	98.89	65-125	PASS
LCS1-56545	LCS	1	1.0014	100.14	65-125	PASS
N018843-009B	SAMP	1	0.98	98.45	65-125	PASS
N018843-010B	SAMP	1	0.68	67.53	65-125	PASS
N018844-001B	SAMP	1	1.01	101.02	65-125	PASS
N018936-001A	SAMP	1	0.59	58.74	65-125	NR!
N018936-002B	SAMP	1	0.82	82.21	65-125	PASS
N018843-010B	SAMP	5	0.98	98.47	65-125	PASS
N018843-010B-PS	PS	1	0.98	97.98	65-125	PASS
N018843-010B-MS1	MS	1	0.98	98.37	65-125	PASS
CCV1	CCV	1	0.99	98.52	65-125	PASS
CCB1	CCB	1	1	99.86	65-125	PASS
N018843-010B-MSD1	MSD	1	0.99	98.99	65-125	PASS
N018936-001A	SAMP	1	0.88	87.5	65-125	PASS
CCV2	CCV	1	0.99	98.82	65-125	PASS
CCB2	CCB	1	0.99	99.19	65-125	PASS
~~LLCCV2~~ LLCCV1	CCV2	1	0.98	98.25	65-125	PASS
ICSA2	ICSA	1	0.62	62.16	65-125	NR!
ICSAB2	ICSAB	1	0.88	88.055	65-125	PASS
ICSA2	ICSA	1	0.95	95.052	65-125	PASS
ICSAB2	ICSAB	1	0.88	88.32	65-125	PASS

03/18/2016

INTERNAL STANDARD: 160309B

Instrument ID: ICP-02

Sample Name	Type	DF	Scandium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	0.97	96.64	65-125	PASS
Standard2	ICAL	1	0.99	99.38	65-125	PASS
Standard3	ICAL	1	1	99.96	65-125	PASS
Standard4	ICAL	1	1.055	105.47	65-125	PASS
Standard5	ICAL	1	1.07	106.98	65-125	PASS
Standard6	ICAL	1	1.042	104.21	65-125	PASS
ICV	ICV	1	1.0084	100.84	65-125	PASS
ICB	ICB	1	0.98	98.19	65-125	PASS
ICSA1	ICSA	1	1.014	101.35	65-125	PASS
ICSA1	ICSA	1	0.97	97.34	65-125	PASS
ICSAB1	ICSAB	1	1.05	104.99	65-125	PASS
MB-56545	MBLK	1	1.02	102.04	65-125	PASS
MB-56545	MBLK	1	0.97	96.63	65-125	PASS
LCS2-56545	LCS	1	1.0009	100.09	65-125	PASS
N018936-001A	SAMP	100	0.98	97.55	65-125	PASS
N018936-002B	SAMP	100	1	99.75	65-125	PASS
CCV1	CCV	1	1.065	106.49	65-125	PASS
CCV1	CCV	1	1.017	101.71	65-125	PASS
CCB1	CCB	1	0.98	98.088	65-125	PASS
N018936-001A	SAMP	500	0.00091	0.091	65-125	NR!
N018936-001A-PS	PS	100	1.0067	100.67	65-125	PASS
N018936-001A-MS2	MS	100	0.99	98.85	65-125	PASS
CCV2	CCV	1	1.017	101.71	65-125	PASS
CCB2	CCB	1	0.98	97.76	65-125	PASS
N018936-001A-MSD2	MSD	100	0.99	99.3	65-125	PASS
N018936-001A	SAMP	500	1.014	101.38	65-125	PASS
CCV3	CCV	1	1.025	102.5	65-125	PASS
CCB3	CCB	1	1.0091	100.91	65-125	PASS
ICSA2	ICSA	1	1.018	101.81	65-125	PASS
ICSAB2	ICSAB	1	1.0073	100.73	65-125	PASS

INTERNAL STANDARD: 160310A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.045	104.5	65-125	PASS
Standard2	ICAL	1	1.054	105.35	65-125	PASS
Standard3	ICAL	1	1.096	109.64	65-125	PASS
Standard4	ICAL	1	1.1	110.01	65-125	PASS
Standard5	ICAL	1	1.052	105.19	65-125	PASS
Standard6	ICAL	1	0.98	98.35	65-125	PASS
Standard7	ICAL	1	0.96	96.36	65-125	PASS
ICV	ICV	1	1.0035	100.35	65-125	PASS
ICB	ICB	1	0.99	98.95	65-125	PASS
~~LLCCV1~~ LLICV	CCV1	1	1.054	105.37	65-125	PASS
ICSA1	ICSA	1	0.95	94.89	65-125	PASS
ICSAB1	ICSAB	1	0.83	83.15	65-125	PASS
N018843-010B	SAMP	1	0.94	93.77	65-125	PASS
CCV1	CCV	1	0.97	96.99	65-125	PASS
CCB1	CCB	1	1.0052	100.52	65-125	PASS
~~LLCCV2~~ LLCCV1	CCV2	1	1.045	104.49	65-125	PASS
ICSA2	ICSA	1	0.95	95.3	65-125	PASS
ICSAB2	ICSAB	1	0.82	81.79	65-125	PASS

03/18/2016

SERIAL DILUTION/
POST DIGESTION SPIKE

~~82.5~~ ~~3.1%~~

~~28.7~~

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018936
Test Method: EPA 6010B
Analysis Date: 03/08/16

Matrix: Groundwater
Batch No.: 56545

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Fe & Ca. The calculated concentration is <25XRL.
Dilution test of Mg failed.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018843-010B-DT 5X	Calcium	mg/L 82.5	~~82522.93000~~	NA	~~79997~~ 80	3.1%	10
N018843-010B-DT 5X	Iron	mg/L	0	NA	0		10
N018843-010B-DT 5X	Magnesium	mg/L 28.7	~~28674.89000~~	FAIL	~~26652.54000~~ 26.7	~~7.59%~~ 7.5%	10

Note: NA - Not Applicable

Nancy 3/18/2016

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N018936
Test Method: EPA 6010B
Analysis Date: 03/09/16

Matrix: Groundwater
Batch No.: 56545

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to Na. The calculated concentration is <25XRL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N018936-001A-DT 500X	Sodium	mg/L	809.61260	NA	823.92090	1.74%	10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD

Sample ID **N018843-010B-PS** SampType: **PS** TestCode: **200.7_WD** Units: **mg/L** Prep Date: RunNo: **106302**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/8/2016** SeqNo: **2255526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	85.951	0.50	10.00	80.00	59.5	75	125				S
Iron	0.114	0.50	10.00	0	1.14	75	125				S
Magnesium	36.122	0.10	10.00	26.65	94.7	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WD1

Sample ID **N018936-001A-PS** SampType: **PS** TestCode: **200.7_WD1** Units: **mg/L** Prep Date: RunNo: **106329**
Client ID: **ZZZZZZ** Batch ID: **56545** TestNo: **EPA 200.7** Analysis Date: **3/9/2016** SeqNo: **2258185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	878.475	50	20.00	823.9	273	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 200.8
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56504
ASSET #: N018936
Instrument ID: ICPMS-02
Analyst: CEI
Date Analyzed: 3/8/2016

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of Cr in N018918-003C MS/MSD & N018919-002B MS & Mn in N018919-002B MS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 3/17/2016 Date:

2nd Level Reviewer 3/17/2016 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 200.8
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N018936-002B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 168.295 * 5 * (25/25)

Chromium , ug/L = 841.475000

Reporting results in two significant figures,

Chromium , ug/L = 840

% RSD SUMMARY

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.079	11.83	15	PASS	0.095	7.17	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.19	15	PASS	0.48	2.82	15	PASS
Std3-5/50 ppb	ICAL	1	4.62	0.83	15	PASS	4.71	1.41	15	PASS
Std4-10/100 ppb	ICAL	1	9.33	1.17	15	PASS	9.58	1.63	15	PASS
Std5-20/200 ppb	ICAL	1	18.81	0.62	15	PASS	19.3	1.32	15	PASS
Std6-40/400 ppb	ICAL	1	38.67	1.62	15	PASS	39.4	1.36	15	PASS
Std7-100/1000 ppb	ICAL	1	97	0.53	15	PASS	99.1	0.42	15	PASS
Std8-200/2000 ppb	ICAL	1	201.93	0.034	15	PASS	200.67	0.49	15	PASS
ICV	ICV	1	10.0012	1.77	15	PASS	100.92	1.085	15	PASS
ICB	ICB	1	0.0042	76.82	15	<PQL	0.011	11.073	15	PASS
LLICV	CCV1	1	0.93	4.53	20	PASS	0.53	3.64	20	PASS
ICSA1	ICSA	1	0.16	9.72	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.64	1.36	15	PASS	17.66	1.64	15	PASS
LLICV	CCV1	1	0.95	2.31	20	PASS	0.54	4.43	20	PASS
CCV1	CCV	1	18.64	0.5	15	PASS	19.15	1.17	15	PASS
CCB1	CCB	1	0.061	8.086	15	PASS	0.0025	63.98	15	<PQL
CCV2	CCV	1	18.66	0.9	15	PASS	19.043	1.67	15	PASS
CCB2	CCB	1	0.26	14.83	15	PASS	0.0025	117.8	15	<PQL
CCV3	CCV	1	18.66	0.37	15	PASS	19.13	0.57	15	PASS
CCB3	CCB	1	0.12	6.98	15	PASS	<0.000	N/A	15	<PQL
CCV4	CCV	1	18.74	0.58	15	PASS	19.3	0.61	15	PASS
CCB4	CCB	1	0.087	13.26	15	PASS	0.00079	288.97	15	<PQL
LLCCV1	CCV2	1	1.054	3.56	20	PASS	0.53	5.66	20	PASS
ICSA2	ICSA	1	0.26	4.17	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.95	1.017	15	PASS	17.86	0.71	15	PASS
MB-56504	MBLK	1	0.13	34.78	15	<PQL	0.0022	339.0071	15	<PQL
LCS-56504	LCS	1	9.94	1.79	15	PASS	99.35	0.35	15	PASS
N018898-003A	SAMP	1	0.25	7.1	15	PASS	2.14	4.5	15	PASS
N018910-001B	SAMP	1	0.014	87.44	15	<PQL	<0.000	N/A	15	<PQL
N018910-002B	SAMP	1	22.27	2.17	15	PASS	1.53	1.98	15	PASS
N018910-003B	SAMP	1	37.53	13.013	15	PASS	16.67	17.58	15	NR!
N018918-001C	SAMP	1	625.23	1.6	15	PASS	16.5	1.2	15	PASS
N018918-002E	SAMP	1	0.45	1.21	15	PASS	3.72	1.85	15	PASS
N018918-003C	SAMP	1	2.51	0.36	15	PASS	5.9	3.065	15	PASS
N018918-003C	SAMP	5	0.31	9.96	15	PASS	3.42	1.71	15	PASS
CCV5	CCV	1	18.55	1.29	15	PASS	18.98	2.13	15	PASS
CCB5	CCB	1	0.057	35.75	15	<PQL	0.005	39.3	15	<PQL
N018919-001B	SAMP	1	70.23	0.57	15	PASS	49.69	0.44	15	PASS
N018919-002B	SAMP	1	718.81	1.076	15	PASS	8.31	1.87	15	PASS
N018935-001B	SAMP	1	5.68	2.47	15	PASS	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N018936-001A	SAMP	1	0.7	5.81	15	PASS	101.32	0.2	15	PASS
N018936-002B	SAMP	1	759.012	0.21	15	PASS	8.97	1.7	15	PASS
N018910-003B	SAMP	1	22.79	0.51	15	PASS	2.86	1.39	15	PASS
N018910-002B	SAMP	25	1.31	10.99	15	PASS	0.078	4.85	15	PASS
N018910-003B	SAMP	25	1.11	3.93	15	PASS	0.12	1.53	15	PASS
N018918-001C	SAMP	5	138.065	1.35	15	PASS	3.46	7.59	15	PASS
N018918-002E	SAMP	1	16.72	86.15	15	NR!	6.54	39.087	15	NR!
CCV6	CCV	1	18.3	0.49	15	PASS	19.06	0.21	15	PASS
CCB6	CCB	1	0.058	22.85	15	<PQL	<0.000	N/A	15	<PQL
N018918-002E	SAMP	5	0.12	4.74	15	PASS	0.82	2.83	15	PASS
N018918-002E	SAMP	25	0.065	10.32	15	PASS	0.16	7.43	15	PASS
N018918-003C	SAMP	25	0.18	29.087	15	<PQL	0.78	2.61	15	PASS
N018918-003C	SAMP	125	0.057	8.78	15	PASS	0.15	12.17	15	PASS
N018918-003C-PS	PS	1	11.22	1.6	15	PASS	94.2	1.23	15	PASS
N018918-003C-PS	PS	5	2.26	4.16	15	PASS	24.048	2.21	15	PASS
N018918-003C-PS	PS	25	0.52	3.32	15	PASS	5.046	3.63	15	PASS
N018918-003C-MS	MS	1	12.27	1.24	15	PASS	104.41	0.49	15	PASS
N018918-003C-MS	MS	5	2.23	4.46	15	PASS	23.89	0.58	15	PASS
N018918-003C-MS	MS	25	0.47	4.64	15	PASS	5.018	1.38	15	PASS
CCV7	CCV	1	18.55	0.86	15	PASS	19.27	0.49	15	PASS
CCB7	CCB	1	0.046	7.34	15	PASS	<0.000	N/A	15	<PQL
N018918-003C-MSD	MSD	1	12.34	1.53	15	PASS	104.88	2.5	15	PASS
N018918-003C-MSD	MSD	5	2.28	2.82	15	PASS	24.088	0.42	15	PASS
N018918-003C-MSD	MSD	25	0.48	0.88	15	PASS	5.019	1.62	15	PASS
N018919-002B	SAMP	5	164.77	1.08	15	PASS	1.94	2.36	15	PASS
N018919-002B-MS	MS	1	704.99	1.0094	15	PASS	100.14	1.003	15	PASS
N018919-002B-MS	MS	5	164.98	0.78	15	PASS	23.3	0.45	15	PASS
N018935-001B	SAMP	25	0.26	2.074	15	PASS	<0.000	N/A	15	<PQL
N018936-002B	SAMP	5	168.29	0.36	15	PASS	2.19	2.62	15	PASS
CCV8	CCV	1	18.37	0.7	15	PASS	19.57	0.44	15	PASS
CCB8	CCB	1	0.033	32.64	15	<PQL	0.00068	850.36	15	<PQL
LLCCV2	CCV2	1	0.98	6.67	20	PASS	0.54	2.26	20	PASS
ICSA3	ICSA	1	0.18	6.6	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.12	1.22	15	PASS	18.16	2.29	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308001.D	RINSE	RINSE	1	03/08/16 11:18 AM
A0308002.D	Cal Blank	IBLK	1	03/08/16 11:24 AM
A0308003.D	Std1-0.1/1 ppb	ICAL	1	03/08/16 11:30 AM
A0308004.D	Std2-0.5/5 ppb	ICAL	1	03/08/16 11:35 AM
A0308005.D	Std3-5/50 ppb	ICAL	1	03/08/16 11:41 AM
A0308006.D	Std4-10/100 ppb	ICAL	1	03/08/16 11:46 AM
A0308007.D	Std5-20/200 ppb	ICAL	1	03/08/16 11:52 AM
A0308008.D	Std6-40/400 ppb	ICAL	1	03/08/16 11:57 AM
A0308009.D	Std7-100/1000 ppb	ICAL	1	03/08/16 12:03 PM
A0308010.D	Std8-200/2000 ppb	ICAL	1	03/08/16 12:08 PM
A0308011.D	ICV	ICV	1	03/08/16 12:14 PM
A0308012.D	ICB	ICB	1	03/08/16 12:20 PM
A0308013.D	LLICV	CCV1	1	03/08/16 12:25 PM
A0308014.D	ICSA1	ICSA	1	03/08/16 12:31 PM
A0308015.D	ICSAB1	ICSAB	1	03/08/16 12:34 PM
A0308016.D	LLICV	CCV1	1	03/08/16 12:42 PM
A0308017.D	N018845-002B	SAMP	1	03/08/16 12:47 PM
A0308018.D	N018845-002B	SAMP	5	03/08/16 12:53 PM
A0308019.D	N018845-003B	SAMP	1	03/08/16 12:58 PM
A0308020.D	N018845-003B	SAMP	5	03/08/16 1:04 PM
A0308021.D	N018845-004B	SAMP	1	03/08/16 1:09 PM
A0308022.D	N018845-004B	SAMP	5	03/08/16 1:15 PM
A0308023.D	N018845-006B	SAMP	1	03/08/16 1:20 PM
A0308024.D	N018845-006B	SAMP	5	03/08/16 1:26 PM
A0308025.D	N018845-007B	SAMP	1	03/08/16 1:32 PM
A0308026.D	N018845-007B	SAMP	5	03/08/16 1:37 PM
A0308027.D	CCV1	CCV	1	03/08/16 1:43 PM
A0308028.D	CCB1	CCB	1	03/08/16 1:48 PM
A0308029.D	N018845-008B	SAMP	1	03/08/16 1:54 PM
A0308030.D	N018845-008B	SAMP	5	03/08/16 2:00 PM
A0308031.D	N018845-005B	SAMP	1	03/08/16 2:05 PM
A0308032.D	N018845-005B	SAMP	5	03/08/16 2:11 PM
A0308033.D	N018845-005B	SAMP	500	03/08/16 2:16 PM
A0308034.D	RINSE	RINSE	1	03/08/16 2:22 PM
A0308035.D	RINSE	RINSE	1	03/08/16 2:28 PM
A0308036.D	N018845-009B	SAMP	25	03/08/16 2:46 PM
A0308037.D	N018845-009B-PS	PS	5	03/08/16 2:51 PM
A0308038.D	N018845-009B-MS	MS	5	03/08/16 2:57 PM
A0308039.D	CCV2	CCV	1	03/08/16 3:03 PM
A0308040.D	CCB2	CCB	1	03/08/16 3:09 PM
A0308041.D	N018845-009B-MSD	MSD	5	03/08/16 3:14 PM
A0308042.D	N018845-010B	SAMP	5	03/08/16 3:20 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308043.D	N018855-001B	SAMP	5	03/08/16 3:25 PM
A0308044.D	N018855-002B	SAMP	5	03/08/16 3:31 PM
A0308045.D	N018855-003B	SAMP	5	03/08/16 3:37 PM
A0308046.D	N018855-004B	SAMP	5	03/08/16 3:42 PM
A0308047.D	N018396-002B	SAMP	5	03/08/16 3:48 PM
A0308048.D	N018861-004B	SAMP	25	03/08/16 3:53 PM
A0308049.D	N018861-005B	SAMP	25	03/08/16 3:59 PM
A0308050.D	N018861-006B	SAMP	25	03/08/16 4:04 PM
A0308051.D	CCV3	CCV	1	03/08/16 4:10 PM
A0308052.D	CCB3	CCB	1	03/08/16 4:15 PM
A0308053.D	N018861-007B	SAMP	125	03/08/16 4:21 PM
A0308054.D	N018861-007B-PS	PS	25	03/08/16 4:26 PM
A0308055.D	N018861-007B-MS	MS	25	03/08/16 4:32 PM
A0308056.D	N018861-007B-MSD	MSD	25	03/08/16 4:37 PM
A0308057.D	CCV4	CCV	1	03/08/16 4:43 PM
A0308058.D	CCB4	CCB	1	03/08/16 4:48 PM
A0308059.D	LLCCV1	CCV2	1	03/08/16 4:54 PM
A0308060.D	ICSA2	ICSA	1	03/08/16 4:59 PM
A0308061.D	ICSAB2	ICSAB	1	03/08/16 5:04 PM
A0308062.D	MB-56504	MBLK	1	03/08/16 6:45 PM
A0308063.D	LCS-56504	LCS	1	03/08/16 6:51 PM
A0308064.D	N018898-003A	SAMP	1	03/08/16 7:02 PM
A0308065.D	N018910-001B	SAMP	1	03/08/16 7:08 PM
A0308066.D	N018910-002B	SAMP	1	03/08/16 7:13 PM
A0308067.D	N018910-003B	SAMP	1	03/08/16 7:19 PM
A0308068.D	N018918-001C	SAMP	1	03/08/16 7:24 PM
A0308069.D	N018918-002E	SAMP	1	03/08/16 7:30 PM
A0308070.D	N018918-003C	SAMP	1	03/08/16 7:35 PM
A0308071.D	N018918-003C	SAMP	5	03/08/16 7:41 PM
A0308072.D	CCV5	CCV	1	03/08/16 7:47 PM
A0308073.D	CCB5	CCB	1	03/08/16 7:52 PM
A0308074.D	N018919-001B	SAMP	1	03/08/16 7:58 PM
A0308075.D	N018919-002B	SAMP	1	03/08/16 8:03 PM
A0308076.D	N018935-001B	SAMP	1	03/08/16 8:09 PM
A0308077.D	N018936-001A	SAMP	1	03/08/16 8:14 PM
A0308078.D	N018936-002B	SAMP	1	03/08/16 8:20 PM
A0308079.D	N018910-003B	SAMP	1	03/08/16 8:26 PM
A0308080.D	N018910-002B	SAMP	25	03/08/16 8:39 PM
A0308081.D	N018910-003B	SAMP	25	03/08/16 8:45 PM
A0308082.D	N018918-001C	SAMP	5	03/08/16 8:53 PM
A0308083.D	N018918-002E	SAMP	1	03/08/16 8:59 PM
A0308084.D	CCV6	CCV	1	03/08/16 9:05 PM

INJECTION LOG: 160308A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0308085.D	CCB6	CCB	1	03/08/16 9:10 PM
A0308086.D	N018918-002E	SAMP	5	03/08/16 9:16 PM
A0308087.D	N018918-002E	SAMP	25	03/08/16 9:21 PM
A0308088.D	N018918-003C	SAMP	25	03/08/16 9:41 PM
A0308089.D	N018918-003C	SAMP	125	03/08/16 9:47 PM
A0308090.D	N018918-003C-PS	PS	1	03/08/16 9:53 PM
A0308091.D	N018918-003C-PS	PS	5	03/08/16 9:59 PM
A0308092.D	N018918-003C-PS	PS	25	03/08/16 10:04 PM
A0308093.D	N018918-003C-MS	MS	1	03/08/16 10:10 PM
A0308094.D	N018918-003C-MS	MS	5	03/08/16 10:15 PM
A0308095.D	N018918-003C-MS	MS	25	03/08/16 10:21 PM
A0308096.D	CCV7	CCV	1	03/08/16 10:27 PM
A0308097.D	CCB7	CCB	1	03/08/16 10:32 PM
A0308098.D	N018918-003C-MSD	MSD	1	03/08/16 10:38 PM
A0308099.D	N018918-003C-MSD	MSD	5	03/08/16 10:43 PM
A0308100.D	N018918-003C-MSD	MSD	25	03/08/16 10:49 PM
A0308101.D	N018919-002B	SAMP	5	03/08/16 10:55 PM
A0308102.D	N018919-002B-MS	MS	1	03/08/16 11:00 PM
A0308103.D	N018919-002B-MS	MS	5	03/08/16 11:06 PM
A0308104.D	N018935-001B	SAMP	25	03/08/16 11:11 PM
A0308105.D	N018936-002B	SAMP	5	03/08/16 11:17 PM
A0308106.D	CCV8	CCV	1	03/08/16 11:22 PM
A0308107.D	CCB8	CCB	1	03/08/16 11:28 PM
A0308108.D	LLCCV2	CCV2	1	03/08/16 11:33 PM
A0308109.D	ICSA3	ICSA	1	03/08/16 11:39 PM
A0308110.D	ICSAB3	ICSAB	1	03/08/16 11:45 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/4/2016 7:59:31 A**
Prep End Date: **3/4/2016 12:00:00 P**

Initials/ Date: 3/17/2016

Prep Batch **56504** Prep Code: **200.8_PR** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-10**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56504	Aqueous		25	☐	0	0	25	1.000		
MB-56504	Aqueous		25	☐	0	0	25	1.000		
N018898-003A	Water	<2	25	☐	0	0	25	1.000		
N018910-001B	Water	<2	25	☐	0	0	25	1.000		
N018910-002B	Water	<2	25	☐	0	0	25	1.000		
N018910-003B	Water	<2	25	☐	0	0	25	1.000		
N018918-001C	Water	<2	25	☐	0	0	25	1.000		
N018918-002E	Water	<2	25	☐	0	0	25	1.000		
N018918-003C	Water	<2	25	☐	0	0	25	1.000		
N018918-003C-MS	Water	<2	25	☐	0	0	25	1.000		
N018918-003C-MS	Water	<2	25	☐	0	0	25	1.000		
N018919-001B	Water	<2	25	☐	0	0	25	1.000		
N018919-002B	Water	<2	25	☐	0	0	25	1.000		
N018919-002B-MS	Water	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution D		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **3/4/2016 7:59:31 A**
Prep End Date: **3/4/2016 12:00:00 P**

Initials/ Date: 3/17/2016

Prep Batch **56504** Prep Code: **200.8_PR** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-10**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
N018935-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-001A	Groundwater	<2	25	☐	0	0	25	1.000		
N018936-002B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution D		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 8 Mar 2016 10:50:36 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element	Actual	Required	Flag
9 Be	64030.00	0.00	
24 Mg	356184.00	0.00	
25 Mg	47474.40	0.00	
26 Mg	55352.20	0.00	
59 Co	548784.00	0.00	
115 In	1237250.00	0.00	
206 Pb	284929.00	0.00	
207 Pb	248633.00	0.00	
208 Pb	604949.00	0.00	

RSD (%)

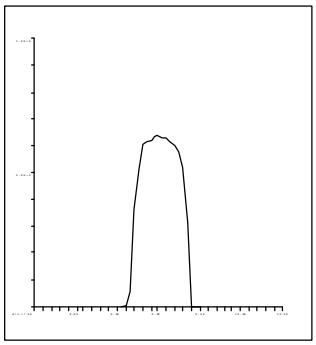
Element	Actual	Required	Flag
9 Be	1.43	5.00	
24 Mg	0.31	5.00	
25 Mg	0.61	5.00	
26 Mg	0.52	5.00	
59 Co	0.99	5.00	
115 In	0.45	5.00	
206 Pb	1.12	5.00	
207 Pb	1.38	5.00	
208 Pb	1.51	5.00	

Ion Ratio

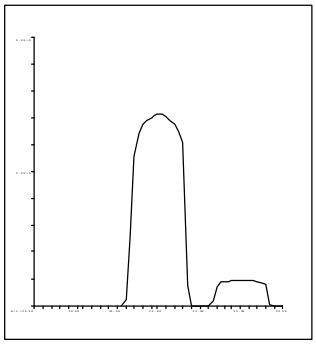
Element	Actual	Required	Flag
9 Be			
24 Mg			
25 Mg			
26 Mg			
59 Co			
115 In			
206 Pb			
207 Pb			
208 Pb			

Maximum Bkg. Count(CPS)

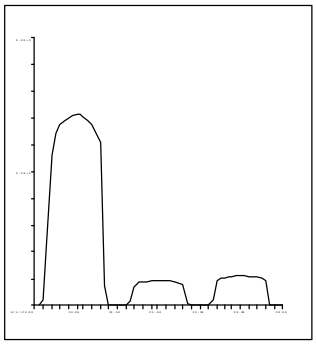
Element	Actual	Required	Flag



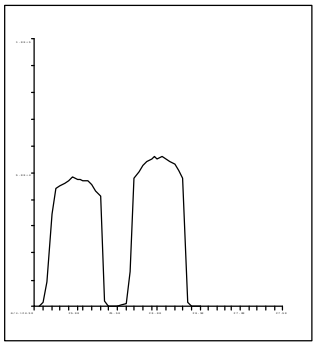
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



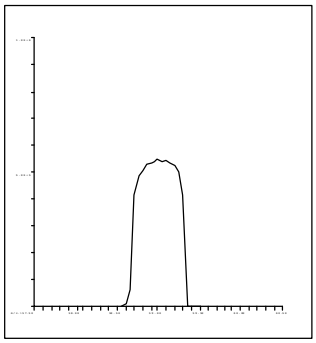
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



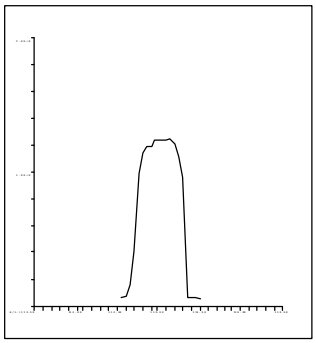
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



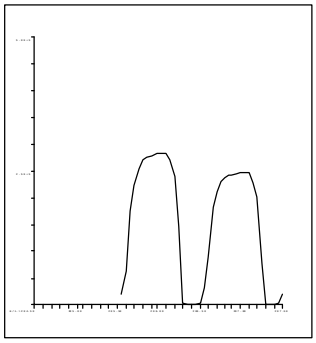
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



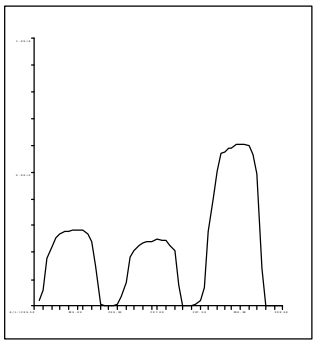
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

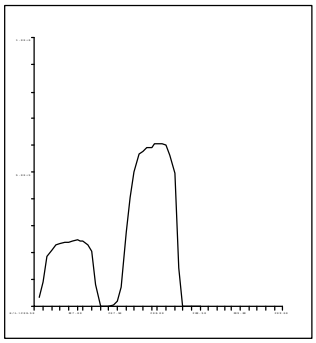


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160308A

Instrument ID: ICPMS-02

Analyte	Data File	A0308002.D	A0308004.D	A0308005.D	A0308006.D	A0308007.D	A0308008.D	A0308009.D	A0308010.D	
	Acq. Date-Time	03/08/2016 11:24 AM	03/08/2016 11:35 AM	03/08/2016 11:41 AM	03/08/2016 11:46 AM	03/08/2016 11:52 AM	03/08/2016 11:57 AM	03/08/2016 12:03 PM	03/08/2016 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	106194.3	102211	101219.5	99453.2	98731.1	98814.8	96953.2	95851.4	
55 Mn [2]	CPS	62.1	1995.4	18755.8	37406.6	74766.5	152694.5	376809.2	754275.7	1.0000
52 Cr [2]	CPS	182.1	3361.4	33026.5	65379.4	130745.2	268803.2	661307.7	1360970.1	0.9998

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-151207A
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **ICV** SampType: **ICV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	100.924	0.50	100.0	0	101	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.542	0.50	0.5000	0	108	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.153	0.50	20.00	0	95.8	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.043	0.50	20.00	0	95.2	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.129	0.50	20.00	0	95.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **CCV4** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.298	0.50	20.00	0	96.5	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.527	0.50	0.5000	0	105	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	18.984	0.50	20.00	0	94.9	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.060	0.50	20.00	0	95.3	90	110				

Sample ID **CCV7** SampType: **CCV** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.265	0.50	20.00	0	96.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	CCV8	SampType:	CCV	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCV	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257480

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	19.571	0.50	20.00	0	97.9	90	110				

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	ZZZZZZ	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257482

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.544	0.50	0.5000	0	109	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **ICV** SampType: **ICV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.001	1.0	10.00	0	100	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.947	1.0	1.000	0	94.7	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.638	1.0	20.00	0	93.2	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.662	1.0	20.00	0	93.3	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.659	1.0	20.00	0	93.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **CCV4** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.741	1.0	20.00	0	93.7	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.054	1.0	1.000	0	105	70	130				

Sample ID **CCV5** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.549	1.0	20.00	0	92.7	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.303	1.0	20.00	0	91.5	90	110				

Sample ID **CCV7** SampType: **CCV** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCV** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.548	1.0	20.00	0	92.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	CCV8	SampType:	CCV	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCV	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257605

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.366	1.0	20.00	0	91.8	90	110				

Sample ID	LLCCV2	SampType:	CCV2	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	ZZZZZZ	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257607

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.982	1.0	1.000	0	98.2	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **ICB** SampType: **ICB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB4** SampType: **CCB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257432**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	CCB5	SampType:	CCB	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	CCB6	SampType:	CCB	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257459

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	CCB7	SampType:	CCB	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257471

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	CCB8	SampType:	CCB	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257481

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **ICB** SampType: **ICB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1** SampType: **CCB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2** SampType: **CCB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.258	1.0									

Sample ID **CCB3** SampType: **CCB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.115	1.0									

Sample ID **CCB4** SampType: **CCB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **CCB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257557**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.087	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	CCB5	SampType:	CCB	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257572

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB6	SampType:	CCB	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB7	SampType:	CCB	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	CCB8	SampType:	CCB	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	CCB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **ICSA1** SampType: **ICSA** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSA** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSAB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	17.661	0.50	20.00	0	88.3	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSA** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSAB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	17.858	0.50	20.00	0	89.3	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSA** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSAB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	18.164	0.50	20.00	0	90.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **ICSA1** SampType: **ICSA** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSA** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.161	1.0									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSAB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.638	1.0	20.00	0	103	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSA** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.259	1.0									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSAB** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.953	1.0	20.00	0	105	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ICSA** Batch ID: **R106321** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.181	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	ICSAB3	SampType:	ICSAB	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:		RunNo:	106321
Client ID:	ICSAB	Batch ID:	R106321	TestNo:	EPA 200.8			Analysis Date:	3/8/2016	SeqNo:	2257609

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.115	1.0	20.00	0	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	106194.3	106194.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	101729	106194.3	95.8	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	102211	106194.3	96.25	PASS	70-130
Std3-5/50 ppb	ICAL	1	101219.5	106194.3	95.32	PASS	70-130
Std4-10/100 ppb	ICAL	1	99453.2	106194.3	93.65	PASS	70-130
Std5-20/200 ppb	ICAL	1	98731.1	106194.3	92.97	PASS	70-130
Std6-40/400 ppb	ICAL	1	98814.8	106194.3	93.051	PASS	70-130
Std7-100/1000 ppb	ICAL	1	96953.2	106194.3	91.3	PASS	70-130
Std8-200/2000 ppb	ICAL	1	95851.4	106194.3	90.26	PASS	70-130
ICV	ICV	1	105496.6	106194.3	99.34	PASS	70-130
ICB	ICB	1	103401.5	106194.3	97.37	PASS	70-130
LLICV	CCV1	1	105899.2	106194.3	99.72	PASS	70-130
ICSA1	ICSA	1	100565.3	106194.3	94.7	PASS	70-130
ICSAB1	ICSAB	1	97152.4	106194.3	91.49	PASS	70-130
LLICV	CCV1	1	108359.9	106194.3	102.04	PASS	70-130
CCV1	CCV	1	114506.5	106194.3	107.83	PASS	70-130
CCB1	CCB	1	113537.4	106194.3	106.91	PASS	70-130
CCV2	CCV	1	105426.2	106194.3	99.28	PASS	70-130
CCB2	CCB	1	104728.2	106194.3	98.62	PASS	70-130
CCV3	CCV	1	101489.8	106194.3	95.57	PASS	70-130
CCB3	CCB	1	101413.8	106194.3	95.5	PASS	70-130
CCV4	CCV	1	99476	106194.3	93.67	PASS	70-130
CCB4	CCB	1	99751.8	106194.3	93.93	PASS	70-130
LLCCV1	CCV2	1	100900.9	106194.3	95.015	PASS	70-130
ICSA2	ICSA	1	98014.4	106194.3	92.3	PASS	70-130
ICSAB2	ICSAB	1	96492.2	106194.3	90.86	PASS	70-130
MB-56504	MBLK	1	96055.9	106194.3	90.45	PASS	70-130
LCS-56504	LCS	1	103344.5	106194.3	97.32	PASS	70-130
N018898-003A	SAMP	1	92147.6	106194.3	86.77	PASS	70-130
N018910-001B	SAMP	1	85887.9	106194.3	80.88	PASS	70-130
N018910-002B	SAMP	1	83961.1	106194.3	79.064	PASS	70-130
N018910-003B	SAMP	1	150	106194.3	0.14	NR!	70-130
N018918-001C	SAMP	1	79907.1	106194.3	75.25	PASS	70-130
N018918-002E	SAMP	1	86748.9	106194.3	81.69	PASS	70-130
N018918-003C	SAMP	1	60039.9	106194.3	56.54	NR!	70-130
N018918-003C	SAMP	5	90792	106194.3	85.5	PASS	70-130
CCV5	CCV	1	113489.4	106194.3	106.87	PASS	70-130
CCB5	CCB	1	110358.4	106194.3	103.92	PASS	70-130
N018919-001B	SAMP	1	100583.4	106194.3	94.72	PASS	70-130
N018919-002B	SAMP	1	98756	106194.3	93	PASS	70-130
N018935-001B	SAMP	1	92447.8	106194.3	87.055	PASS	70-130

INTERNAL STANDARD: 160308A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
N018936-001A	SAMP	1	92077.1	106194.3	86.71	PASS	70-130
N018936-002B	SAMP	1	88320.9	106194.3	83.17	PASS	70-130
N018910-003B	SAMP	1	88017.2	106194.3	82.88	PASS	70-130
N018910-002B	SAMP	25	97508.6	106194.3	91.82	PASS	70-130
N018910-003B	SAMP	25	90426.5	106194.3	85.15	PASS	70-130
N018918-001C	SAMP	5	33245.5	106194.3	31.31	NR!	70-130
N018918-002E	SAMP	1	30604.2	106194.3	28.82	NR!	70-130
CCV6	CCV	1	115049.7	106194.3	108.34	PASS	70-130
CCB6	CCB	1	110068.1	106194.3	103.65	PASS	70-130
N018918-002E	SAMP	5	105705.7	106194.3	99.54	PASS	70-130
N018918-002E	SAMP	25	109277.3	106194.3	102.9	PASS	70-130
N018918-003C	SAMP	25	92994.6	106194.3	87.57	PASS	70-130
N018918-003C	SAMP	125	107792.1	106194.3	101.5	PASS	70-130
N018918-003C-PS	PS	1	59384.1	106194.3	55.92	NR!	70-130
N018918-003C-PS	PS	5	88750.4	106194.3	83.57	PASS	70-130
N018918-003C-PS	PS	25	106236.9	106194.3	100.04	PASS	70-130
N018918-003C-MS	MS	1	56179.5	106194.3	52.9	NR!	70-130
N018918-003C-MS	MS	5	83433.3	106194.3	78.57	PASS	70-130
N018918-003C-MS	MS	25	99200.3	106194.3	93.41	PASS	70-130
CCV7	CCV	1	105941.3	106194.3	99.76	PASS	70-130
CCB7	CCB	1	106576.7	106194.3	100.36	PASS	70-130
N018918-003C-MSD	MSD	1	52902.8	106194.3	49.82	NR!	70-130
N018918-003C-MSD	MSD	5	72887.5	106194.3	68.64	NR!	70-130
N018918-003C-MSD	MSD	25	92700.4	106194.3	87.29	PASS	70-130
N018919-002B	SAMP	5	92874.9	106194.3	87.46	PASS	70-130
N018919-002B-MS	MS	1	93376.2	106194.3	87.93	PASS	70-130
N018919-002B-MS	MS	5	100061.3	106194.3	94.22	PASS	70-130
N018935-001B	SAMP	25	101939	106194.3	95.99	PASS	70-130
N018936-002B	SAMP	5	95854.8	106194.3	90.26	PASS	70-130
CCV8	CCV	1	102516.9	106194.3	96.54	PASS	70-130
CCB8	CCB	1	102178.6	106194.3	96.22	PASS	70-130
LLCCV2	CCV2	1	101259.5	106194.3	95.35	PASS	70-130
ICSA3	ICSA	1	103484.3	106194.3	97.45	PASS	70-130
ICSAB3	ICSAB	1	104127.1	106194.3	98.053	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N018936
Test Method: EPA 200.8
Analysis Date: 3/8/2016

Matrix: Groundwater
Batch No.: 56504

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N018918-003C DT 25X	Chromium	ug/L	0	NA	4.620493	100.00%	10
N018918-003C DT 25X	Manganese	ug/L	18.27137	PASS	19.46167	6.12%	10

Note: NA - Not applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N018918-003C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	126.140	12	100.0	19.46	107	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID **N018918-003C-PS** SampType: **PS** TestCode: **200.8DIS_Cr** Units: **µg/L** Prep Date: RunNo: **106321**
Client ID: **ZZZZZZ** Batch ID: **56504** TestNo: **EPA 200.8** Analysis Date: **3/8/2016** SeqNo: **2257591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	13.056	25	10.00	4.620	84.4	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106264
ASSET #: N018936

Instrument ID: IC-07
Analyst: REB
Date Analyzed: 3/4/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7 _W
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer Rob 3/14/2016 Date: —

2nd Level Reviewer Nancy 3/17/2016 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N018936-001D** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 0.7916 * 1

= 0.7916

Reporting result in two significant figures,

Cr^{+6}, µg/L = 0.79

ANALYSIS RUN LOG

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	BLANK	BLANK	1	Hexavalent Chromium	03/04/16 12:16 PM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	03/04/16 12:27 PM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/04/16 12:36 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	03/04/16 12:46 PM	Reported
15	MB-R106264	ICAL	1	Hexavalent Chromium	03/04/16 12:55 PM	Reported
16	LCS-R106264	ICAL	1	Hexavalent Chromium	03/04/16 1:05 PM	Reported
17	N018918-001B	SAMP	50	Hexavalent Chromium	03/04/16 1:14 PM	Reported
18	N018918-001BDUP	DUP	50	Hexavalent Chromium	03/04/16 1:24 PM	Reported
19	N018918-001BMS	MS	50	Hexavalent Chromium	03/04/16 1:33 PM	Reported
20	N018918-001BMSD	MSD	50	Hexavalent Chromium	03/04/16 1:43 PM	Reported
21	N018918-002C	SAMP	1	Hexavalent Chromium	03/04/16 1:52 PM	Reported
22	N018918-002CMS	MS	1	Hexavalent Chromium	03/04/16 2:02 PM	Reported
23	N018918-003B	SAMP	1	Hexavalent Chromium	03/04/16 2:11 PM	Not Reported
24	N018918-003BMS	MS	1	Hexavalent Chromium	03/04/16 2:20 PM	Not Reported
25	CCV-2	CCV	1	Hexavalent Chromium	03/04/16 2:30 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	03/04/16 2:39 PM	Reported
27	N018918-003B	SAMP	5	Hexavalent Chromium	03/04/16 2:49 PM	Reported
28	N018918-003BMS	MS	5	Hexavalent Chromium	03/04/16 2:58 PM	Reported
29	N018918-003B	SAMP	10	Hexavalent Chromium	03/04/16 3:26 PM	Not Reported
30	N018918-003BMS	MS	10	Hexavalent Chromium	03/04/16 3:37 PM	Not Reported
31	N018861-001A	SAMP	100	Hexavalent Chromium	03/04/16 3:54 PM	Reported
32	N018861-001AMS	MS	100	Hexavalent Chromium	03/04/16 4:05 PM	Reported
33	N018861-003A	SAMP	1	Hexavalent Chromium	03/04/16 4:14 PM	Not Reported
34	N018861-003AMS	MS	1	Hexavalent Chromium	03/04/16 4:24 PM	Not Reported
35	N018861-005A	SAMP	10	Hexavalent Chromium	03/04/16 4:33 PM	Not Reported
36	N018861-005AMS	MS	10	Hexavalent Chromium	03/04/16 4:43 PM	Not Reported
37	CCV-3	CCV	1	Hexavalent Chromium	03/04/16 4:52 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	03/04/16 5:02 PM	Reported
39	N018861-006A	SAMP	1	Hexavalent Chromium	03/04/16 5:11 PM	Not Reported
40	N018861-006AMS	MS	1	Hexavalent Chromium	03/04/16 5:21 PM	Not Reported
41	N018861-007A	SAMP	1	Hexavalent Chromium	03/04/16 5:30 PM	Not Reported
42	N018861-007AMS	MS	1	Hexavalent Chromium	03/04/16 5:40 PM	Not Reported
43	N018861-008A	SAMP	1	Hexavalent Chromium	03/04/16 5:49 PM	Reported

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
44	N018861-008AMS	MS	1	Hexavalent Chromium	03/04/16 5:59 PM	Reported
45	N018861-003A	SAMP	5	Hexavalent Chromium	03/04/16 6:08 PM	Reported
46	N018861-003AMS	MS	5	Hexavalent Chromium	03/04/16 6:17 PM	Reported
47	N018861-006A	SAMP	5	Hexavalent Chromium	03/04/16 6:27 PM	Reported
48	N018861-006AMS	MS	5	Hexavalent Chromium	03/04/16 6:36 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	03/04/16 6:46 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	03/04/16 6:55 PM	Reported
51	N018861-007A	SAMP	5	Hexavalent Chromium	03/04/16 7:05 PM	Reported
52	N018861-007AMS	MS	5	Hexavalent Chromium	03/04/16 7:14 PM	Reported
53	N018936-002A	SAMP	100	Hexavalent Chromium	03/04/16 7:24 PM	Reported
54	N018936-002AMS	MS	100	Hexavalent Chromium	03/04/16 7:33 PM	Reported
55	N018936-001D	SAMP	1	Hexavalent Chromium	03/04/16 7:43 PM	Reported
56	N018936-001DMS	MS	1	Hexavalent Chromium	03/04/16 7:52 PM	Reported
57	CCV-5	CCV	1	Hexavalent Chromium	03/04/16 8:02 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	03/04/16 8:11 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160304A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Mar/16 17:38:28**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	BLANK	1	1000	Unknown		03/04/2016 12:16	Finished	BLANK
12	CCV-1,CCV,1,	2	1000	Unknown		03/04/2016 12:27	Finished	CCV, IWST-160202A
13	PQL@0.2ppb,CCV2,1	3	1000	Unknown		03/04/2016 12:36	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	4	1000	Unknown		03/04/2016 12:46	Finished	CCB R160219D
15	MB-H20,MBLK,1	5	1000	Unknown		03/04/2016 12:55	Finished	MB
16	LCS-H2O,LCS,1	6	1000	Unknown		03/04/2016 13:05	Finished	LCS @ 5ppb, IWST-160202B
17	N018918-001B,SAMF	7	1000	Unknown		03/04/2016 13:14	Finished	SAMP, 0.2 to 10mL
18	N018918-001BDUP,D	8	1000	Unknown		03/04/2016 13:24	Finished	DUP, 0.2 to 10mL
19	N018918-001BMS,MS	9	1000	Unknown		03/04/2016 13:33	Finished	MS(5ppb), IWST-160202B, 10r
20	N018918-001BMSD,M	10	1000	Unknown		03/04/2016 13:43	Finished	MS(5ppb), IWST-160202B, 10r
21	N018918-002C,SAMF	11	1000	Unknown		03/04/2016 13:52	Finished	SAMP, 10mL
22	N018918-002CMS,MS	12	1000	Unknown		03/04/2016 14:02	Finished	MS(1ppb), IWST-160202B, 10r
23	N018918-003B,SAMF	13	1000	Unknown		03/04/2016 14:11	Finished	SAMP, 10mL
24	N018918-003BMS,MS	14	1000	Unknown		03/04/2016 14:20	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	15	1000	Unknown		03/04/2016 14:30	Finished	CCV 10ppb, IWST-1605202A
26	CCB-2,CCB,1	16	1000	Unknown		03/04/2016 14:39	Finished	CCB
27	N018918-003B,SAMF	17	1000	Unknown		03/04/2016 14:49	Finished	SAMP, 2 to 10mL
28	N018918-003BMS,MS	18	1000	Unknown		03/04/2016 14:58	Finished	MS(1ppb), IWST-160202B, 10r
29	N018918-003B,SAMF	19	1000	Unknown		03/04/2016 15:26	Finished	SAMP, 1 to 10mL
30	N018918-003BMS,MS	20	1000	Unknown		03/04/2016 15:37	Finished	MS(1ppb), IWST-160202B, 10r
31	N018861-001A,SAMF	21	1000	Unknown		03/04/2016 15:54	Finished	SAMP,0.1 to 10mL
32	N018861-001AMS,MS	22	1000	Unknown		03/04/2016 16:05	Finished	MS(5ppb), IWST-160202B, 10r
33	N018861-003A,SAMF	23	1000	Unknown		03/04/2016 16:14	Finished	SAMP, 10mL
34	N018861-003AMS,MS	24	1000	Unknown		03/04/2016 16:24	Finished	MS(1ppb), IWST-160202B, 10r
35	N018861-005A,SAMF	25	1000	Unknown		03/04/2016 16:33	Finished	SAMP, 1 to 10mL
36	N018861-005AMS,MS	26	1000	Unknown		03/04/2016 16:43	Finished	MS(5ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	27	1000	Unknown		03/04/2016 16:52	Finished	CCV 5ppb, IWST-1605202A
38	CCB-3,CCB,1	28	1000	Unknown		03/04/2016 17:02	Finished	CCB
39	N018861-006A,SAMF	29	1000	Unknown		03/04/2016 17:11	Finished	SAMP, 10mL
40	N018861-006AMS,MS	30	1000	Unknown		03/04/2016 17:21	Finished	MS(1ppb), IWST-160202B, 10r
41	N018861-007A,SAMF	31	1000	Unknown		03/04/2016 17:30	Finished	SAMP, 10mL
42	N018861-007AMS,MS	32	1000	Unknown		03/04/2016 17:40	Finished	MS(5ppb), IWST-160202B, 10r
43	N018861-008A,SAMF	33	1000	Unknown		03/04/2016 17:49	Finished	SAMP, 10mL
44	N018861-008AMS,MS	34	1000	Unknown		03/04/2016 17:59	Finished	MS(1ppb), IWST-160202B, 10r
45	N018861-003A,SAMF	35	1000	Unknown		03/04/2016 18:08	Finished	SAMP, 2 to 10mL
46	N018861-003AMS,MS	36	1000	Unknown		03/04/2016 18:17	Finished	MS(1ppb), IWST-160202B, 10r
47	N018861-006A,SAMF	37	1000	Unknown		03/04/2016 18:27	Finished	SAMP, 2 to 10mL
48	N018861-006AMS,MS	38	1000	Unknown		03/04/2016 18:36	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	39	1000	Unknown		03/04/2016 18:46	Finished	CCV 10ppb, IWST-1605202A
50	CCB-4,CCB,1	40	1000	Unknown		03/04/2016 18:55	Finished	CCB
51	N018861-007A,SAMF	41	1000	Unknown		03/04/2016 19:05	Finished	SAMP, 2 to 10mL
52	N018861-007AMS,MS	42	1000	Unknown		03/04/2016 19:14	Finished	MS(5ppb), IWST-160202B, 10r
53	N018936-002A,SAMF	43	1000	Unknown		03/04/2016 19:24	Finished	SAMP, 0.1 to 10mL
54	N018936-002AMS,MS	44	1000	Unknown		03/04/2016 19:33	Finished	MS(5ppb), IWST-160202B, 10r
55	N018936-001D,SAMF	45	1000	Unknown		03/04/2016 19:43	Finished	SAMP, 10mL
56	N018936-001DMS,MS	46	1000	Unknown		03/04/2016 19:52	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	47	1000	Unknown		03/04/2016 20:02	Finished	CCV 5ppb, IWST-1605202A
58	CCB-5,CCB,1	48	1000	Unknown		03/04/2016 20:11	Finished	CCB
59	SHUTDOWN	49	1000	Unknown		03/04/2016 20:20	Finished	BLANK
60	Eluent: R160302B	50	1000	Unknown		n.a.	Finished	Eluent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 3/3/16
Time Prepared: 11:00 AM
Prepared By: MEB

SLOPE - 95.5%
pH4 - 4.01
7 - 6.98
10 - 10.04
LCS - 7.02

Reagent ID:
Sulfuric Acid: C1M-161130D
Diphenylcarbazide: C1M-151130F
NH4OH + NH4SO4 eluent: R160307A
NH4OH + NH4SO4 buffer: R160209C, R160309D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N0189 33-001A	9.39	—	—	—	—	R160219D
2)	2A	9.30	—	—	—	—	
3)	3A	9.34	—	—	—	—	
4)	4A	9.44	—	—	—	—	
5)	5A	9.42	—	—	—	—	
6)	6A	9.42	—	—	—	—	
7)	7A	9.46	—	—	—	—	
8)	8A	9.43	—	—	—	—	
9)	9A	9.40	—	—	—	—	
10)	10A	9.48	—	—	—	—	
11)	N0189 34-006A	9.50	—	—	—	—	
12)	N0189 35-001A	8.99	9.35	~20mL	~20mL	+5drops 6N NaOH	
13)	N0189 36-001D	9.21	9.39	1	1	+3drops 1	
14)	002A	9.34	—	—	—	—	
15)							

Sample Preparation

Date Prepared: 3/4/16
Time Prepared: 01:15 pm
Prepared By: MEB

SLOPE: 97.6%
pH4 - 4.01
7 - 7.00
10 - 10.03
LCS - 7.01

Reagent ID:
Sulfuric Acid: C1M-151130D
Diphenylcarbazide: C1M-151130F
NH4OH + NH4SO4 eluent: R160307A
NH4OH + NH4SO4 buffer: R160209C

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N0189 45-001A	9.08	9.38	~20mL	~20mL	+4drops 6N NaOH	R160209C
2)	2A	9.35	—	—	—	—	
3)	3A	8.94	9.32	~20mL	~20mL	+5drops 6N NaOH	
4)	4A	9.45	—	—	—	—	
5)	N0189 46-001A	8.56	9.37	~20mL	~20mL	+7drops 6N NaOH	
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							RBS 3/4/16

Logbook No. 10

Reb 3/14/2016

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 3/2/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0507	0.2490	1.1983	2.3757	3.6209	4.8423	0.9999

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160202A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ICV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	0.20	5.000	0	97.0	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.216	0.20	0.2000	0	108	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.979	0.20	5.000	0	99.6	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.236	0.20	0.2000	0	118	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.079	0.20	10.00	0	101	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.028	0.20	10.00	0	100	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.000	0.20	5.000	0	100	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.923	0.20	10.00	0	99.2	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ICV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	0.20	5.000	0	97.0	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.216	0.20	0.2000	0	108	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.979	0.20	5.000	0	99.6	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ZZZZZZ** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.236	0.20	0.2000	0	118	80	120				

Sample ID **CCV-2** SampType: **CCV** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.079	0.20	10.00	0	101	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.028	0.20	10.00	0	100	95	105				

Sample ID **CCV-4** SampType: **CCV** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.000	0.20	5.000	0	100	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCV** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.923	0.20	10.00	0	99.2	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ICB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **ICB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/2/2016** SeqNo: **2252769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **106264**
Client ID: **CCB** Batch ID: **R106264** TestNo: **EPA 218.6** Analysis Date: **3/4/2016** SeqNo: **2252806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/4/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
CCV-5	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
MB-R106264	N.A.	N.A.
LCS-R106264	5.040	PASS
N018918-001B	5.040	PASS
N018918-001BDUP	5.040	PASS
N018918-001BMS	5.040	PASS
N018918-001BMSD	5.040	PASS
N018918-002C	4.931	PASS
N018918-002CMS	4.915	PASS
N018918-003B	N.A.	N.A.
N018918-003BMS	N.A.	N.A.
N018918-003B	4.848	PASS
N018918-003BMS	4.840	PASS
N018918-003B	4.948	PASS
N018918-003BMS	4.956	PASS
N018861-001A	5.040	PASS
N018861-001AMS	5.040	PASS
N018861-003A	N.A.	N.A.
N018861-003AMS	4.731	FAIL
N018861-005A	5.031	PASS
N018861-005AMS	5.023	PASS
N018861-006A	N.A.	N.A.
N018861-006AMS	N.A.	N.A.
N018861-007A	4.648	FAIL
N018861-007AMS	4.648	FAIL

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 3/4/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.040	
CCV-2	5.040	
CCV-3	5.040	
CCV-4	5.040	
CCV-5	5.040	
Average	5.040	
Actual RT Window	4.960 - 5.120	
Applied RT Window	4.840 - 5.240	
N018861-008A	5.040	PASS
N018861-008AMS	5.040	PASS
N018861-003A	N.A.	N.A.
N018861-003AMS	5.006	PASS
N018861-006A	N.A.	N.A.
N018861-006AMS	4.990	PASS
N018861-007A	4.990	PASS
N018861-007AMS	4.990	PASS
N018936-002A	5.031	PASS
N018936-002AMS	5.040	PASS
N018936-001D	4.981	PASS
N018936-001DMS	4.973	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:02 AM	Not Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	ICV	ICV	1	Hexavalent Chromium	03/02/16 12:15 PM	Reported
12	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/02/16 12:26 PM	Reported
13	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:35 PM	Not Reported
14	ICB	ICB	1	Hexavalent Chromium	03/02/16 12:44 PM	Reported
15	LCS-R106240	LCS	1	Hexavalent Chromium	03/02/16 12:54 PM	Reported
16	MB-R106240	MBLK	1	Hexavalent Chromium	03/02/16 1:03 PM	Reported
17	N018857-019C	SAMP	5	Hexavalent Chromium	03/02/16 1:13 PM	Reported
18	N018857-019CDUP	DUP	5	Hexavalent Chromium	03/02/16 1:22 PM	Reported
19	N018857-019CMS	MS	5	Hexavalent Chromium	03/02/16 1:32 PM	Reported
20	N018857-019CMSD	MSD	5	Hexavalent Chromium	03/02/16 1:41 PM	Reported
21	N018867-010A	SAMP	1	Hexavalent Chromium	03/02/16 2:03 PM	Reported
22	N018845-002A	SAMP	5	Hexavalent Chromium	03/02/16 2:14 PM	Reported
23	N018845-002AMS	MS	5	Hexavalent Chromium	03/02/16 2:24 PM	Reported
24	CCV-1	CCV	1	Hexavalent Chromium	03/02/16 2:33 PM	Reported
25	CCB-1	CCB	1	Hexavalent Chromium	03/02/16 2:43 PM	Reported
26	N018845-006A	SAMP	20	Hexavalent Chromium	03/02/16 2:52 PM	Reported
27	N018845-006AMS	MS	20	Hexavalent Chromium	03/02/16 3:02 PM	Reported
28	N018845-007A	SAMP	50	Hexavalent Chromium	03/02/16 3:11 PM	Reported
29	N018845-007AMS	MS	50	Hexavalent Chromium	03/02/16 3:21 PM	Reported
30	N018845-008A	SAMP	1	Hexavalent Chromium	03/02/16 3:30 PM	Reported
31	N018845-008AMS	MS	1	Hexavalent Chromium	03/02/16 3:40 PM	Reported
32	N018845-009A	SAMP	1	Hexavalent Chromium	03/02/16 3:49 PM	Reported
33	N018845-009AMS	MS	1	Hexavalent Chromium	03/02/16 3:59 PM	Reported
34	N018845-010A	SAMP	1	Hexavalent Chromium	03/02/16 4:08 PM	Reported
35	N018845-010AMS	MS	1	Hexavalent Chromium	03/02/16 4:17 PM	Reported
36	CCV-2	CCV	1	Hexavalent Chromium	03/02/16 4:27 PM	Reported
37	CCB-2	CCB	1	Hexavalent Chromium	03/02/16 4:36 PM	Reported
38	N018855-001A	SAMP	5	Hexavalent Chromium	03/02/16 4:56 PM	Reported
39	N018855-001AMS	MS	5	Hexavalent Chromium	03/02/16 5:07 PM	Reported
40	N018855-002A	SAMP	50	Hexavalent Chromium	03/02/16 5:16 PM	Reported
41	N018855-002AMS	MS	50	Hexavalent Chromium	03/02/16 5:26 PM	Reported
42	N018855-003A	SAMP	5	Hexavalent Chromium	03/02/16 5:35 PM	Reported

INJECTION LOG: 160302A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N018855-003AMS	MS	5	Hexavalent Chromium	03/02/16 5:45 PM	Reported
44	N018855-004A	SAMP	1	Hexavalent Chromium	03/02/16 5:54 PM	Reported
45	N018855-004AMS	MS	1	Hexavalent Chromium	03/02/16 6:04 PM	Reported
46	N018855-005A	SAMP	1	Hexavalent Chromium	03/02/16 6:13 PM	Reported
47	N018855-005AMS	MS	1	Hexavalent Chromium	03/02/16 6:23 PM	Reported
48	CCV-3	CCV	1	Hexavalent Chromium	03/02/16 6:32 PM	Reported
49	CCB-3	CCB	1	Hexavalent Chromium	03/02/16 6:41 PM	Reported
50	N018855-006A	SAMP	1	Hexavalent Chromium	03/02/16 6:51 PM	Reported
51	N018855-006AMS	MS	1	Hexavalent Chromium	03/02/16 7:00 PM	Reported
52	N018855-002A	SAMP	5	Hexavalent Chromium	03/02/16 7:10 PM	Reported
53	N018855-002AMS	MS	5	Hexavalent Chromium	03/02/16 7:19 PM	Reported
54	N018855-004A	SAMP	5	Hexavalent Chromium	03/02/16 7:29 PM	Reported
55	N018855-004AMS	MS	5	Hexavalent Chromium	03/02/16 7:38 PM	Reported
56	CCV-4	CCV	1	Hexavalent Chromium	03/02/16 7:48 PM	Reported
57	CCB-4	CCB	1	Hexavalent Chromium	03/02/16 7:57 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160302A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Mar/16 20:16:39**
No. of Injections:	**60**	*Updated By:*	**ics 5000**

Injection Details

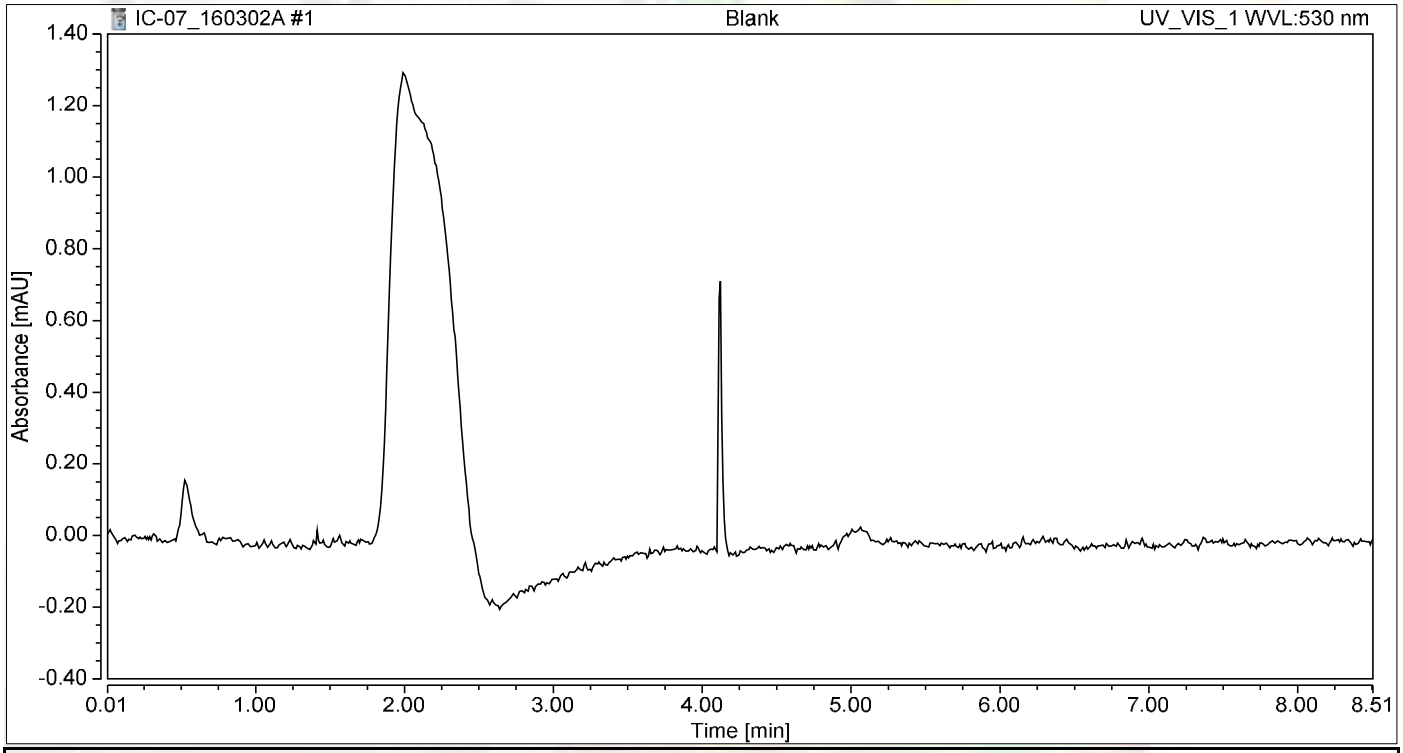
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	ICV,ICV,1,	11	1000	Unknown		03/02/2016 12:15	Finished	ICV, IWST-160202B
12	PQL@0.2ppb,CCV2,1	12	1000	Unknown		03/02/2016 12:26	Finished	PQL @ 0.2ppb
13	ICB,ICB,1,	13	1000	Unknown		03/02/2016 12:35	Finished	ICB R160219C
14	ICB,ICB,1,	14	1000	Unknown		03/02/2016 12:44	Finished	ICB
15	LCS-H2O,LCS,1	15	1000	Unknown		03/02/2016 12:54	Finished	LCS @ 5ppb, IWST-160202B
16	MB-H2O,MBLK,1	16	1000	Unknown		03/02/2016 13:03	Finished	MB
17	N018857-019C,SAMP	17	1000	Unknown		03/02/2016 13:13	Finished	SAMP, 10mL
18	N018857-019CDUP,D	18	1000	Unknown		03/02/2016 13:22	Finished	DUP, 10mL
19	N018857-019CMS,MS	19	1000	Unknown		03/02/2016 13:32	Finished	MS(5ppb), IWST-160202B, 10r
20	N018857-019CMSD,M	20	1000	Unknown		03/02/2016 13:41	Finished	MSD(5ppb), IWST-160202B, 1
21	N018867-010A,SAMP	21	1000	Unknown		03/02/2016 14:03	Finished	SAMP, 10mL
22	N018845-002A,SAMP	22	1000	Unknown		03/02/2016 14:14	Finished	SAMP, 2 to 10mL
23	N018845-002AMS,MS	23	1000	Unknown		03/02/2016 14:24	Finished	MS(5ppb), IWST-160202B, 10r
24	CCV-1,CCV,1	24	1000	Unknown		03/02/2016 14:33	Finished	CCV 10ppb, IWST-1605202A
25	CCB-1,CCB,1	25	1000	Unknown		03/02/2016 14:43	Finished	CCB
26	N018845-006A,SAMP	26	1000	Unknown		03/02/2016 14:52	Finished	SAMP, 0.5 to 10mL
27	N018845-006AMS,MS	27	1000	Unknown		03/02/2016 15:02	Finished	MS(5ppb), IWST-160202B, 10r
28	N018845-007A,SAMP	28	1000	Unknown		03/02/2016 15:11	Finished	SAMP, 0.2 to 10mL
29	N018845-007AMS,MS	29	1000	Unknown		03/02/2016 15:21	Finished	MS(5ppb), IWST-160202B, 10r
30	N018845-008A,SAMP	30	1000	Unknown		03/02/2016 15:30	Finished	SAMP, 10mL
31	N018845-008AMS,MS	31	1000	Unknown		03/02/2016 15:40	Finished	MS(1ppb), IWST-160202B, 10r
32	N018845-009A,SAMP	32	1000	Unknown		03/02/2016 15:49	Finished	SAMP, 10mL
33	N018845-009AMS,MS	33	1000	Unknown		03/02/2016 15:59	Finished	MS(1ppb), IWST-160202B, 10r
34	N018845-010A,SAMP	34	1000	Unknown		03/02/2016 16:08	Finished	SAMP, 10mL
35	N018845-010AMS,MS	35	1000	Unknown		03/02/2016 16:17	Finished	MS(1ppb), IWST-160202B, 10r
36	CCV-2,CCV,1	36	1000	Unknown		03/02/2016 16:27	Finished	CCV 5ppb, IWST-1605202A
37	CCB-2,CCB,1	37	1000	Unknown		03/02/2016 16:36	Finished	CCB
38	N018855-001A,SAMP	1	1000	Unknown		03/02/2016 16:56	Finished	SAMP, 2 to 10mL
39	N018855-001AMS,MS	2	1000	Unknown		03/02/2016 17:07	Finished	MS(5ppb), IWST-160202B, 10r
40	N018855-002A,SAMP	3	1000	Unknown		03/02/2016 17:16	Finished	SAMP, 0.2 to 10mL
41	N018855-002AMS,MS	4	1000	Unknown		03/02/2016 17:26	Finished	MS(5ppb), IWST-160202B, 10r
42	N018855-003A,SAMP	5	1000	Unknown		03/02/2016 17:35	Finished	SAMP, 2 to 10mL
43	N018855-003AMS,MS	6	1000	Unknown		03/02/2016 17:45	Finished	MS(5ppb), IWST-160202B, 10r
44	N018855-004A,SAMP	7	1000	Unknown		03/02/2016 17:54	Finished	SAMP, 10mL
45	N018855-004AMS,MS	8	1000	Unknown		03/02/2016 18:04	Finished	MS(5ppb), IWST-160202B, 10r
46	N018855-005A,SAMP	9	1000	Unknown		03/02/2016 18:13	Finished	SAMP, 10mL
47	N018855-005AMS,MS	10	1000	Unknown		03/02/2016 18:23	Finished	MS(1ppb), IWST-160202B, 10r
48	CCV-3,CCV,1	11	1000	Unknown		03/02/2016 18:32	Finished	CCV 10ppb, IWST-1605202A
49	CCB-3,CCB,1	12	1000	Unknown		03/02/2016 18:41	Finished	CCB
50	N018855-006A,SAMP	13	1000	Unknown		03/02/2016 18:51	Finished	SAMP, 10mL
51	N018855-006AMS,MS	14	1000	Unknown		03/02/2016 19:00	Finished	MS(1ppb), IWST-160202B, 10r
52	N018855-002A,SAMP	15	1000	Unknown		03/02/2016 19:10	Finished	SAMP, 2 to 10mL
53	N018855-002AMS,MS	16	1000	Unknown		03/02/2016 19:19	Finished	MS(5ppb), IWST-160202B, 10r
54	N018855-004A,SAMP	17	1000	Unknown		03/02/2016 19:29	Finished	SAMP, 2 to 10mL
55	N018855-004AMS,MS	18	1000	Unknown		03/02/2016 19:38	Finished	MS(5ppb), IWST-160202B, 10r
56	CCV-4,CCV,1	19	1000	Unknown		03/02/2016 19:48	Finished	CCV 5ppb, IWST-1605202A
57	CCB-4,CCB,1	20	1000	Unknown		03/02/2016 19:57	Finished	CCB
58	SHUTDOWN	21	1000	Unknown		03/02/2016 20:07	Finished	BLANK
59	Eluent: R160302B	22	1000	Unknown		n.a.	Finished	Eluent
60	PCR: R160226A	23	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

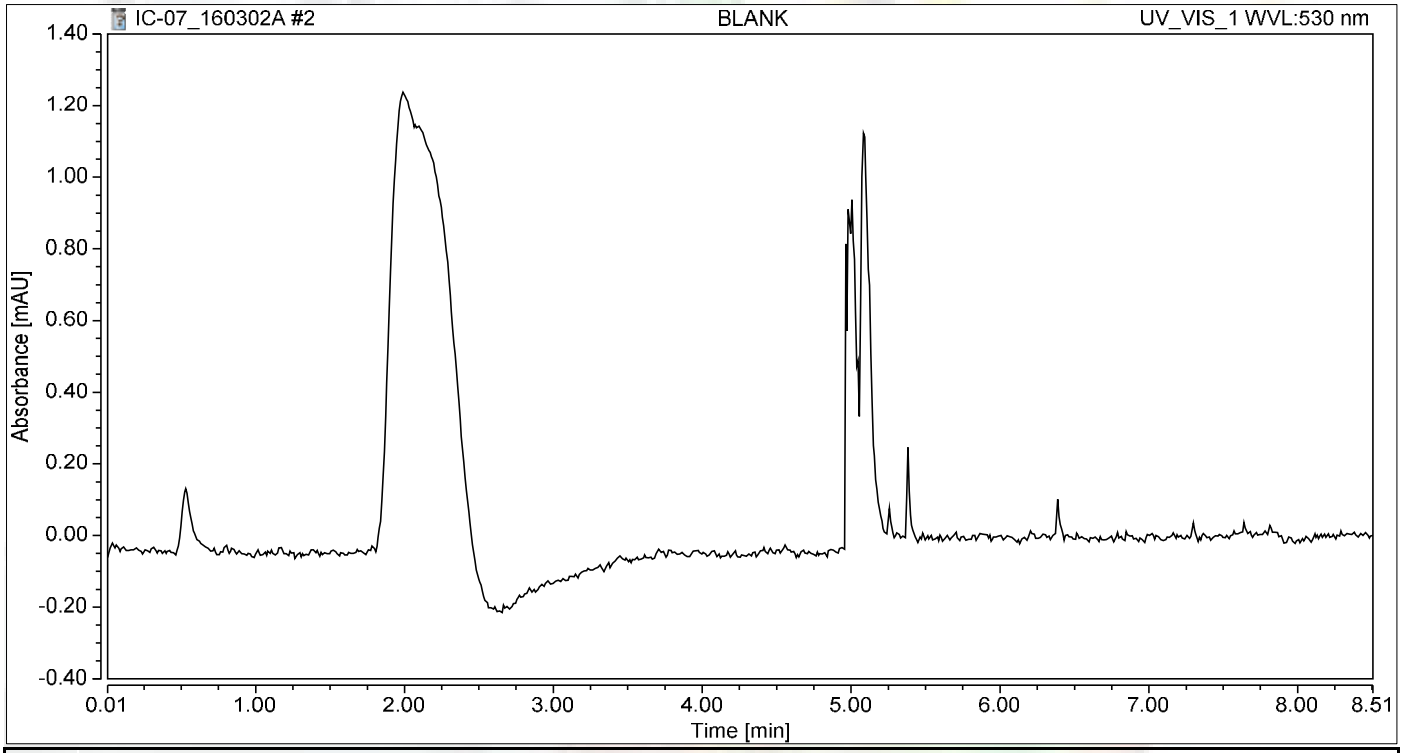
not reported

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

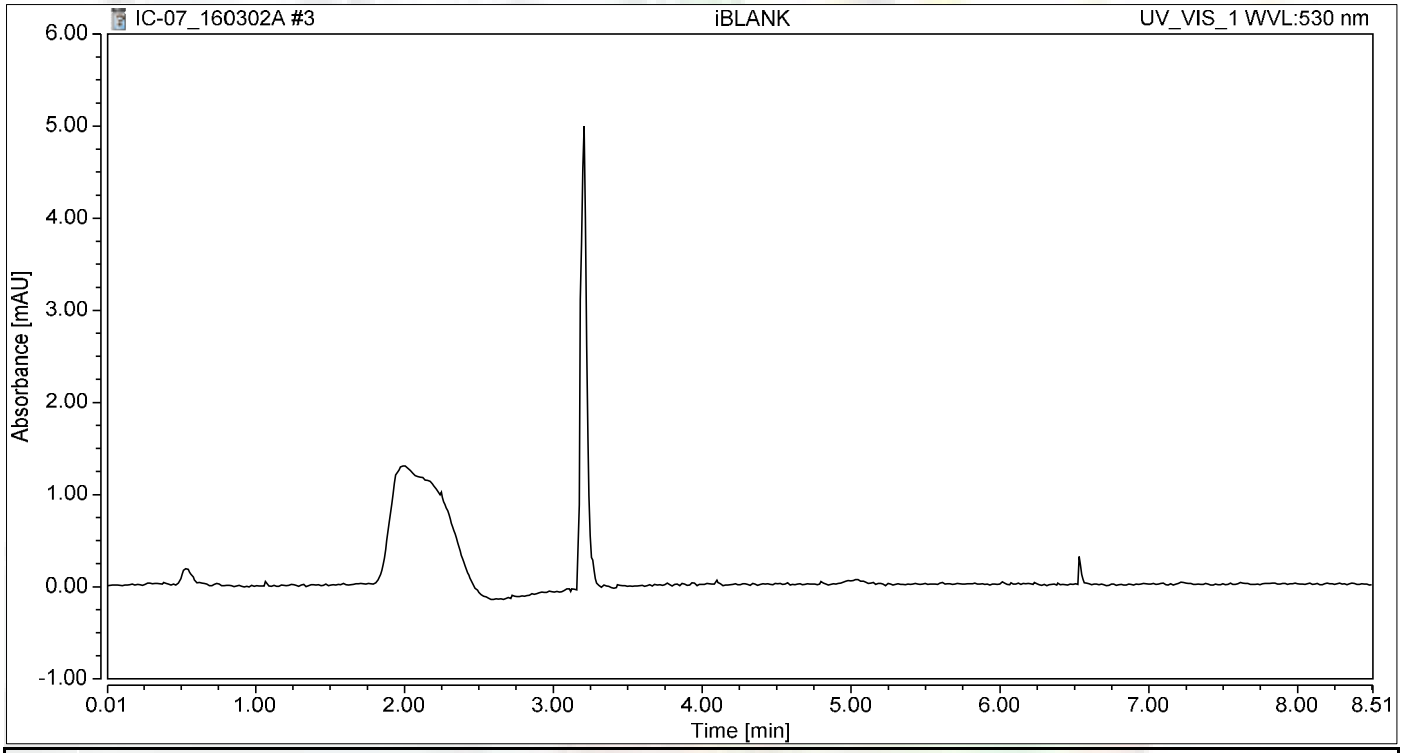
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 10:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

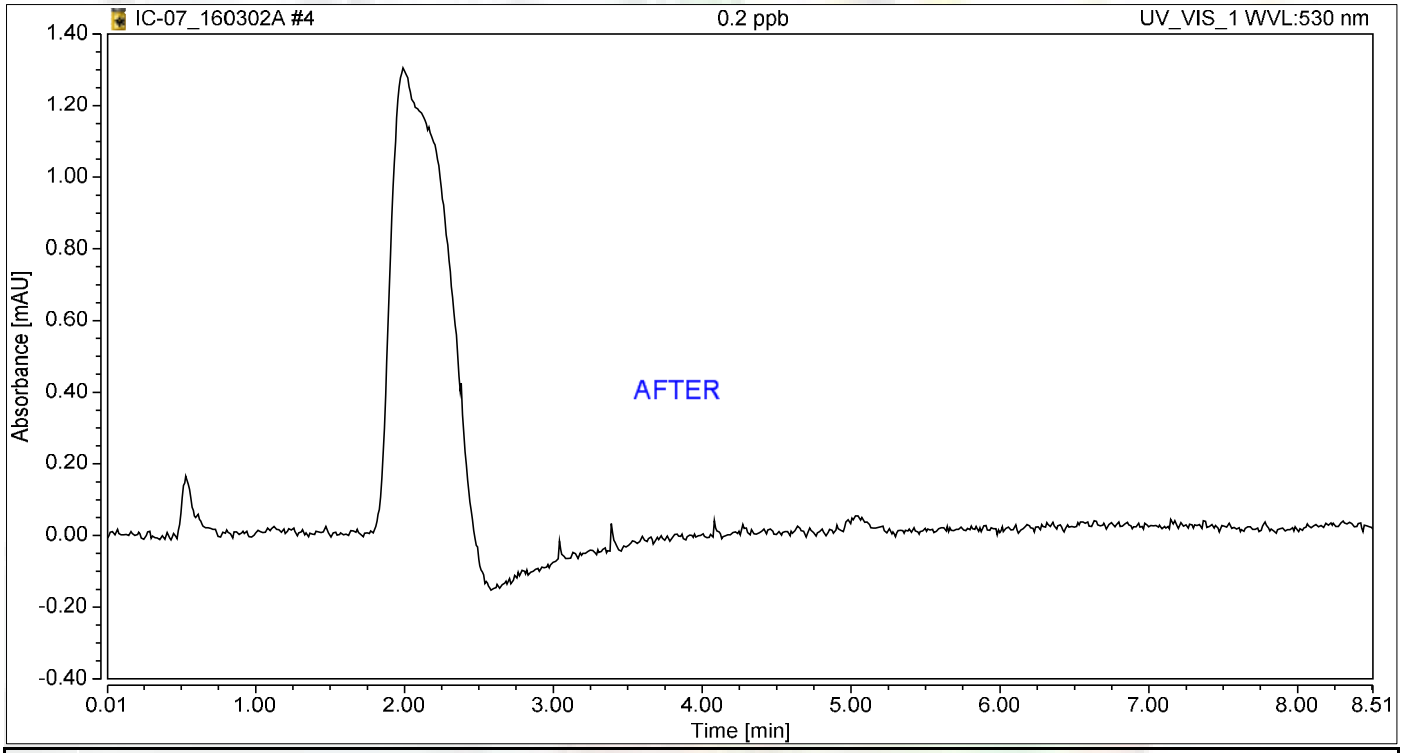
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

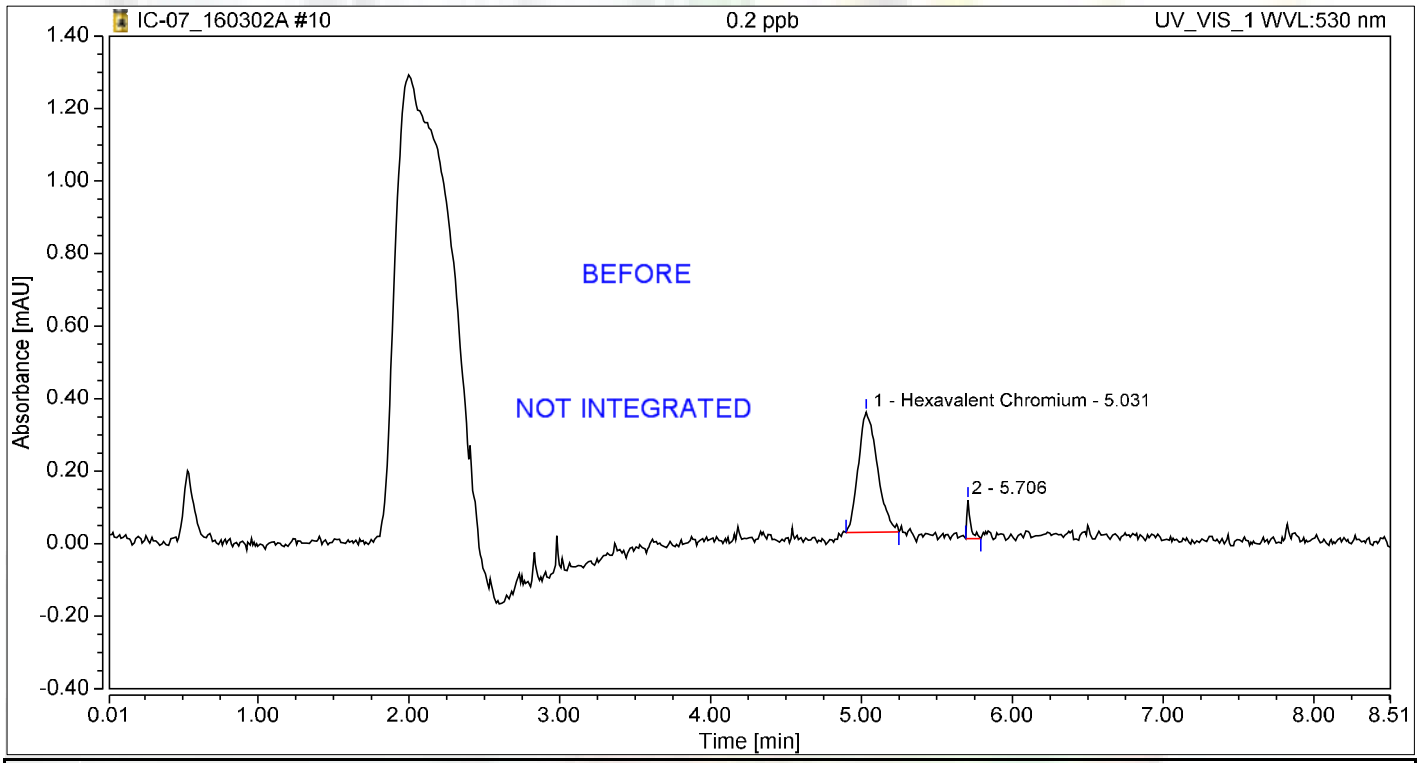
not reported

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.049	0.331	94.14	75.72	0.2023
2		5.706	0.003	0.106	5.86	24.28	n.a.
Total:			**0.052**	**0.437**	**100.00**	**100.00**	

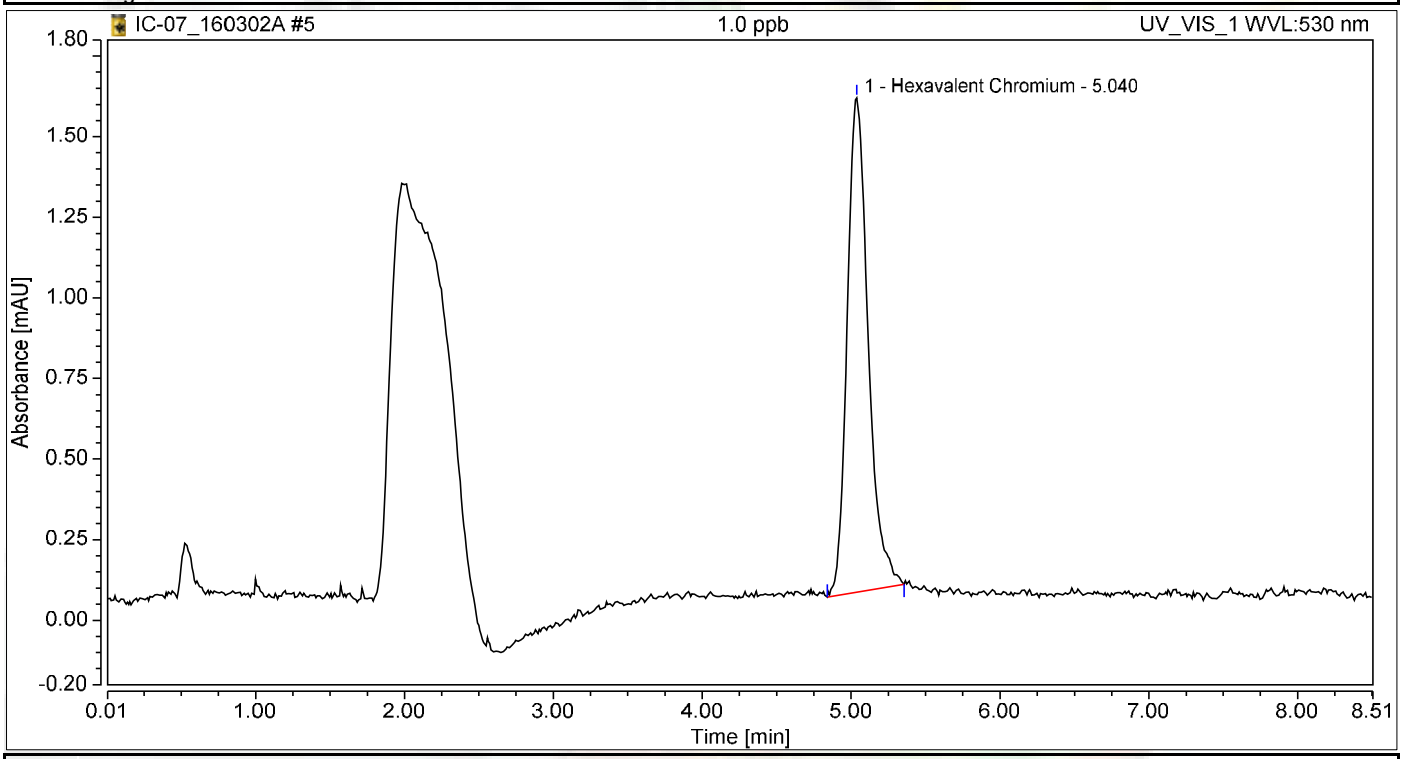
not reported

Chromatogram and Results

Injection Details

Injection Name:	**1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

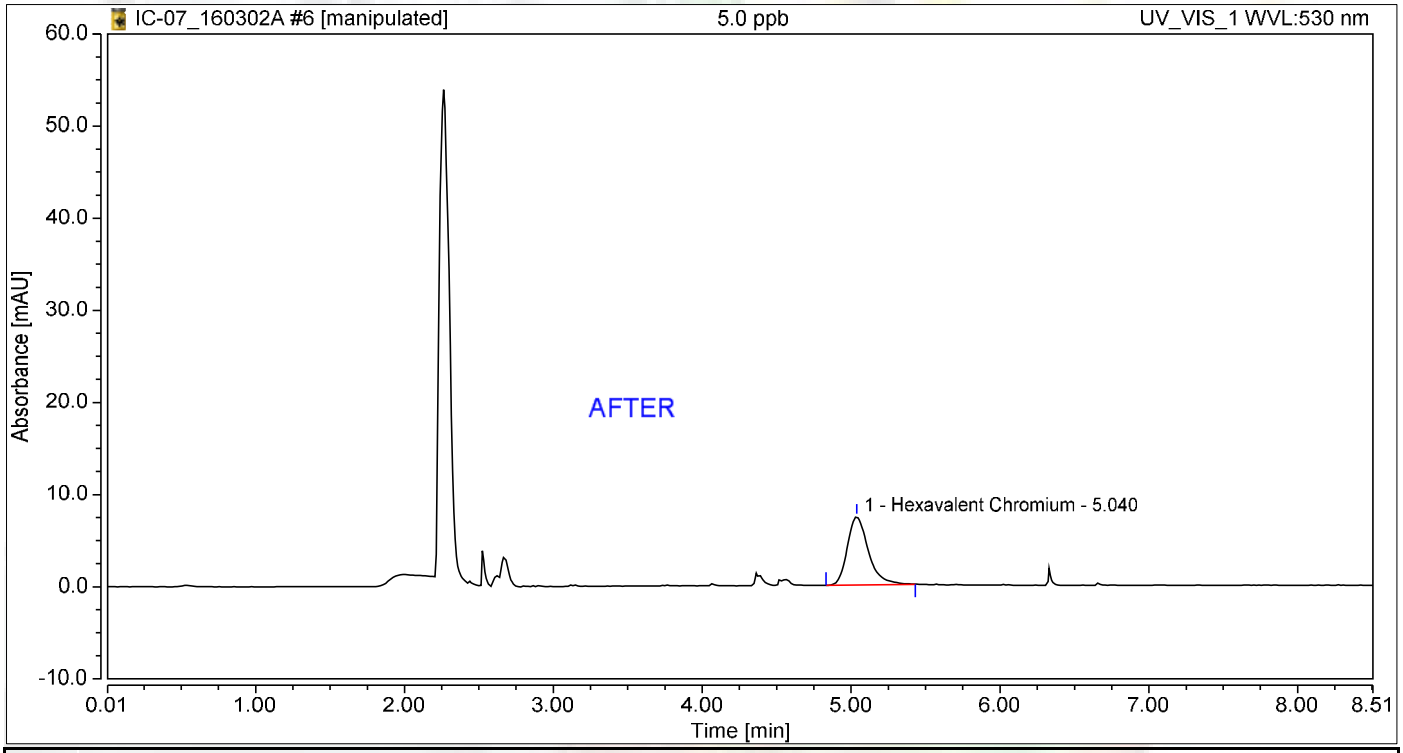
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.249	1.533	100.00	100.00	1.0323
Total:			**0.249**	**1.533**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.198	7.374	100.00	100.00	4.9678
Total:			**1.198**	**7.374**	**100.00**	**100.00**	

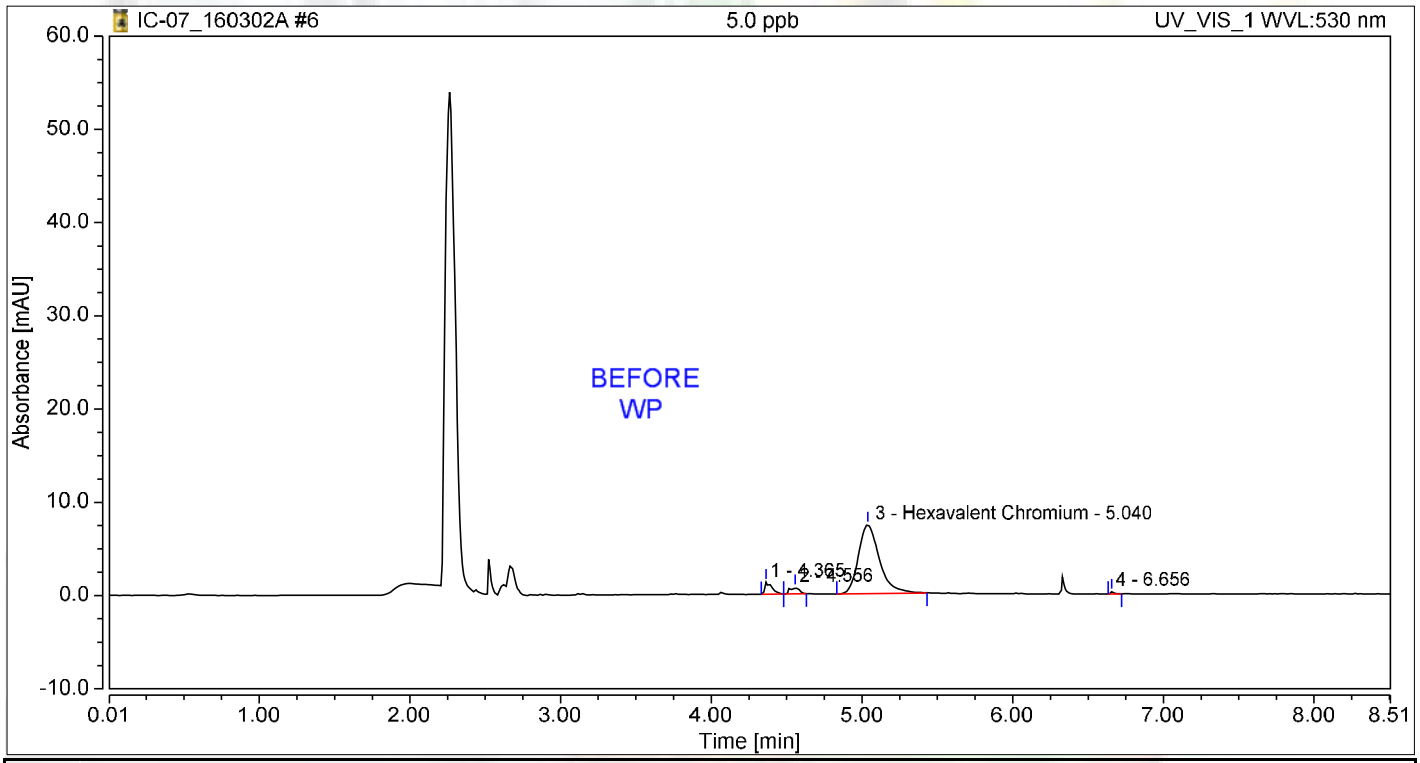
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

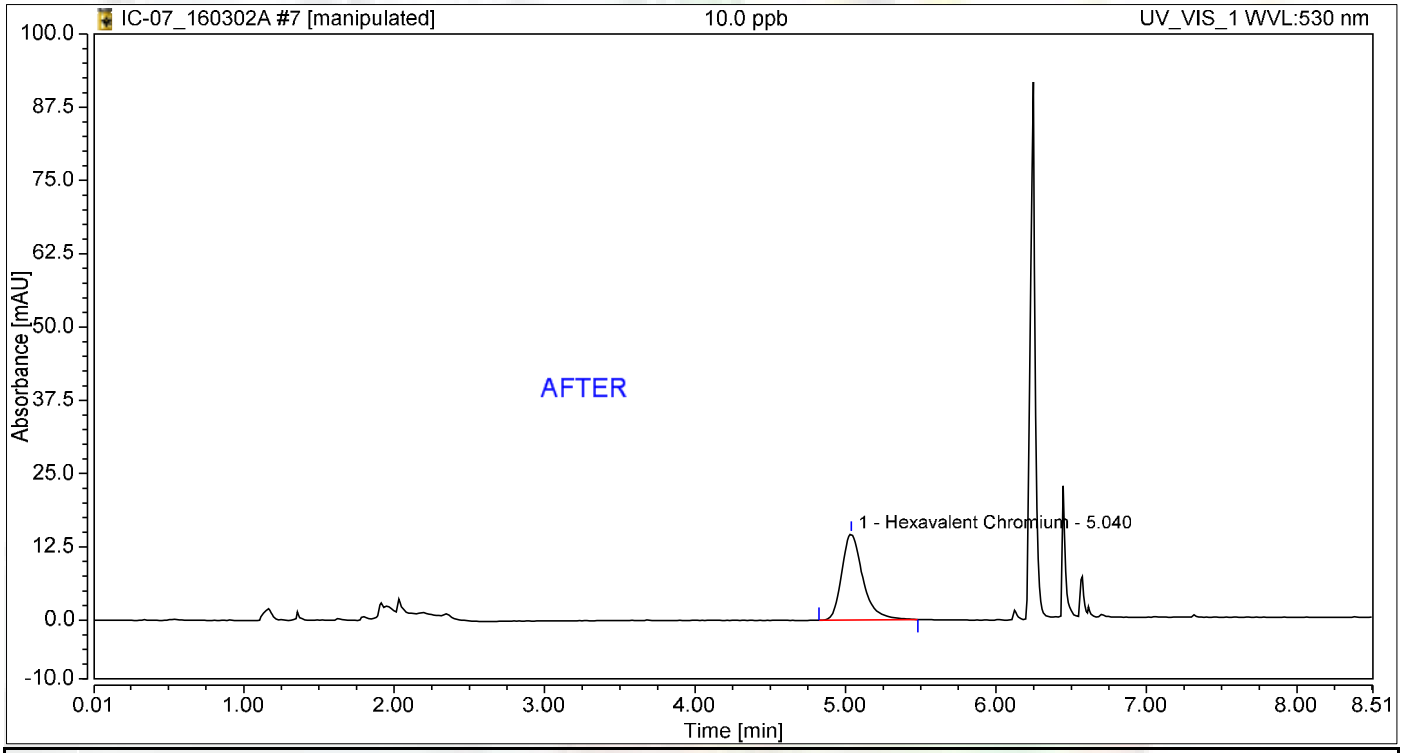
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.365	0.067	1.305	5.11	13.54	n.a.
2		4.556	0.047	0.689	3.58	7.15	n.a.
3	Hexavalent Chromium	5.040	1.198	7.374	90.83	76.51	4.9678
4		6.656	0.006	0.270	0.48	2.80	n.a.
Total:			**1.319**	**9.638**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	100.00	100.00	9.8485
Total:			**2.376**	**14.635**	**100.00**	**100.00**	

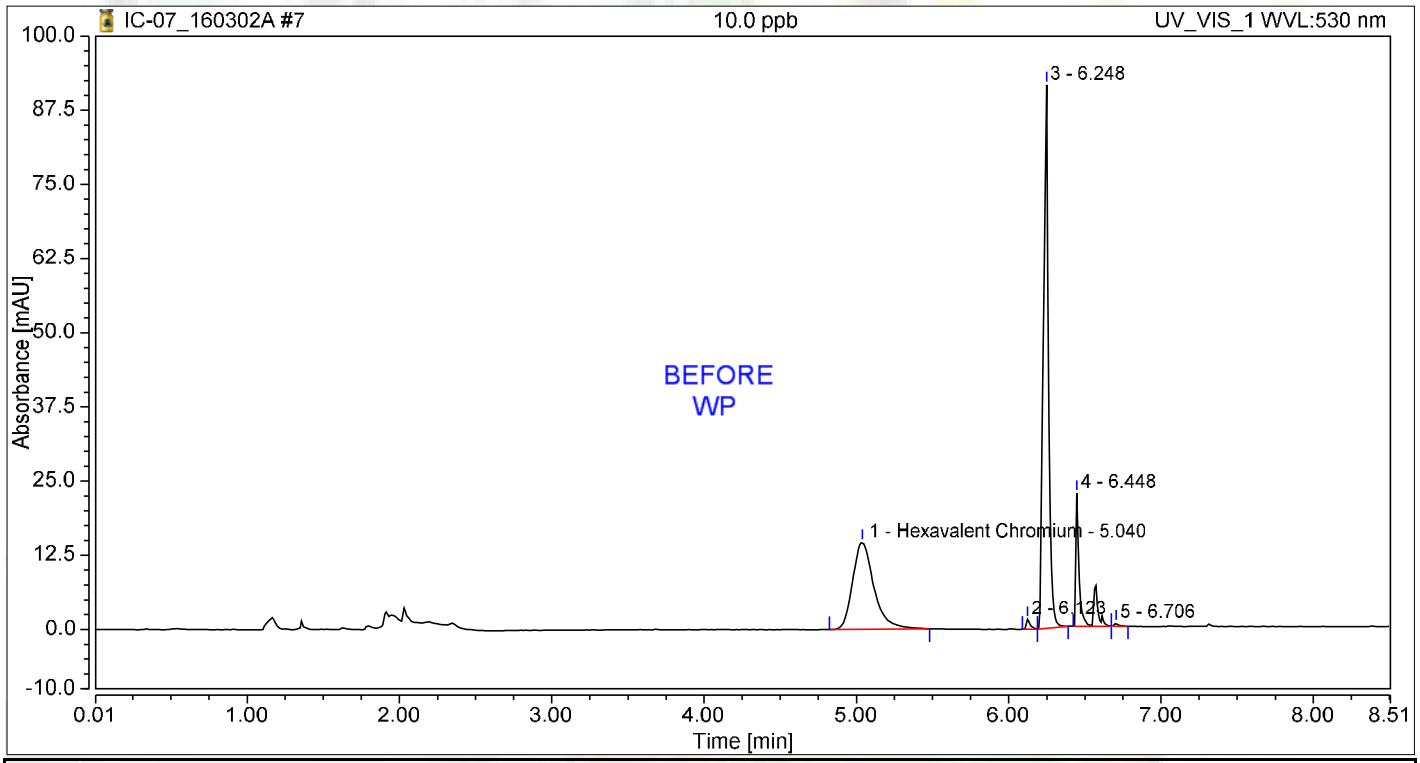
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

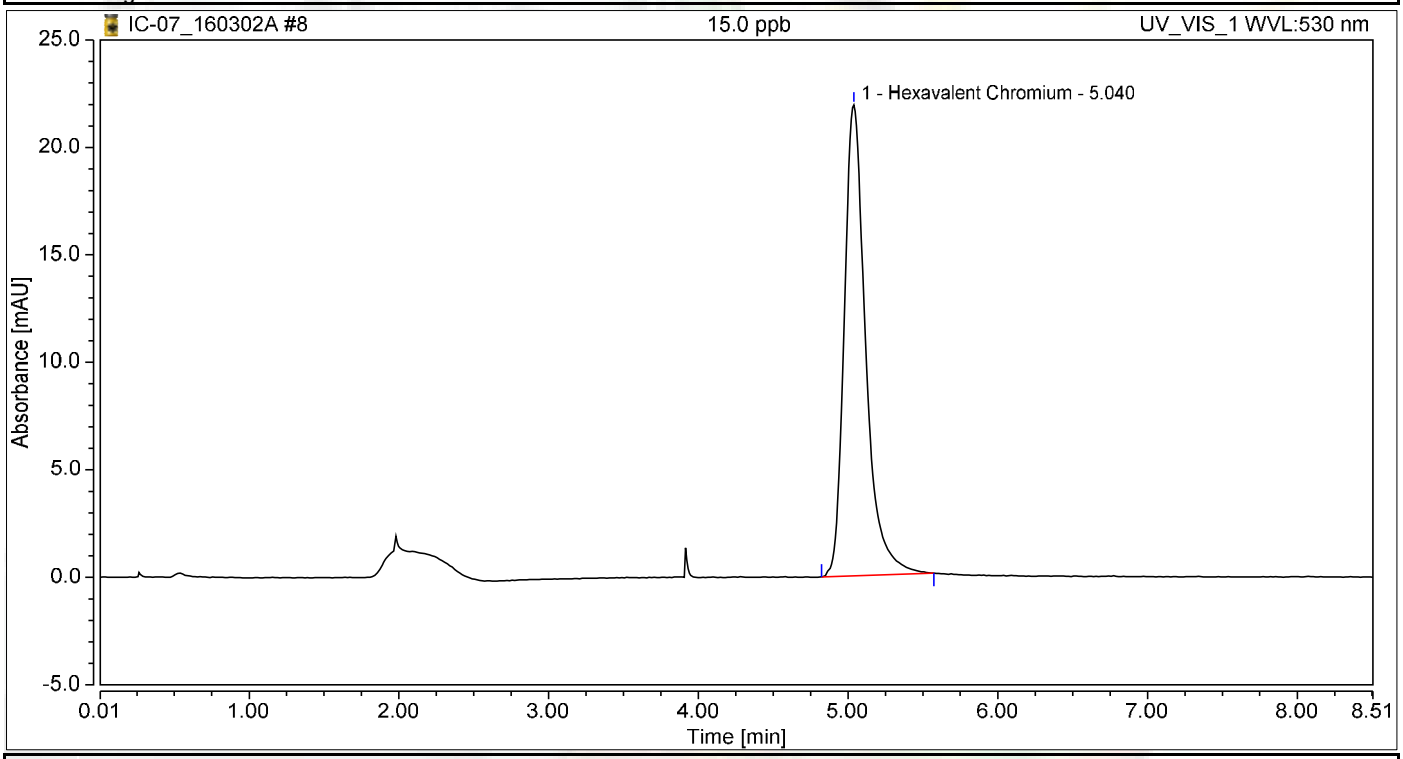
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.376	14.635	35.13	11.19	9.8486
2		6.123	0.044	1.639	0.65	1.25	n.a.
3		6.248	3.570	91.547	52.80	69.99	n.a.
4		6.448	0.753	22.451	11.14	17.16	n.a.
5		6.706	0.019	0.535	0.28	0.41	n.a.
Total:			**6.762**	**130.808**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

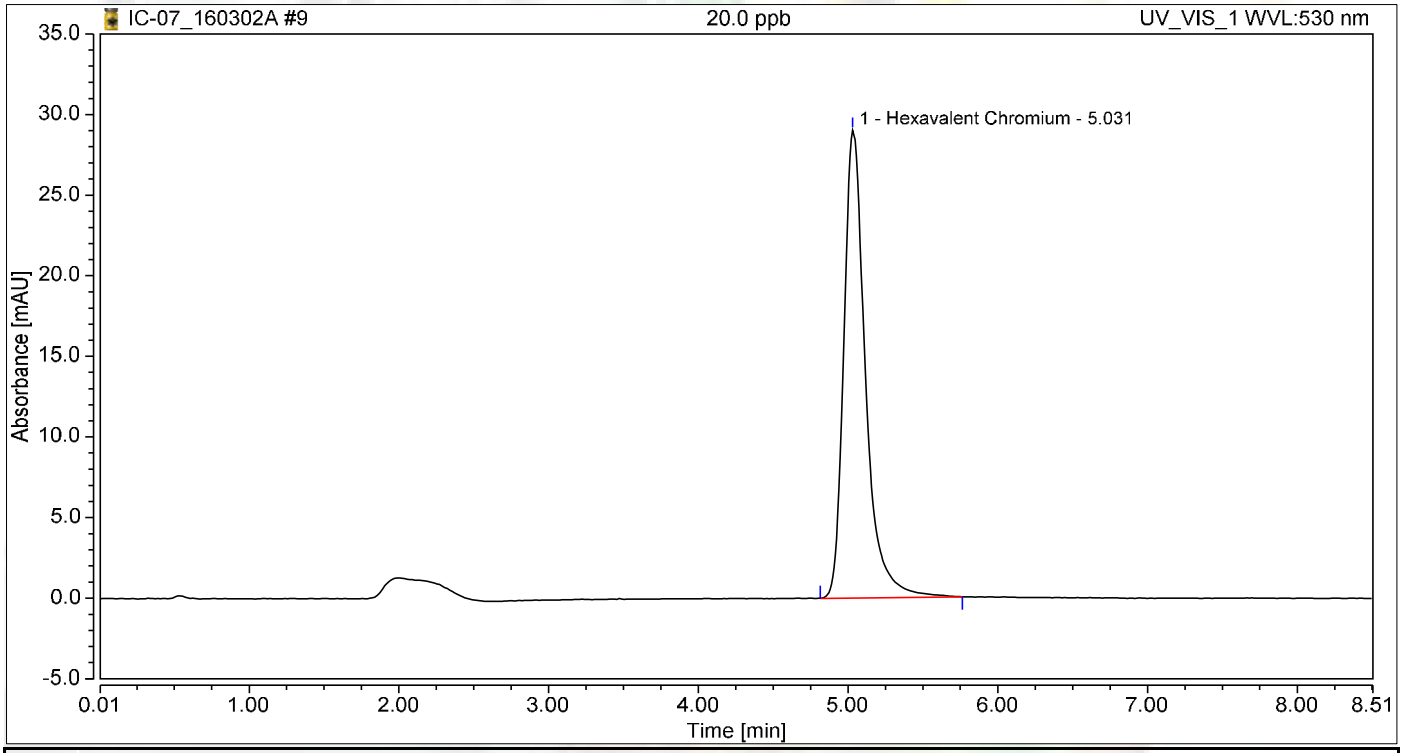
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.621	21.921	100.00	100.00	15.0105
Total:			**3.621**	**21.921**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

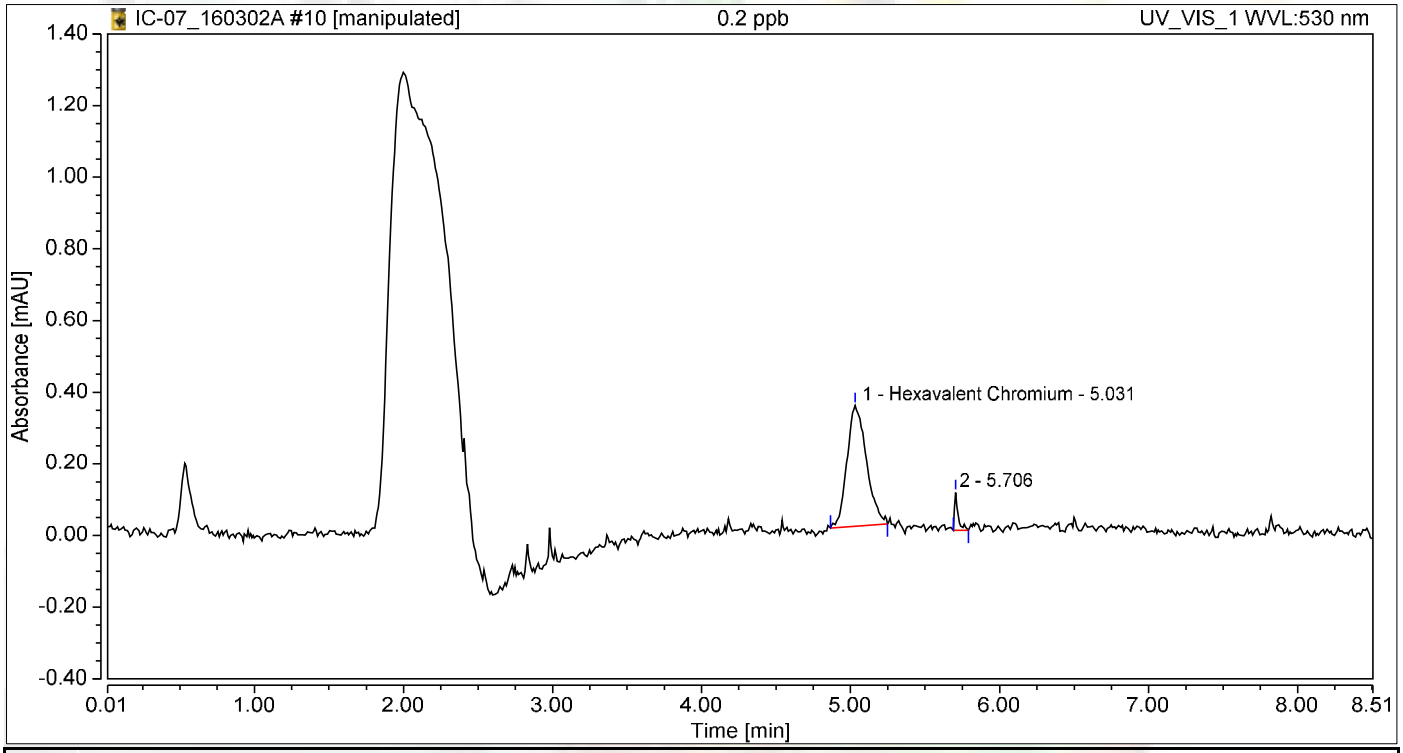
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	4.842	29.016	100.00	100.00	20.0742
Total:			**4.842**	**29.016**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



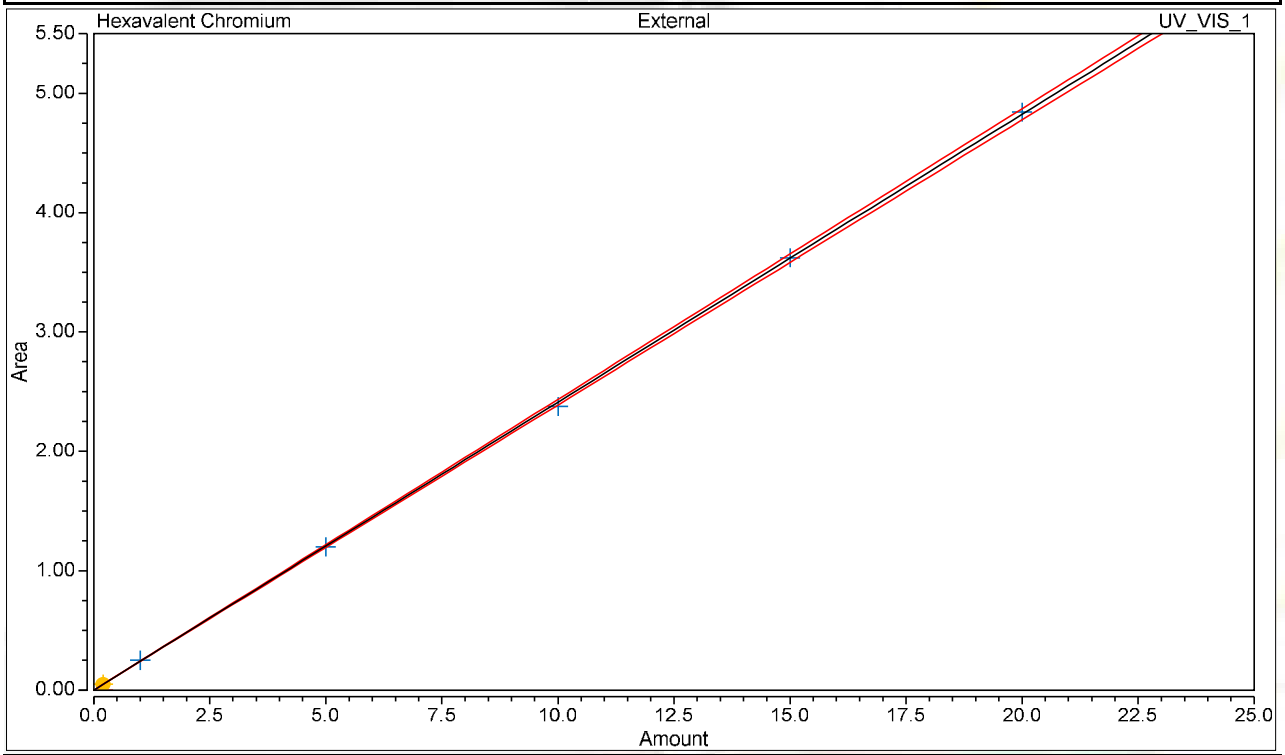
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	0.051	0.337	94.34	76.03	0.2102
2		5.706	0.003	0.106	5.66	23.97	n.a.
Total:			**0.054**	**0.443**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2412
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	1	*R-Square*	0.99990

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

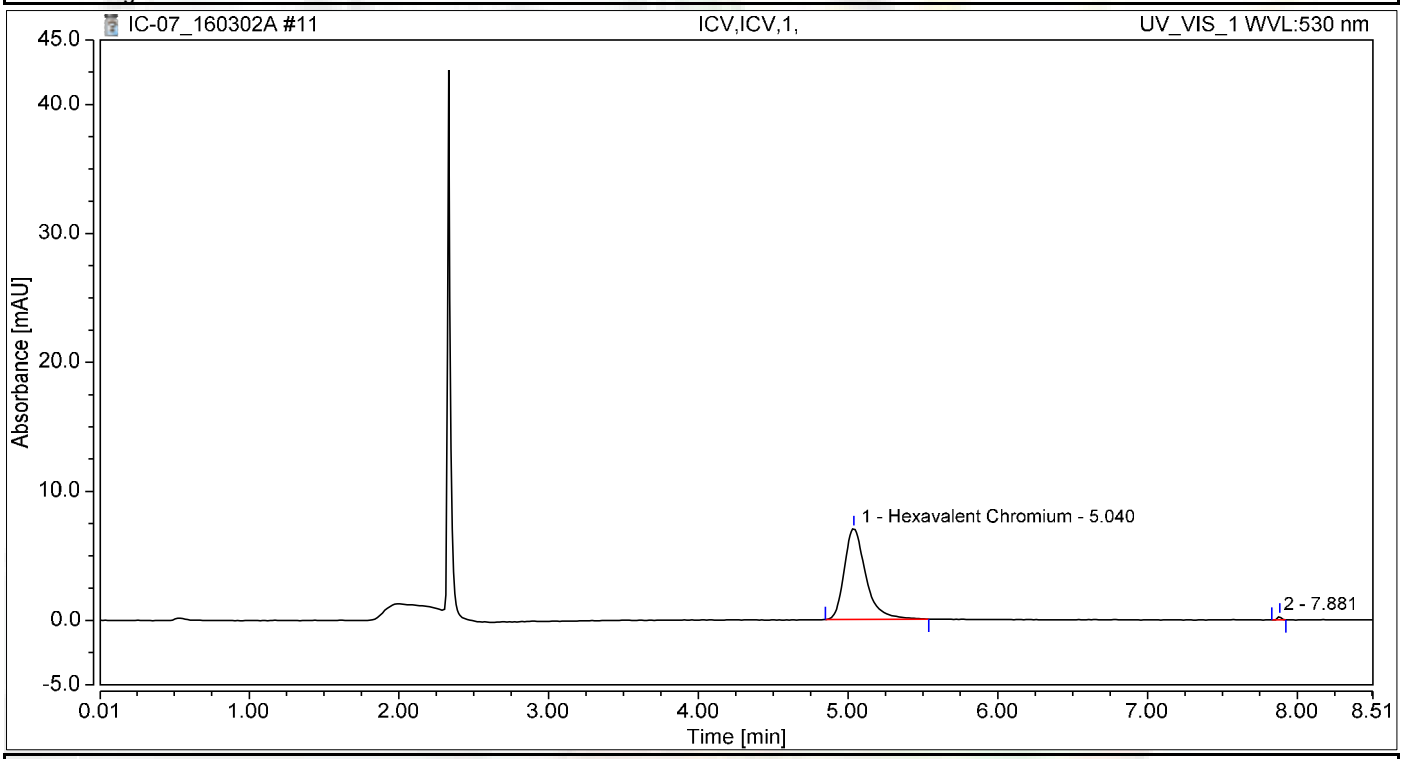
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	0.2 ppb	01	0.2000	n.a.	n.a.	n.a.
5	1.0 ppb	02	1.0000	0.2490	0.249	1.533
6	5.0 ppb	03	5.0000	1.1983	1.198	7.374
7	10.0 ppb	04	10.0000	2.3757	2.376	14.635
8	15.0 ppb	05	15.0000	3.6209	3.621	21.921
9	20.0 ppb	06	20.0000	4.8423	4.842	29.016
10	0.2 ppb	01	0.2000	0.0507	0.051	0.337

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

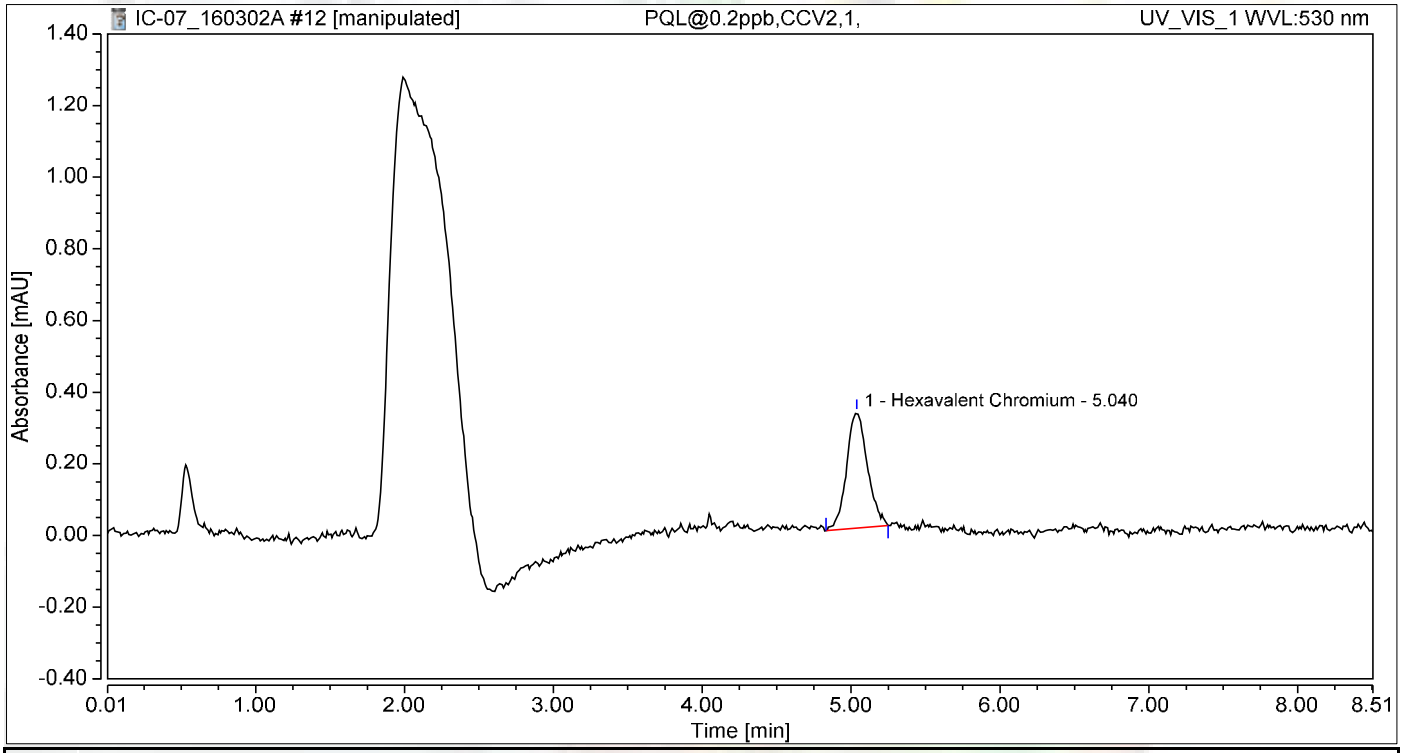
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.170	7.047	99.36	95.77	4.8510
2		7.881	0.008	0.311	0.64	4.23	n.a.
Total:			**1.178**	**7.359**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

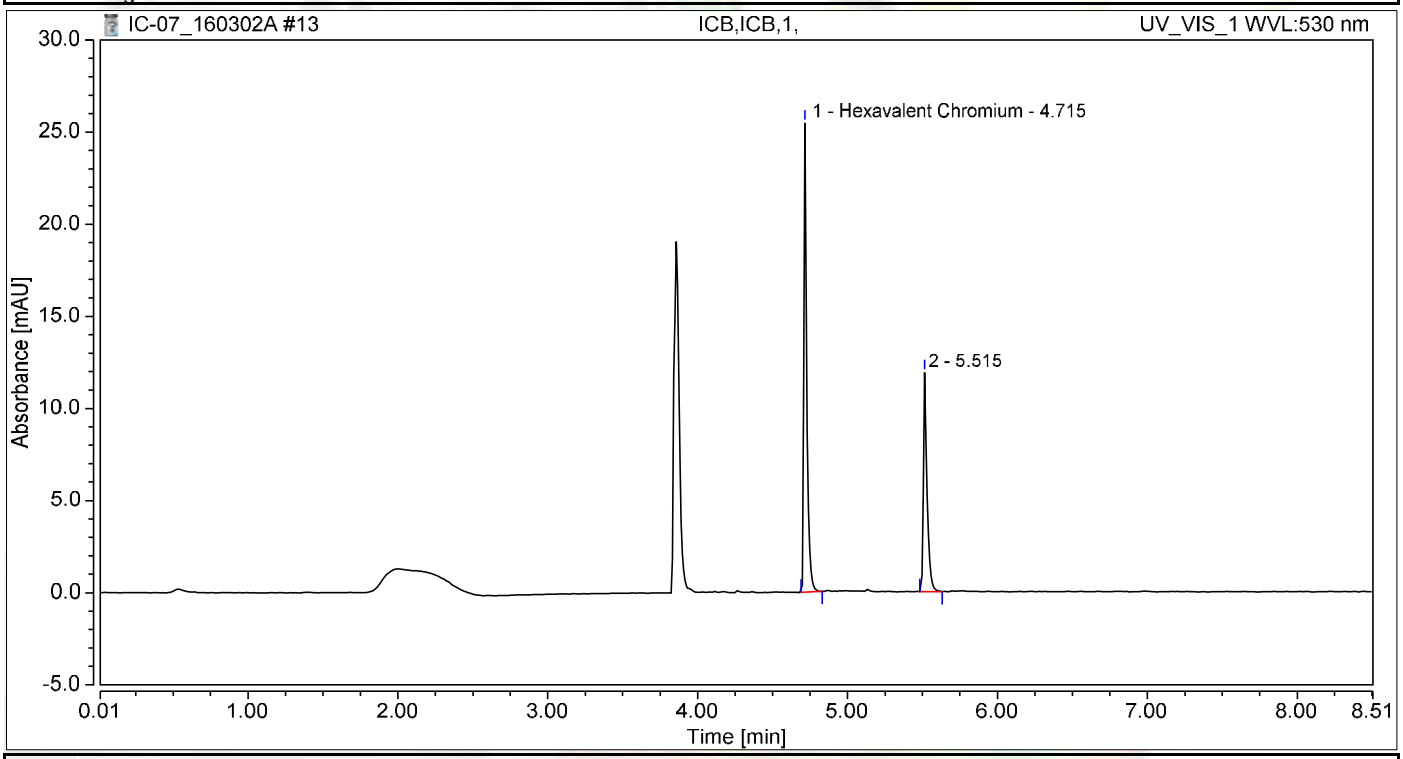
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.052	0.323	100.00	100.00	0.2155
Total:			**0.052**	**0.323**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.715	0.593	25.475	64.78	68.20	2.4601
2		5.515	0.323	11.876	35.22	31.80	n.a.
Total:			**0.916**	**37.350**	**100.00**	**100.00**	

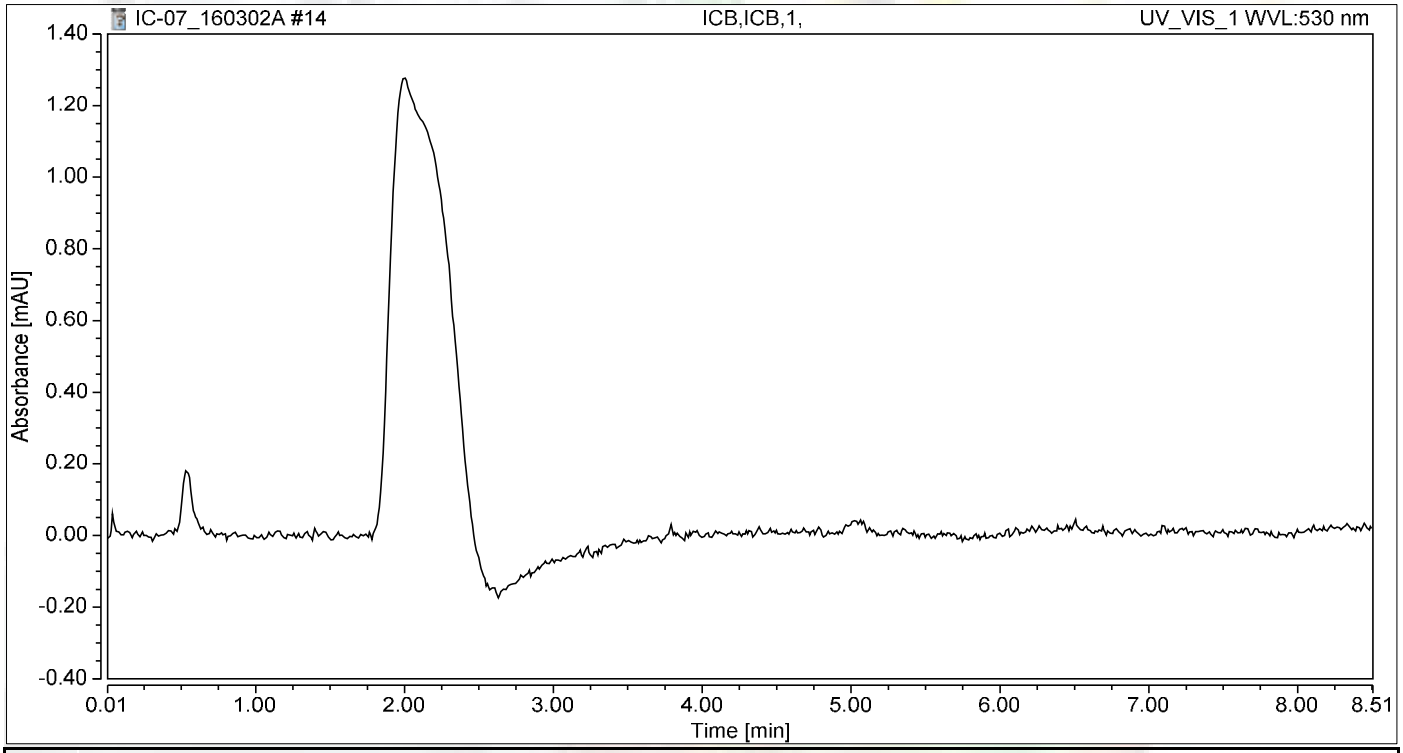
not reported

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**02/Mar/16 12:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:28 AM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	03/02/16 10:39 AM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	03/02/16 10:51 AM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:11 AM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:21 AM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:30 AM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:40 AM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:49 AM	Reported
10	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	03/02/16 11:58 AM	Reported
11	BLANK	BLANK	1	Hexavalent Chromium	03/04/16 12:16 PM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	03/04/16 12:27 PM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	03/04/16 12:36 PM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	03/04/16 12:46 PM	Reported
15	MB-R106264	ICAL	1	Hexavalent Chromium	03/04/16 12:55 PM	Reported
16	LCS-R106264	ICAL	1	Hexavalent Chromium	03/04/16 1:05 PM	Reported
17	N018918-001B	SAMP	50	Hexavalent Chromium	03/04/16 1:14 PM	Reported
18	N018918-001BDUP	DUP	50	Hexavalent Chromium	03/04/16 1:24 PM	Reported
19	N018918-001BMS	MS	50	Hexavalent Chromium	03/04/16 1:33 PM	Reported
20	N018918-001BMSD	MSD	50	Hexavalent Chromium	03/04/16 1:43 PM	Reported
21	N018918-002C	SAMP	1	Hexavalent Chromium	03/04/16 1:52 PM	Reported
22	N018918-002CMS	MS	1	Hexavalent Chromium	03/04/16 2:02 PM	Reported
23	N018918-003B	SAMP	1	Hexavalent Chromium	03/04/16 2:11 PM	Not Reported
24	N018918-003BMS	MS	1	Hexavalent Chromium	03/04/16 2:20 PM	Not Reported
25	CCV-2	CCV	1	Hexavalent Chromium	03/04/16 2:30 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	03/04/16 2:39 PM	Reported
27	N018918-003B	SAMP	5	Hexavalent Chromium	03/04/16 2:49 PM	Reported
28	N018918-003BMS	MS	5	Hexavalent Chromium	03/04/16 2:58 PM	Reported
29	N018918-003B	SAMP	10	Hexavalent Chromium	03/04/16 3:26 PM	Not Reported
30	N018918-003BMS	MS	10	Hexavalent Chromium	03/04/16 3:37 PM	Not Reported
31	N018861-001A	SAMP	100	Hexavalent Chromium	03/04/16 3:54 PM	Reported
32	N018861-001AMS	MS	100	Hexavalent Chromium	03/04/16 4:05 PM	Reported
33	N018861-003A	SAMP	1	Hexavalent Chromium	03/04/16 4:14 PM	Not Reported
34	N018861-003AMS	MS	1	Hexavalent Chromium	03/04/16 4:24 PM	Not Reported
35	N018861-005A	SAMP	10	Hexavalent Chromium	03/04/16 4:33 PM	~~Not~~ Reported
36	N018861-005AMS	MS	10	Hexavalent Chromium	03/04/16 4:43 PM	~~Not~~ Reported
37	CCV-3	CCV	1	Hexavalent Chromium	03/04/16 4:52 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	03/04/16 5:02 PM	Reported
39	N018861-006A	SAMP	1	Hexavalent Chromium	03/04/16 5:11 PM	Not Reported
40	N018861-006AMS	MS	1	Hexavalent Chromium	03/04/16 5:21 PM	Not Reported
41	N018861-007A	SAMP	1	Hexavalent Chromium	03/04/16 5:30 PM	Not Reported
42	N018861-007AMS	MS	1	Hexavalent Chromium	03/04/16 5:40 PM	Not Reported
43	N018861-008A	SAMP	1	Hexavalent Chromium	03/04/16 5:49 PM	Reported

INJECTION LOG: 160304A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
44	N018861-008AMS	MS	1	Hexavalent Chromium	03/04/16 5:59 PM	Reported
45	N018861-003A	SAMP	5	Hexavalent Chromium	03/04/16 6:08 PM	Reported
46	N018861-003AMS	MS	5	Hexavalent Chromium	03/04/16 6:17 PM	Reported
47	N018861-006A	SAMP	5	Hexavalent Chromium	03/04/16 6:27 PM	Reported
48	N018861-006AMS	MS	5	Hexavalent Chromium	03/04/16 6:36 PM	Reported
49	CCV-4	CCV	1	Hexavalent Chromium	03/04/16 6:46 PM	Reported
50	CCB-4	CCB	1	Hexavalent Chromium	03/04/16 6:55 PM	Reported
51	N018861-007A	SAMP	5	Hexavalent Chromium	03/04/16 7:05 PM	Reported
52	N018861-007AMS	MS	5	Hexavalent Chromium	03/04/16 7:14 PM	Reported
53	N018936-002A	SAMP	100	Hexavalent Chromium	03/04/16 7:24 PM	Reported
54	N018936-002AMS	MS	100	Hexavalent Chromium	03/04/16 7:33 PM	Reported
55	N018936-001D	SAMP	1	Hexavalent Chromium	03/04/16 7:43 PM	Reported
56	N018936-001DMS	MS	1	Hexavalent Chromium	03/04/16 7:52 PM	Reported
57	CCV-5	CCV	1	Hexavalent Chromium	03/04/16 8:02 PM	Reported
58	CCB-5	CCB	1	Hexavalent Chromium	03/04/16 8:11 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160304A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**07/Mar/16 17:38:28**
No. of Injections:	**61**	*Updated By:*	**ics 5000**

Injection Details

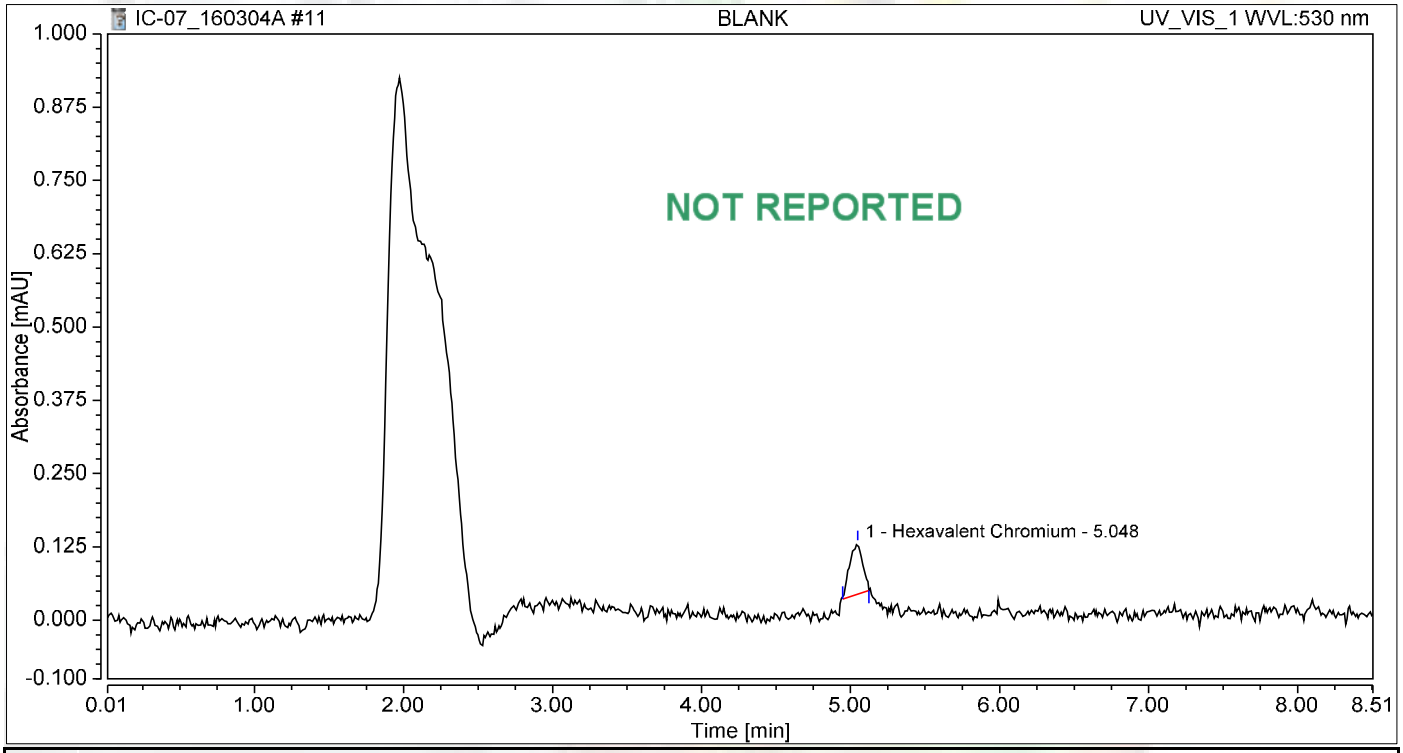
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		03/02/2016 10:28	Finished	BLANK
2	BLANK	2	1000	Unknown		03/02/2016 10:39	Finished	BLANK
3	iBLANK	3	1000	Unknown		03/02/2016 10:51	Finished	INSTRUMENT BLANK
4	0.2 ppb	4	1000	Calibration Standard	01	03/02/2016 11:02	Finished	0.2 ppb, IWST160202A
5	1.0 ppb	5	1000	Calibration Standard	02	03/02/2016 11:11	Finished	1.0 ppb, IWST160202A
6	5.0 ppb	6	1000	Calibration Standard	03	03/02/2016 11:21	Finished	5.0 ppb, IWST160202A
7	10.0 ppb	7	1000	Calibration Standard	04	03/02/2016 11:30	Finished	10 ppb, IWST160202A
8	15.0 ppb	8	1000	Calibration Standard	05	03/02/2016 11:40	Finished	15 ppb, IWST160202A
9	20.0 ppb	9	1000	Calibration Standard	06	03/02/2016 11:49	Finished	20 ppb, IWST160202A
10	0.2 ppb	10	1000	Calibration Standard	01	03/02/2016 11:58	Finished	0.2 ppb, IWST160202A
11	BLANK	1	1000	Unknown		03/04/2016 12:16	Finished	BLANK
12	CCV-1,CCV,1,	2	1000	Unknown		03/04/2016 12:27	Finished	CCV, IWST-160202A
13	PQL@0.2ppb,CCV2,1	3	1000	Unknown		03/04/2016 12:36	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	4	1000	Unknown		03/04/2016 12:46	Finished	CCB R160219D
15	MB-H20,MBLK,1	5	1000	Unknown		03/04/2016 12:55	Finished	MB
16	LCS-H2O,LCS,1	6	1000	Unknown		03/04/2016 13:05	Finished	LCS @ 5ppb, IWST-160202B
17	N018918-001B,SAMP	7	1000	Unknown		03/04/2016 13:14	Finished	SAMP, 0.2 to 10mL
18	N018918-001BDUP,D	8	1000	Unknown		03/04/2016 13:24	Finished	DUP, 0.2 to 10mL
19	N018918-001BMS,MS	9	1000	Unknown		03/04/2016 13:33	Finished	MS(5ppb), IWST-160202B, 10r
20	N018918-001BMSD,M	10	1000	Unknown		03/04/2016 13:43	Finished	MS(5ppb), IWST-160202B, 10r
21	N018918-002C,SAMP	11	1000	Unknown		03/04/2016 13:52	Finished	SAMP, 10mL
22	N018918-002CMS,MS	12	1000	Unknown		03/04/2016 14:02	Finished	MS(1ppb), IWST-160202B, 10r
23	N018918-003B,SAMP	13	1000	Unknown		03/04/2016 14:11	Finished	SAMP, 10mL
24	N018918-003BMS,MS	14	1000	Unknown		03/04/2016 14:20	Finished	MS(1ppb), IWST-160202B, 10r
25	CCV-2,CCV,1	15	1000	Unknown		03/04/2016 14:30	Finished	CCV 10ppb, IWST-1605202A
26	CCB-2,CCB,1	16	1000	Unknown		03/04/2016 14:39	Finished	CCB
27	N018918-003B,SAMP	17	1000	Unknown		03/04/2016 14:49	Finished	SAMP, 2 to 10mL
28	N018918-003BMS,MS	18	1000	Unknown		03/04/2016 14:58	Finished	MS(1ppb), IWST-160202B, 10r
29	N018918-003B,SAMP	19	1000	Unknown		03/04/2016 15:26	Finished	SAMP, 1 to 10mL
30	N018918-003BMS,MS	20	1000	Unknown		03/04/2016 15:37	Finished	MS(1ppb), IWST-160202B, 10r
31	N018861-001A,SAMP	21	1000	Unknown		03/04/2016 15:54	Finished	SAMP,0.1 to 10mL
32	N018861-001AMS,MS	22	1000	Unknown		03/04/2016 16:05	Finished	MS(5ppb), IWST-160202B, 10r
33	N018861-003A,SAMP	23	1000	Unknown		03/04/2016 16:14	Finished	SAMP, 10mL
34	N018861-003AMS,MS	24	1000	Unknown		03/04/2016 16:24	Finished	MS(1ppb), IWST-160202B, 10r
35	N018861-005A,SAMP	25	1000	Unknown		03/04/2016 16:33	Finished	SAMP, 1 to 10mL
36	N018861-005AMS,MS	26	1000	Unknown		03/04/2016 16:43	Finished	MS(5ppb), IWST-160202B, 10r
37	CCV-3,CCV,1	27	1000	Unknown		03/04/2016 16:52	Finished	CCV 5ppb, IWST-1605202A
38	CCB-3,CCB,1	28	1000	Unknown		03/04/2016 17:02	Finished	CCB
39	N018861-006A,SAMP	29	1000	Unknown		03/04/2016 17:11	Finished	SAMP, 10mL
40	N018861-006AMS,MS	30	1000	Unknown		03/04/2016 17:21	Finished	MS(1ppb), IWST-160202B, 10r
41	N018861-007A,SAMP	31	1000	Unknown		03/04/2016 17:30	Finished	SAMP, 10mL
42	N018861-007AMS,MS	32	1000	Unknown		03/04/2016 17:40	Finished	MS(5ppb), IWST-160202B, 10r
43	N018861-008A,SAMP	33	1000	Unknown		03/04/2016 17:49	Finished	SAMP, 10mL
44	N018861-008AMS,MS	34	1000	Unknown		03/04/2016 17:59	Finished	MS(1ppb), IWST-160202B, 10r
45	N018861-003A,SAMP	35	1000	Unknown		03/04/2016 18:08	Finished	SAMP, 2 to 10mL
46	N018861-003AMS,MS	36	1000	Unknown		03/04/2016 18:17	Finished	MS(1ppb), IWST-160202B, 10r
47	N018861-006A,SAMP	37	1000	Unknown		03/04/2016 18:27	Finished	SAMP, 2 to 10mL
48	N018861-006AMS,MS	38	1000	Unknown		03/04/2016 18:36	Finished	MS(1ppb), IWST-160202B, 10r
49	CCV-4,CCV,1	39	1000	Unknown		03/04/2016 18:46	Finished	CCV 10ppb, IWST-1605202A
50	CCB-4,CCB,1	40	1000	Unknown		03/04/2016 18:55	Finished	CCB
51	N018861-007A,SAMP	41	1000	Unknown		03/04/2016 19:05	Finished	SAMP, 2 to 10mL
52	N018861-007AMS,MS	42	1000	Unknown		03/04/2016 19:14	Finished	MS(5ppb), IWST-160202B, 10r
53	N018936-002A,SAMP	43	1000	Unknown		03/04/2016 19:24	Finished	SAMP, 0.1 to 10mL
54	N018936-002AMS,MS	44	1000	Unknown		03/04/2016 19:33	Finished	MS(5ppb), IWST-160202B, 10r
55	N018936-001D,SAMP	45	1000	Unknown		03/04/2016 19:43	Finished	SAMP, 10mL
56	N018936-001DMS,MS	46	1000	Unknown		03/04/2016 19:52	Finished	MS(5ppb), IWST-160202B, 10r
57	CCV-5,CCV,1	47	1000	Unknown		03/04/2016 20:02	Finished	CCV 5ppb, IWST-1605202A
58	CCB-5,CCB,1	48	1000	Unknown		03/04/2016 20:11	Finished	CCB
59	SHUTDOWN	49	1000	Unknown		03/04/2016 20:20	Finished	BLANK
60	Eluent: R160302B	50	1000	Unknown		n.a.	Finished	Eluent

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.49**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

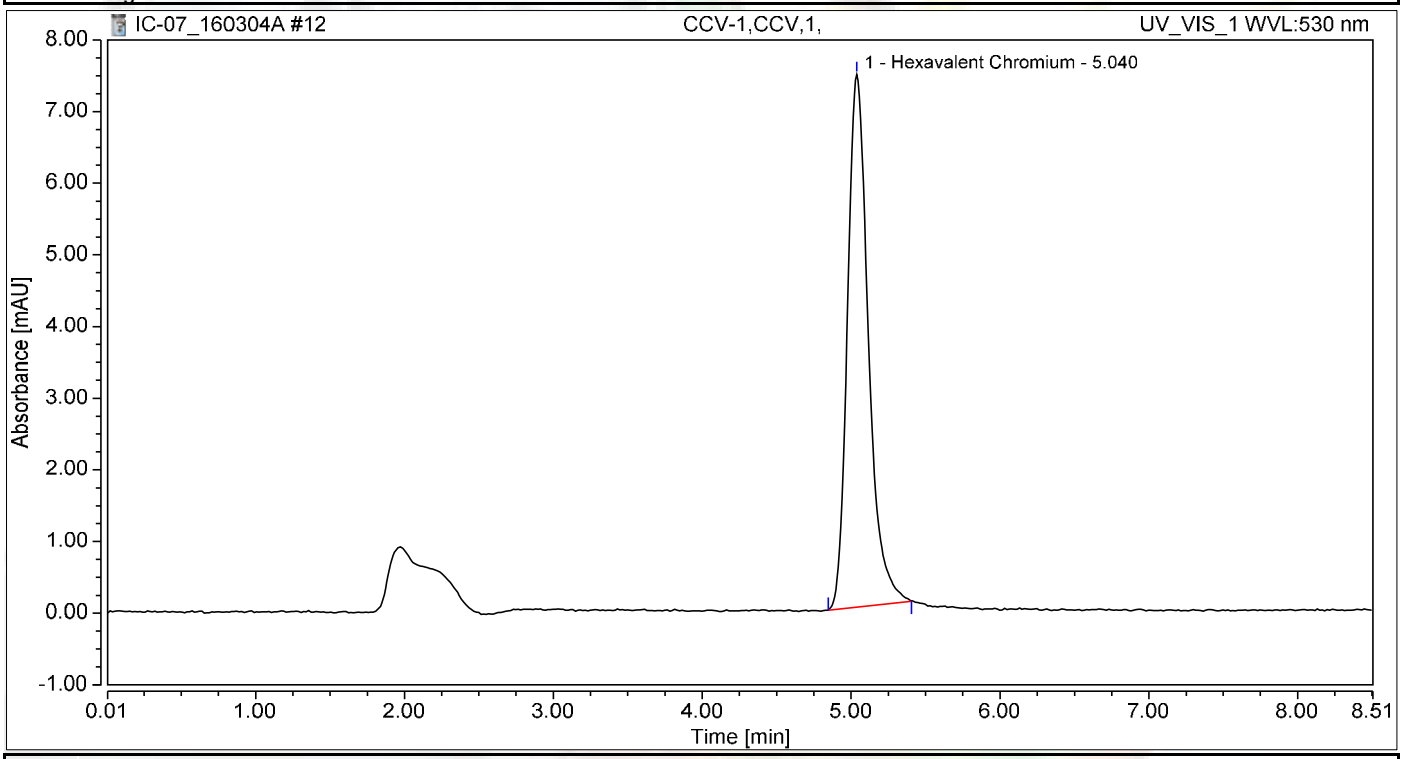
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.009	0.086	100.00	100.00	0.0362
Total:			**0.009**	**0.086**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

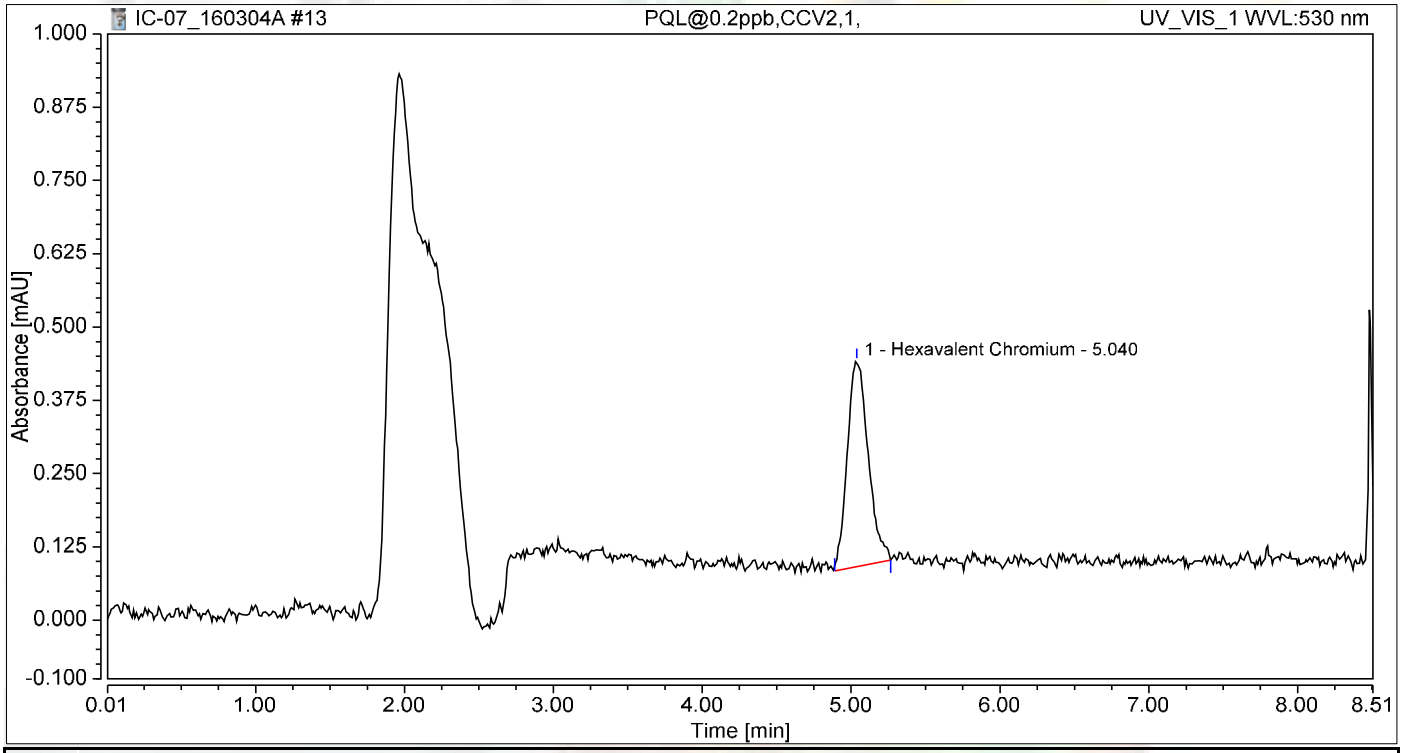
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.201	7.432	100.00	100.00	4.9788
Total:			**1.201**	**7.432**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

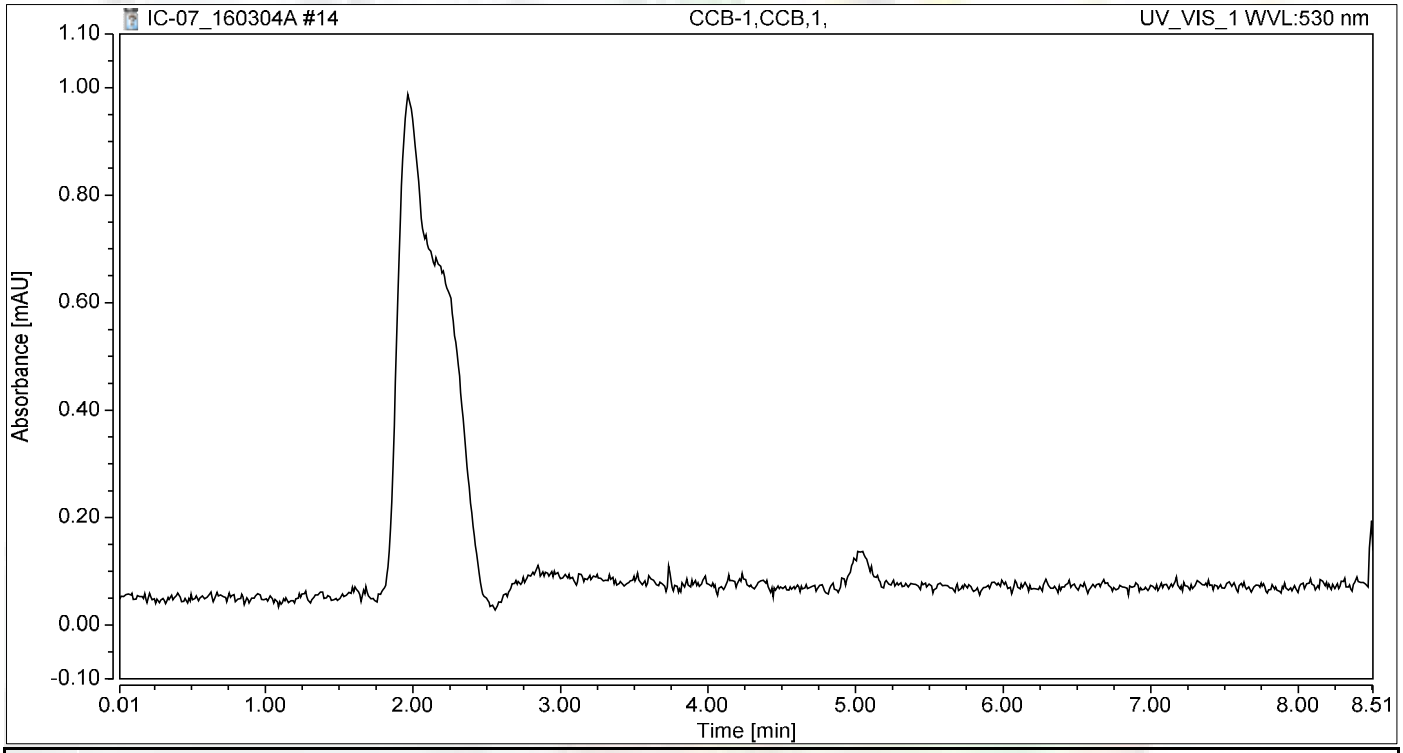
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.057	0.351	100.00	100.00	0.2360
Total:			**0.057**	**0.351**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

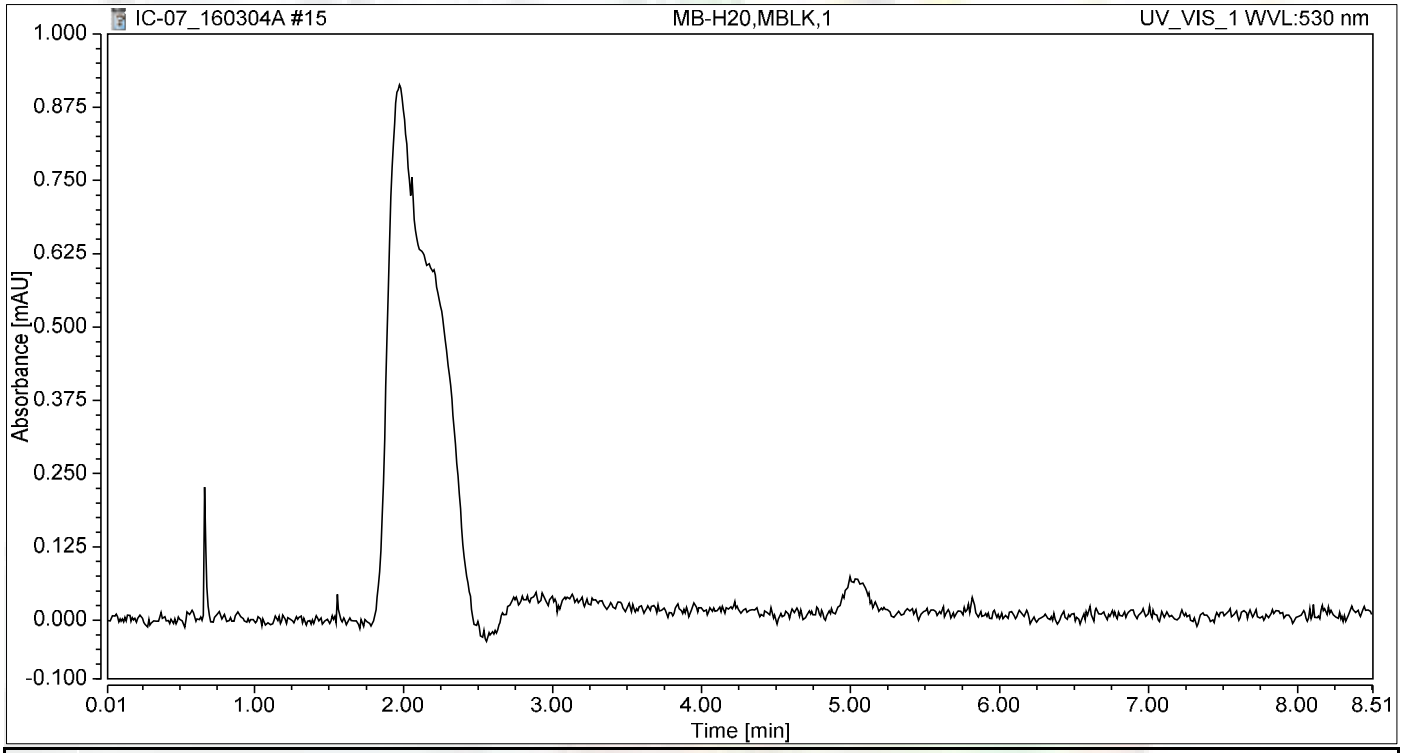
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H20,MBLK,1**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 12:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

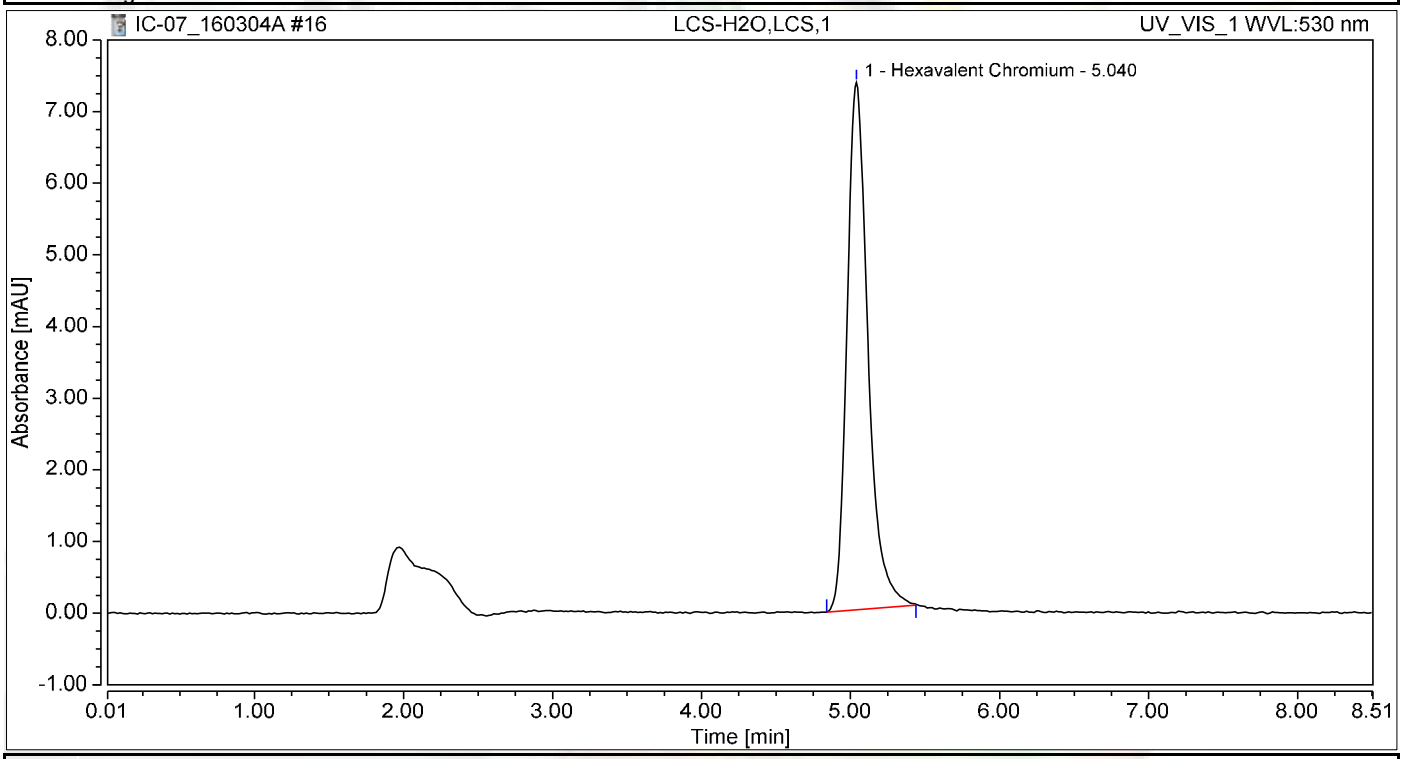
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

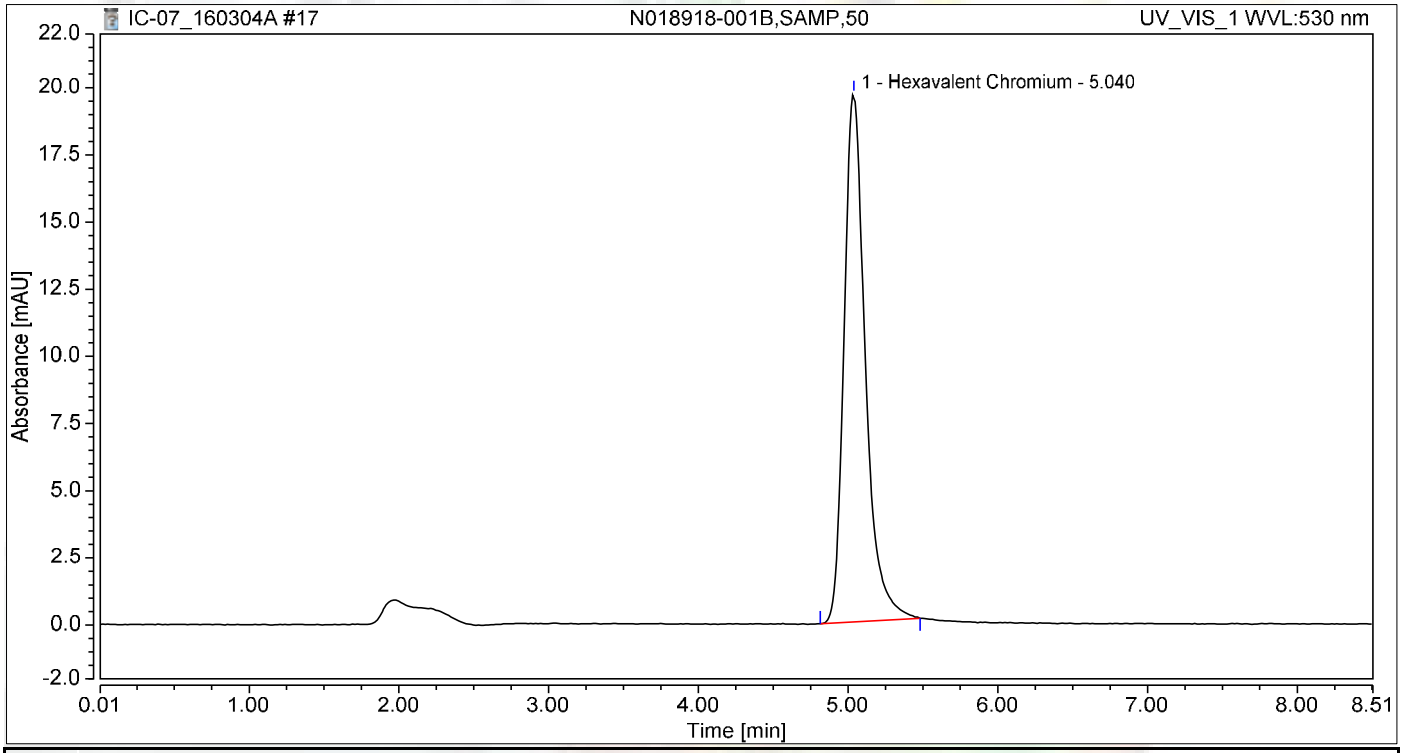
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.193	7.357	100.00	100.00	4.9451
Total:			**1.193**	**7.357**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001B,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

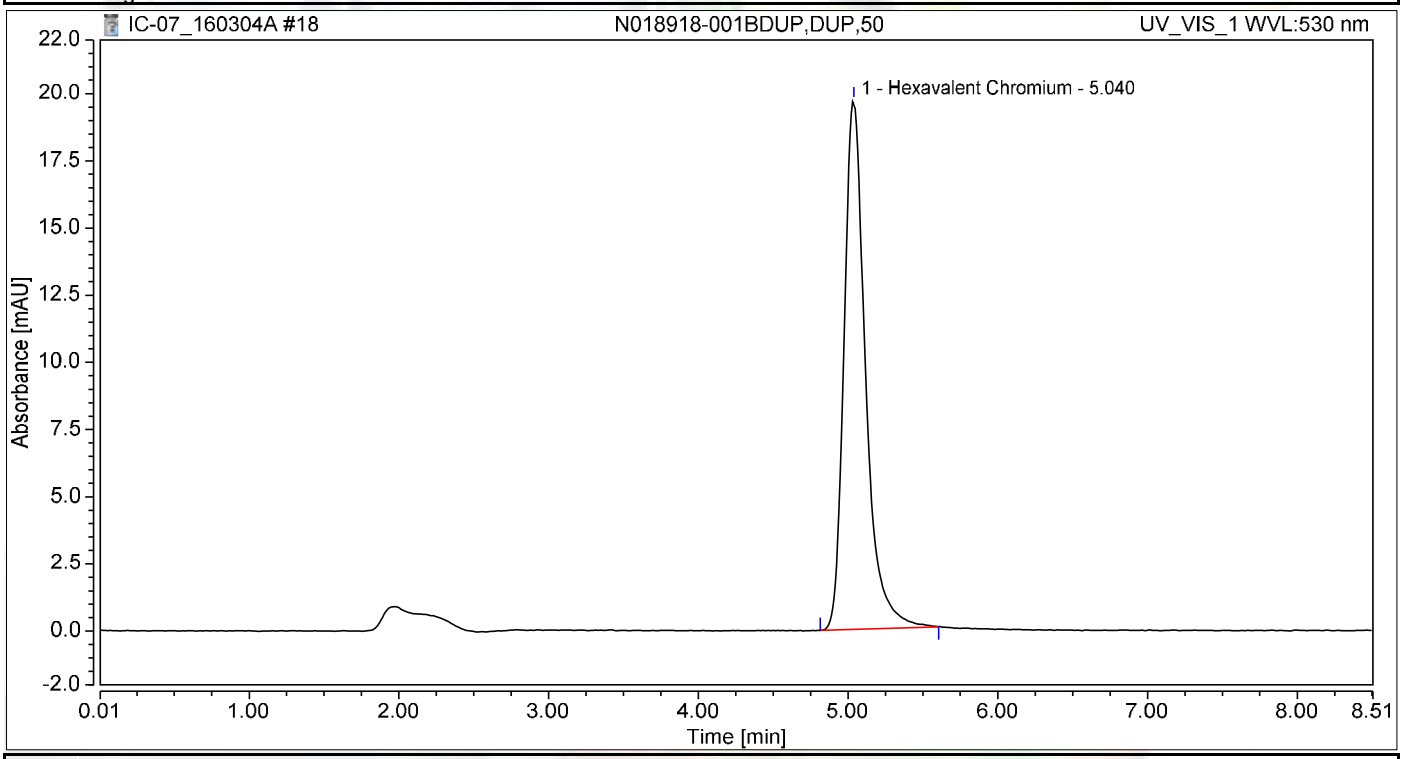
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.219	19.665	100.00	100.00	13.3449
Total:			**3.219**	**19.665**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001BDUP,DUP,50**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

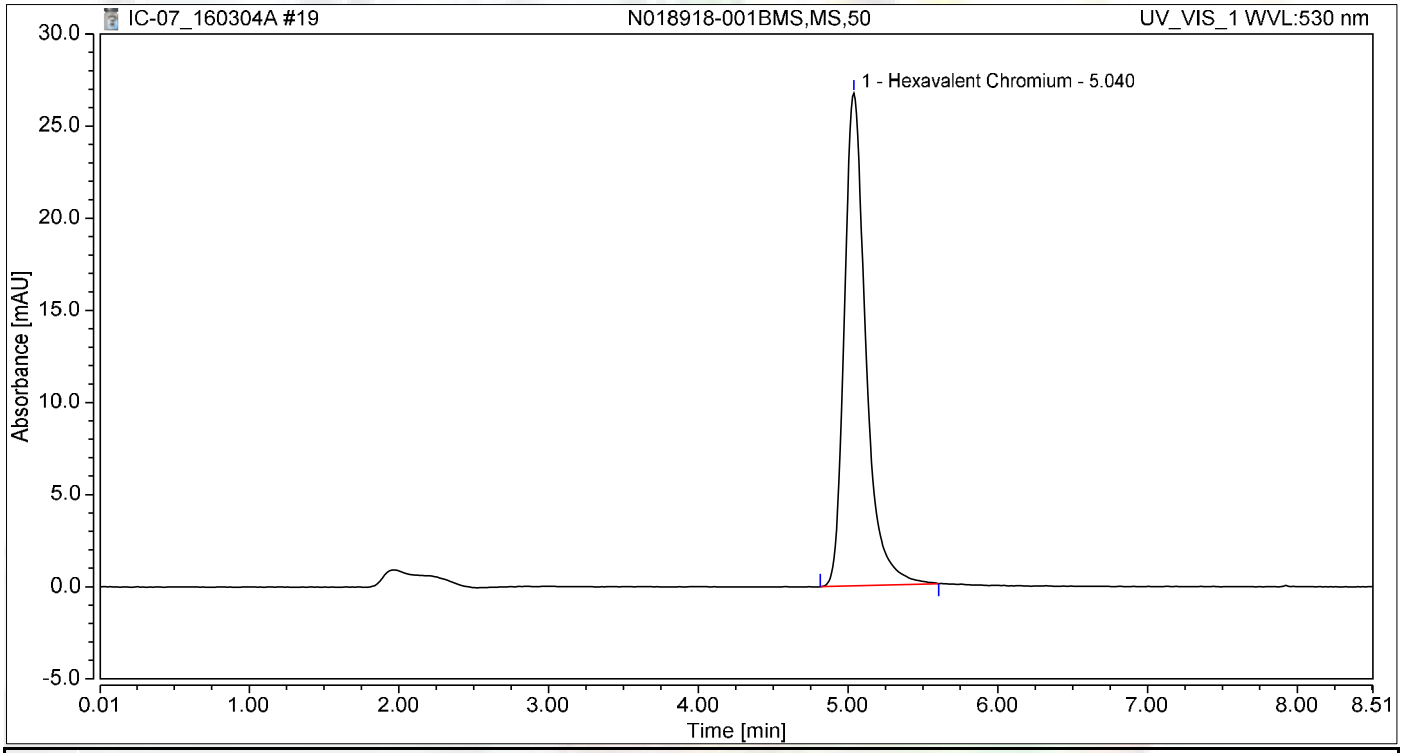
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.262	19.700	100.00	100.00	13.5248
Total:			**3.262**	**19.700**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001BMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

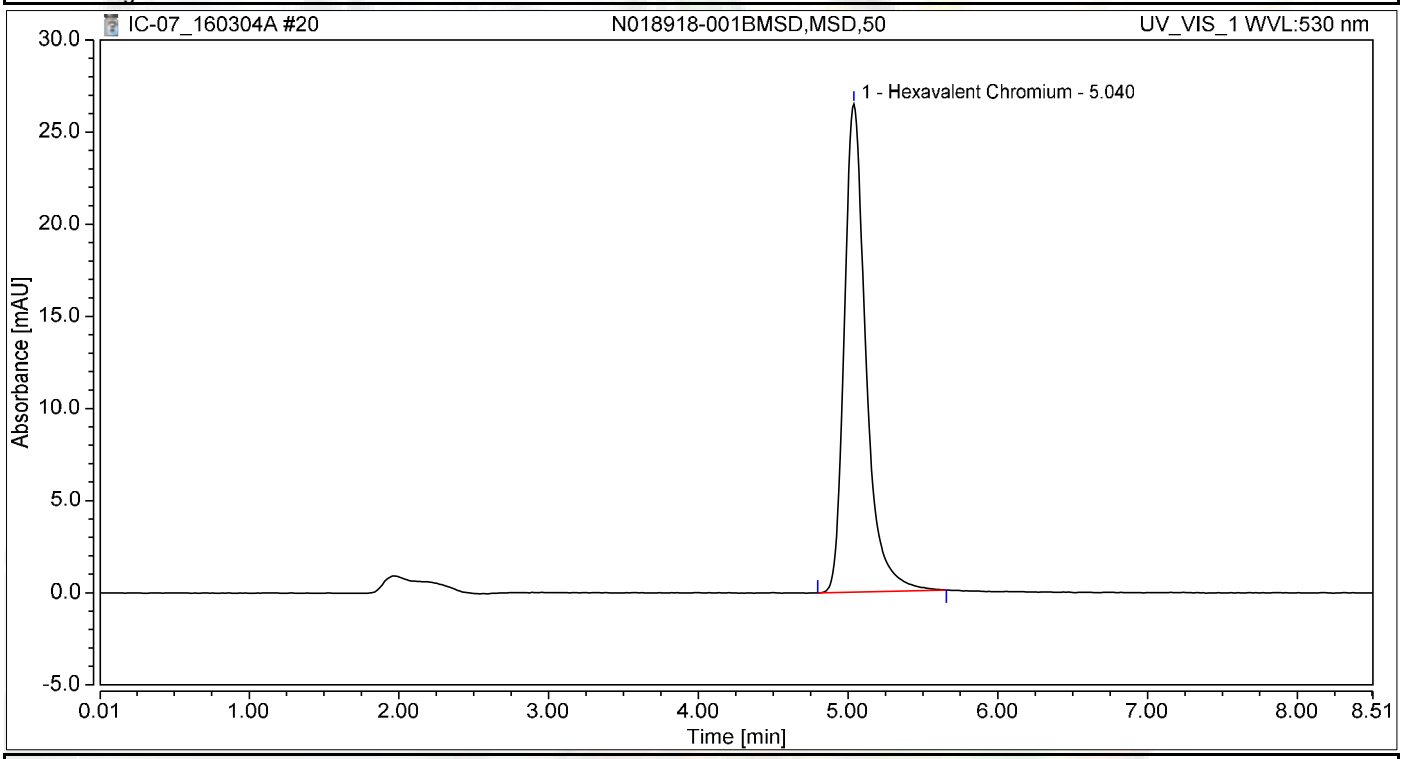
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.433	26.749	100.00	100.00	18.3781
Total:			**4.433**	**26.749**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-001BMSD,MSD,50**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

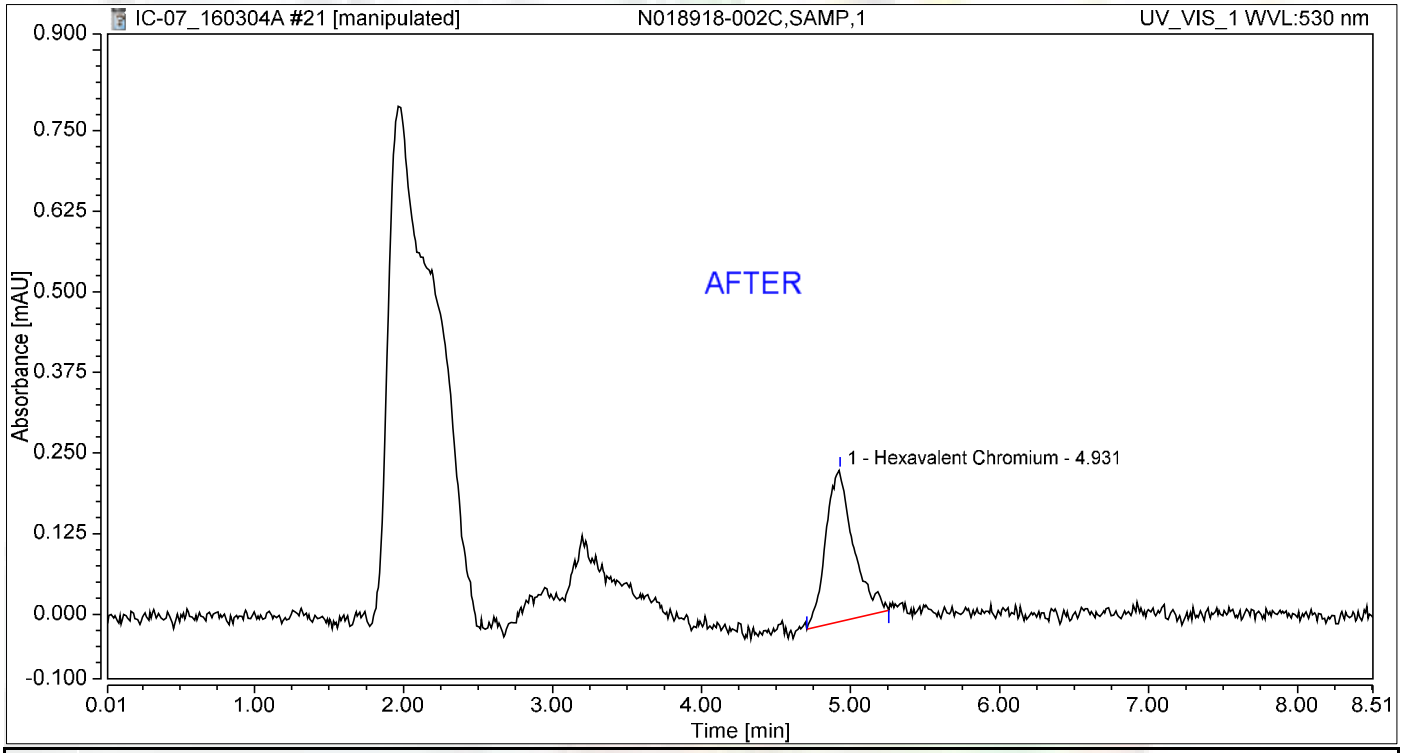
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	4.410	26.498	100.00	100.00	18.2816
Total:			**4.410**	**26.498**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002C,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.931	0.051	0.235	100.00	100.00	0.2119
Total:			**0.051**	**0.235**	**100.00**	**100.00**	

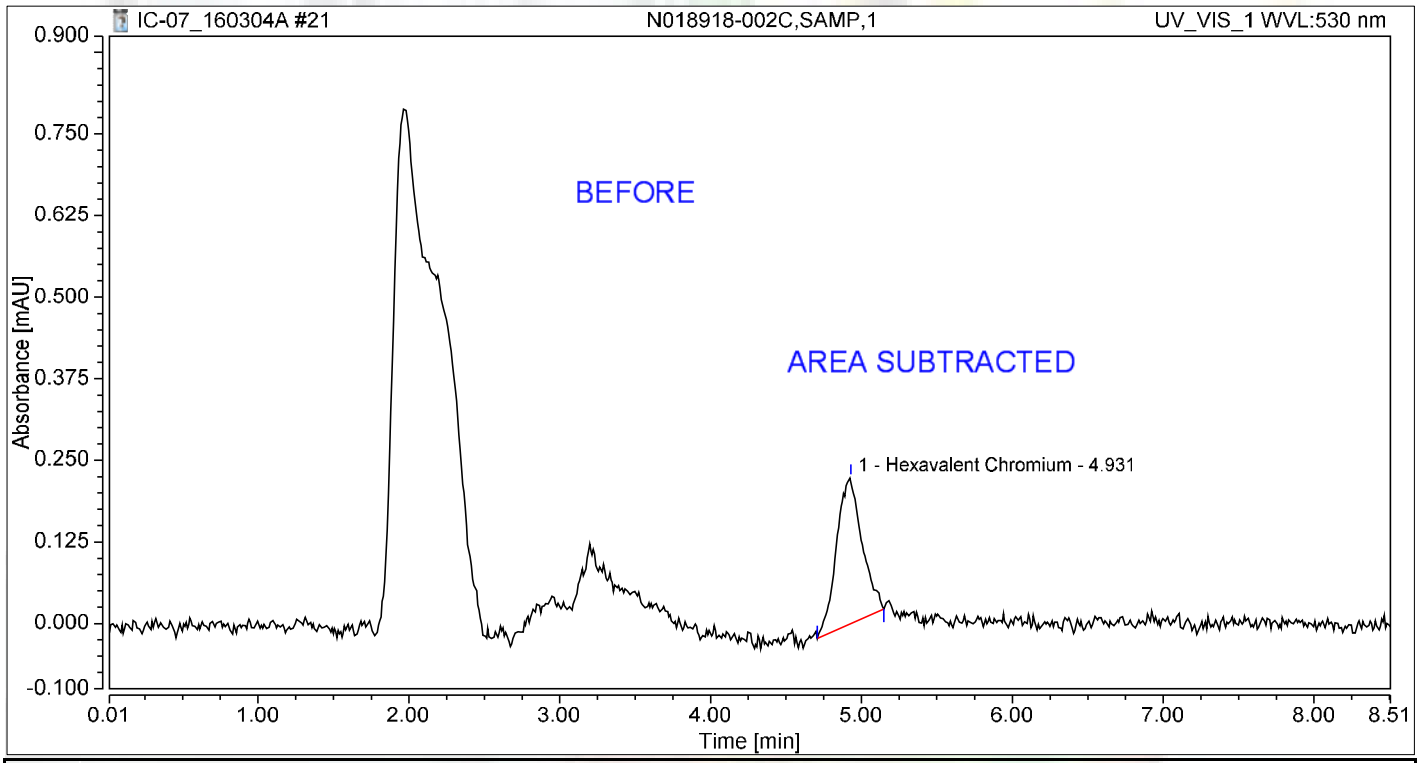
Nancy 3/17/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002C,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

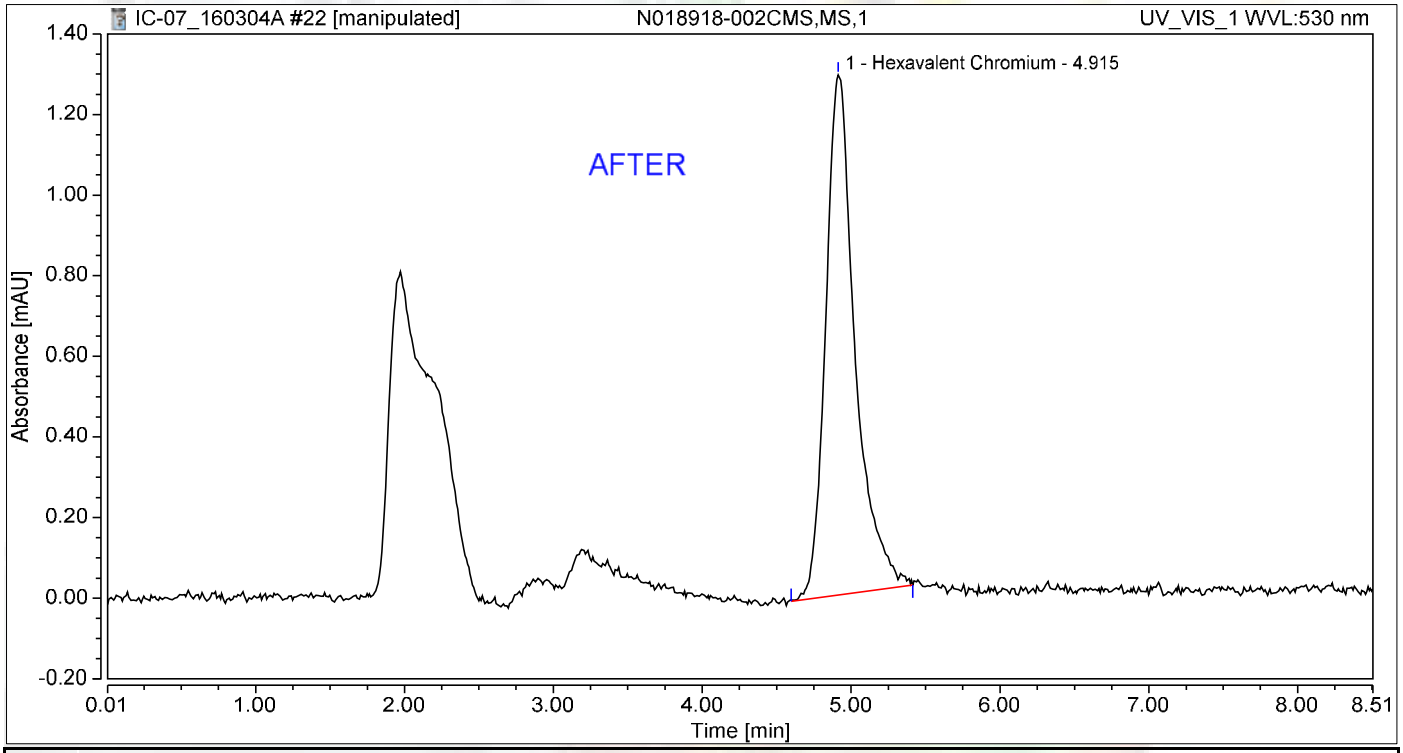
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.931	0.044	0.224	100.00	100.00	0.1829
Total:			**0.044**	**0.224**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-002CMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.915	0.296	1.290	100.00	100.00	1.2256
Total:			**0.296**	**1.290**	**100.00**	**100.00**	

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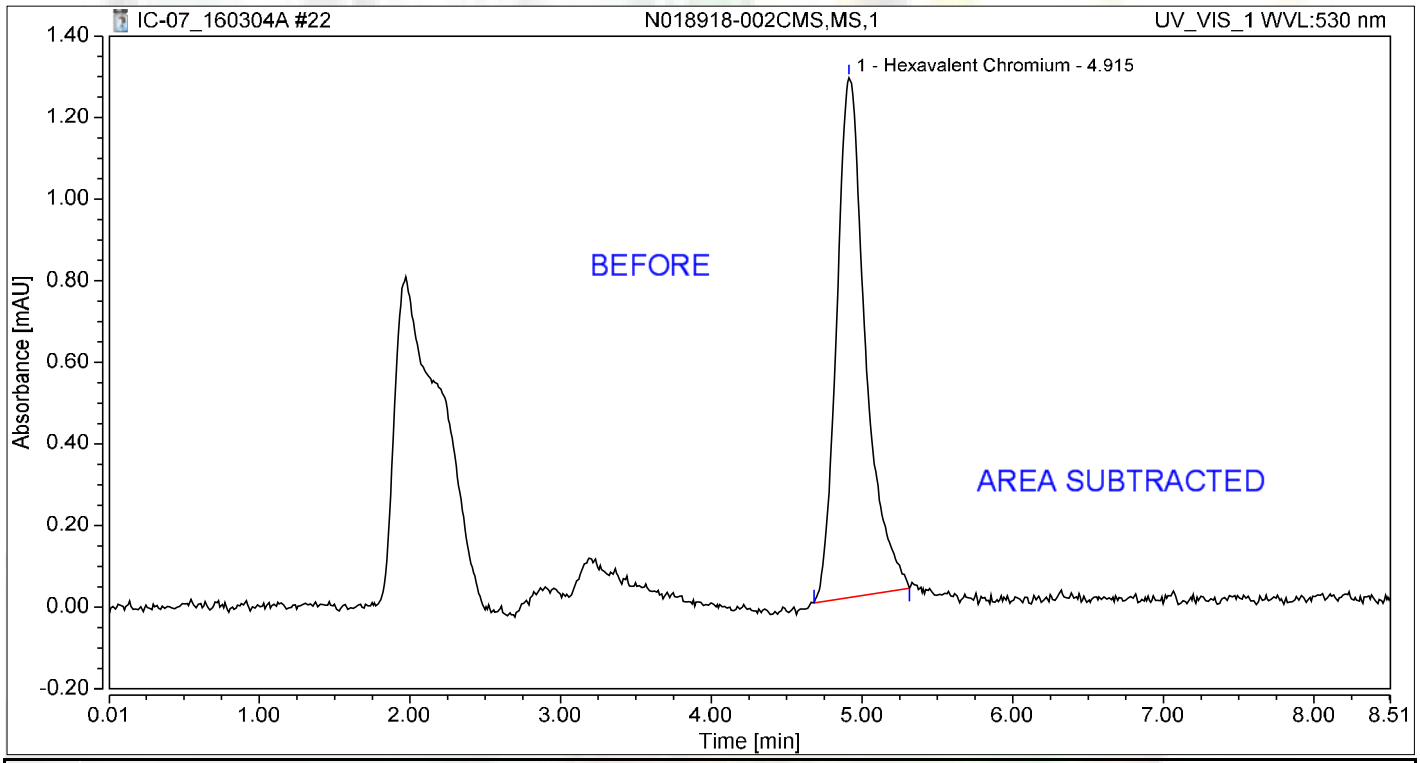
Chromatogram and Results

Injection Details

Injection Name:	**N018918-002CMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

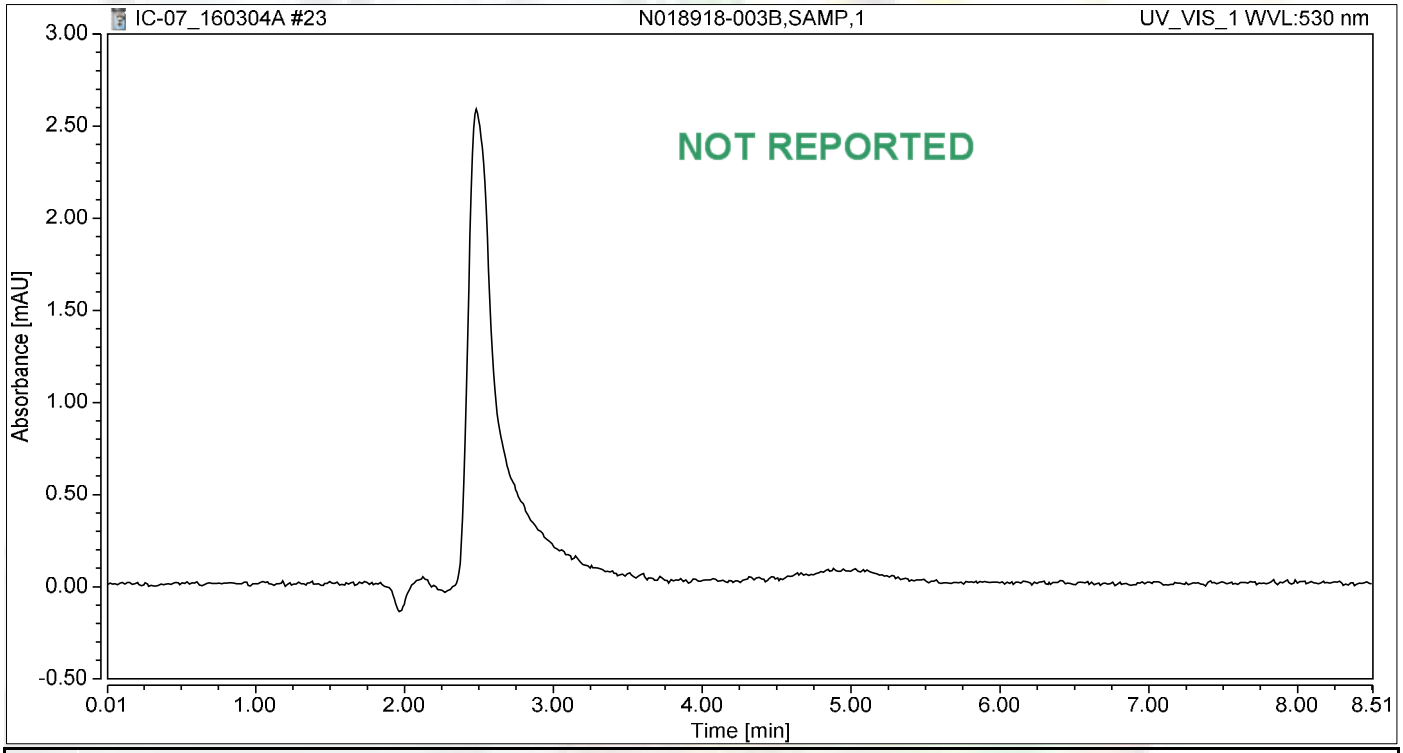
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.915	0.283	1.274	100.00	100.00	1.1725
Total:			**0.283**	**1.274**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

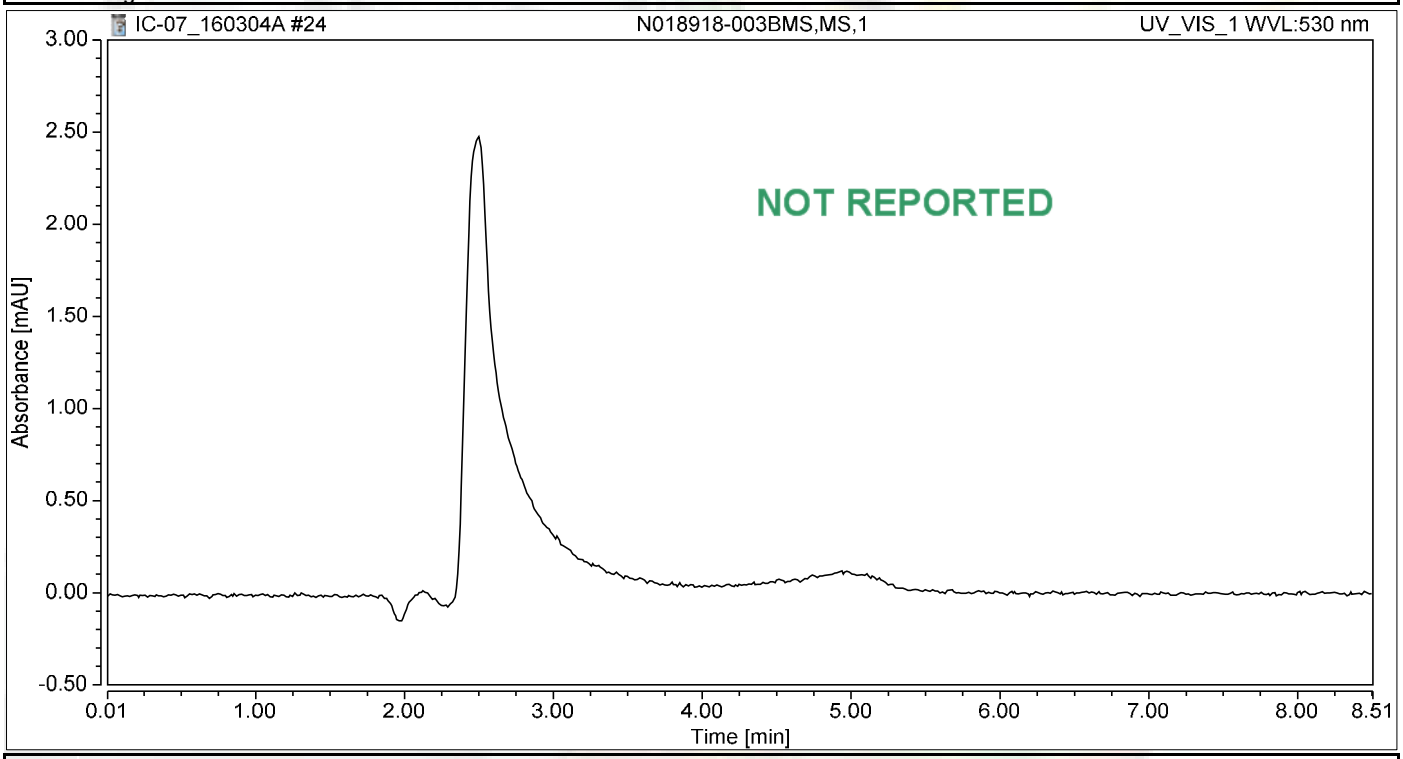
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

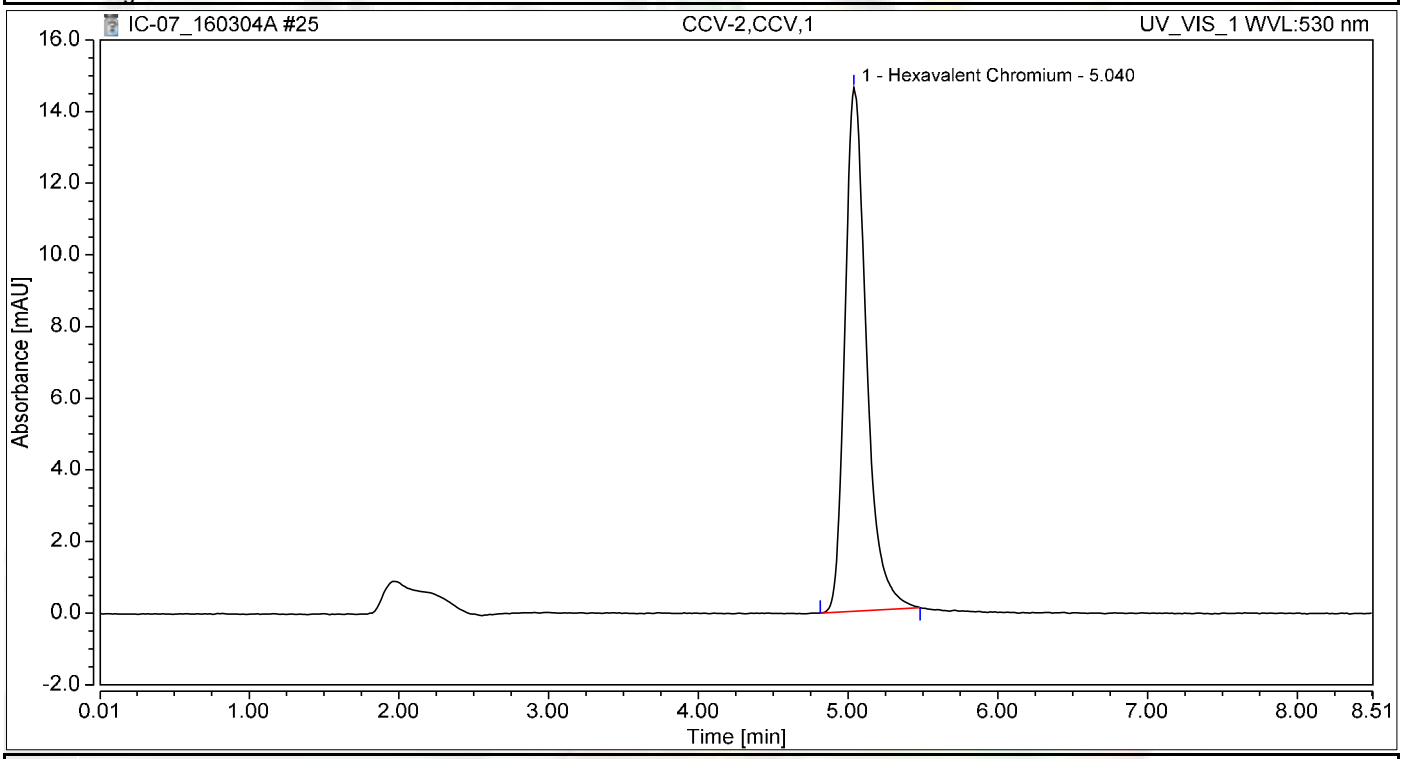
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

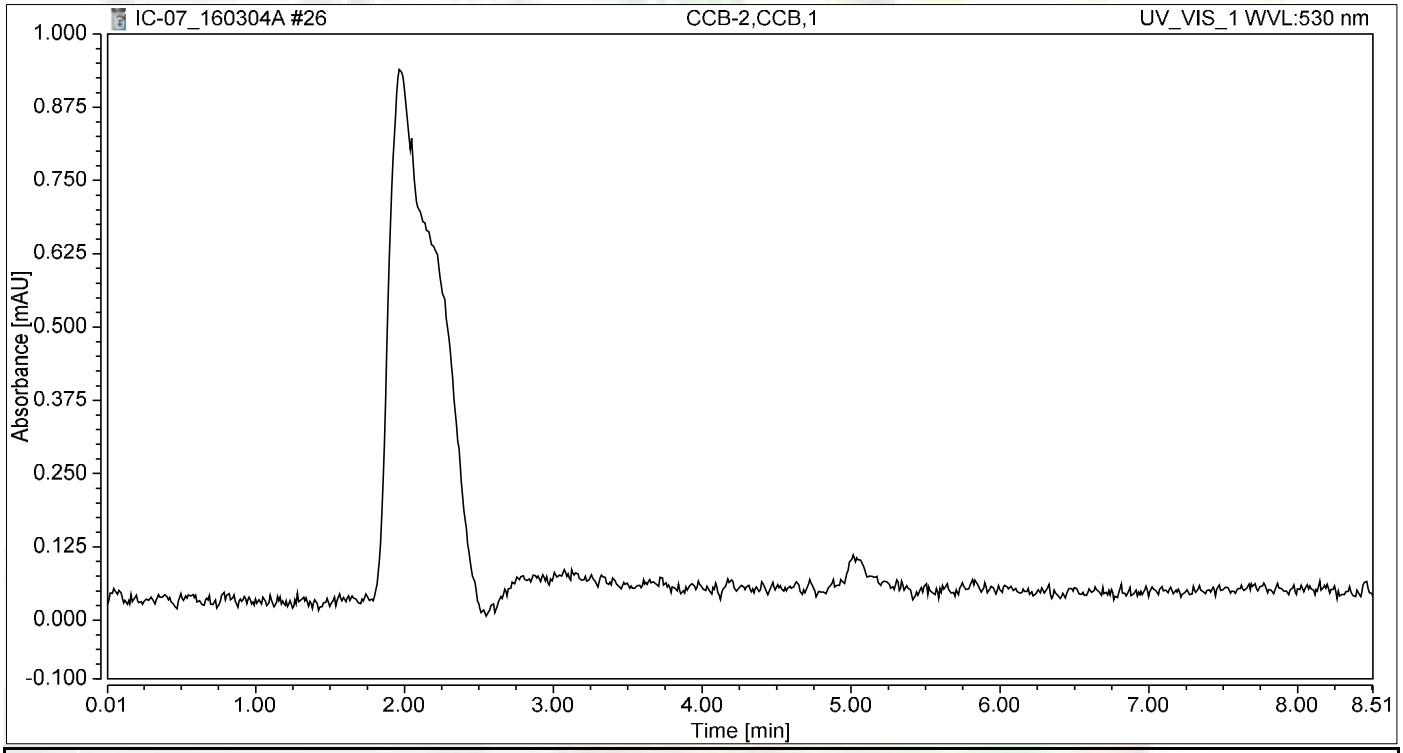
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.431	14.611	100.00	100.00	10.0792
Total:			**2.431**	**14.611**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

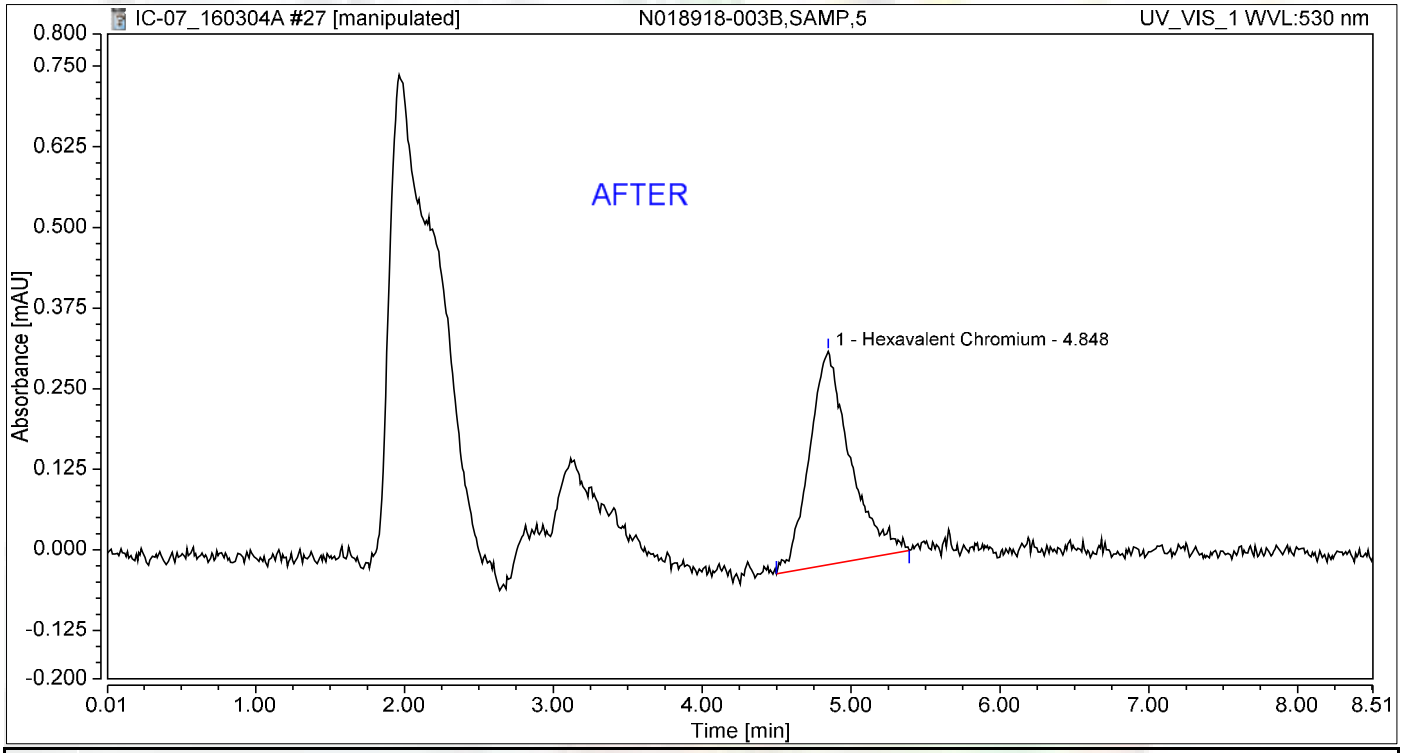
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.848	0.105	0.331	100.00	100.00	0.4361
Total:			**0.105**	**0.331**	**100.00**	**100.00**	

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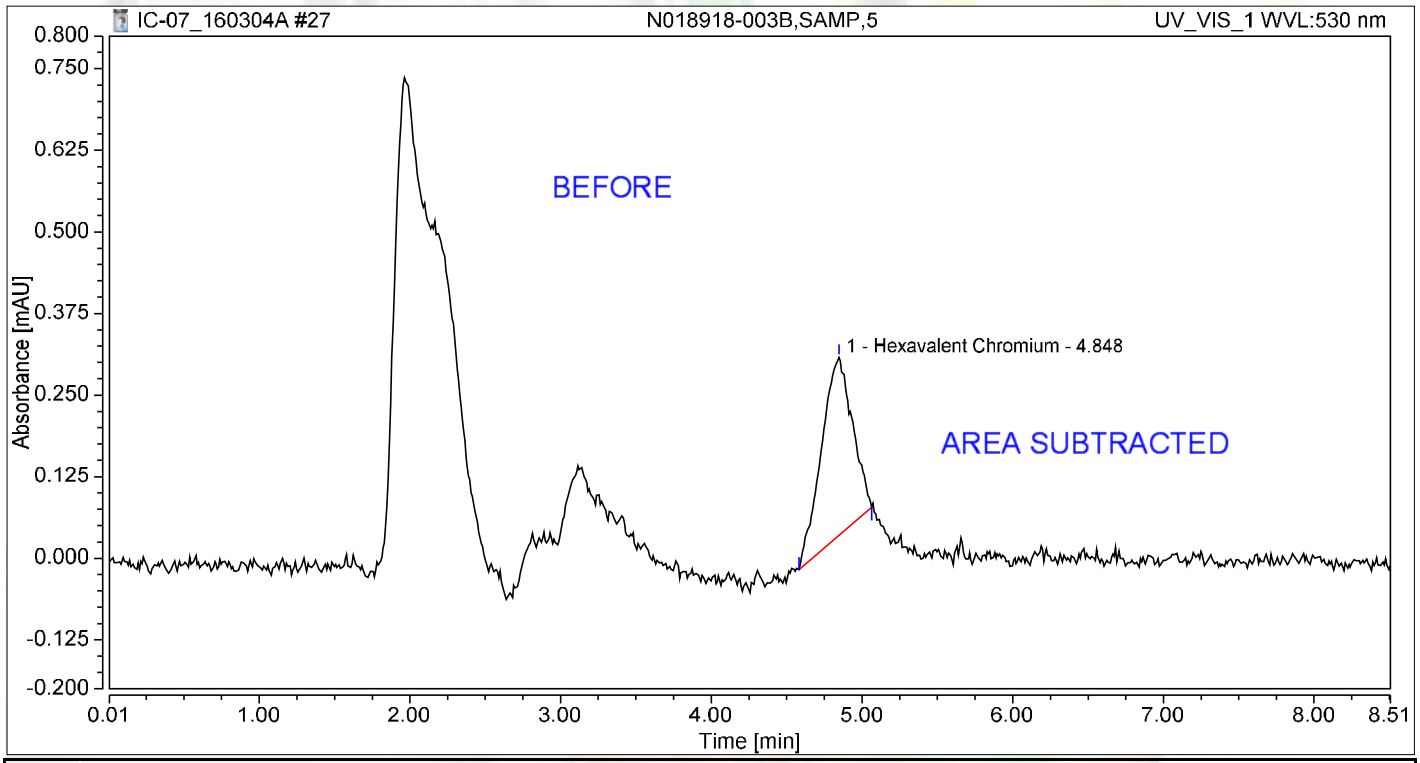
Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

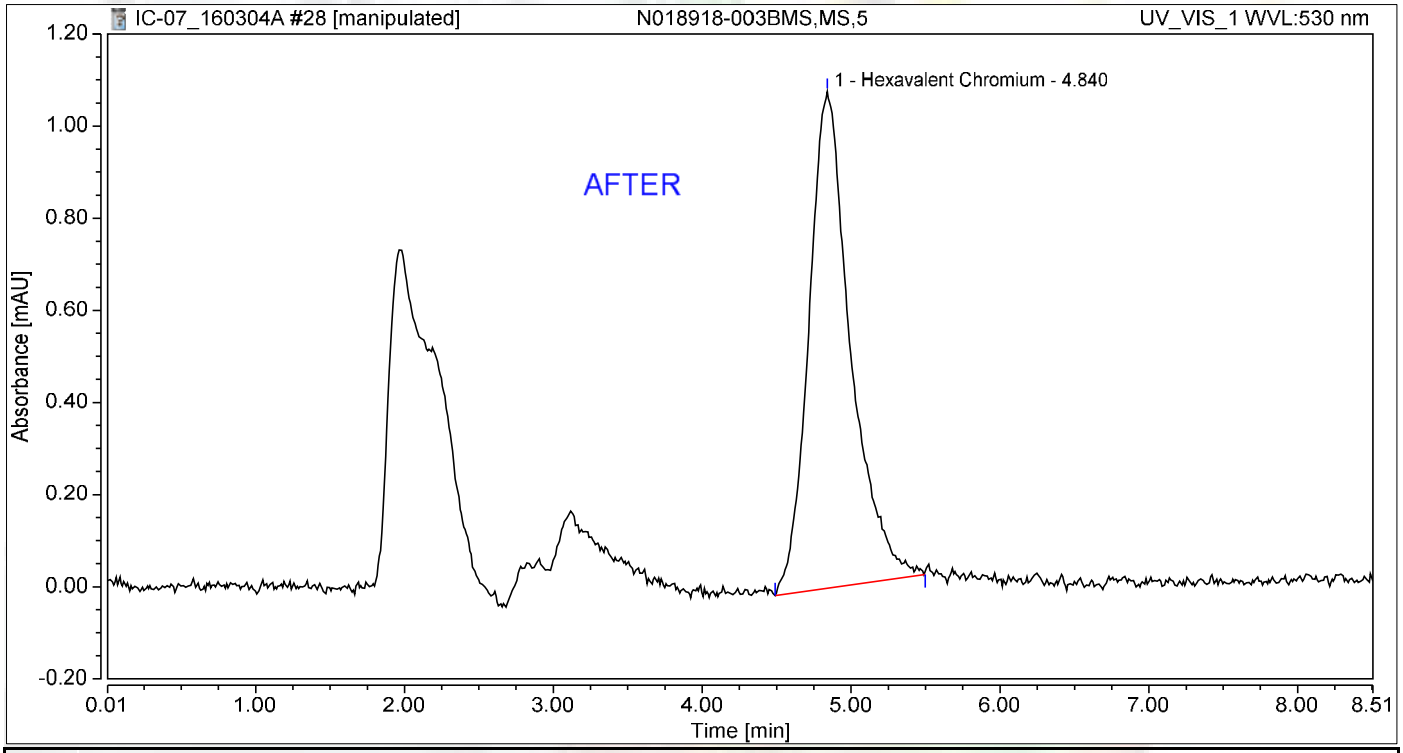
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.848	0.065	0.273	100.00	100.00	0.2705
Total:			**0.065**	**0.273**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.840	0.351	1.078	100.00	100.00	1.4537
Total:			**0.351**	**1.078**	**100.00**	**100.00**	

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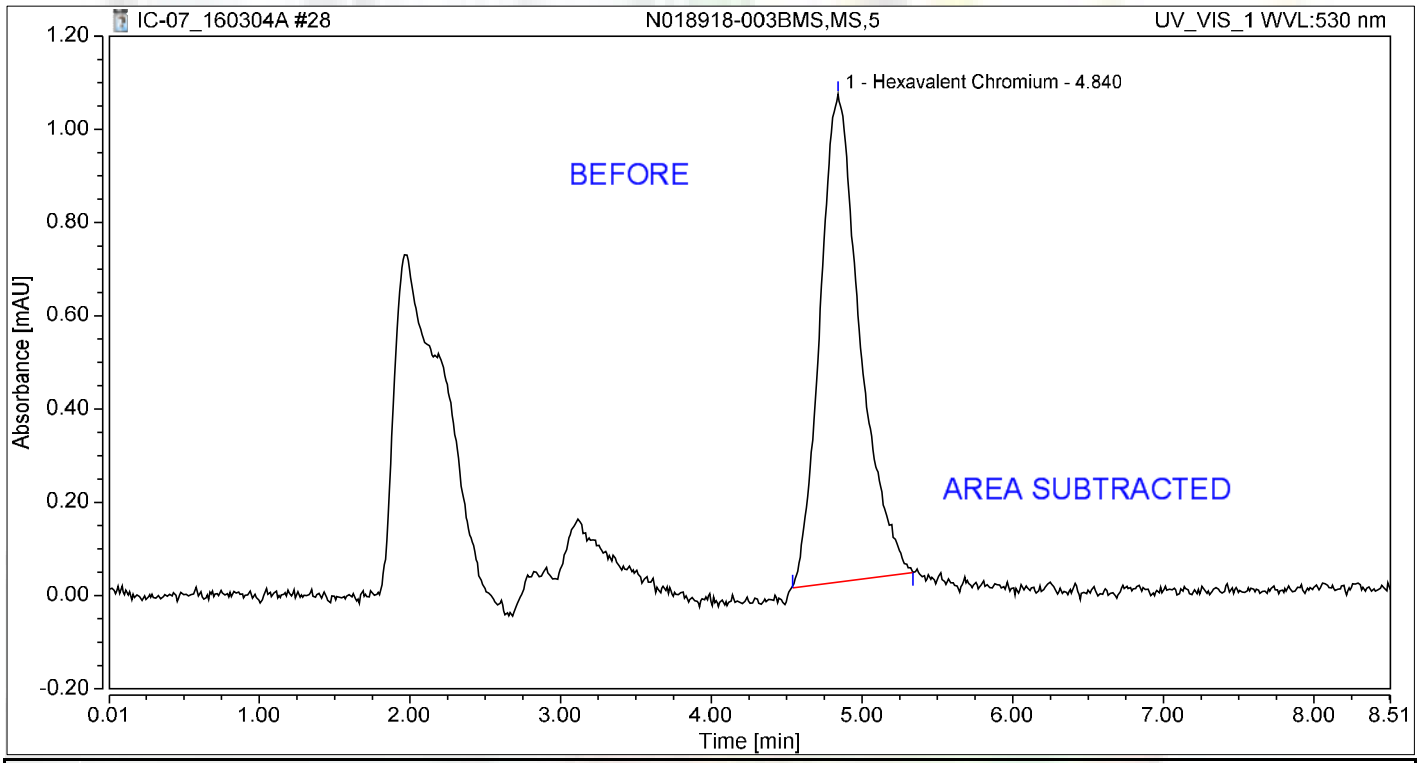
Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 14:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

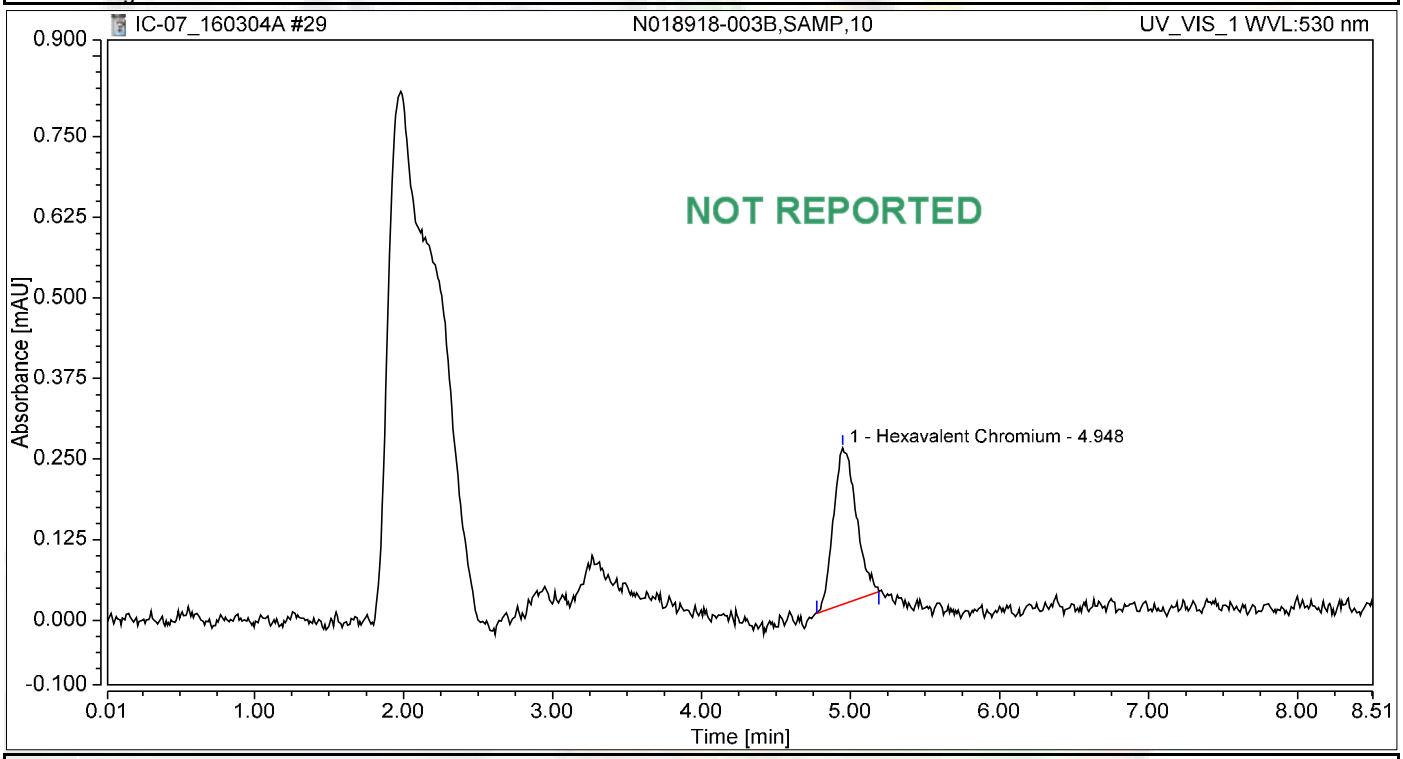
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.840	0.321	1.046	100.00	100.00	1.3314
Total:			**0.321**	**1.046**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003B,SAMP,10**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 15:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

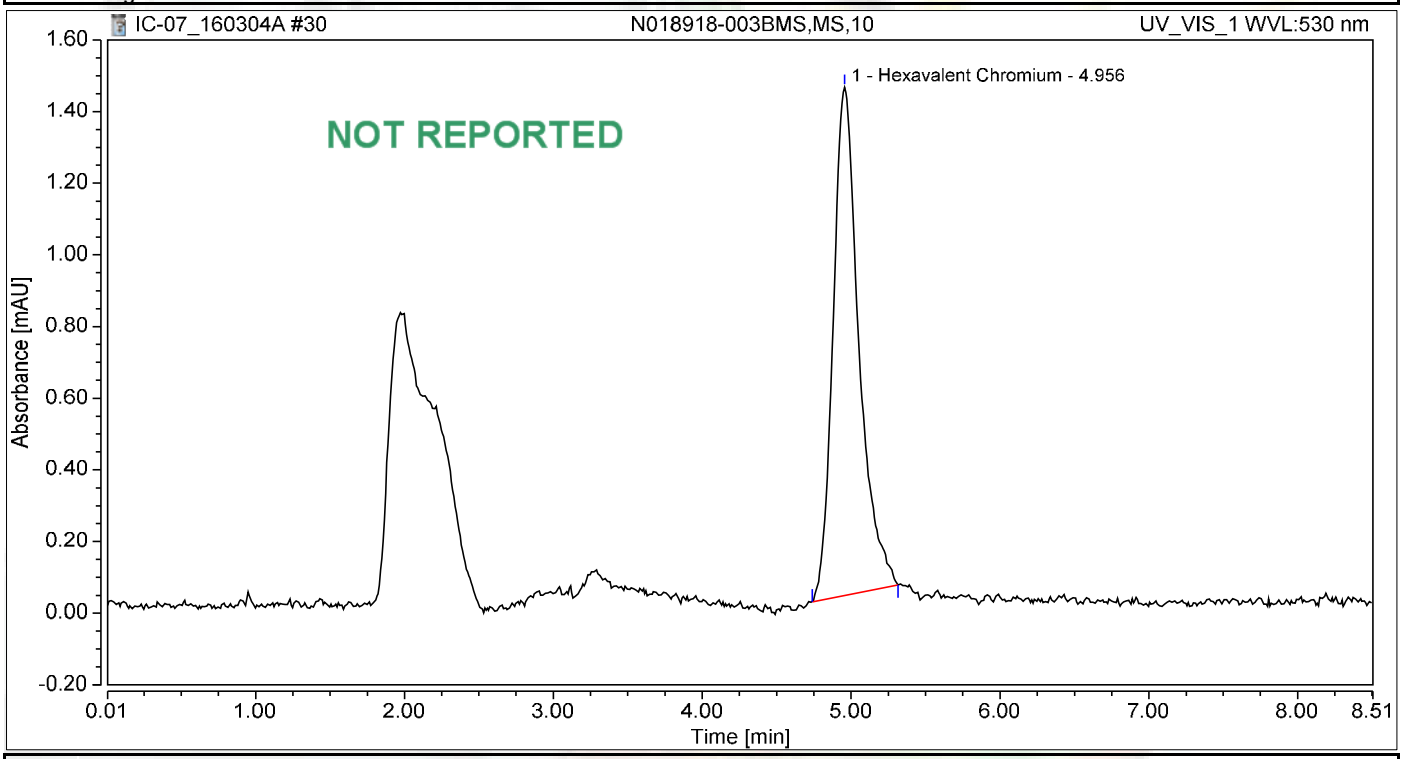
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.948	0.043	0.242	100.00	100.00	0.1784
Total:			**0.043**	**0.242**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018918-003BMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 15:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

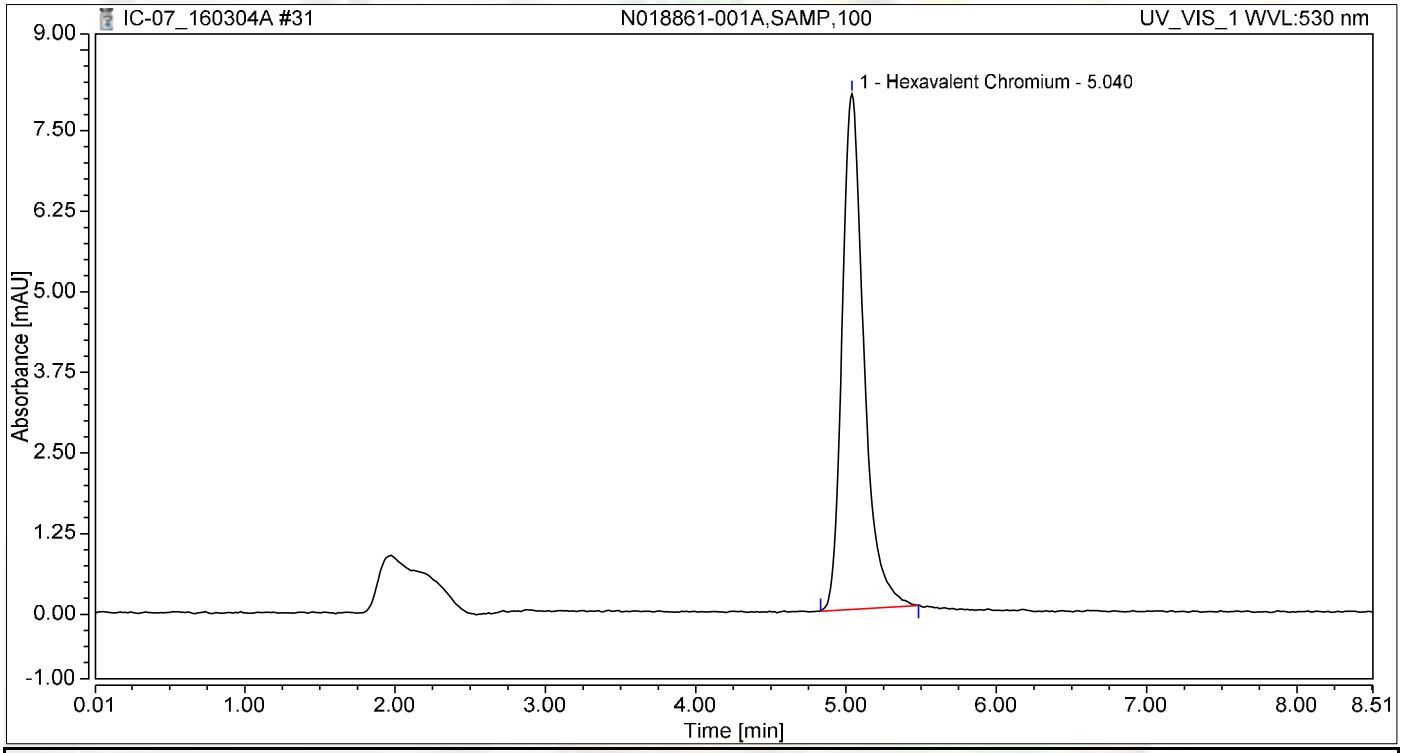
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.956	0.285	1.418	100.00	100.00	1.1801
Total:			**0.285**	**1.418**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-001A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 15:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

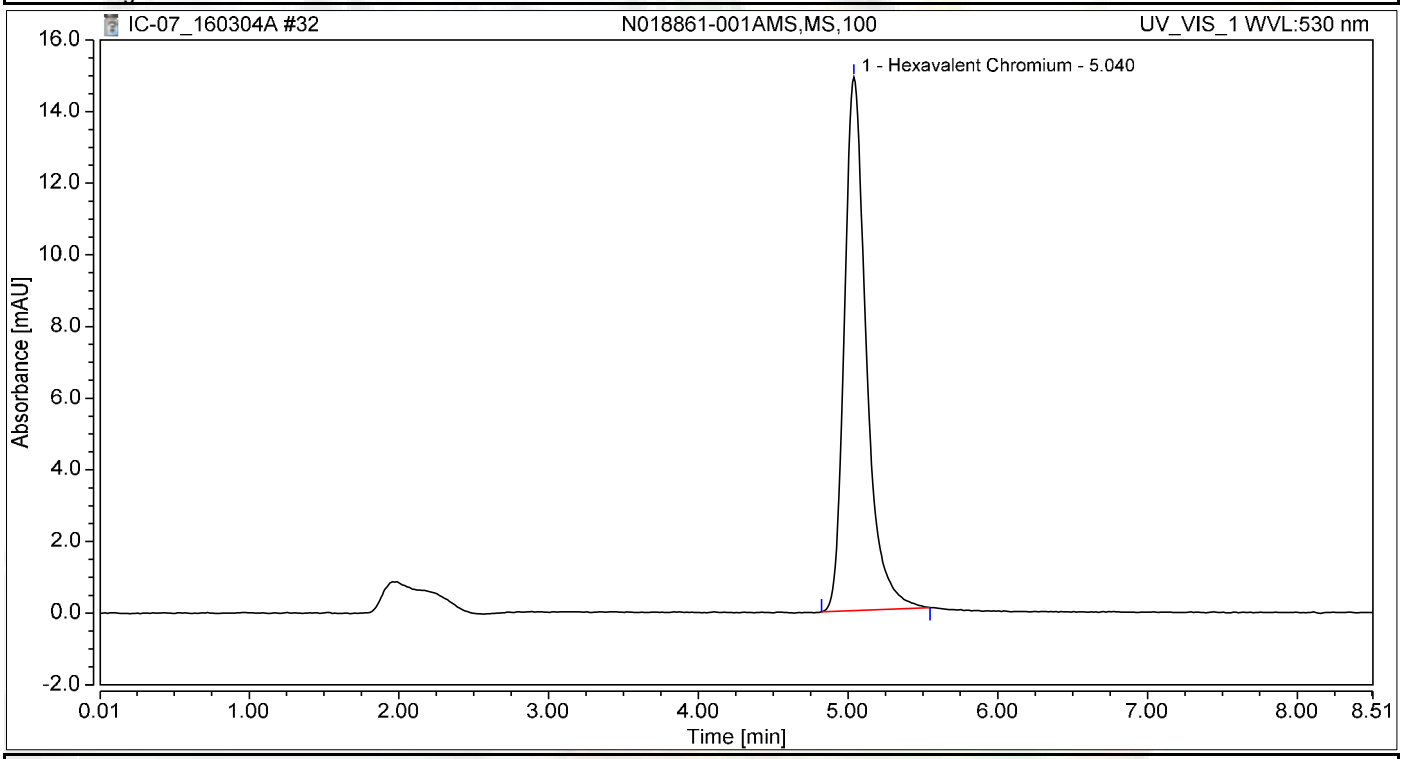
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.340	7.995	100.00	100.00	5.5555
Total:			**1.340**	**7.995**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-001AMS,MS,100**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

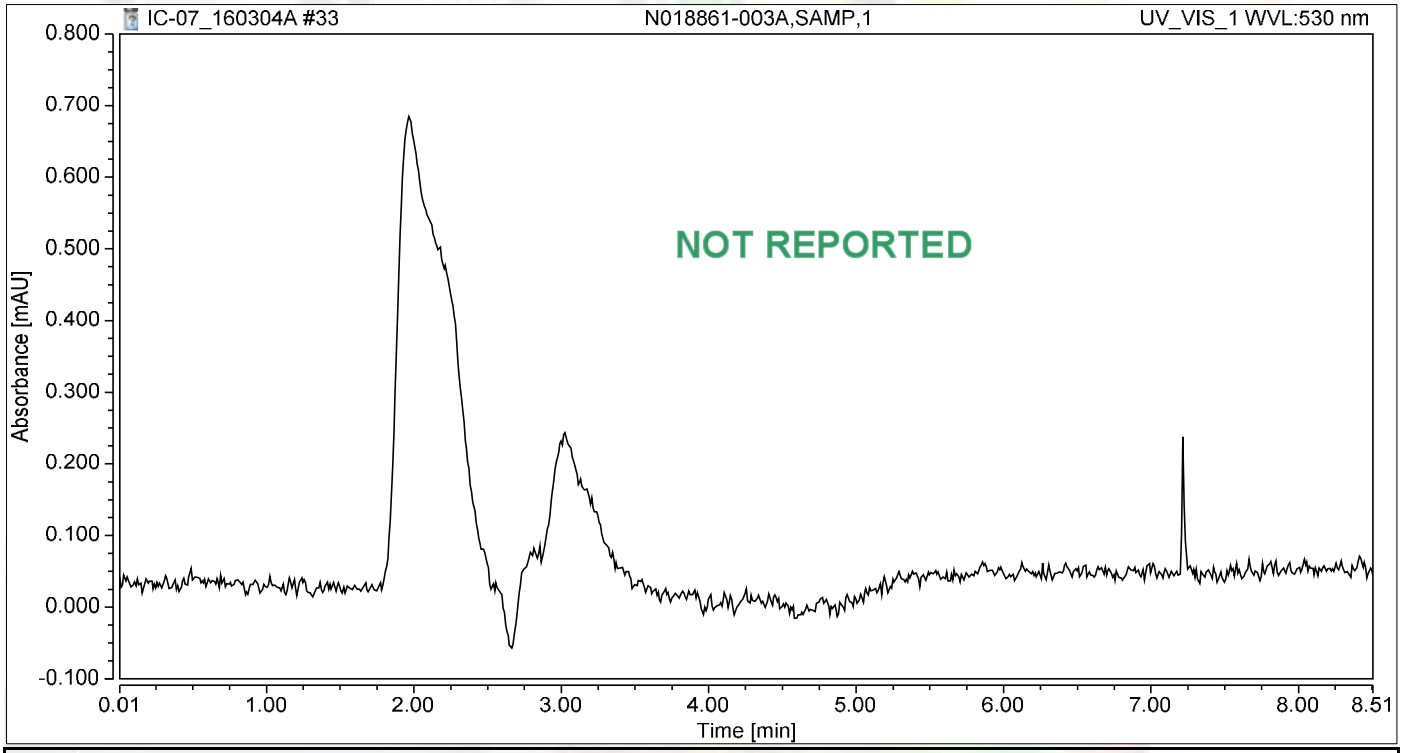
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.516	14.885	100.00	100.00	10.4289
Total:			**2.516**	**14.885**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

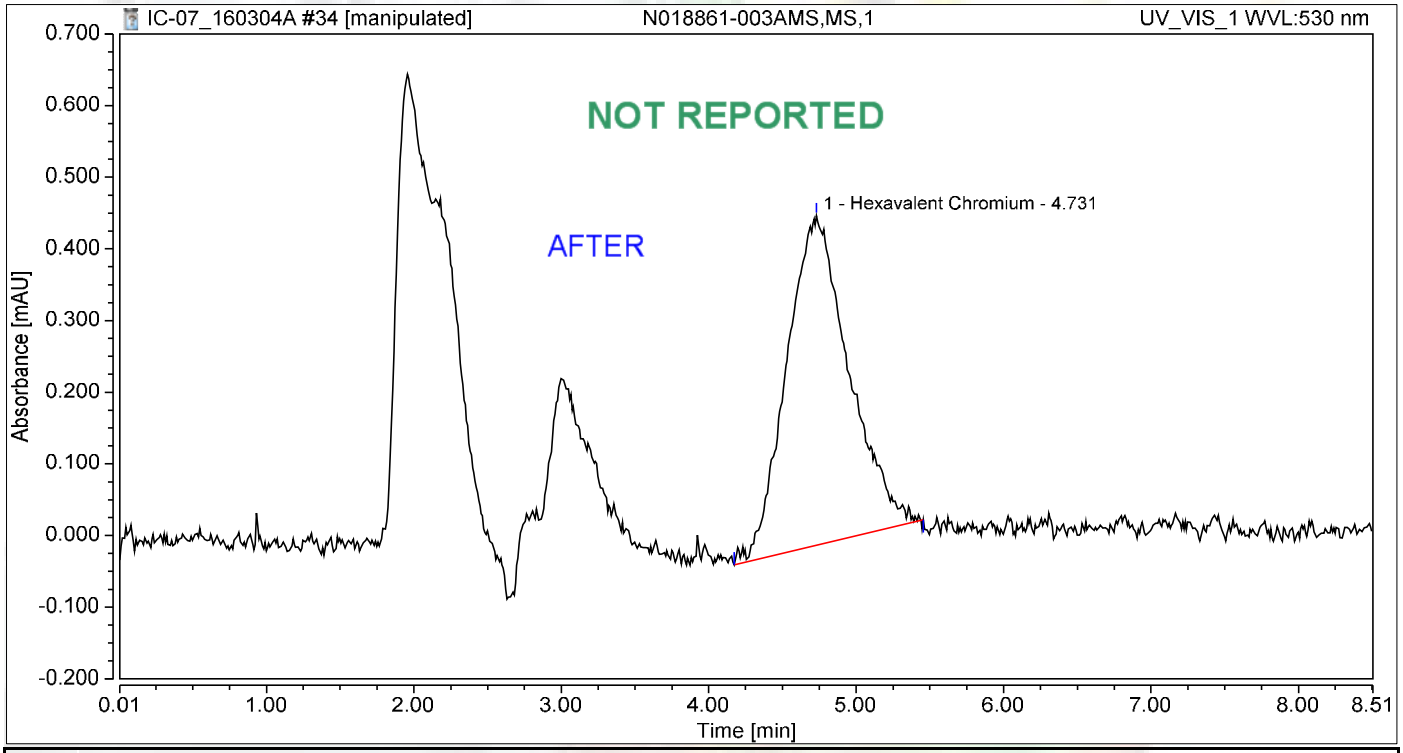
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

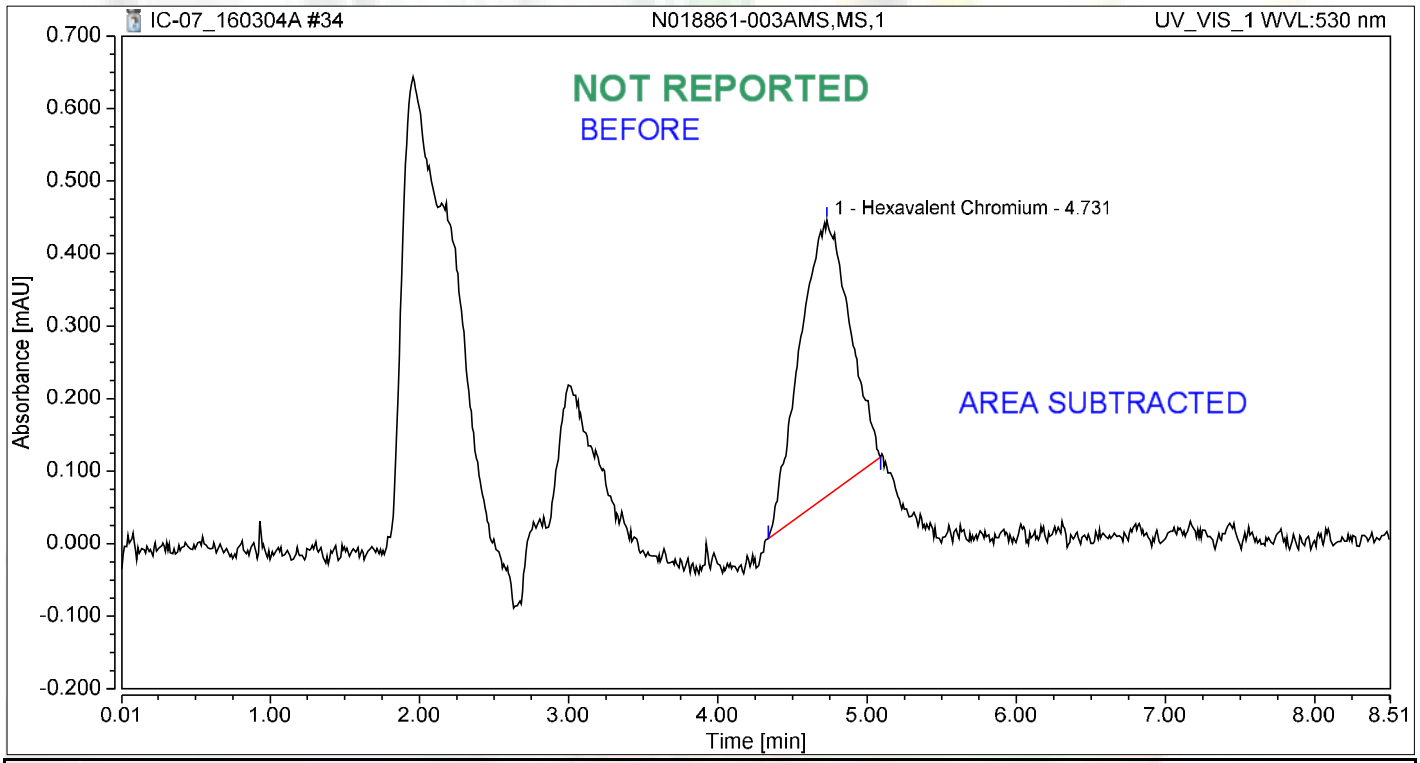
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.731	0.225	0.460	100.00	100.00	0.9323
Total:			**0.225**	**0.460**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

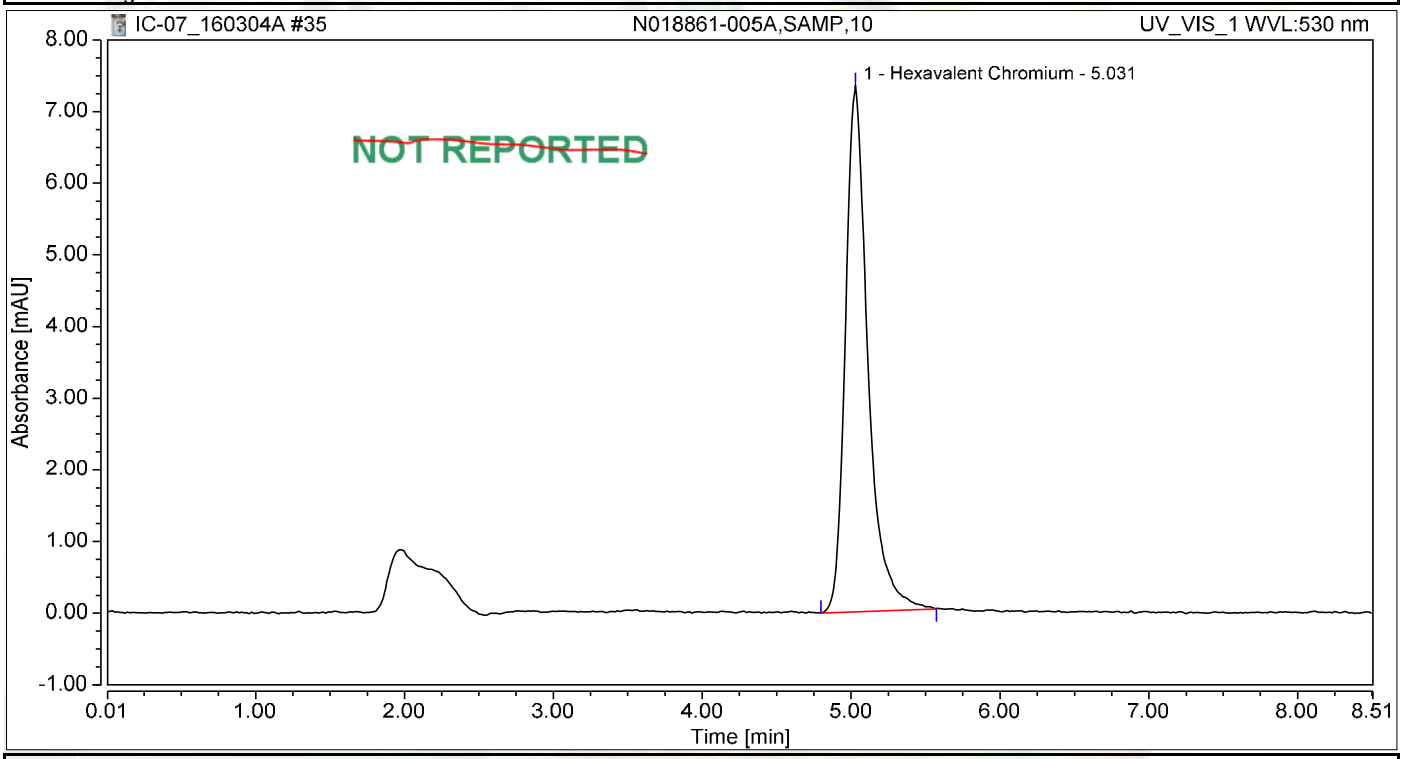
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.731	0.147	0.380	100.00	100.00	0.6114
Total:			**0.147**	**0.380**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-005A,SAMP,10**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.277	7.346	100.00	100.00	5.2956
Total:			**1.277**	**7.346**	**100.00**	**100.00**	

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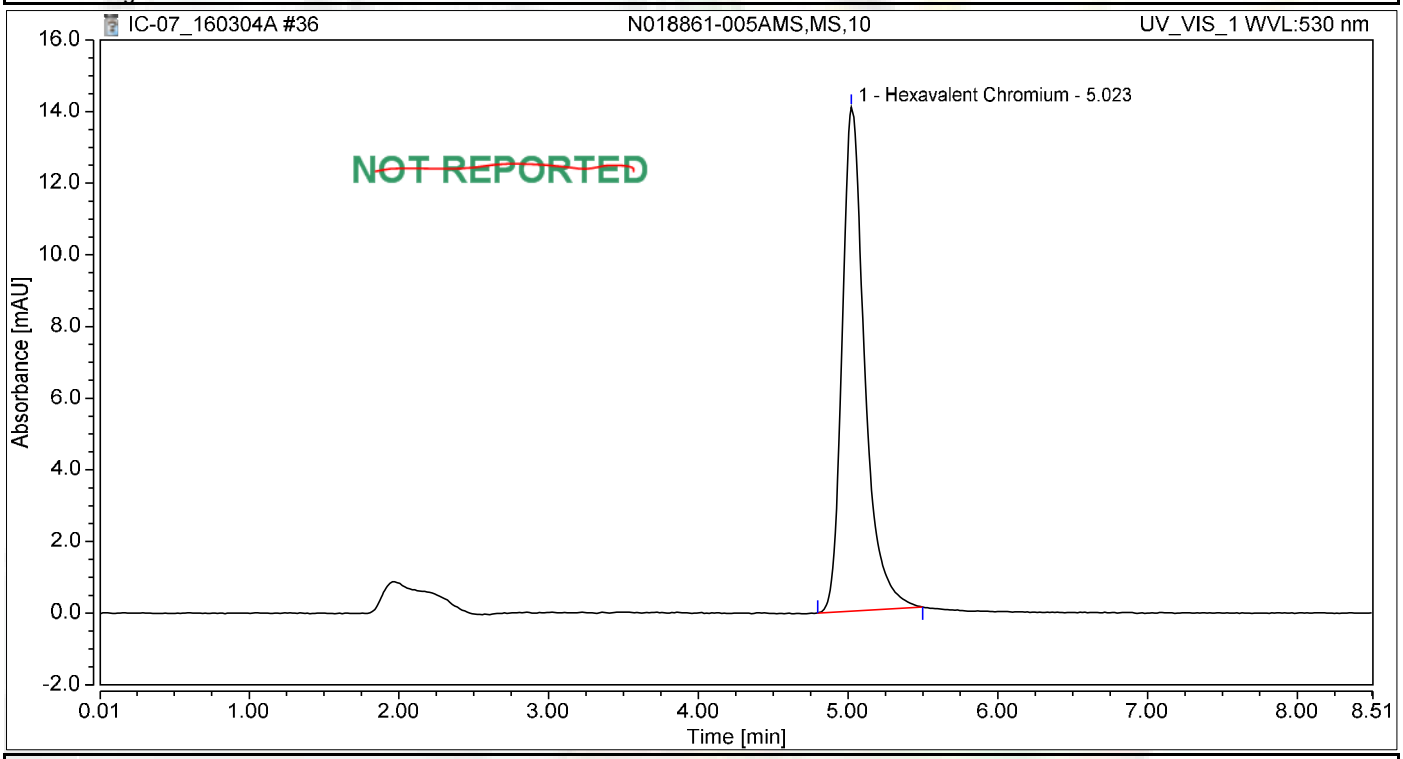
for

Chromatogram and Results

Injection Details

Injection Name:	**N018861-005AMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.023	2.450	14.073	100.00	100.00	10.1584
Total:			**2.450**	**14.073**	**100.00**	**100.00**	

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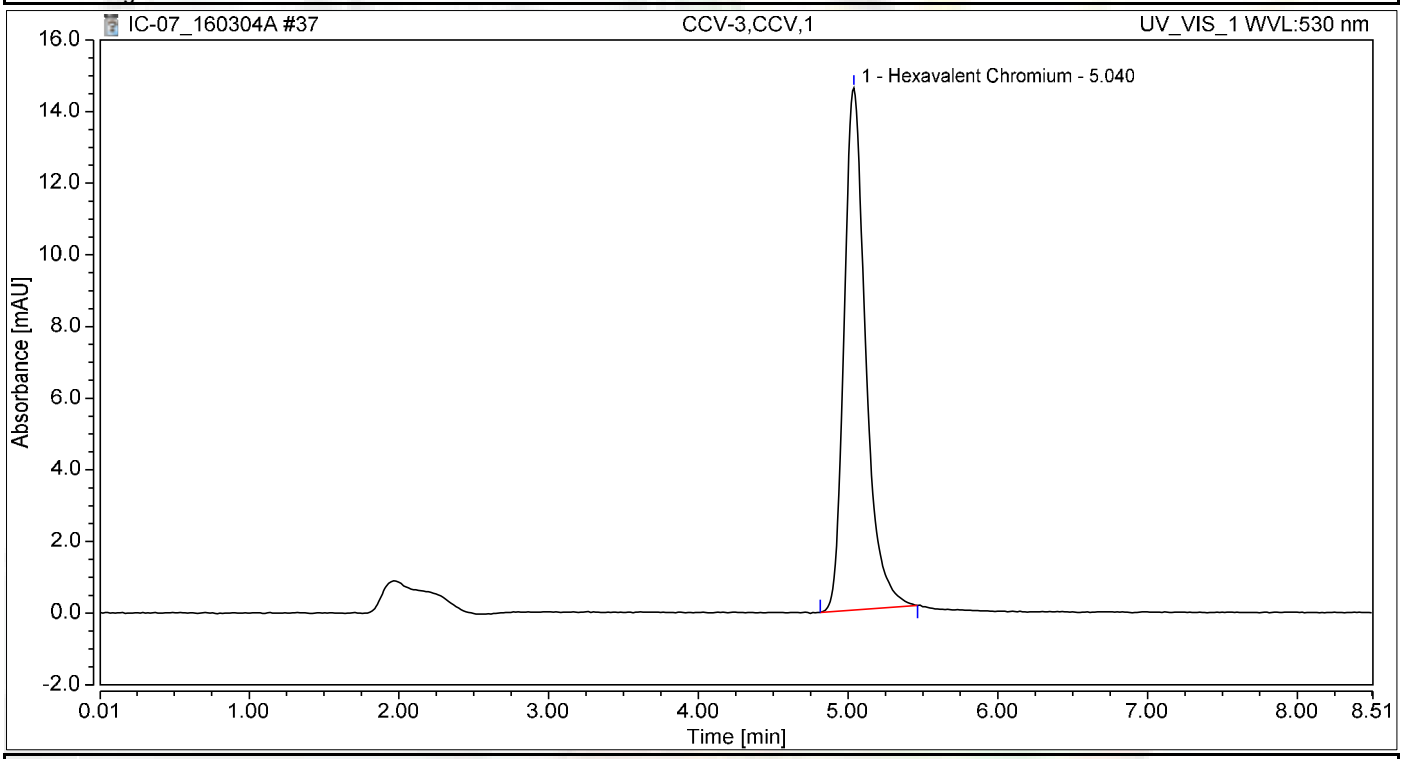
Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

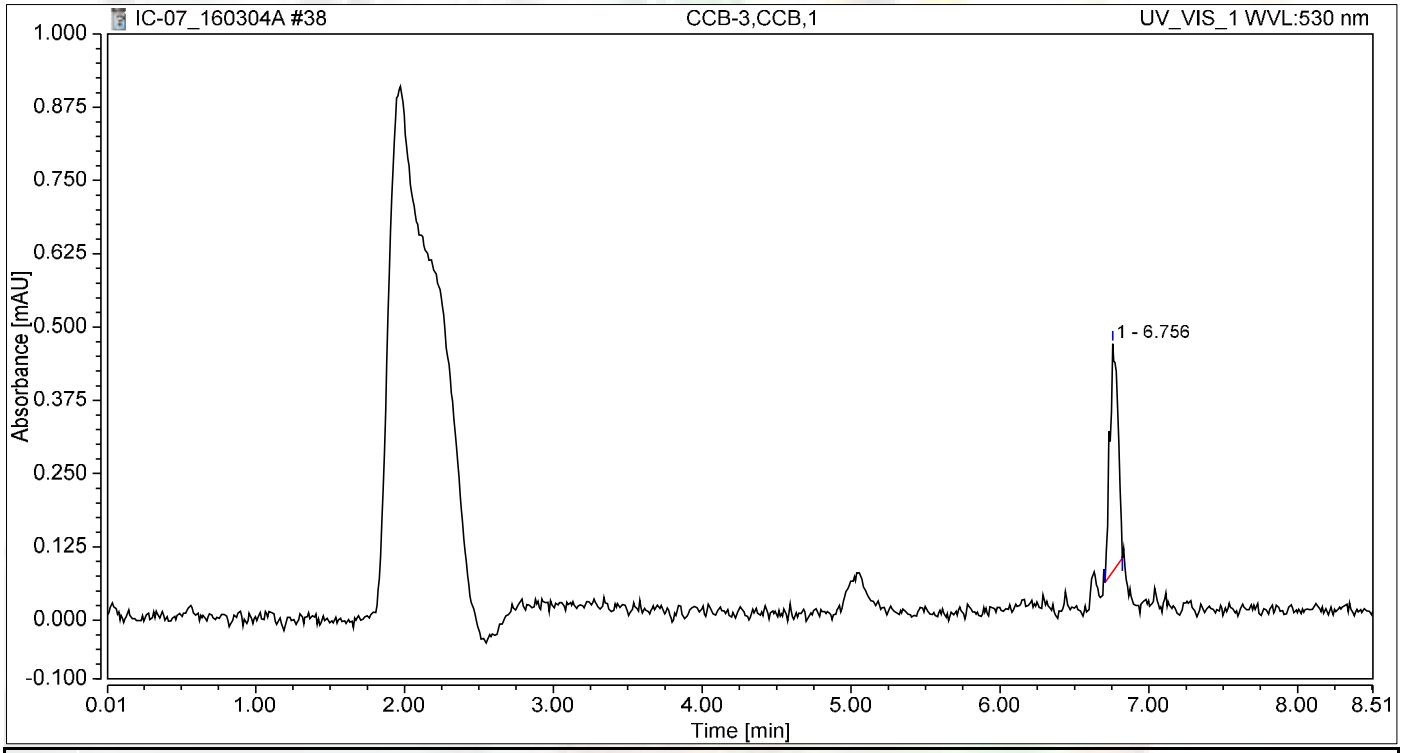
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.419	14.565	100.00	100.00	10.0282
Total:			**2.419**	**14.565**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

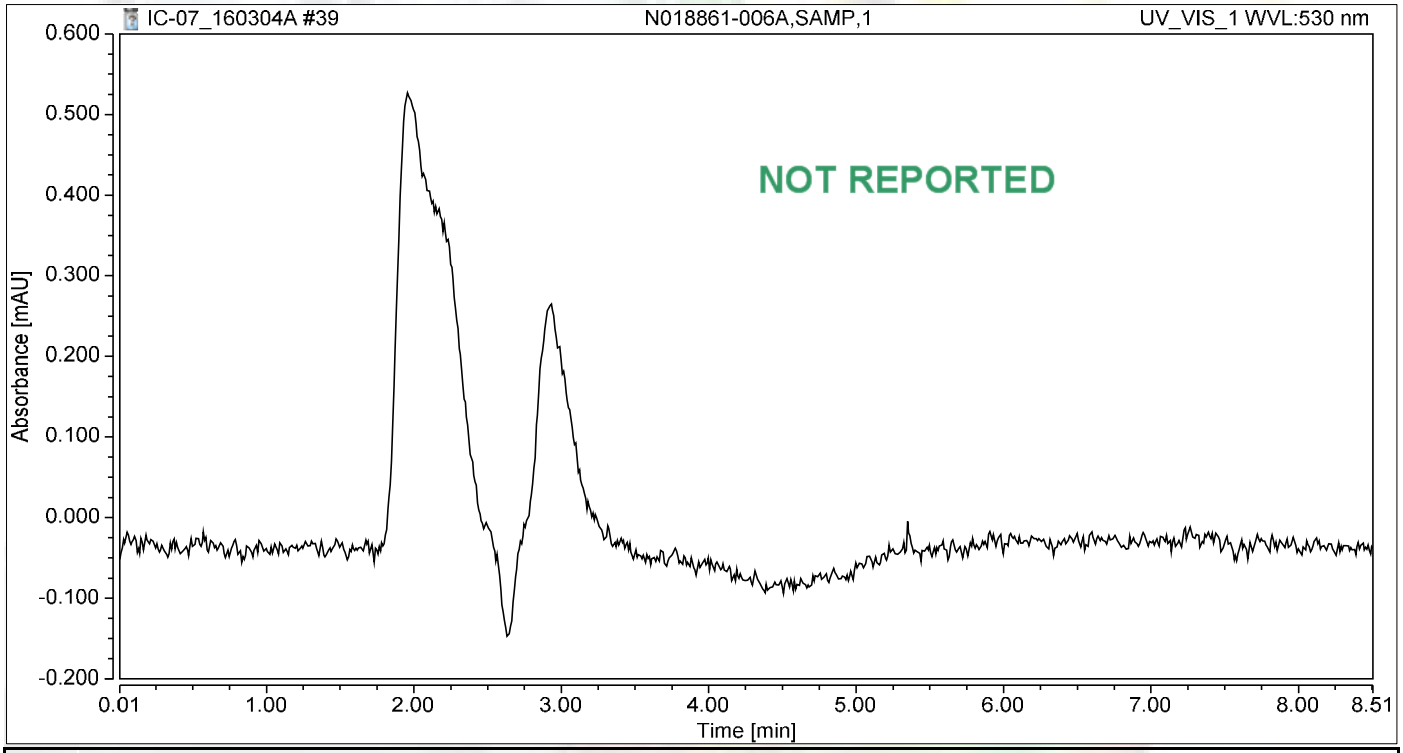
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		6.756	0.025	0.389	100.00	100.00	n.a.
Total:			**0.025**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

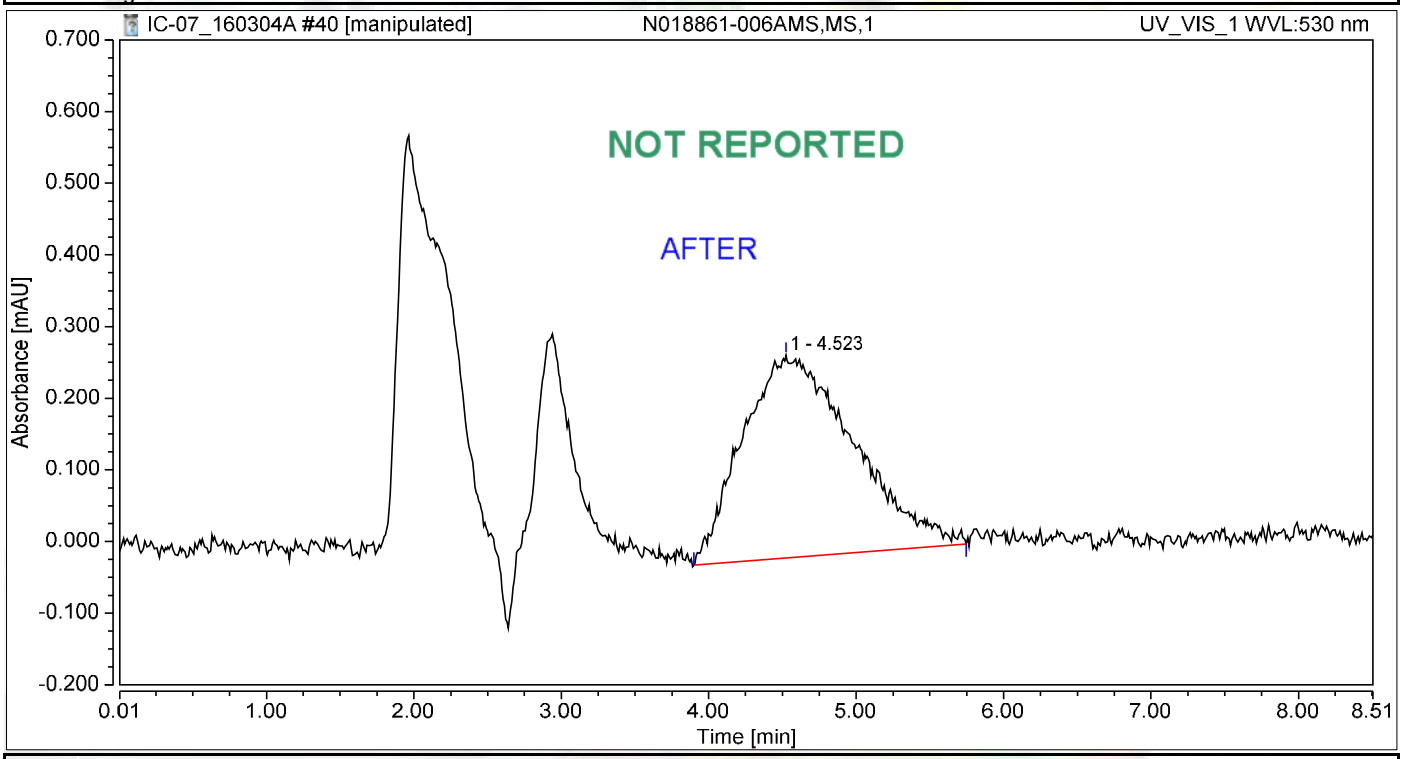
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

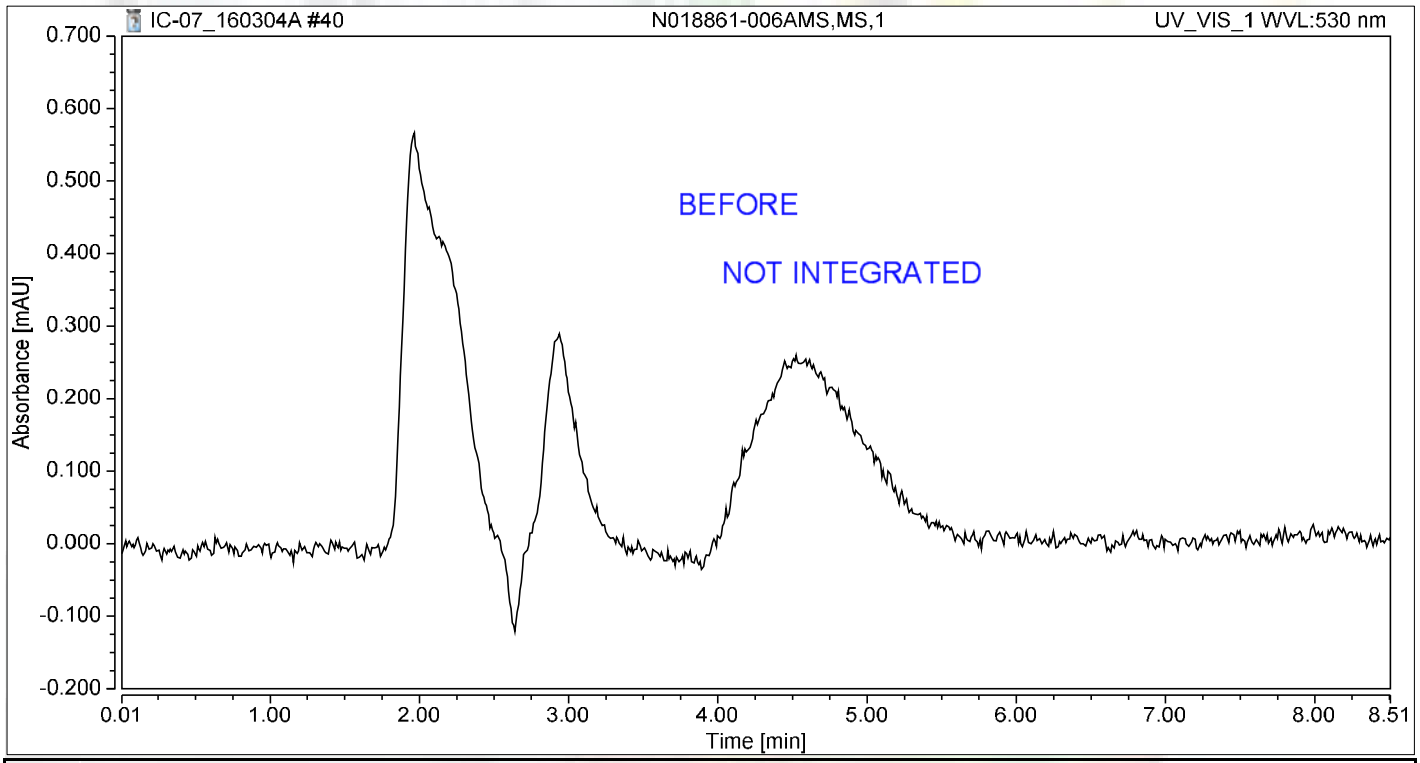
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1		4.523	0.247	0.283	100.00	100.00	n.a.
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.247**	**0.283**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

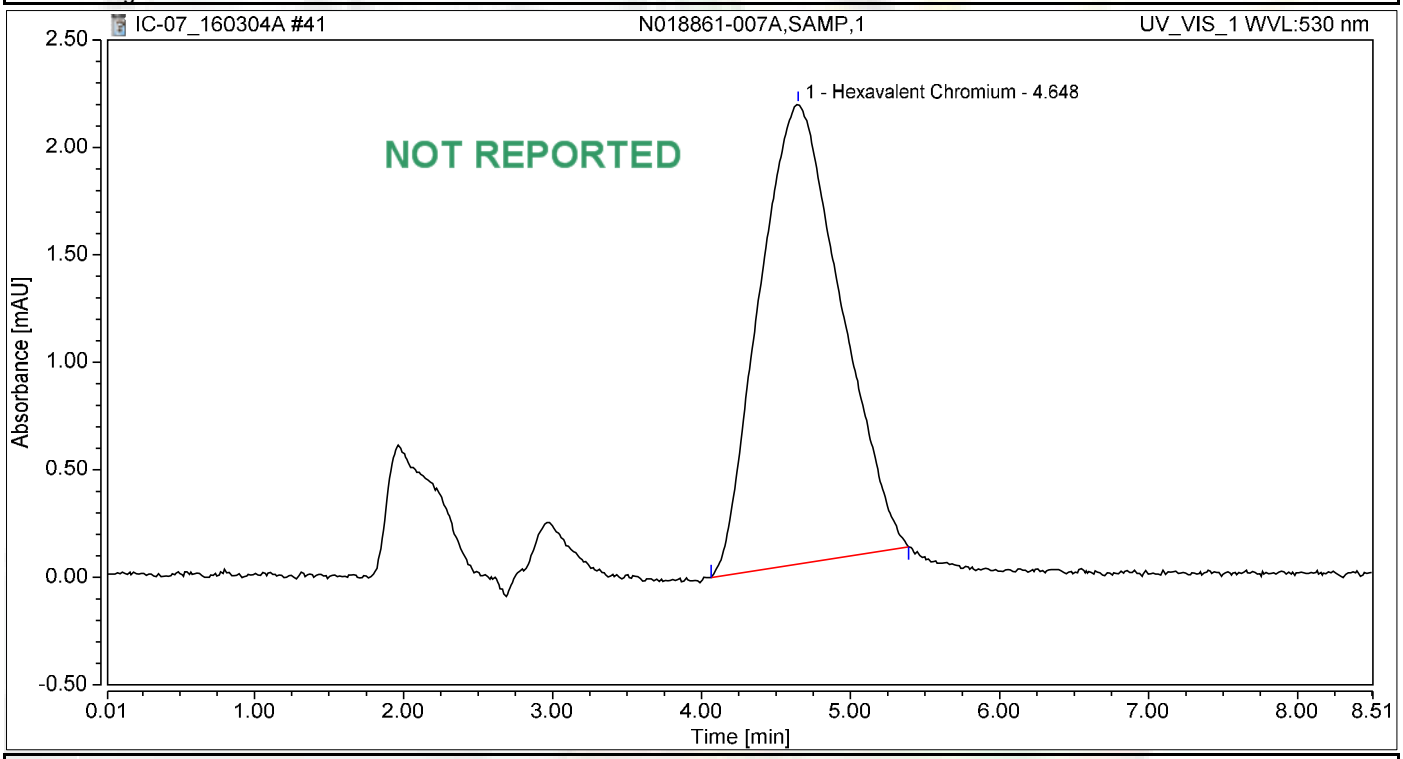
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

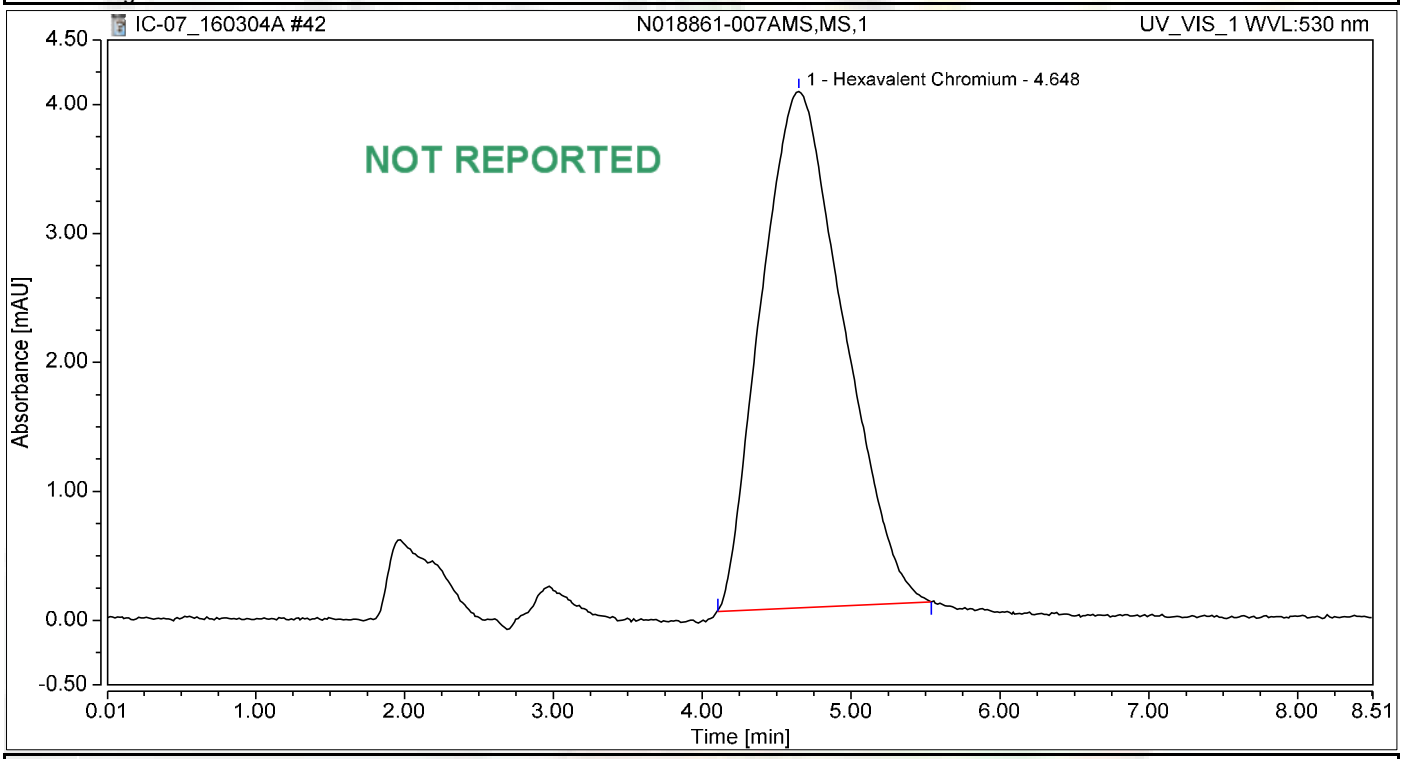
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.648	1.352	2.141	100.00	100.00	5.6040
Total:			**1.352**	**2.141**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

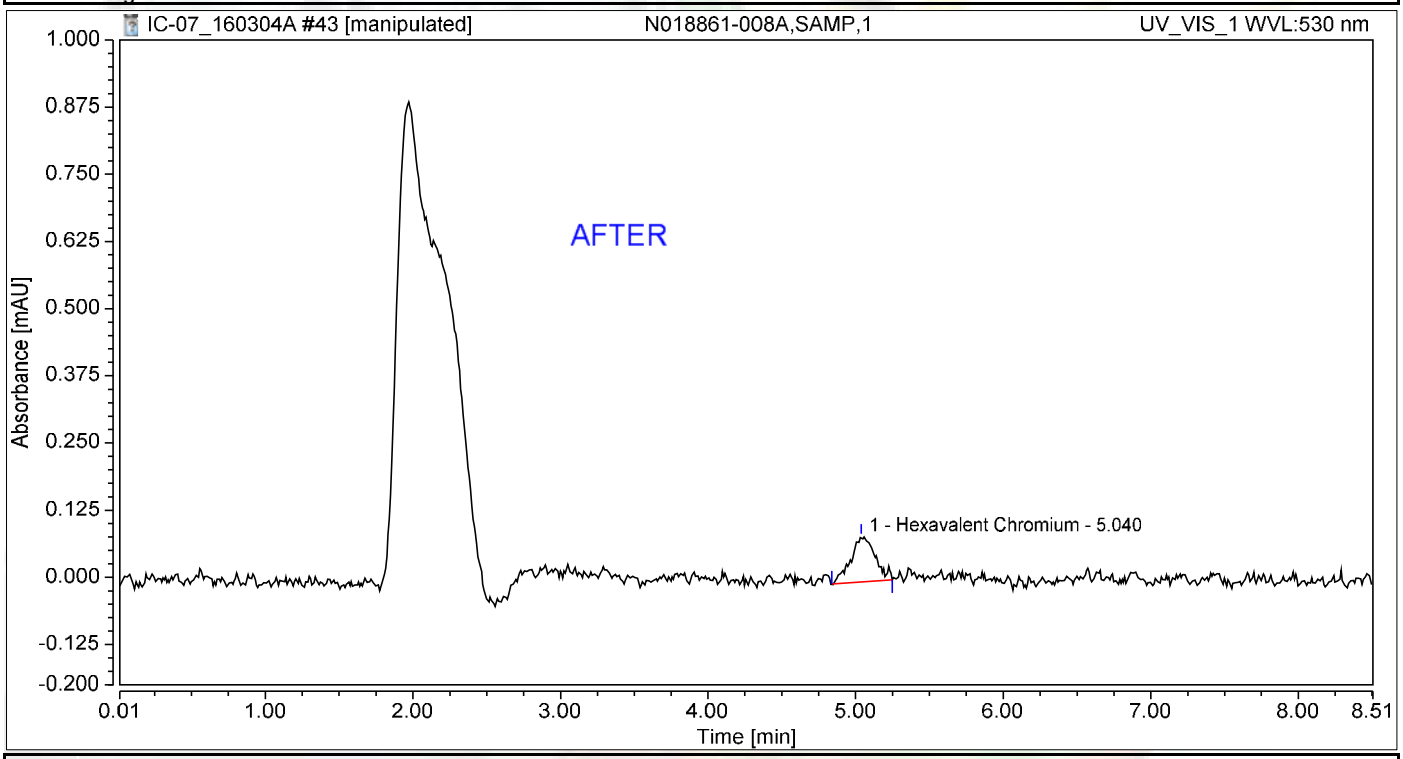
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.648	2.559	4.004	100.00	100.00	10.6083
Total:			**2.559**	**4.004**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.016	0.084	100.00	100.00	0.0665
Total:			**0.016**	**0.084**	**100.00**	**100.00**	

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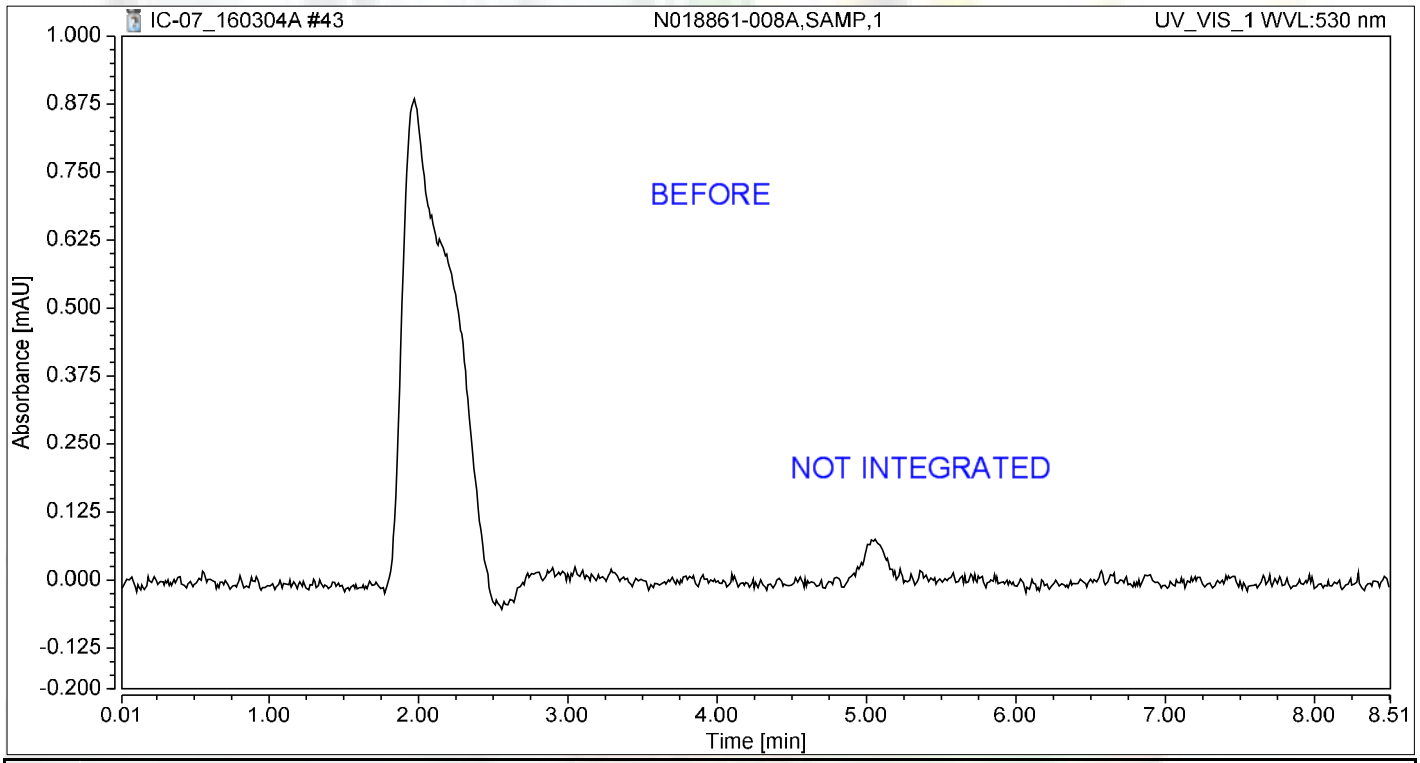
Chromatogram and Results

Injection Details

Injection Name:	**N018861-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

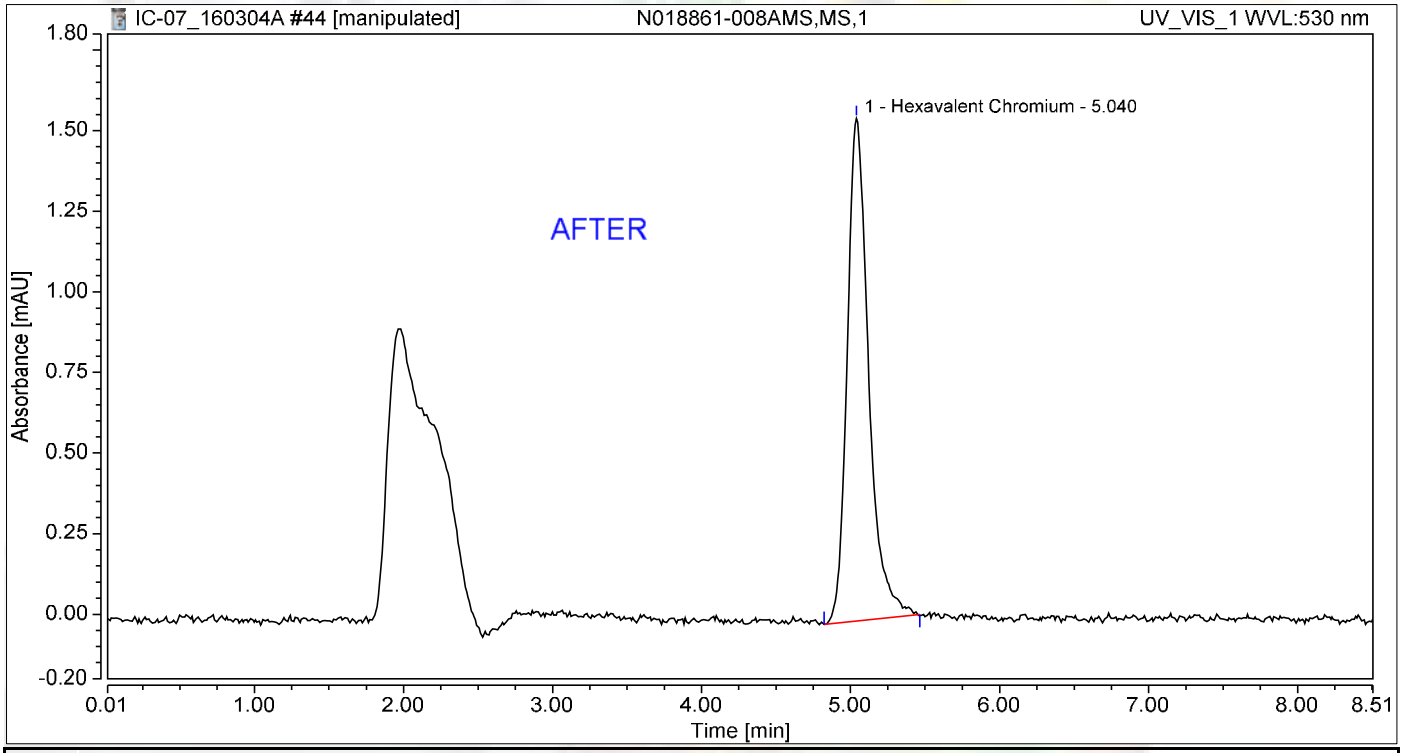
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.258	1.559	100.00	100.00	1.0694
Total:			**0.258**	**1.559**	**100.00**	**100.00**	

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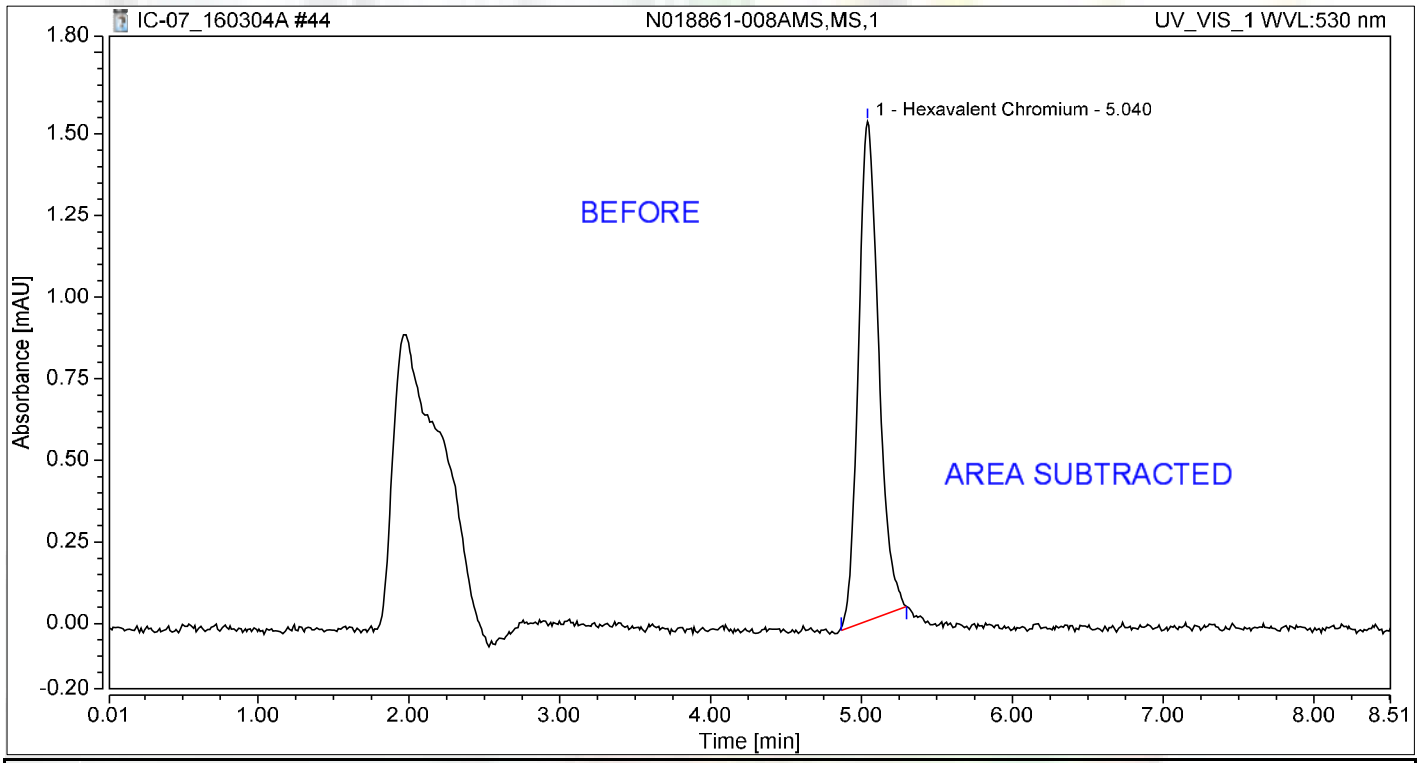
Chromatogram and Results

Injection Details

Injection Name:	**N018861-008AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 17:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

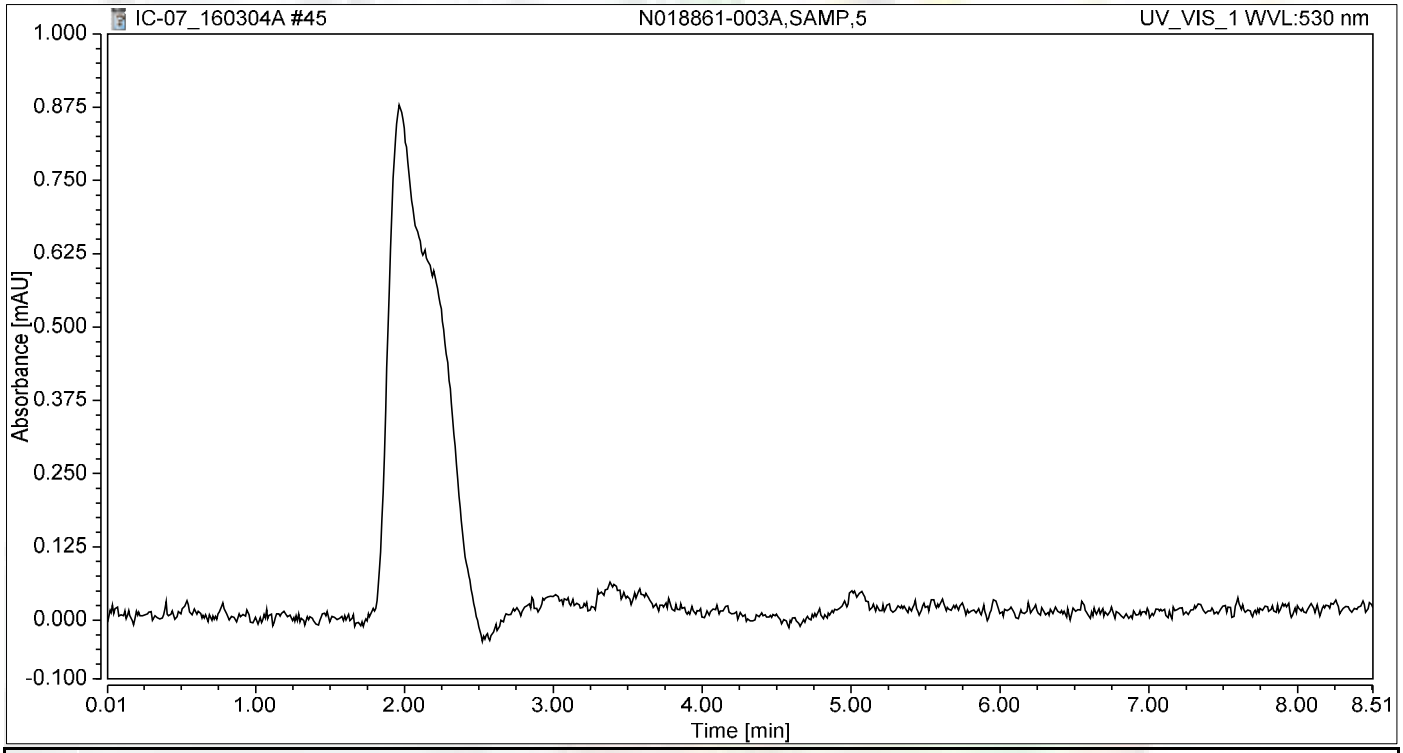
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.239	1.530	100.00	100.00	0.9901
Total:			**0.239**	**1.530**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

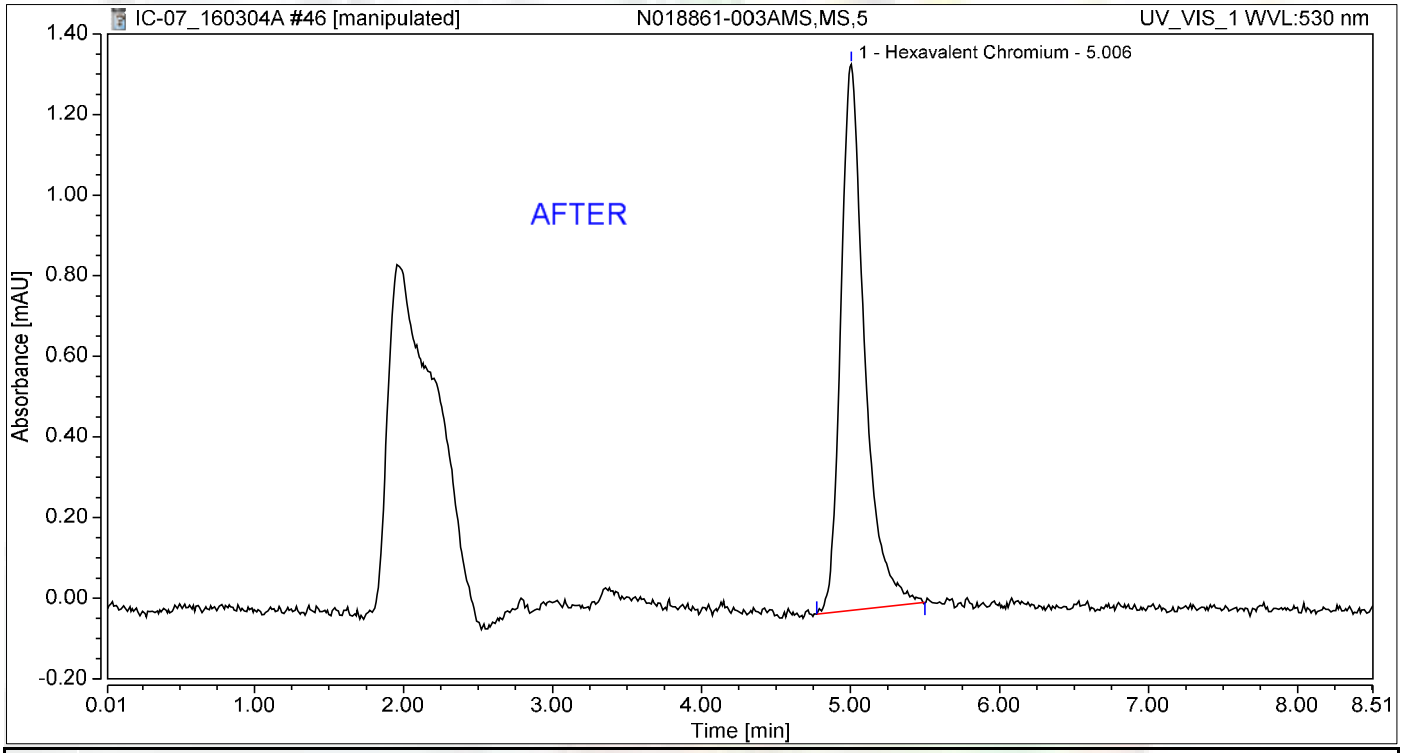
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.251	1.355	100.00	100.00	1.0416
Total:			**0.251**	**1.355**	**100.00**	**100.00**	

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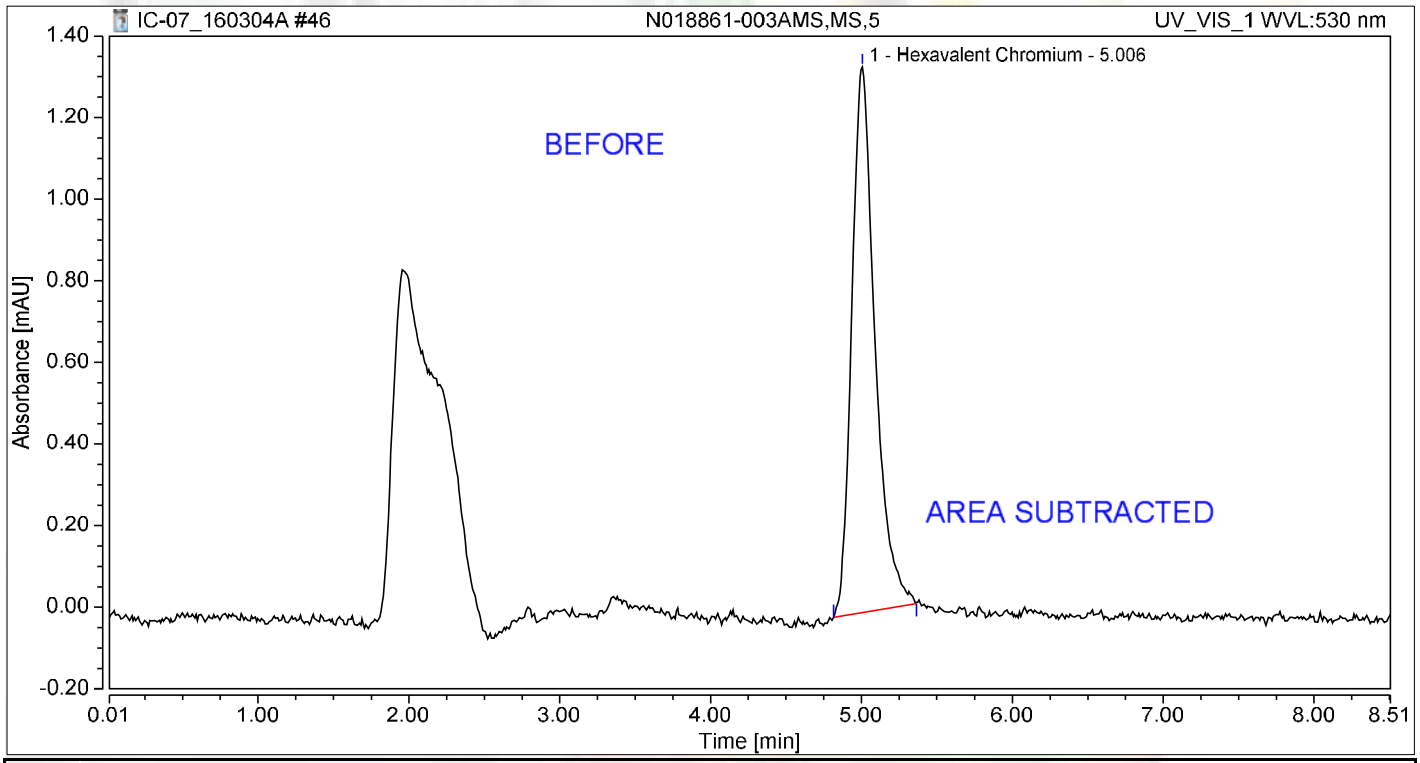
Chromatogram and Results

Injection Details

Injection Name:	**N018861-003AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

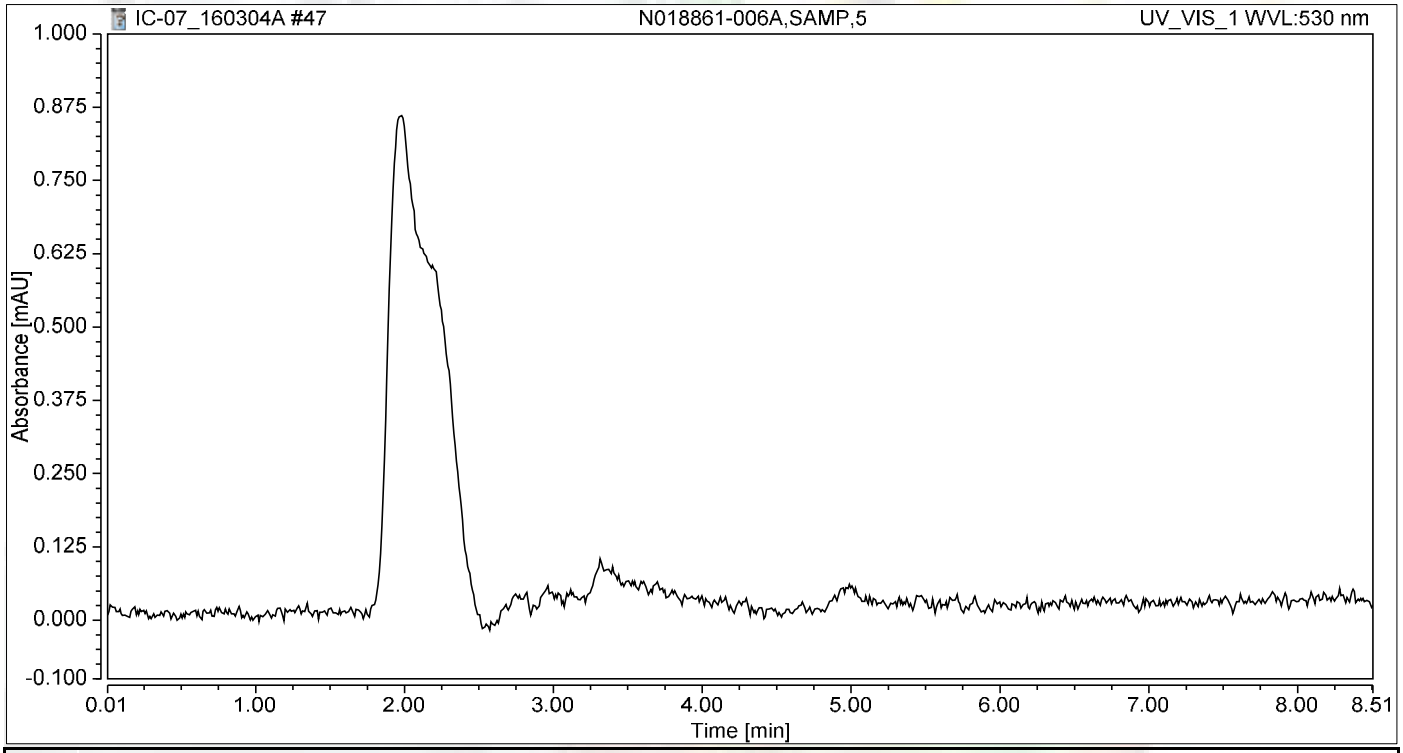
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.006	0.239	1.338	100.00	100.00	0.9894
Total:			**0.239**	**1.338**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

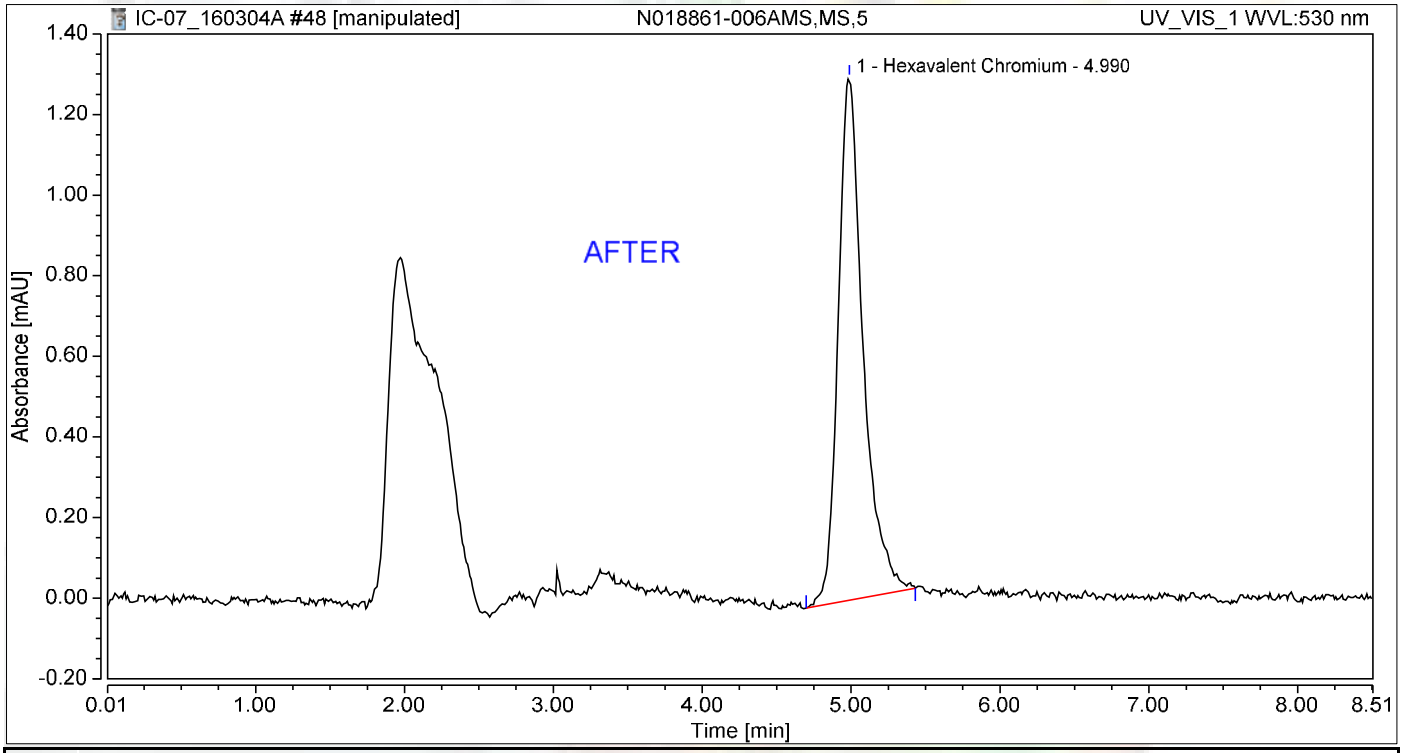
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.252	1.295	100.00	100.00	1.0435
Total:			**0.252**	**1.295**	**100.00**	**100.00**	

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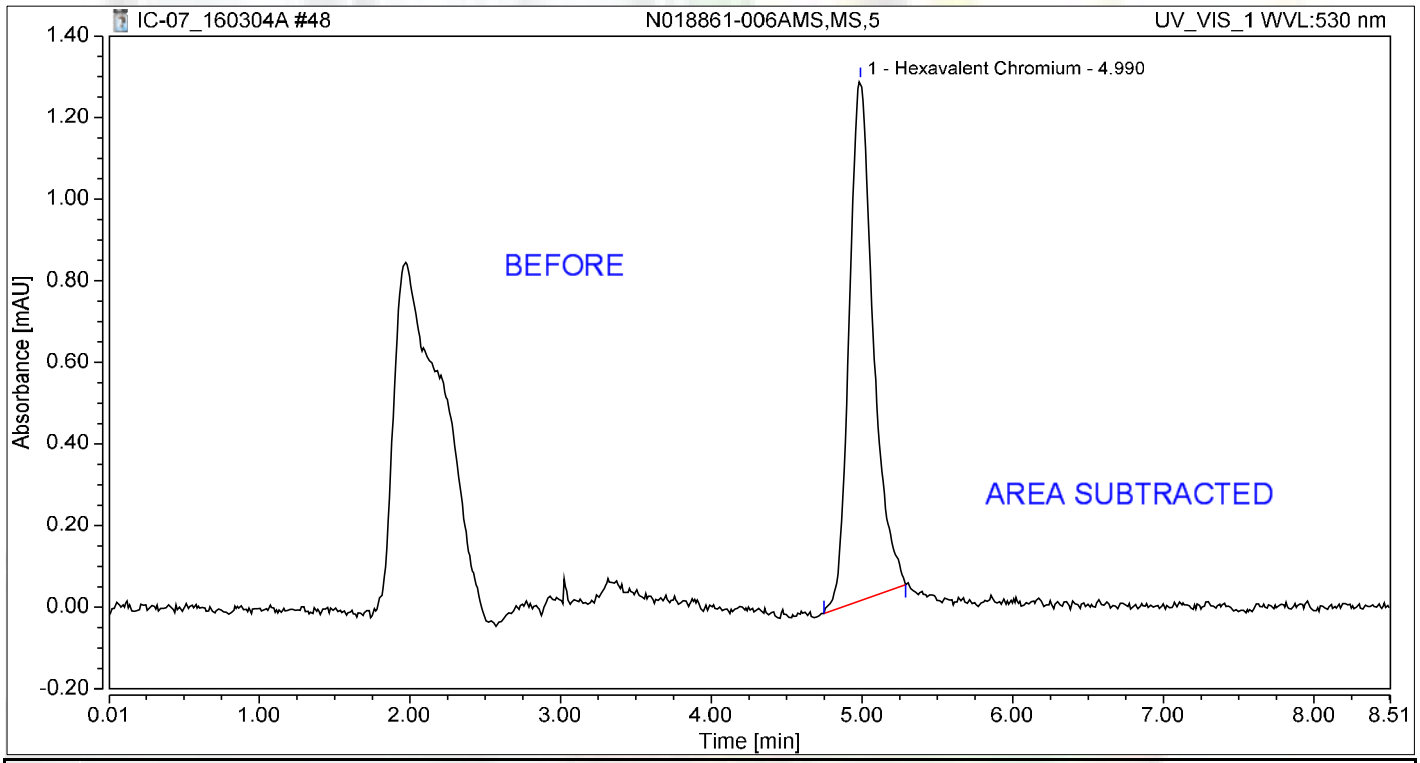
Chromatogram and Results

Injection Details

Injection Name:	**N018861-006AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

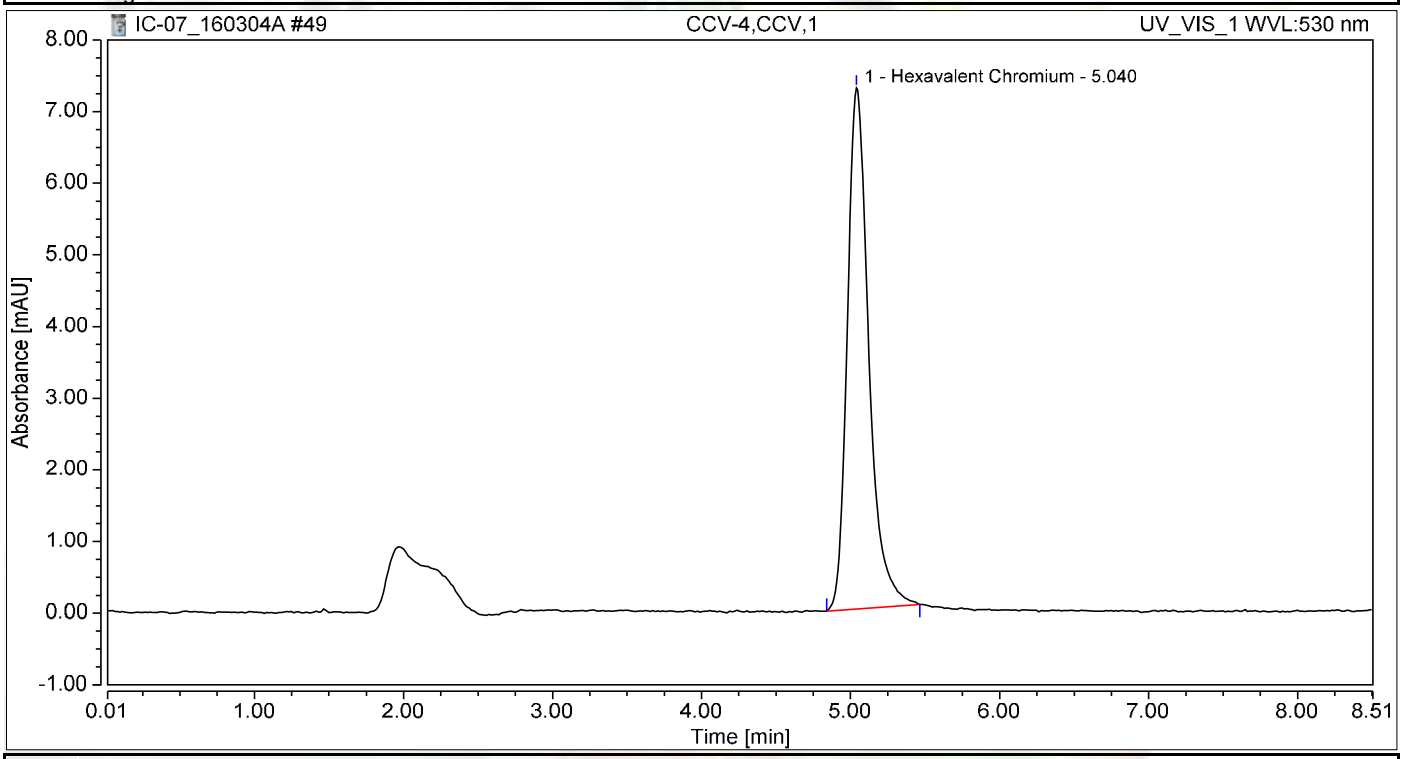
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.236	1.275	100.00	100.00	0.9799
Total:			**0.236**	**1.275**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

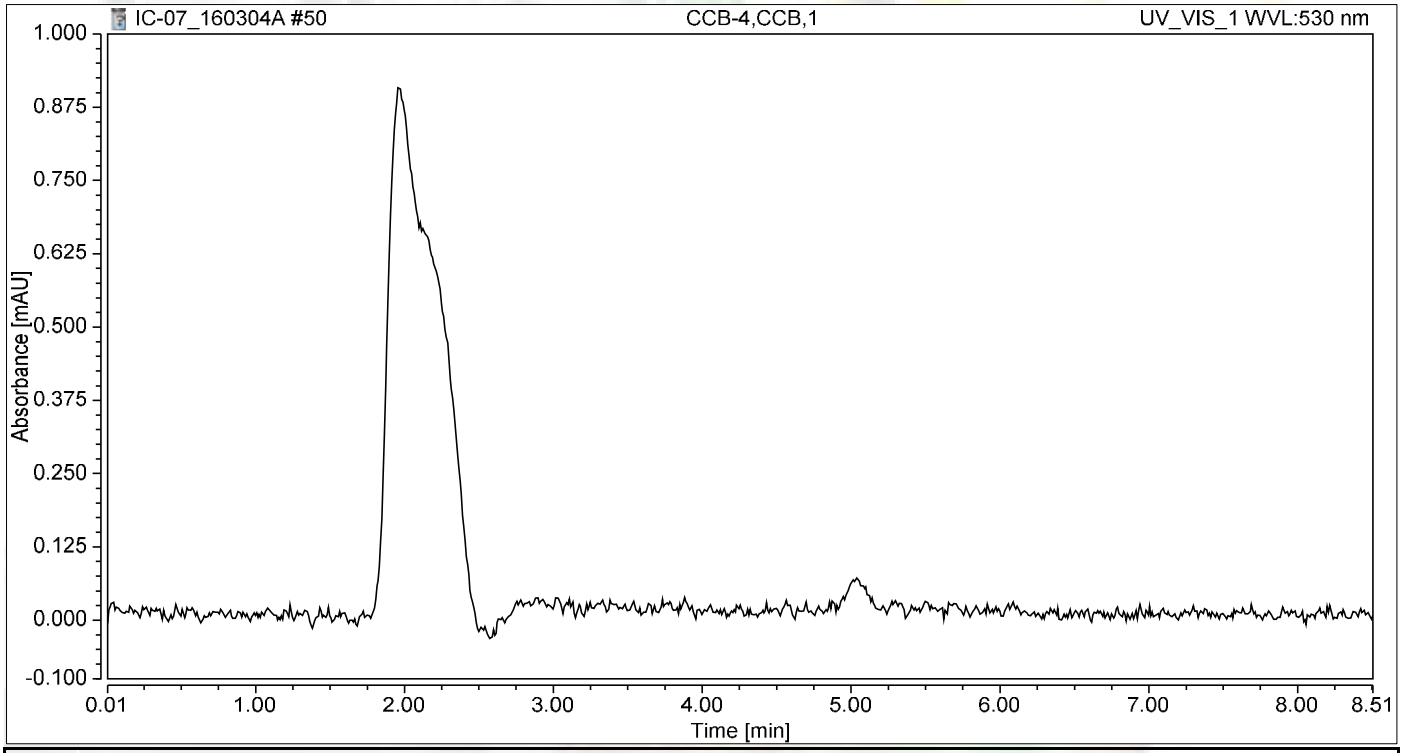
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	1.206	7.268	100.00	100.00	4.9999
Total:			**1.206**	**7.268**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

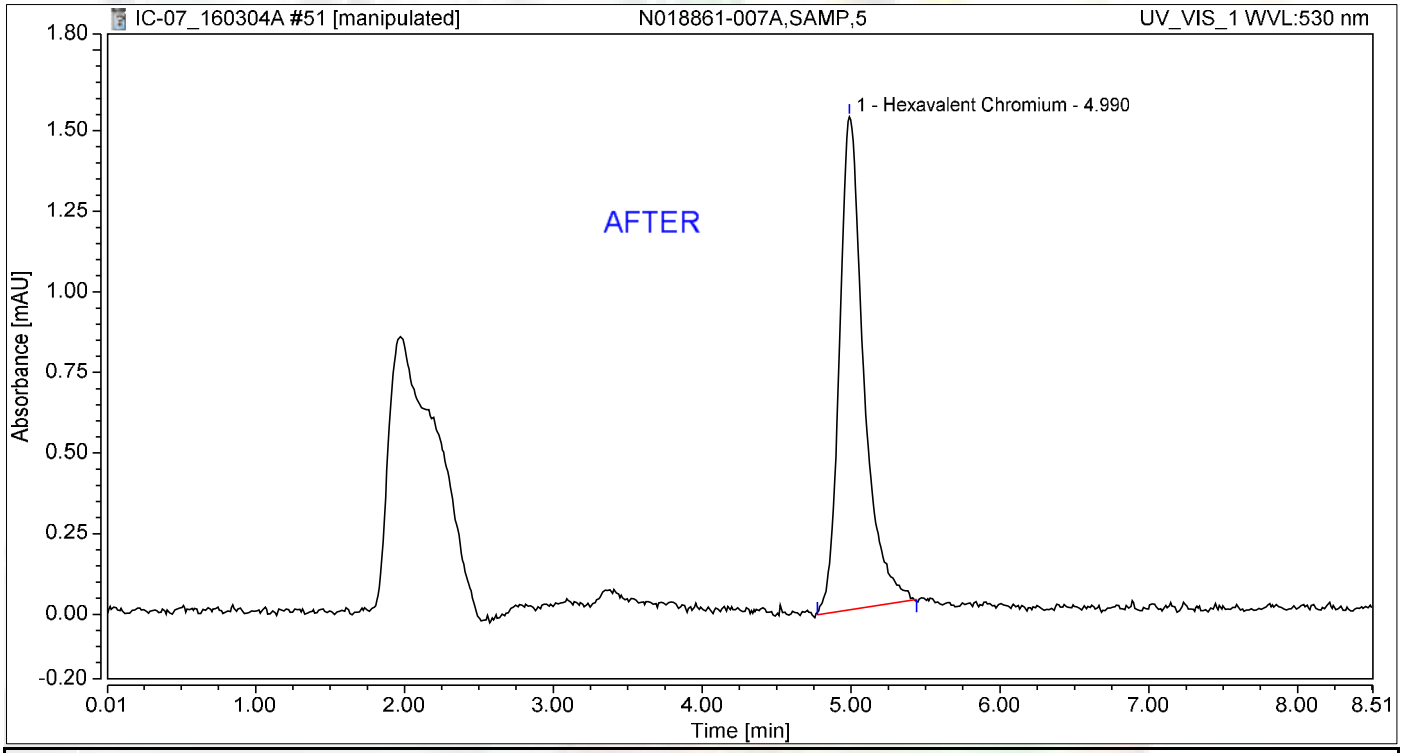
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.290	1.529	100.00	100.00	1.2014
Total:			**0.290**	**1.529**	**100.00**	**100.00**	

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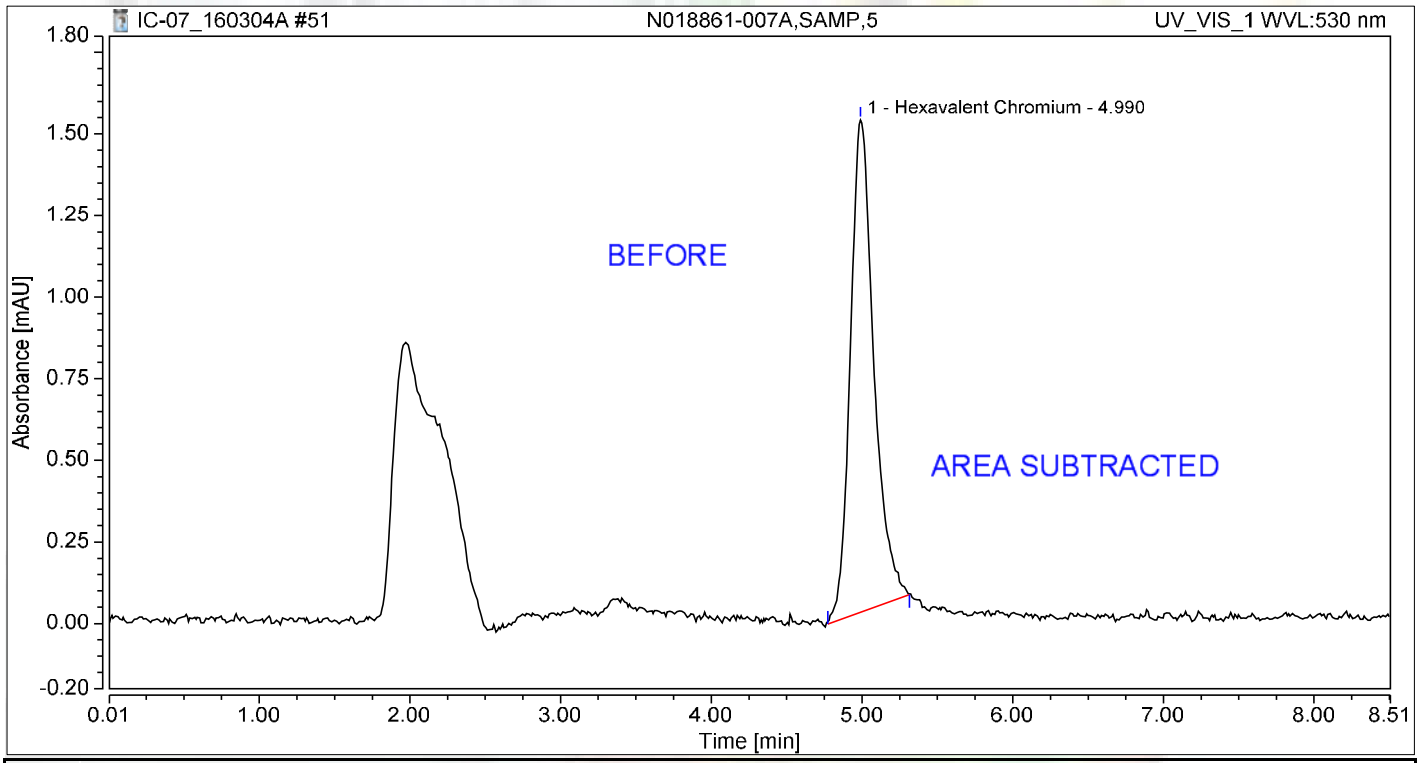
Chromatogram and Results

Injection Details

Injection Name:	**N018861-007A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

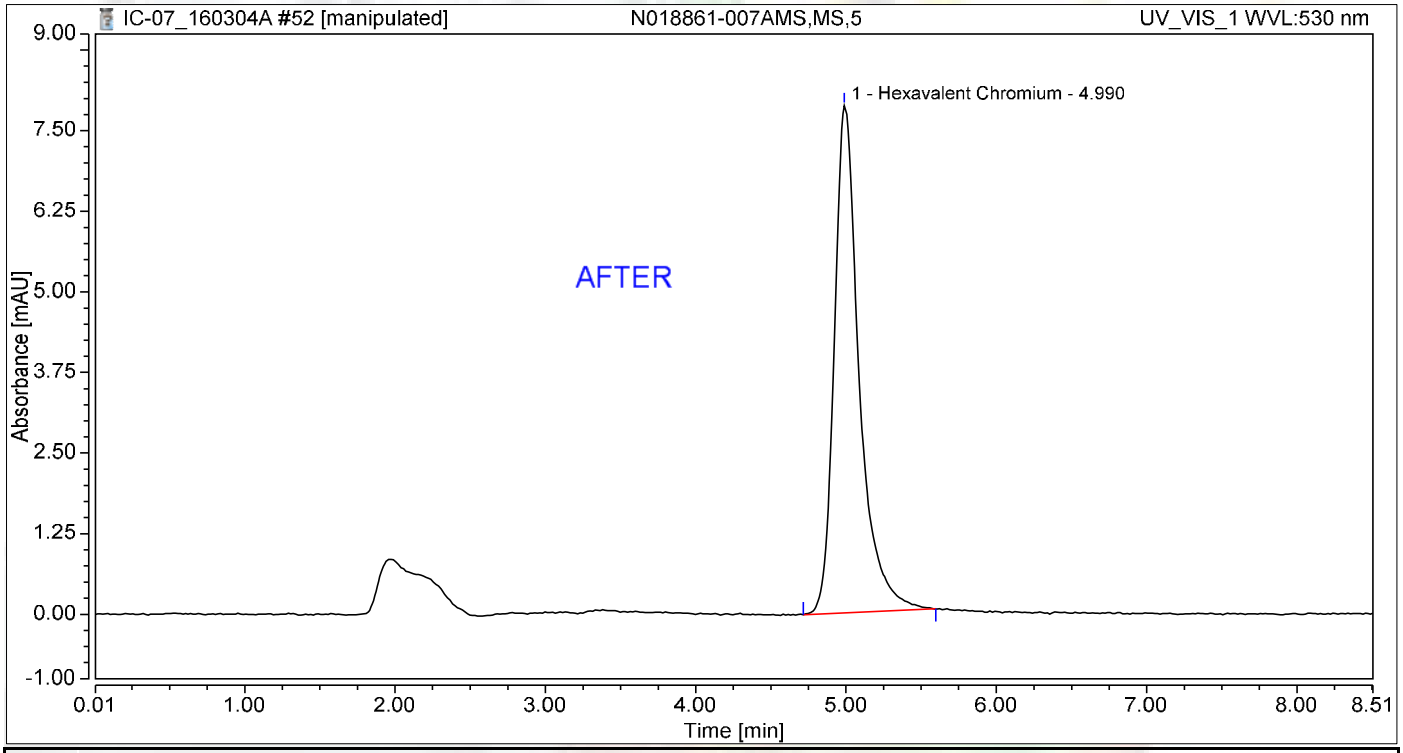
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	0.273	1.509	100.00	100.00	1.1317
Total:			**0.273**	**1.509**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018861-007AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	1.513	7.865	100.00	100.00	6.2706
Total:			**1.513**	**7.865**	**100.00**	**100.00**	

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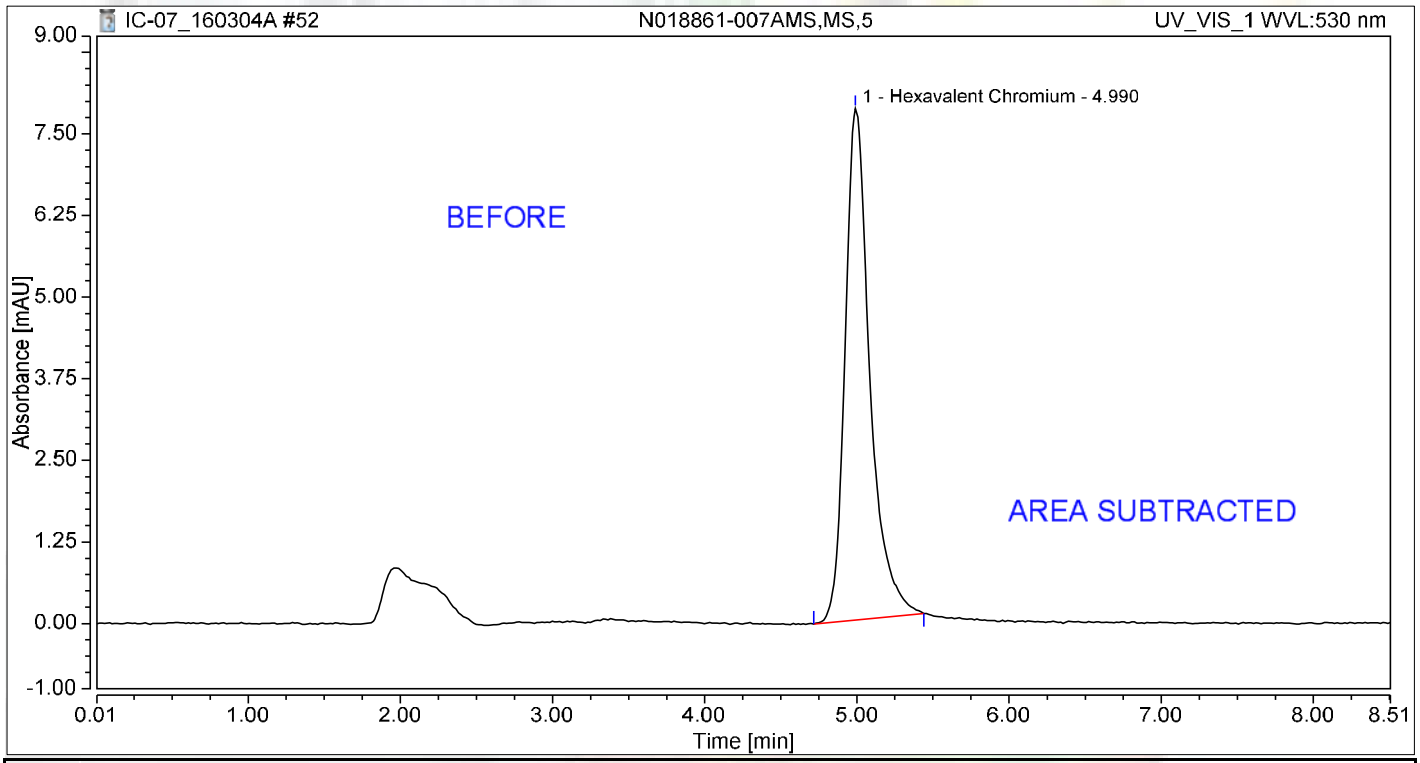
Chromatogram and Results

Injection Details

Injection Name:	**N018861-007AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

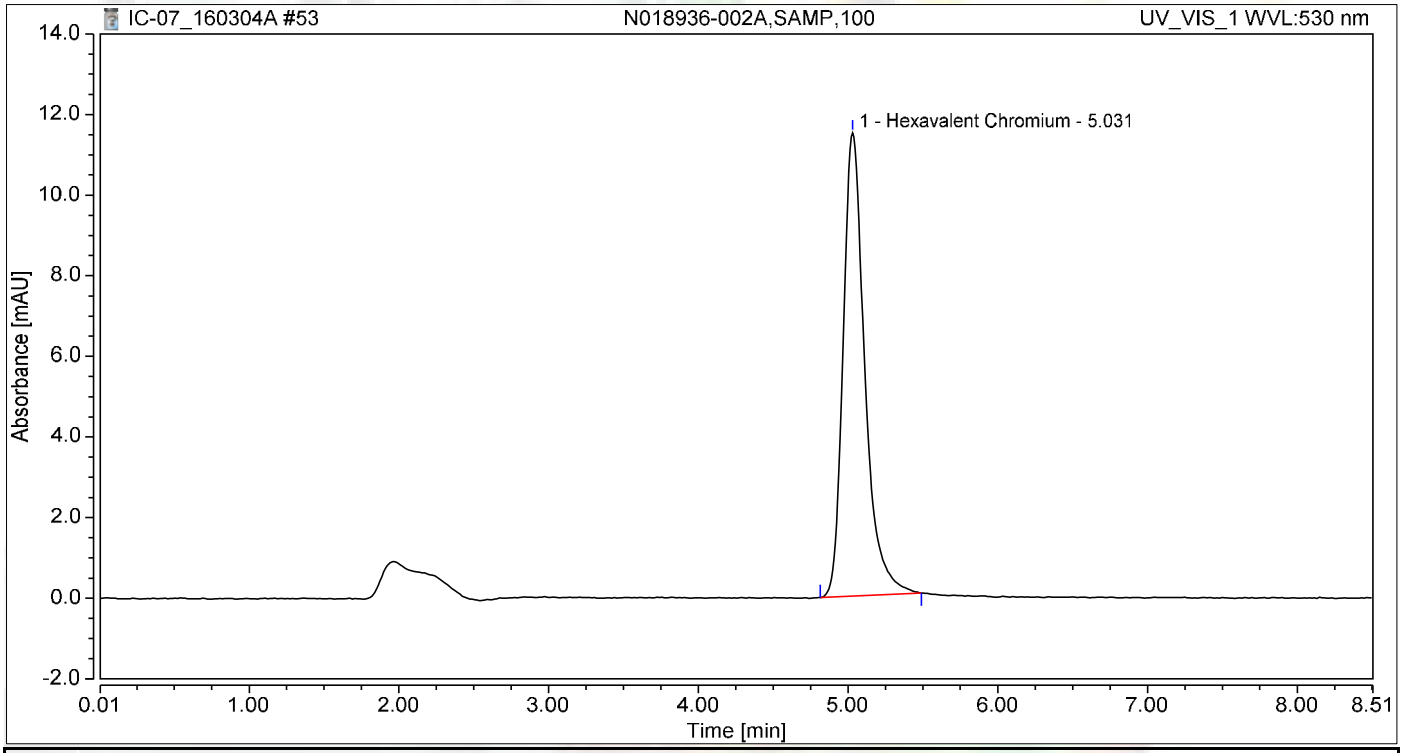
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.990	1.477	7.834	100.00	100.00	6.1229
Total:			**1.477**	**7.834**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-002A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

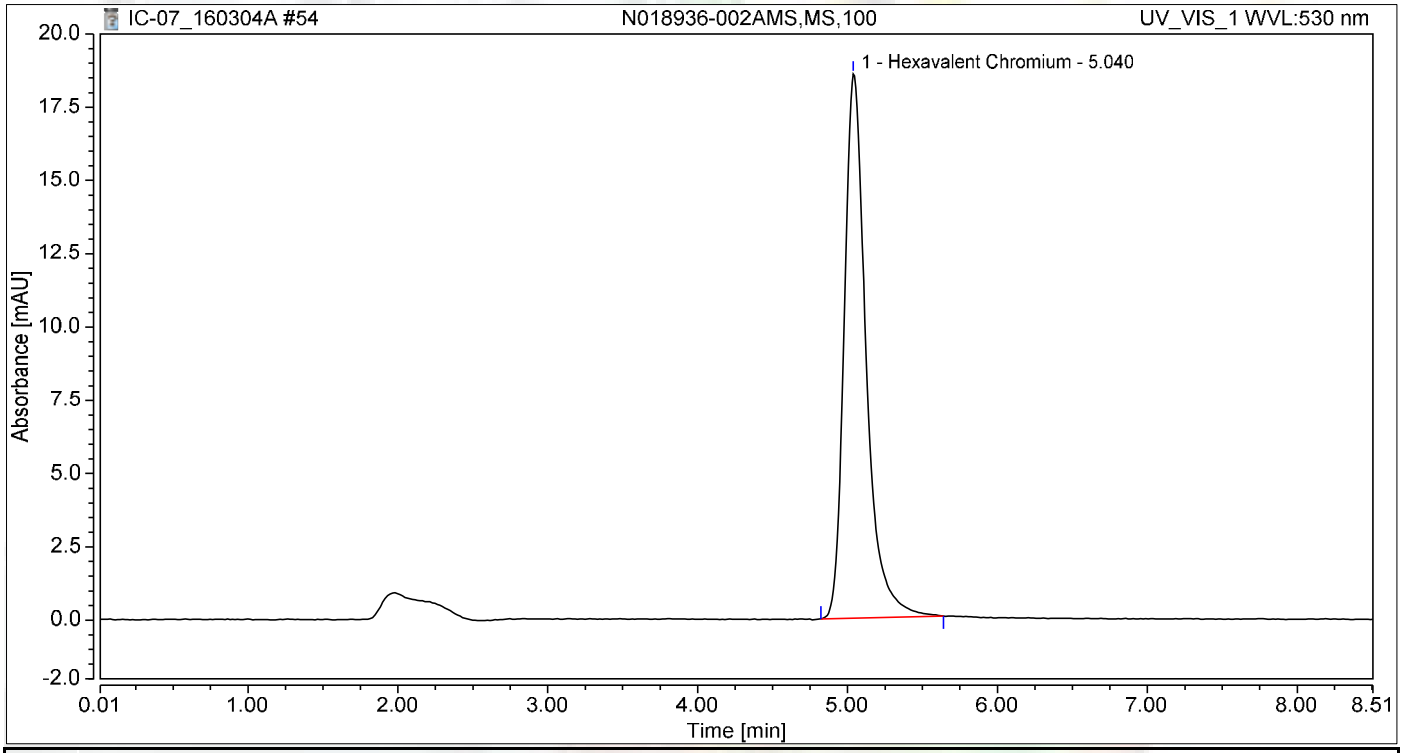
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.031	1.915	11.496	100.00	100.00	7.9381
Total:			**1.915**	**11.496**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-002AMS,MS,100**	*Run Time (min):*	**8.49**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

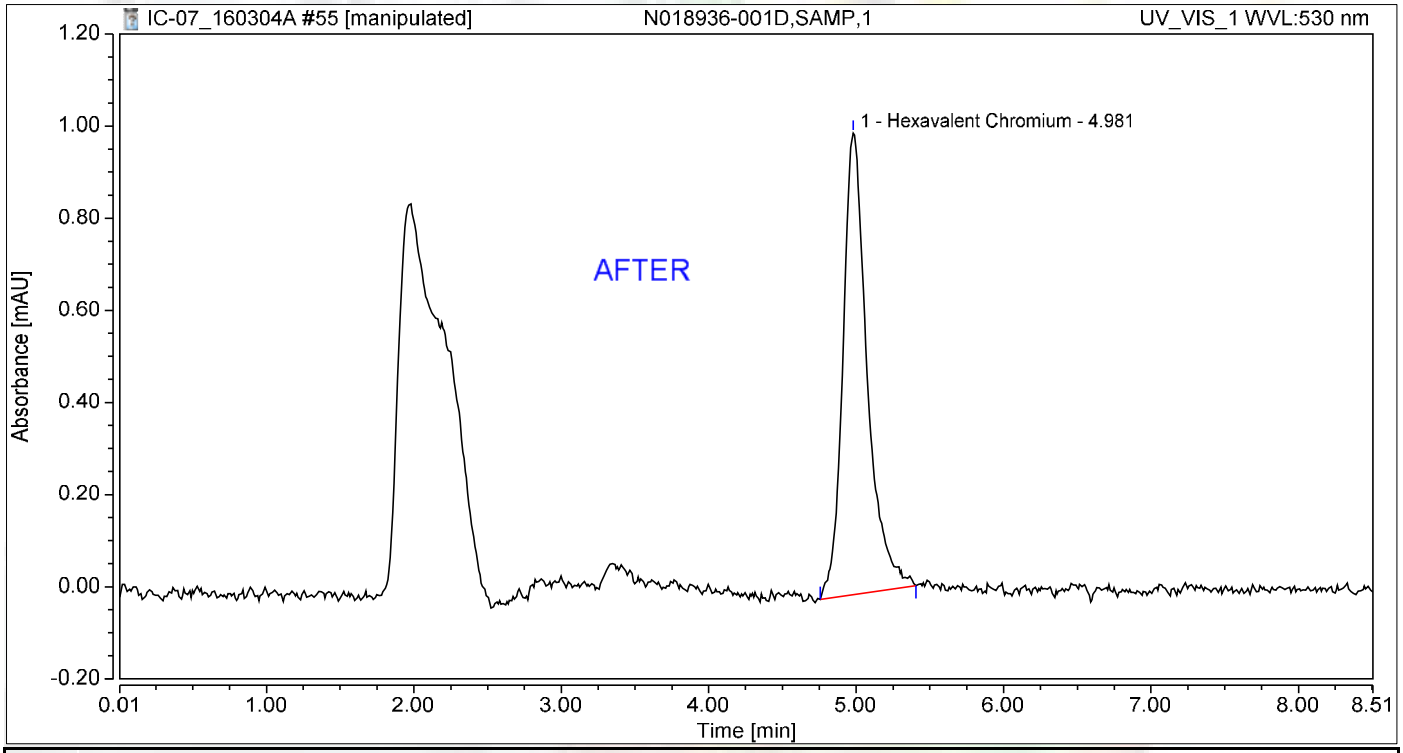
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	3.130	18.562	100.00	100.00	12.9753
Total:			**3.130**	**18.562**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-001D,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.191	1.002	100.00	100.00	0.7916
Total:			**0.191**	**1.002**	**100.00**	**100.00**	

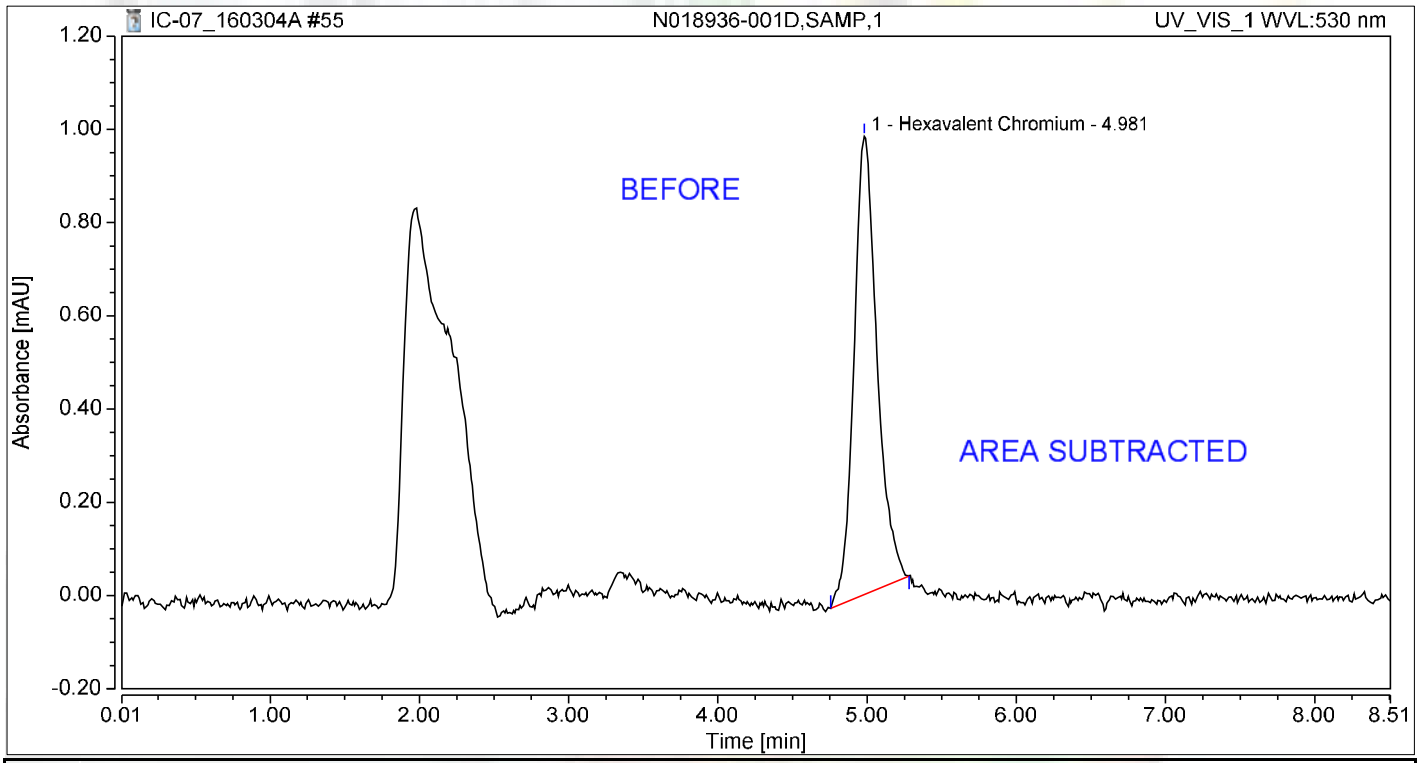
Nancy 3/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**N018936-001D,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

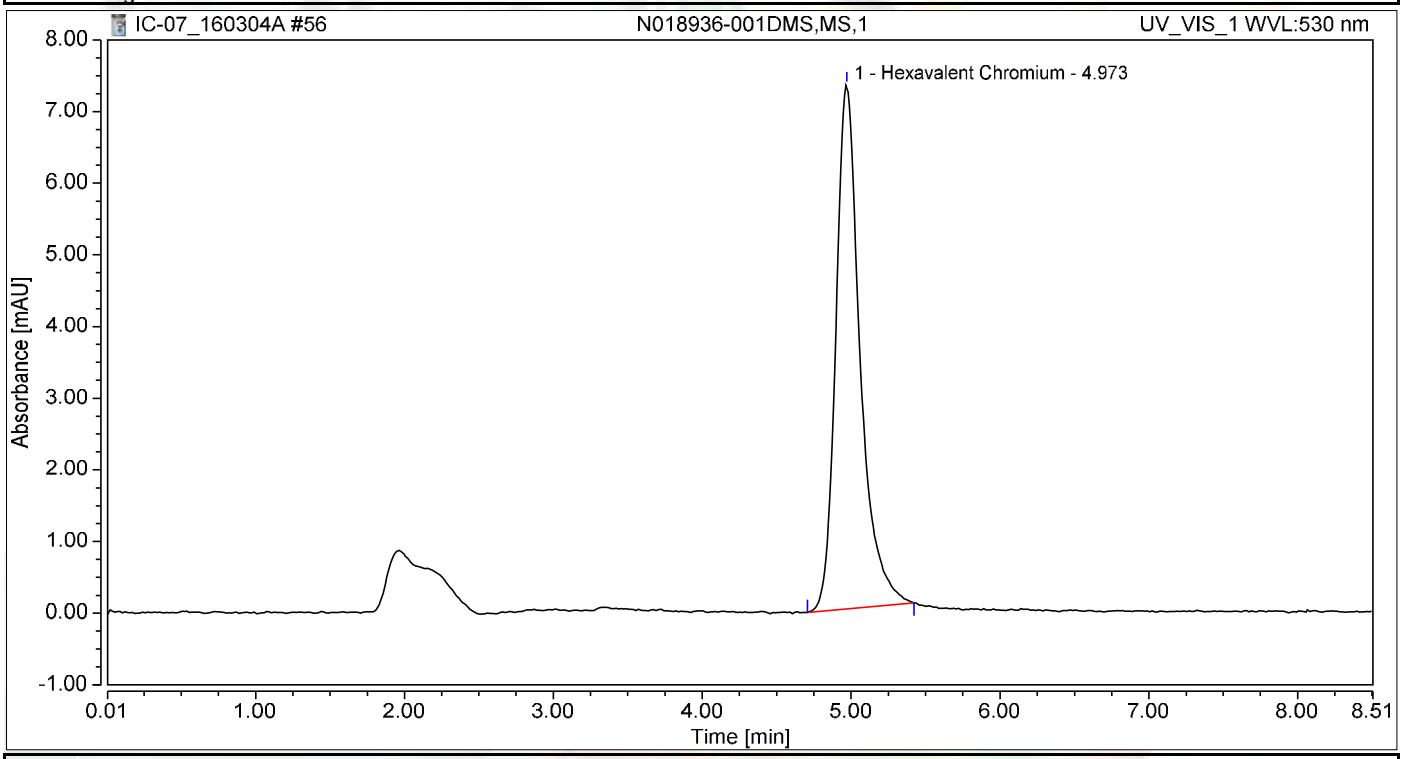
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.981	0.176	0.983	100.00	100.00	0.7315
Total:			**0.176**	**0.983**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N018936-001DMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**46**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 19:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

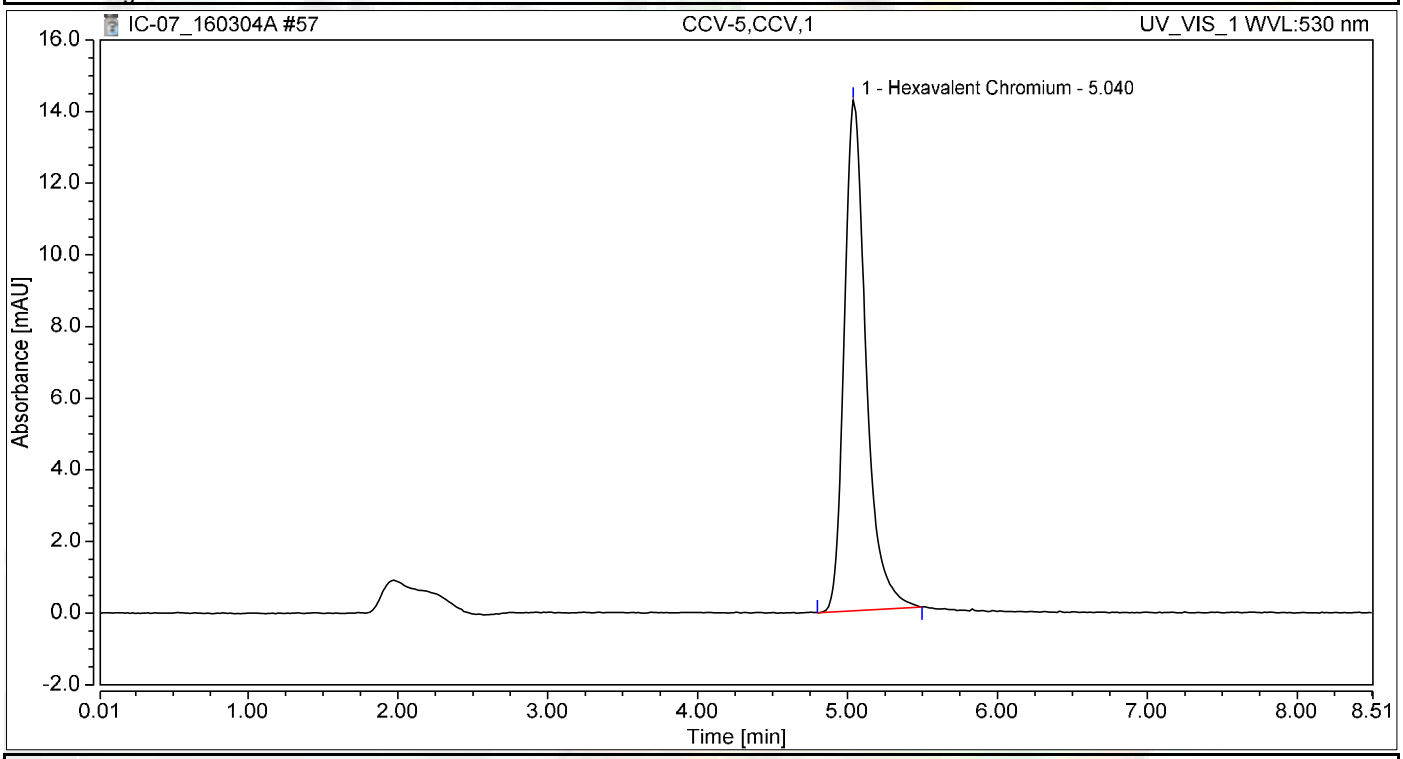
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.973	1.381	7.311	100.00	100.00	5.7239
Total:			**1.381**	**7.311**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1**	*Run Time (min):*	**8.49**
Vial Number:	**47**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 20:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

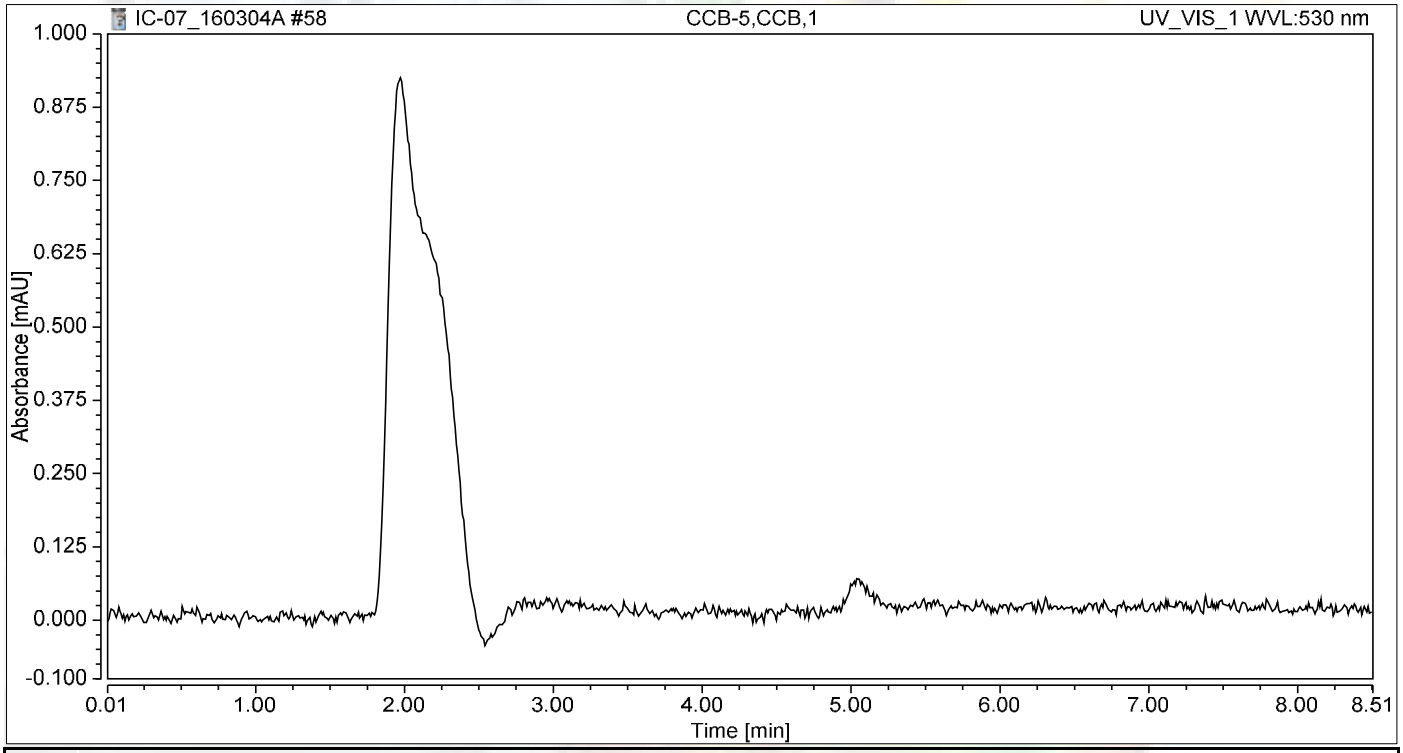
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	2.394	14.251	100.00	100.00	9.9228
Total:			**2.394**	**14.251**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1**	*Run Time (min):*	**8.50**
Vial Number:	**48**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160302_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**04/Mar/16 20:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 2320B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106205 **Analyst:** LSR

ASSET #: N018936 **Date Analyzed:** 3/3/2016

Method: EPA 2320

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 3/7/2016

2nd Level Reviewer Mary 3/17/2016 Date: —

SAMPLE CALCULATION

Sample ID: **N018936-001B @ pH 7.54**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (11.95 mL)

= **0.02092 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$ volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (9.70) (0.02092 N) (1) * 1000

= 202.9240 mg/**L**

Reporting results in two significant figures,

= **200 mg/L** as CaCO3

Julia Ramit 3/7/2016

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02092 N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (9.70 mL) (0.02092) (1) * 1000

= 202.9240 **mg/L** as CaCO3

Where:

$P_{vol.}$ - Volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - Volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **202.9240 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **200 mg/L**

Julia Ramit 3/7/2016

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SAMPLE	PH SAMPLE	AMOUNT	V@8.3	VT TO 4.5	Sample Type
MB-1	5.22	50	0.00	0.05	MBLK
LCS-1	8.24	50	0.00	4.80	LCS
N018910-001A	8.29	50	0.00	12.00	SAMP
N018910-002A	10.47	50	10.00	13.20	SAMP
N018910-003A	10.36	50	11.70	15.30	SAMP
N018919-001A	7.45	50	0.00	7.70	SAMP
N018919-002A	7.55	50	0.00	6.40	SAMP
N018936-001B	7.54	50	0.00	9.70	SAMP
N018936-002C	7.25	50	0.00	6.30	SAMP
N018919-001ADUP	7.42	50	0.00	7.60	DUP
N018919-002AMS	7.91	50	0.00	10.80	MS
N018919-002AMSD	7.94	50	0.00	10.90	MSD

Standardization:		
Spike amt:	**5**	ml
Titrant used:	**11.95**	ml
N H2SO4	**0.02092**	Normal
Date Analyzed:	**3/3/16**	
Time:	**1:15 PM**	
Analyzed By:	**LSR**	
Sodium Carbonate:	**CINV-150202G**	
Sodium Bicarbonate:	**CINV-150601A**	
Sulfuric Acid:	**R160202A**	

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Date Analyzed:	3/3/16		**Reagents:**					**Standardization:**					**P = 0**
Time Started:	1:15 PM			Sodium Carbonate:		CINV-150202G			Spike amt:	5	**mL**		**P < 1/2 T**
Analyzed By:	**LSR**			Hydrochloric Acid:		0			Titrant used:	11.95	**mL**		**P = 1/2 T**
				Sulfuric Acid:		R160202A							**P > 1/2 T**
									N H2SO4	0.02092	**N**		**P = T**
Sample ID	**Sample Vol/Wt.**	**Sample pH**	**Std. Code**	**Spike Amount**	**Spike Conc.**	**Normality, Titrant**	**Vol. Used to pH 8.3, ml.**	**Vol. Used pH 8.3 to 4.5, ml.**	**Total Vol. Used, ml.**	**DF (50ml/Vsamp.)**	**P Alkalinity**	**T Alkalinity**	**Comments**
MB-1	50	5.22				0.02092	0.00	0.05	0.05	1	0.00	1.05	
LCS-1	50	8.24				0.02092	0.00	4.80	4.80	1	0.00	100.42	
N018910-001A	50	8.29				0.02092	0.00	12.00	12.00	1	0.00	251.05	
N018910-002A	50	10.47				0.02092	10.00	3.20	13.20	1	209.21	276.15	
N018910-003A	50	10.36				0.02092	11.70	3.60	15.30	1	244.77	320.08	
N018919-001A	50	7.45				0.02092	0.00	7.70	7.70	1	0.00	161.09	
N018919-002A	50	7.55				0.02092	0.00	6.40	6.40	1	0.00	133.89	
N018936-001B	50	7.54				0.02092	0.00	9.70	9.70	1	0.00	202.93	
N018936-002C	50	7.25				0.02092	0.00	6.30	6.30	1	0.00	131.80	
N018919-001ADU	50	7.42				0.02092	0.00	7.60	7.60	1	0.00	159.00	
N018919-002AMS	50	7.91				0.02092	0.00	10.80	10.80	1	0.00	225.94	
N018919-002AMS	50	7.94				0.02092	0.00	10.90	10.90	1	0.00	228.03	

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Speciated, Alkalinity as CaCO3

SM 2320B

Date Analyzed:	3/3/16
Time:	1:15 PM
Analyzed By:	LSR

SAMPLE ID	OH	CO3	HCO3	TOTAL	CHECK	COMMENT	REMARKS
MB-1	0.00	0.00	1.05	1.05	1.05		P = 0
LCS-1	0.00	0.00	100.42	100.42	100.42		P = 0
N018910-001A	0.00	0.00	251.05	251.05	251.05		P = 0
N018910-002A	142.26	133.89	0.00	276.15	276.15		P > 1/2 T
N018910-003A	169.46	150.63	0.00	320.08	320.08		P > 1/2 T
N018919-001A	0.00	0.00	161.09	161.09	161.09		P = 0
N018919-002A	0.00	0.00	133.89	133.89	133.89		P = 0
N018936-001B	0.00	0.00	202.93	202.93	202.93		P = 0
N018936-002C	0.00	0.00	131.80	131.80	131.80		P = 0
N018919-001ADUP	0.00	0.00	159.00	159.00	159.00		P = 0
N018919-002AMS	0.00	0.00	225.94	225.94	225.94		P = 0
N018919-002AMSD	0.00	0.00	228.03	228.03	228.03		P = 0

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Alkalinity Preparation and Runlog

Book #5

Matrix:

Date Extracted: 3/3/14
Time Extracted: 7
Extracted By: L&K

Date Analyzed: 3/3/14
Time Analyzed: 1315
Analyzed By: L&R

Reagent Lot # / Reagent ID
Sodium Carbonate: CINV-150202G
Hydrochloric Acid: -
Sulfuric Acid: R160202A
NaHCO3: CINV 150601A

pH meter CALIBRATION:
SLOPE: 98.4%
pH 4 - 4.01 - CINV 150888A
7 - 6.99 - " B
10 - 10.05 - CINV 150708A

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added	Spike Conc.	Norm. Titrant	Vol. At pH = 8.3	Vol. At pH = 4.5	Dilution (F/I)	Calculations	Comments
	STANDARDIZATION											
	#1	50 mL	10.65	IWST160303A	5 mL	0.05N	-	-	12.0	50/50	$N_{H_2SO_4} = \frac{(2.65g/L)(5mL)}{(53)(V\ titrant)}$	= 0.020833333
	#2	↓	10.60	↓	↓	↓	-	-	11.90	↓		= 0.021008403
												Ave: 0.020920868
1)	MBLK	50 mL	5.33	-	-	-	0.020920	0	0.05	50/50		
2)	LCS		8.24	IWST160303B	1 mL	0.05N		0	4.80			
3)	ND18910-001A		8.29	-	-	-		0	12.0			
4)	2A		10.47	-	-	-		10.0	13.20			
5)	3A		10.36	-	-	-		11.70	15.30			
6)	ND8919-001A		7.45	-	-	-		0	7.70			
7)	2A		7.55	-	-	-		0	6.40			
8)	ND8936-001B		7.54	-	-	-		0	9.70			
9)	2C		7.25	-	-	-		0	6.30			
10)	ND18919-001A DUP		7.42	-	-	-		0	7.60			
11)	2A MS		7.91	IWST160303B	1 mL	0.05N		0	10.80			
12)	2A MSD		7.94	↓	↓	↓		0	10.90			
13)												
14)												
15)												
16)				$P = \frac{(V\ pH\ 8.3)(N\ H_2SO_4)(50{,}000)}{USA}$								
17)												
18)												
19)												
20)				$T = \frac{(V\ pH\ 4.5)(N\ H_2SO_4)(50{,}000)}{USA}$								
	MS											
	MSD											
	LCS											

Julia Ramit 3/7/2016

EPA 300.0

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106215
ASSET #: N018935 / N018936

Instrument ID: IC-02
Analyst: QBM /JS
Date Analyzed: 3/3/2016

Method:

[X] EPA 300.0
[ ] EPA 7199

[ ] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)			X			
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?			X			
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?			X			
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)			X			
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)			X			
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 3/4/2016

2nd Level Reviewer _____ 3/17/2016 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 300.0
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: GROUNDWATER

FORMULA:

Calculate the Sulfate concentration, in mg/L, in the original sample as follows:

Sulfate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N018936-001B** concentration in mg/L is calculated as follows:

Sulfate, mg/L = 7.416 * 50

= 370.8

Reporting result in two significant figures,

Sulfate, mg/L = 370

ANALYSIS RUN LOG

DIONEX SCHEDULE - C:\DX\SCHEDULE\160219.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\160219.M	..\16021901.D01	1	1	1
2	,BLANK,	..\160219.M	..\16021901.D02	1	1	1
3	AUTOCAL1R	..\160219.M	..\16021901.D03	1	1	1
4	AUTOCAL2R	..\160219.M	..\16021901.D04	1	1	1
5	AUTOCAL3R	..\160219.M	..\16021901.D05	1	1	1
6	AUTOCAL4R	..\160219.M	..\16021901.D06	1	1	1
7	AUTOCAL5R	..\160219.M	..\16021901.D07	1	1	1
8	AUTOCAL6R	..\160219.M	..\16021901.D08	1	1	1
9	,ICV,ICV,1,	..\160219.M	..\16021901.D09	1	1	1
10	,ICB,ICB,1,	..\160219.M	..\16021901.D10	1	1	1
11	,MB-H2O,MBLK,1,	..\160219.M	..\16021901.D11	1	1	1
12	,LCS-H2O,LCS,1,	..\160219.M	..\16021901.D12	1	1	1
13	,ICV,ICV,1,	..\160219.M	..\16021901.D13	1	1	1
14	,ICB,ICB,1,	..\160219.M	..\16021901.D14	1	1	1
15	,MB-H2O,MBLK,1,	..\160219.M	..\16021901.D15	1	1	1
16	,LCS-H2O,LCS,1,	..\160219.M	..\16021901.D16	1	1	1
17	,N018477-009A,SAMP,	..\160219.M	..\16021901.D17	1	1	1
18	,N018478-006A,SAMP,	..\160219.M	..\16021901.D18	1	1	1
19	,N018477-006A,SAMP,	..\160219.M	..\16021901.D19	1	1	1
20	,N016245-006A,SAMP,	..\160219.M	..\16021901.D20	1	1	1
21	,N018477-007A,SAMP,	..\160219.M	..\16021901.D21	1	1	1
22	,N018477-011A,SAMP,	..\160219.M	..\16021901.D22	1	1	1
23	,N016245-011A,SAMP,	..\160219.M	..\16021901.D23	1	1	1
24	,N018478-016A,SAMP,	..\160219.M	..\16021901.D24	1	1	1
25	,CCV-1,CCV,1,	..\160219.M	..\16021901.D25	1	1	1
26	,CCB-1,CCB,1,	..\160219.M	..\16021901.D26	1	1	1
27	,N018478-015A,SAMP,	..\160219.M	..\16021901.D27	1	1	1
28	,N016288-015A,SAMP,	..\160219.M	..\16021901.D28	1	1	1
29	,N018478-006A,SAMP,	..\160219.M	..\16021901.D29	1	1	1
30	,N018478-006A,SAMP,	..\160219.M	..\16021901.D30	1	1	1
31	,N018478-006A,SAMP,	..\160219.M	..\16021901.D31	1	1	1
32	,N016288-006A,SAMP,	..\160219.M	..\16021901.D32	1	1	1
33	,N016288-006A,SAMP,	..\160219.M	..\16021901.D33	1	1	1
34	,N018478-008A,SAMP,	..\160219.M	..\16021901.D34	1	1	1
35	,N018477-006A,SAMP,	..\160219.M	..\16021901.D35	1	1	1
36	,N018477-006AMS,MS,	..\160219.M	..\16021901.D36	1	1	1
37	,CCV-2,CCV,1,	..\160219.M	..\16021901.D37	1	1	1
38	,CCB-2,CCB,1,	..\160219.M	..\16021901.D38	1	1	1
39	,N018477-006AMSD,MS	..\160219.M	..\16021901.D39	1	1	1
40	,N018477-009A,SAMP,	..\160219.M	..\16021901.D40	1	1	1
41	,N018477-009AMS,MS,	..\160219.M	..\16021901.D41	1	1	1
42	,N018477-009AMSD,MS	..\160219.M	..\16021901.D42	1	1	1
43	,N018477-009A,SAMP,	..\160219.M	..\16021901.D43	1	1	1
44	,N018477-009A,SAMP,	..\160219.M	..\16021901.D44	1	1	1
45	,N018477-011A,SAMP,	..\160219.M	..\16021901.D45	1	1	1
46	,N018478-016AMS,MS,	..\160219.M	..\16021901.D46	1	1	1
47	,N018478-016AMSD,MS	..\160219.M	..\16021901.D47	1	1	1
48	,CCV-3,CCV,1,	..\160219.M	..\16021901.D48	1	1	1
49	,CCB-3,CCB,1,	..\160219.M	..\16021901.D49	1	1	1
50	,N018478-015A,SAMP,	..\160219.M	..\16021901.D50	1	1	1
51	,N018478-015A,SAMP,	..\160219.M	..\16021901.D51	1	1	1
52	,N018478-015AMS,MS,	..\160219.M	..\16021901.D52	1	1	1
53	,N018478-015AMSD,MS	..\160219.M	..\16021901.D53	1	1	1
54	,N018478-008A,SAMP,	..\160219.M	..\16021901.D54	1	1	1
55	,N018478-008A,SAMP,	..\160219.M	..\16021901.D55	1	1	1
56	,CCV-4,CCV,1,	..\160219.M	..\16021901.D56	1	1	1
57	,CCB-4,CCB,1,	..\160219.M	..\16021901.D57	1	1	1
58	SHUTDOWN	..\SHUTDOWN		1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST160211F, G, H, I, J, K and L

3/16/2016

DIONEX SCHEDULE - C:\DX\SCHEDULE\160303.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\160219.M	..\16030301.D01	1	1	1
2	,CCV-1,CCV,1,	..\160219.M	..\16030301.D02	1	1	1
3	,CCB-1,CCB,1,	..\160219.M	..\16030301.D03	1	1	1
4	,MB-H2O,MBLK,1,	..\160219.M	..\16030301.D04	1	1	1
5	,LCS-H2O,LCS,1,	..\160219.M	..\16030301.D05	1	1	1
6	,N018928-001B,SAMP,	..\160219.M	..\16030301.D06	1	1	1
7	,N018929-001B,SAMP,	..\160219.M	..\16030301.D07	1	1	1
8	,N018930-001B,SAMP,	..\160219.M	..\16030301.D08	1	1	1
9	,N018935-001C,SAMP,	..\160219.M	..\16030301.D09	1	1	1
10	,N018936-001B,SAMP,	..\160219.M	..\16030301.D10	1	1	1
11	,N018936-001BDUP,DU	..\160219.M	..\16030301.D11	1	1	1
12	,N018936-001BMS,MS,	..\160219.M	..\16030301.D01	1	1	1
13	,N018936-001BMSD,MS	..\160219.M	..\16030301.D13	1	1	1
14	,CCV-2,CCV,1,	..\160219.M	..\16030301.D01	1	1	1
15	,CCB-2,CCB,1,	..\160219.M	..\16030301.D15	1	1	1
16	,N018936-002C,SAMP,	..\160219.M	..\16030301.D16	1	1	1
17	,N018935-001C,SAMP,	..\160219.M	..\16030301.D17	1	1	1
18	,N018935-001CDUP,DU	..\160219.M	..\16030301.D18	1	1	1
19	,N018935-001CMS,MS,	..\160219.M	..\16030301.D19	1	1	1
20	,N018935-001CMSD,MS	..\160219.M	..\16030301.D20	1	1	1
21	,N018929-001BDUP,DU	..\160219.M	..\16030301.D21	1	1	1
22	,N018929-001BMS,MS,	..\160219.M	..\16030301.D22	1	1	1
23	,N018929-001BMSD,MS	..\160219.M	..\16030301.D23	1	1	1
24	,N018929-001B,SAMP,	..\160219.M	..\16030301.D24	1	1	1
25	,N018930-001B,SAMP,	..\160219.M	..\16030301.D25	1	1	1
26	,CCV-3,CCV,1,	..\160219.M	..\16030301.D26	1	1	1
27	,CCB-3,CCB,1,	..\160219.M	..\16030301.D27	1	1	1
28	,N018936-001B,SAMP,	..\160219.M	..\16030301.D28	1	1	1
29	,N018936-001BDUP,DU	..\160219.M	..\16030301.D29	1	1	1
30	,N018936-001BMS,MS,	..\160219.M	..\16030301.D30	1	1	1
31	,N018936-001BMSD,MS	..\160219.M	..\16030301.D31	1	1	1
32	,N018936-002C,SAMP,	..\160219.M	..\16030301.D32	1	1	1
33	,CCV-4,CCV,1,	..\160219.M	..\16030301.D33	1	1	1
34	,CCB-4,CCB,1,	..\160219.M	..\16030301.D34	1	1	1
35	SHUTDOWN	..\SHUTDOWN		1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST160211F, G, H, I, J, K and L

3/16/2016

INITIAL CALIBRATION DATA SUMMARY

DIONEX METHOD PARAMETERS - 160219.MET

Method Comment:
Column ID:
Analyst ID:

System Parameters

System Name: ANIONS

Number of Detectors	1
Run Time (minutes)	13.00
Sampling Rate (seconds)	0.20
Detector 1 Type	COND
Detector 1 real time plot scale maximum (mV)	100.000
minimum	-10.000
Detector 1 Output Equivalent to 1 Volt (in mV)	100.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes

Data File Name: C:\DX\DATA\14120201.D02

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	Yes
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	Yes
Print Unknown Peaks	Yes
Print Chromatogram	Yes
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	0.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	0.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Format File Name: C:\DX\METHOD\DEFAULT.PRF

Integration Parameters

Starting Peak Width (seconds)	5.0
Peak Threshold	0.500
Peak Area Reject	2000
Area Reject for Reference Peaks	3000

Data Events

Time	Description
0.50	Start peak detection
0.51	Force baseline at start of this peak
0.51	Split peak
0.51	Force common baseline following this peak
0.52	End peaks on baseline penetration

Calibration Parameters

Number Of Levels for Calibration.....	6
Force Calibration Curve Through Origin.....	No
Calibration Fit Type.....	Linear
Replace Or Average Calibrations.....	Replace
External or Internal Calibration.....	External
Calculate Unknowns by Area or Height.....	Area
Default Sample Volume.....	1.0
Default Dilution Factor.....	1.0
Default Response Factor for Unknown Peaks.....	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	

Component Table -- Last Modified: 12:01 on Fri, 19 Feb 2016

Component # 1 Fluoride Retention Time 2.57
Reference Comp. Fluoride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 5.04446E-002
K1 = 2.74708E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	16878	2181
3	5.00000E-001	159508	20180
4	1.00000E+000	324014	42299
5	2.50000E+000	865584	116329
6	5.00000E+000	1818240	255501

Component # 2 Chloride Retention Time 3.89
Reference Comp. Chloride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 1.10929E-001
K1 = 3.65173E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	121520	14901
3	1.00000E+000	250716	30748
4	2.50000E+000	624031	79590
5	5.00000E+000	1286119	168632
6	1.00000E+001	2738363	377403

Component # 3 Nitrite Retention Time 4.77
Reference Comp. Nitrite Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 2.48386E-002
K1 = 2.01369E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	27901	2736
3	5.00000E-001	239879	20734
4	1.00000E+000	463475	43097
5	2.50000E+000	1201720	116916
6	5.00000E+000	2487257	252559

Component # 4 Bromide Retention Time 5.82
Reference Comp. Bromide Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = -6.76159E-003
K1 = 8.89917E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	2.00000E-001	23045	2088
3	5.00000E-001	64074	4838
4	1.00000E+000	108143	8919
5	2.50000E+000	279018	23326
6	5.00000E+000	564083	48910

Component # 5 Nitrate Retention Time 6.61
Reference Comp. Nitrate Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 3.75919E-002
K1 = 1.50782E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	33410	2294
3	5.00000E-001	300946	21122
4	1.00000E+000	612247	45541
5	2.50000E+000	1588152	123799
6	5.00000E+000	3317687	272051

Component # 6 Phosphate Retention Time 8.70
Reference Comp. Phosphate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = 8.89527E-003
K1 = 4.29200E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	1.00000E-001	27793	1499
3	5.00000E-001	109153	6671
4	1.00000E+000	222749	13481
5	2.50000E+000	586254	34551
6	5.00000E+000	1161839	72345

Component # 7 Sulfate Retention Time 10.00
Reference Comp. Sulfate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = 1.53978E-001
K1 = 5.11005E-006

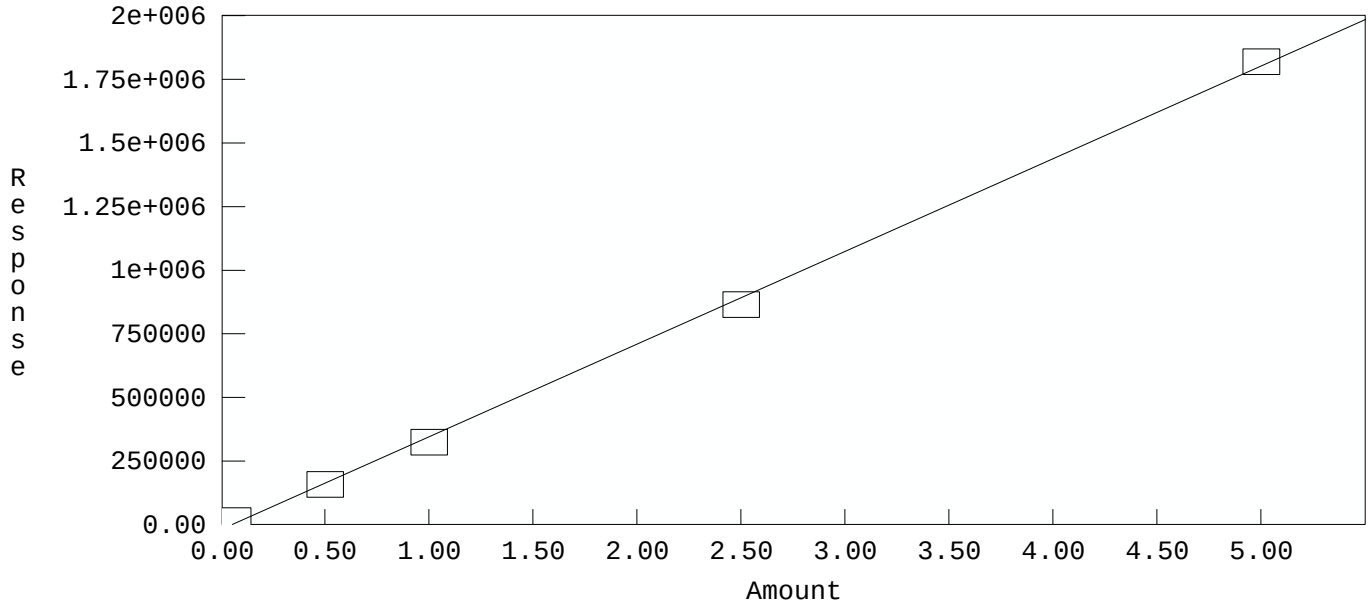
Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	89062	5163
3	2.00000E+000	350642	19976
4	5.00000E+000	909327	51200
5	1.00000E+001	1904509	106502
6	2.00000E+001	3904147	229376

Timed Events File: C:\DX\METHOD\AS4ASC2.TE

Step	Time	Description
Init		ACI Autosmp OFF
Init		ACI Autooff OFF
Init		ACI Pmpstrt ON
Init		ACI Inject OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
1	0.0	ACI Autosmp ON
2	2.3	ACI Autosmp OFF
2	2.3	ACI Autooff ON
3	2.4	ACI Inject ON
3	2.4	Start Sampling

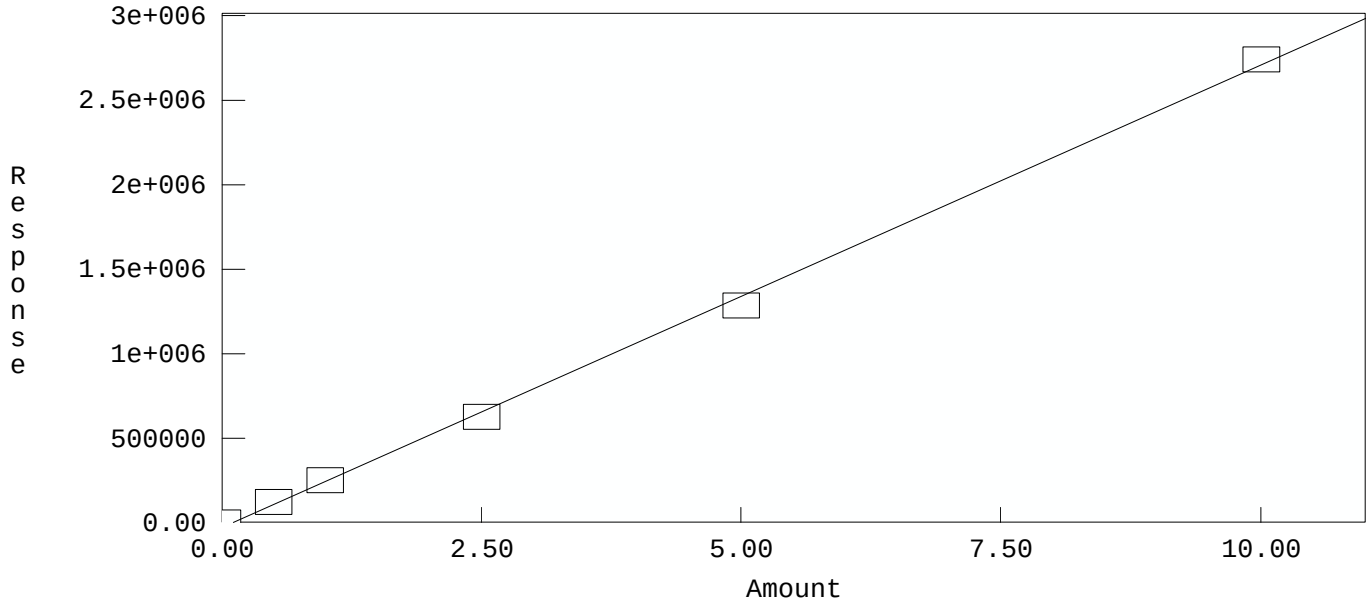
Method: 160219.MET - Last Updated: 12:01 on Fri, 19 Feb 2016

Component: Fluoride
Fit Type: Linear
r^2 = 0.999173
Amt = Resp * 2.747e-006 + 0.05044
Resp = Amt * 3.64e+005 + -1.836e+004
Standardization: External
Calibration: Area



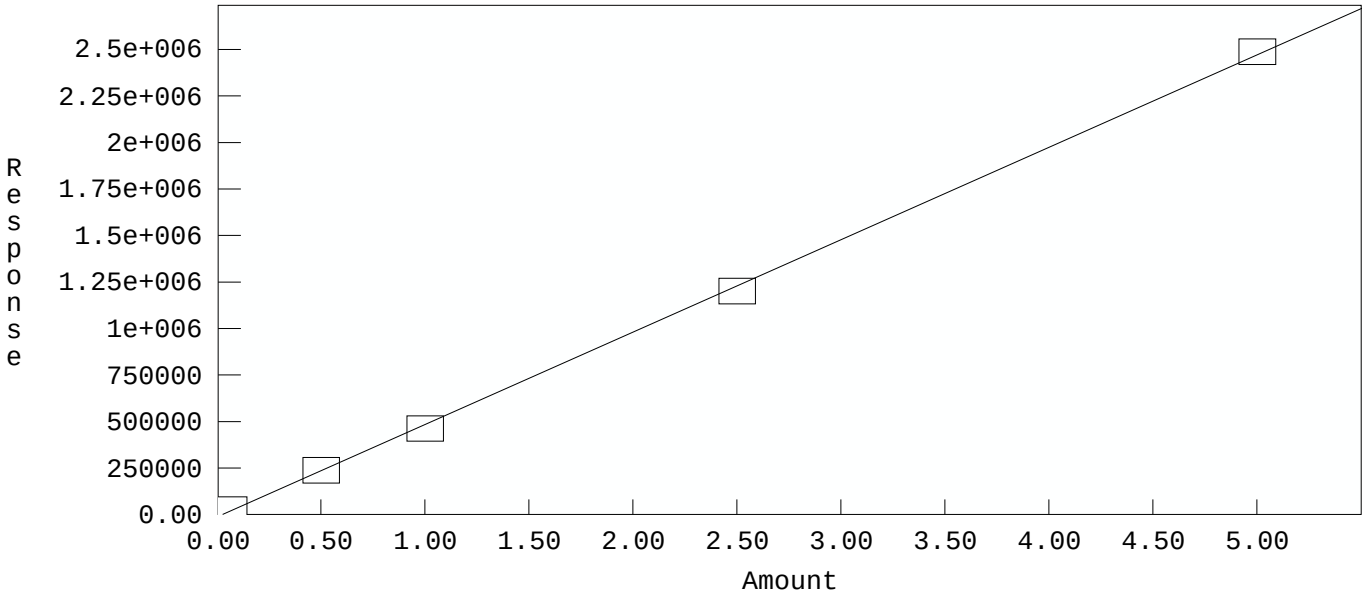
Method: C:\DX\METHOD\160219.MET

Component: Chloride
Fit Type: Linear
r^2 = 0.998929
Amt = Resp * 3.652e-006 + 0.1109
Resp = Amt * 2.738e+005 + -3.038e+004
Standardization: External
Calibration: Area



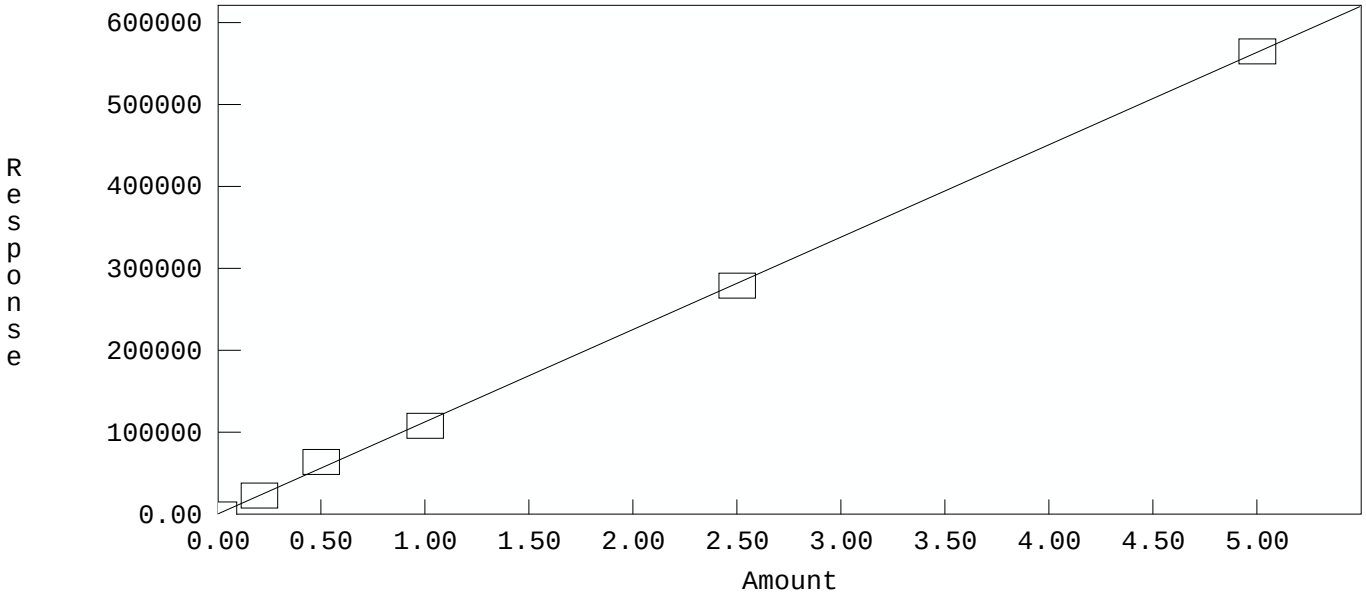
Method: C:\DX\METHOD\160219.MET

Component: Nitrite
Fit Type: Linear
r^2 = 0.999599
Amt = Resp * 2.014e-006 + 0.02484
Resp = Amt * 4.966e+005 + -1.233e+004
Standardization: External
Calibration: Area



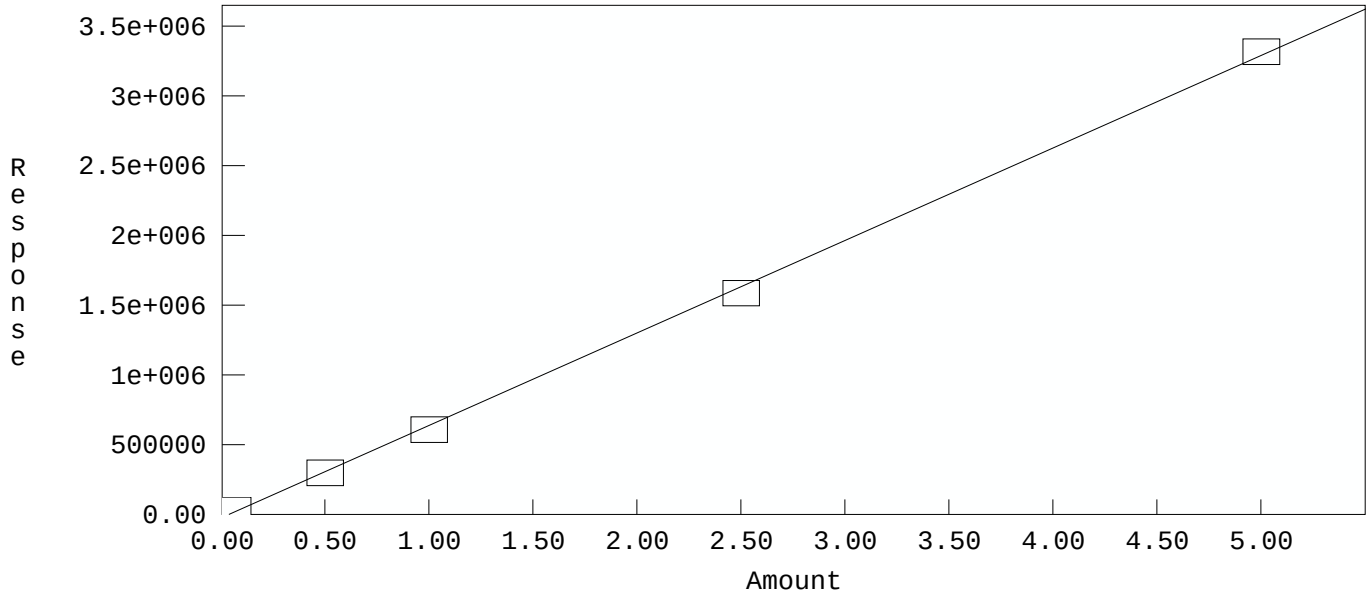
Method: C:\DX\METHOD\160219.MET

Component: Bromide
Fit Type: Linear
r^2 = 0.999632
Amt = Resp * 8.899e-006 + -0.006762
Resp = Amt * 1.124e+005 + 759.8
Standardization: External
Calibration: Area



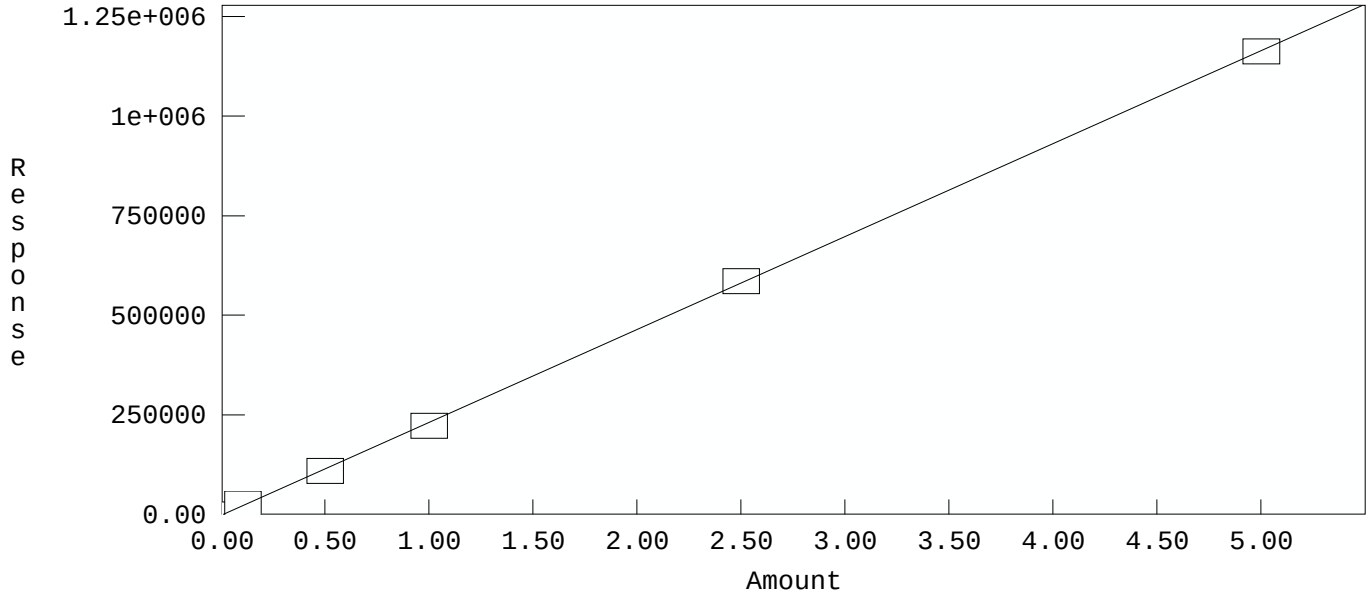
Method: C:\DX\METHOD\160219.MET

Component: Nitrate
Fit Type: Linear
r^2 = 0.999434
Amt = Resp * 1.508e-006 + 0.03759
Resp = Amt * 6.632e+005 + -2.493e+004
Standardization: External
Calibration: Area



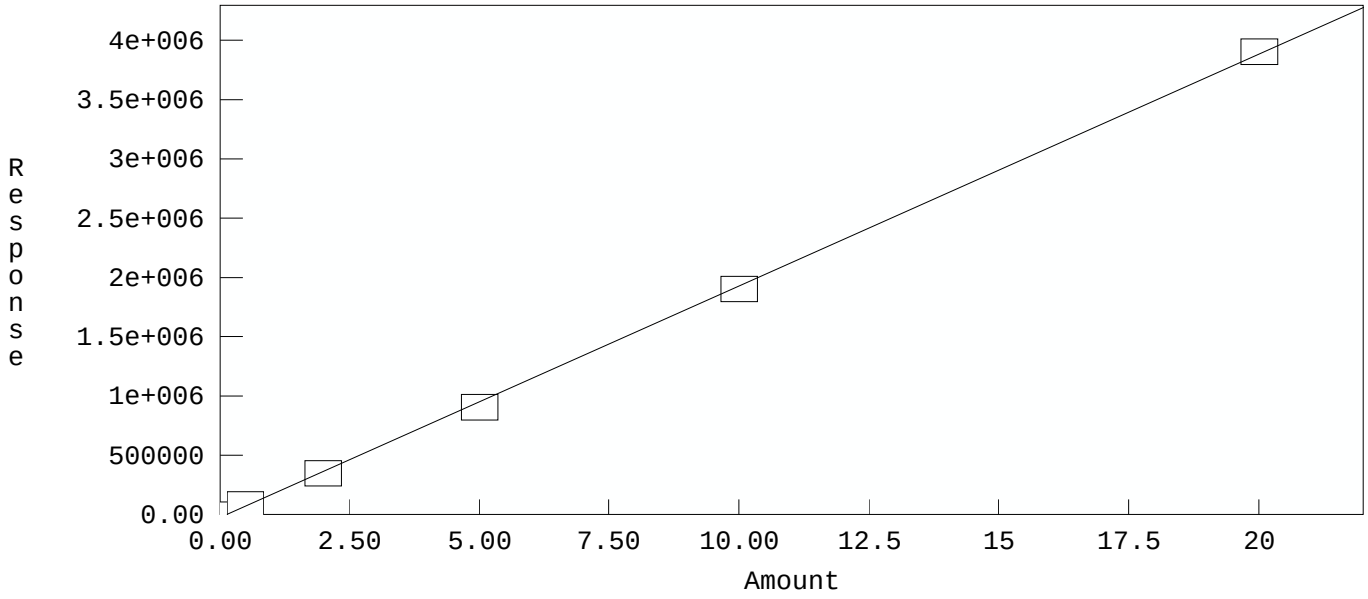
Method: C:\DX\METHOD\160219.MET

Component: Phosphate
Fit Type: Linear
r^2 = 0.999825
Amt = Resp * 4.292e-006 + 0.008895
Resp = Amt * 2.33e+005 + -2073
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160219.MET

Component: Sulfate
Fit Type: Linear
r^2 = 0.999654
Amt = Resp * 5.11e-006 + 0.154
Resp = Amt * 1.957e+005 + -3.013e+004
Standardization: External
Calibration: Area



INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.500	0.50	2.500	0	100	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.475	0.50	2.500	0	99.0	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.405	0.50	2.500	0	96.2	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.454	0.50	2.500	0	98.2	90	110				

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ICV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **2/19/2016** SeqNo: **2266436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.468	0.50	2.500	0	98.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.841	0.50	5.000	0	96.8	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.816	0.50	5.000	0	96.3	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.776	0.50	5.000	0	95.5	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.886	0.50	5.000	0	97.7	90	110				

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ICV** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **2/19/2016** SeqNo: **2266435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.811	0.50	5.000	0	96.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICB** SampType: **ICB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **ICB** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **2/19/2016** SeqNo: **2250487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-1** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCB** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-2** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCB** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-3** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCB** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-4** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106215**
Client ID: **CCB** Batch ID: **R106215** TestNo: **EPA 300.0** Analysis Date: **3/3/2016** SeqNo: **2250502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**300_W_SO4P**	**mg/L**		**106215**
Client ID: **ICB**	Batch ID: **R106215**	TestNo: **EPA 300.0**		Analysis Date: **2/19/2016**	SeqNo: **2250504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-1	**CCB**	**300_W_SO4P**	**mg/L**		**106215**
Client ID: **CCB**	Batch ID: **R106215**	TestNo: **EPA 300.0**		Analysis Date: **3/3/2016**	SeqNo: **2250506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-2	**CCB**	**300_W_SO4P**	**mg/L**		**106215**
Client ID: **CCB**	Batch ID: **R106215**	TestNo: **EPA 300.0**		Analysis Date: **3/3/2016**	SeqNo: **2250510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-3	**CCB**	**300_W_SO4P**	**mg/L**		**106215**
Client ID: **CCB**	Batch ID: **R106215**	TestNo: **EPA 300.0**		Analysis Date: **3/3/2016**	SeqNo: **2250512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-4	**CCB**	**300_W_SO4P**	**mg/L**		**106215**
Client ID: **CCB**	Batch ID: **R106215**	TestNo: **EPA 300.0**		Analysis Date: **3/3/2016**	SeqNo: **2250519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 3/3/2016

Sample Name		Retention Time	Evaluation
CCV-1	Chloride	3.83	
CCV-2	Chloride	3.82	
CCV-3	Chloride	3.83	
CCV-4	Chloride	3.85	
	Average	3.833	
	Lower Limit	3.633	
	Upper Limit	4.033	
MB-R106215_CL	Chloride	N.A.	N.A.
LCS-R106215_CL	Chloride	3.84	PASS
N018936-001B	Chloride	3.85	PASS
N018936-001BDUP	Chloride	3.84	PASS
N018936-001BMS	Chloride	3.83	PASS
N018936-001BMSD	Chloride	3.82	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 3/3/2016

Sample Name		Retention Time	Evaluation
CCV-1	Sulfate	9.73	
CCV-2	Sulfate	9.70	
CCV-3	Sulfate	9.75	
CCV-4	Sulfate	9.74	
	Average	9.730	
	Lower Limit	9.530	
	Upper Limit	9.930	
MB-R106215_SO4	Sulfate	N.A.	N.A.
LCS-R106215_SO4	Sulfate	9.72	PASS
N018936-001B	Sulfate	9.68	PASS
N018936-001BDUP	Sulfate	9.70	PASS
N018936-001BMS	Sulfate	9.75	PASS
N018936-001BMSD	Sulfate	9.72	PASS
N018936-002C	Sulfate	9.70	PASS
	Sulfate		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **INORGANIC IONS by Ion Chromatography**
Method Number: EPA 300.0
Analysis Date(s): 3/23/2015 & 10/12/2015
Analyst: Quennie Manimtim

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-02**

Acceptance Criteria: MDL < spike < 10X MDL

Datafile: 15032301.D06 15032301.D07 15032301.D08 15032301.D09 15032301.D10 15032301.D11 15032301.D12

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Fluoride	0.039	0.047	0.046	0.038	0.039	0.046	0.045	0.020	0.0040	3.143	**0.0125**	**0.10**	OK,meets criteria
Chloride	0.159	0.149	0.158	0.169	0.149	0.142	0.141	0.10	0.0101	3.143	**0.0317**	**0.50**	OK,meets criteria
Nitrite	0.033	0.027	0.030	0.027	0.030	0.026	0.026	0.020	0.0026	3.143	**0.0083**	**0.050**	OK,meets criteria
Nitrate	0.034	0.027	0.036	0.033	0.028	0.027	0.030	0.020	0.0036	3.143	**0.0114**	**0.050**	OK,meets criteria
Phosphate	0.050	0.053	0.060	0.046	0.049	0.062	0.044	0.050	0.0068	3.143	**0.0214**	**0.10**	OK,meets criteria
Sulfate	0.267	0.246	0.243	0.238	0.250	0.245	0.235	0.10	0.0104	3.143	**0.0327**	**0.50**	OK,meets criteria

Datafile: 15101201.D13 15101201.D14 15101201.D15 15101201.D16 15101201.D17 15101201.D18 15101201.D19

Bromide	0.074	0.045	0.102	0.055	0.057	0.071	0.061	0.10	0.0185	3.143	**0.0581**	**0.50**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106334 **Analyst:** REB

ASSET #: N018936 **Date Analyzed:** 3/8/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer RB Date: 03/16/16

2nd Level Reviewer gsg 03/18/16 Date:

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: Water

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N018936-002D**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.7342*5

= 3.671mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 3.7

Reb 3/16/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

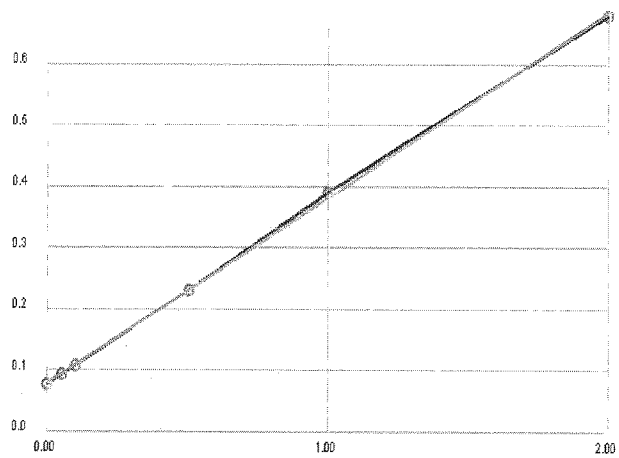
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3018x + 0.0796
Correlation	.999791



Calibrant	Energy	Set	Conc
1	0.0775	0.0000	-0.0069
2	0.0930	0.0500	0.0444
3	0.1083	0.1000	0.0951
4	0.2312	0.5000	0.5023
5	0.3906	1.0000	1.0304
6	0.6786	2.0000	1.9846

Notes:

R1 Buffer - R160217C
R2 COLORING Agt - R160217D
2% CuSO4 - R160217B

1° STD - 1SST - 150206D
2° STD - 1 150730E

Reb 3/16/2016

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INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ICV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.521	0.050	0.5000	0	104	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.530	0.050	0.5000	0	106	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.521	0.050	0.5000	0	104	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCV** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.504	0.050	0.5000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N018936
Project: PG&E Topock - PMP, RC000753.0801

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **ICB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-3** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106334**
Client ID: **CCB** Batch ID: **R106334** TestNo: **SM4500-NO3** Analysis Date: **3/8/2016** SeqNo: **2258525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 03-08-2016 15:26
Time end: 03-08-2016 17:57

			EPA 353.2 NO3 as N ppm	Flags	OD
1	<BLANK>	17:22:54	0.0040		0.0808
2	<BLANK>	17:23:49	-0.0033		0.0786
3	<CAL1>	17:24:49	-0.0069	[0]	0.0775
4	<CAL2>	17:25:44	0.0444	[0.05]	0.0930
5	<CAL3>	17:26:46	0.0951	[0.1]	0.1083
6	<CAL4>	17:27:41	0.5023	[0.5]	0.2312
7	<CAL5>	17:28:35	1.0304	[1]	0.3906
8	<CAL6>	17:29:36	1.9846	[2]	0.6786
9	,BLANK,BLANK,1,	17:30:32	0.0348		0.0901
10	,ICV,ICV,1,	17:31:26	0.5209		0.2368
11	,ICB,ICB,1,	17:32:27	-0.0029		0.0787
12	,MB-H2O,MBLK,1,	17:33:23	-0.0106		0.0764
13	,LCS-H2O,LCS,1,	17:34:18	0.5179		0.2359
14	,N018844-001E,SAMP,1,	17:35:18	0.5301		0.2396
15	,N018844-001EDUP,DUP,1,	17:36:14	0.4947		0.2289
16	,N018844-001EMS,MS,1,	17:37:09	1.0732		0.4035
17	,N018844-001EMSD,MSD,1,	17:38:09	1.0904		0.4087
18	,N018845-004C,SAMP,20,	17:39:05	1.0235		0.3885
19	,N018855-001C,SAMP,1,	17:40:01	1.1971		0.4409
20	,N018855-002C,SAMP,1,	17:41:02	0.1332		0.1198
21	,BLANK,BLANK,1	17:41:44	-0.0033		0.0786
22	,CCV-1,CCV,1,	17:42:34	0.5295		0.2394
23	,CCB-1,CCB,1,	17:43:16	-0.0043		0.0783
24	,N018855-003C,SAMP,1,	17:44:05	0.1703		0.1310
25	,N018855-004C,SAMP,1,	17:44:47	0.2015		0.1404
26	,N018918-002D,SAMP,5,	17:45:30	0.6401		0.2728

Reb 3/16/2016

			EPA 353.2 NO3 as N ppm	Flags	OD
27	,N018919-001C,SAMP,5,	17:46:20	0.2194		0.1458
28	,N018919-002C,SAMP,5,	17:47:02	0.8015		0.3215
29	,N018936-001C,SAMP,1,	17:47:45	0.0110		0.0829
30	,N018936-002D,SAMP,5,	17:48:33	0.7342		0.3012
31	,BLANK,BLANK,1	17:49:16	-0.0033		0.0786
32	,CCV-2,CCV,1,	17:50:04	0.5209		0.2368
33	,CCB-2,CCB,1,	17:50:48	-0.0135		0.0755
34	,N018996-001D,SAMP,1,	17:51:31	0.6600		0.2788
35	,N018996-002D,SAMP,1,	17:52:19	0.4583		0.2179
36	,N018996-003D,SAMP,1,	17:53:03	1.9982		0.6827
37	,BLANK,BLANK,1	17:53:45	0.0067		0.0816
38	,CCV-3,CCV,1,	17:54:34	0.5036		0.2316
39	,CCB-3,CCB,1,	17:55:16	-0.0099		0.0766

Reb 3/16/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 03/8/2016
Time Analyzed: 03:26 PM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160217C
Color reagent: R160217D
2% Copper Sulfate: R160217B
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N018844-001E		8.59						
2)	N018855-001C		8.87						
3)	N018855-002C		8.67						
4)	N018855-003C		8.56						
5)	N018855-004C		8.22						
6)	N018918-002D		8.96						
7)	N018919-001C		8.56						
8)	N018919-002C		8.78						
9)	N018936-001C		8.33						
10)	N018936-002D		8.21						
11)	N018996-001D		8.36						
12)	N018996-002D		8.63						
13)	N018996-003D		7.66						
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 3/16/2016

ARCADIS

Project Name: PG&E Topock-GMP
Project No.: RC000753.001A

ASSET Laboratories Work Order:
N019332

ANALYTICAL and QC RESULTS
SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
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www.assetlaboratories.com

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April 11, 2016

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

CA-ELAP No.: 2676
NV Cert. No.: NV-00922

Workorder No.: N019332

RE: PG&E Topock - GMP, RC000753.001A

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 06, 2016 by ASSET Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Glen Gesmundo
QA Manager

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

ASSET Laboratories **Date:** *11-Apr-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.001A
Lab Order: N019332

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to Truesdail-Irvine,CA.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of sample N019332-001 upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium on QC samples N019332-002C-MS2 and N019332-002C-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N019332-001C-MS1 and N019332-001C-MSD1 possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET LABORATORIES
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CALIFORNIA
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"Serving Clients with Passion and Professionalism"

ASSET Laboratories

Date: *11-Apr-16*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - GMP, RC000753.001A
Lab Order: N019332
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N019332-001A	PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	4/6/2016	4/11/2016
N019332-001B	PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	4/6/2016	4/11/2016
N019332-001C	PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	4/6/2016	4/11/2016
N019332-001D	PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	4/6/2016	4/11/2016
N019332-001E	PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	4/6/2016	4/11/2016
N019332-001F	PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	4/6/2016	4/11/2016
N019332-002A	PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	4/6/2016	4/11/2016
N019332-002B	PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	4/6/2016	4/11/2016
N019332-002C	PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	4/6/2016	4/11/2016
N019332-002D	PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	4/6/2016	4/11/2016
N019332-002E	PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	4/6/2016	4/11/2016
N019332-002F	PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	4/6/2016	4/11/2016

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ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160406B**	QC Batch: **R106775**			PrepDate			Analyst: **LR**
Specific Conductance	1900	0.10	0.10		umhos/cm	1	4/6/2016 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_160406B**	QC Batch: **R106775**			PrepDate			Analyst: **LR**
Specific Conductance	1500	0.10	0.10		umhos/cm	1	4/6/2016 11:15 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

Date: *11-Apr-16*

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N019332-001DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **106775**
Client ID: **ZZZZZZ** Batch ID: **R106775** TestNo: **EPA 120.1** Analysis Date: **4/6/2016** SeqNo: **2285477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1886.000	0.10						1882	0.212	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160406G**	QC Batch: **56914**				PrepDate	**4/6/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	1100	13	13		mg/L	1	4/6/2016 02:17 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_160406G**	QC Batch: **56914**				PrepDate	**4/6/2016**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	910	10	10		mg/L	1	4/6/2016 02:17 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID **LCS-56914** SampType: **LCS** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **4/6/2016** RunNo: **106799**
Client ID: **LCSW** Batch ID: **56914** TestNo: **SM2540C** Analysis Date: **4/6/2016** SeqNo: **2286744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1001.000	10	1000	0	100	80	120				

Sample ID **MBLK-56914** SampType: **MBLK** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **4/6/2016** RunNo: **106799**
Client ID: **PBW** Batch ID: **56914** TestNo: **SM2540C** Analysis Date: **4/6/2016** SeqNo: **2286745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID **N019330-002CDUP** SampType: **DUP** TestCode: **160.1_2540C** Units: **mg/L** Prep Date: **4/6/2016** RunNo: **106799**
Client ID: **ZZZZZZ** Batch ID: **56914** TestNo: **SM2540C** Analysis Date: **4/6/2016** SeqNo: **2286747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2757.500	25						2725	1.19	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160406A** QC Batch: **R106785**				PrepDate			Analyst: **JJS**
Hexavalent Chromium	17	0.075	1.0		µg/L	5	4/6/2016 01:18 PM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: **ICP7_160407A** QC Batch: **56909**				PrepDate		**4/7/2016**	Analyst: **CEI**
Chromium	17	0.086	1.0		µg/L	1	4/7/2016 05:14 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **ICP7_160407A** QC Batch: **56908**				PrepDate		**4/6/2016**	Analyst: **CEI**
Chromium	17	0.086	1.0		µg/L	1	4/7/2016 06:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **IC7_160406A** QC Batch: **R106785** PrepDate							Analyst: **JJS**
Hexavalent Chromium	9.5	0.015	0.20		µg/L	1	4/6/2016 01:36 PM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: **ICP7_160407A** QC Batch: **56909** PrepDate **4/7/2016**							Analyst: **CEI**
Chromium	9.3	0.086	1.0		µg/L	1	4/7/2016 05:42 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **ICP7_160407A** QC Batch: **56908** PrepDate **4/6/2016**							Analyst: **CEI**
Chromium	9.2	0.086	1.0		µg/L	1	4/7/2016 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID **MB-56909** SampType: **MBLK** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: **4/7/2016** RunNo: **106817**
Client ID: **PBW** Batch ID: **56909** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-56909** SampType: **LCS** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: **4/7/2016** RunNo: **106817**
Client ID: **LCSW** Batch ID: **56909** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.645	1.0	10.00	0	96.5	85	115				

Sample ID **N019332-001B-MS** SampType: **MS** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: **4/7/2016** RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **56909** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	26.517	1.0	10.00	16.87	96.5	75	125				

Sample ID **N019332-001B-MSD** SampType: **MSD** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: **4/7/2016** RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **56909** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	26.458	1.0	10.00	16.87	95.9	75	125	26.52	0.222	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **LCS-R106785** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **LCSW** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.045	0.20	5.000	0	101	90	110				

Sample ID **MB-R106785** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **PBW** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **N019315-001CDUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	636.860	20						639.0	0.331	20	

Sample ID **N019315-001CMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285883**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1157.720	20	500.0	639.0	104	90	110				

Sample ID **N019315-001CMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1141.670	20	500.0	639.0	101	90	110	1158	1.40	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N019332-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.652	1.0	25.00	17.03	102	90	110				

Sample ID **N019332-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.711	0.20	5.000	9.535	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID	MB-56908	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/6/2016	RunNo:	106817
Client ID:	PBW	Batch ID:	56908	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/7/2016	SeqNo:	2289506

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-56908	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/6/2016	RunNo:	106817
Client ID:	LCSW	Batch ID:	56908	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/7/2016	SeqNo:	2289509

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.012	1.0	10.00	0	100	85	115				

Sample ID	N019332-001C-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/6/2016	RunNo:	106817
Client ID:	ZZZZZZ	Batch ID:	56908	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/7/2016	SeqNo:	2289513

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	25.270	1.0	10.00	16.80	84.7	75	125				

Sample ID	N019332-001C-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/6/2016	RunNo:	106817
Client ID:	ZZZZZZ	Batch ID:	56908	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/7/2016	SeqNo:	2289514

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	25.162	1.0	10.00	16.80	83.6	75	125	25.27	0.430	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160406D**	QC Batch: **R106778**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	54	1.2	5.0		mg/L	1	4/6/2016 02:20 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	4/6/2016 02:20 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	4/6/2016 02:20 PM
Alkalinity, Total (As CaCO3)	54	1.2	5.0		mg/L	1	4/6/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_160406D**	QC Batch: **R106778**			PrepDate			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	85	1.2	5.0		mg/L	1	4/6/2016 02:20 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	4/6/2016 02:20 PM
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	4/6/2016 02:20 PM
Alkalinity, Total (As CaCO3)	85	1.2	5.0		mg/L	1	4/6/2016 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R106778** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106778**
Client ID: **LCSW** Batch ID: **R106778** TestNo: **SM 2320 B** Analysis Date: **4/6/2016** SeqNo: **2285511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.207	5.0	100.0	0	100	85	115				
Alkalinity, Total (As CaCO3)	102.273	5.0	100.0	0	102	85	115				

Sample ID **MB-R106778** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106778**
Client ID: **PBW** Batch ID: **R106778** TestNo: **SM 2320 B** Analysis Date: **4/6/2016** SeqNo: **2285512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N019332-001DDUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106778**
Client ID: **ZZZZZZ** Batch ID: **R106778** TestNo: **SM 2320 B** Analysis Date: **4/6/2016** SeqNo: **2285514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	53.719	5.0						53.72	0	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	53.719	5.0						53.72	0	30	

Sample ID **N019332-002DMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106778**
Client ID: **ZZZZZZ** Batch ID: **R106778** TestNo: **SM 2320 B** Analysis Date: **4/6/2016** SeqNo: **2285516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	181.818	5.0	100.0	84.71	97.1	75	125				
Alkalinity, Total (As CaCO3)	181.818	5.0	100.0	84.71	97.1	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **N019332-002DMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **106778**
Client ID: **ZZZZZZ** Batch ID: **R106778** TestNo: **SM 2320 B** Analysis Date: **4/6/2016** SeqNo: **2285517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	182.851	5.0	100.0	84.71	98.1	75	125	181.8	0.567	20	
Alkalinity, Total (As CaCO3)	182.851	5.0	100.0	84.71	98.1	75	125	181.8	0.567	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160406A** QC Batch: **R106794**				PrepDate			Analyst: **QBM**
Bromide	ND	0.056	1.0		mg/L	2	4/6/2016 02:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160406A** QC Batch: **R106794**				PrepDate			Analyst: **QBM**
Chloride	500	3.2	50		mg/L	100	4/6/2016 05:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160406A** QC Batch: **R106794**				PrepDate			Analyst: **QBM**
Sulfate	87	0.33	5.0		mg/L	10	4/6/2016 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160406A** QC Batch: **R106794**				PrepDate			Analyst: **QBM**
Bromide	ND	0.028	0.50		mg/L	1	4/6/2016 02:55 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160406A** QC Batch: **R106794**				PrepDate			Analyst: **QBM**
Chloride	360	3.2	50		mg/L	100	4/6/2016 06:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_160406A** QC Batch: **R106794**				PrepDate			Analyst: **QBM**
Sulfate	65	0.33	5.0		mg/L	10	4/6/2016 04:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID **MB-R106794_BR** SampType: **MBLK** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **PBW** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID **LCS-R106794_BR** SampType: **LCS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **LCSW** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.378	0.50	2.500	0	95.1	90	110				

Sample ID **N019332-001DMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.304	1.0	5.000	0.1420	103	80	120				

Sample ID **N019332-001DMSD** SampType: **MSD** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286585**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.320	1.0	5.000	0.1420	104	80	120	5.304	0.301	20	

Sample ID **N019332-002DDUP** SampType: **DUP** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.094	0.50						0.09500	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **MB-R106794_CL** SampType: **MBLK** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **PBW** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **LCS-R106794_CL** SampType: **LCS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **LCSW** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.412	0.50	2.500	0	96.5	90	110				

Sample ID **N019332-001DDUP** SampType: **DUP** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	500.500	50						500.0	0.100	20	

Sample ID **N019332-002DMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	600.200	50	250.0	355.0	98.1	80	120				

Sample ID **N019332-002DMSD** SampType: **MSD** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	607.100	50	250.0	355.0	101	80	120	600.2	1.14	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **MB-R106794_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **PBW** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID **LCS-R106794_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **LCSW** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.890	0.50	5.000	0	97.8	90	110				

Sample ID **N019332-001DDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	86.110	5.0						87.33	1.41	20	

Sample ID **N019332-002DMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286649**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	115.390	5.0	50.00	64.56	102	80	120				

Sample ID **N019332-002DMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ZZZZZZ** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286651**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	115.630	5.0	50.00	64.56	102	80	120	115.4	0.208	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160407C**	QC Batch: **R106821**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	2.1	0.11	0.25		mg/L	5	4/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **WETCHEM_160407C**	QC Batch: **R106821**			PrepDate			Analyst: **RB**
Nitrate/Nitrite as N	3.1	0.11	0.25		mg/L	5	4/7/2016

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R106821** SampType: **MBLK** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **PBW** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R106821** SampType: **LCS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **LCSW** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.483	0.050	0.5000	0	96.6	85	115				

Sample ID **N019315-001DDUP** SampType: **DUP** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **ZZZZZZ** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	3.167	0.25						2.994	5.60	20	

Sample ID **N019315-001DMS** SampType: **MS** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **ZZZZZZ** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.527	0.25	2.500	2.994	101	75	125				

Sample ID **N019315-001DMSD** SampType: **MSD** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **ZZZZZZ** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.986	0.25	2.500	2.994	120	75	125	5.527	7.98	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160409D**	QC Batch: **56910**				PrepDate	**4/6/2016**	Analyst: **FJ**
Boron	420	11	100		ug/L	1	4/9/2016 09:04 AM
Calcium	97000	31	500		ug/L	1	4/9/2016 09:04 AM
Iron	ND	17	20		ug/L	1	4/9/2016 09:04 AM
Magnesium	16000	86	100		ug/L	1	4/9/2016 09:04 AM
Sodium	260000	580	25000		ug/L	50	4/7/2016 10:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_160409D**	QC Batch: **56910**				PrepDate	**4/6/2016**	Analyst: **FJ**
Boron	330	11	100		ug/L	1	4/9/2016 09:09 AM
Calcium	95000	31	500		ug/L	1	4/9/2016 09:09 AM
Iron	ND	17	20		ug/L	1	4/9/2016 09:09 AM
Magnesium	20000	86	100		ug/L	1	4/9/2016 09:09 AM
Sodium	170000	580	25000		ug/L	50	4/7/2016 10:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **MB-56910** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106812**
Client ID: **PBW** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2288454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	ND	500									

Sample ID **LCS2-56910** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106812**
Client ID: **LCSW** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2288455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	18467.970	500	20000	0	92.3	85	115				

Sample ID **N019332-002C-MS2** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106812**
Client ID: **ZZZZZZ** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2288460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	196619.817	25000	20000	170600	130	75	125				S

Sample ID **N019332-002C-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106812**
Client ID: **ZZZZZZ** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2288461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	192245.227	25000	20000	170600	108	75	125	196600	2.25	20	

Sample ID **MB-56910** SampType: **MBLK** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106853**
Client ID: **PBW** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/9/2016** SeqNo: **2291335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	100									
Calcium	ND	500									
Iron	ND	20									
Magnesium	ND	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **LCS1-56910** SampType: **LCS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106853**
Client ID: **LCSW** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/9/2016** SeqNo: **2291336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5487.455	100	5000	0	110	85	115				
Calcium	8692.690	500	10000	0	86.9	85	115				
Iron	99.134	20	100.0	0	99.1	85	115				
Magnesium	9774.721	100	10000	0	97.7	85	115				

Sample ID **N019332-001C-MS1** SampType: **MS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106853**
Client ID: **ZZZZZZ** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/9/2016** SeqNo: **2291341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	7088.005	100	5000	424.5	133	75	125				S
Calcium	97673.315	500	10000	96800	8.73	75	125				S
Iron	117.617	20	100.0	0	118	75	125				
Magnesium	24591.664	100	10000	16310	82.8	75	125				

Sample ID **N019332-001C-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: **4/6/2016** RunNo: **106853**
Client ID: **ZZZZZZ** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/9/2016** SeqNo: **2291342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	7099.384	100	5000	424.5	133	75	125	6990	1.55	20	S
Calcium	98024.130	500	10000	96800	12.2	75	125	100800	2.76	20	S
Iron	117.751	20	100.0	0	118	75	125	120.2	2.03	20	
Magnesium	24666.196	100	10000	16310	83.5	75	125	25070	1.63	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:47:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160407A**	QC Batch: **56908**				PrepDate	**4/6/2016**	Analyst: **CEI**
Arsenic	0.43	0.016	0.10		µg/L	1	4/7/2016 06:09 PM
Manganese	1.2	0.023	0.50		µg/L	1	4/7/2016 06:09 PM
Molybdenum	6.4	0.029	0.50		µg/L	1	4/7/2016 06:09 PM
Selenium	1.1	0.070	0.50		µg/L	1	4/7/2016 06:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *11-Apr-16*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-0416
Lab Order:	N019332	**Collection Date:**	4/5/2016 10:17:00 AM
Project:	PG&E Topock - GMP, RC000753.001A	**Matrix:**	GROUNDWATER
Lab ID:	N019332-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_160407A**	QC Batch: **56908**				PrepDate	**4/6/2016**	Analyst: **CEI**
Arsenic	1.2	0.016	0.10		µg/L	1	4/7/2016 06:37 PM
Manganese	ND	0.023	0.50		µg/L	1	4/7/2016 06:37 PM
Molybdenum	5.9	0.029	0.50		µg/L	1	4/7/2016 06:37 PM
Selenium	1.4	0.070	0.50		µg/L	1	4/7/2016 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **MB-56908** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/6/2016** RunNo: **106817**
Client ID: **PBW** Batch ID: **56908** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2289576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.239	0.50									
Molybdenum	0.037	0.50									
Selenium	ND	0.50									

Sample ID **LCS-56908** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/6/2016** RunNo: **106817**
Client ID: **LCSW** Batch ID: **56908** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2289579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.692	0.10	10.00	0	96.9	85	115				
Manganese	94.985	0.50	100.0	0	95.0	85	115				
Molybdenum	9.589	0.50	10.00	0	95.9	85	115				
Selenium	8.677	0.50	10.00	0	86.8	85	115				

Sample ID **N019332-001C-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/6/2016** RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **56908** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2289583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.653	0.10	10.00	0.4336	92.2	75	125				
Manganese	92.261	0.50	100.0	1.202	91.1	75	125				
Molybdenum	17.170	0.50	10.00	6.392	108	75	125				
Selenium	8.999	0.50	10.00	1.132	78.7	75	125				

Sample ID **N019332-001C-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/6/2016** RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **56908** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2289584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.841	0.10	10.00	0.4336	94.1	75	125	9.653	1.93	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID **N019332-001C-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **4/6/2016** RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **56908** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2289584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.159	0.50	100.0	1.202	91.0	75	125	92.26	0.111	20	
Molybdenum	17.200	0.50	10.00	6.392	108	75	125	17.17	0.174	20	
Selenium	8.861	0.50	10.00	1.132	77.3	75	125	8.999	1.55	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Sample Receiving Items

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CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com, daniel.moore@critigen.com	Address:	Sample Receipt Condition (Y / N): 1. Chilled ✓; 2. Headspace; 3. Container Intact; 4. Seal Present; 5. IR number 2
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com / P.O.#	Global ID: / Specify State:
Submitted By:		Phone: 949-727-1400, ext 200 / Fax:	6. Method of Cooling: 2-pc
Title:	Phone: 916-786-3302 / Fax:		Sample Temp:
Signature: / Date:	Sampled By:	Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface	Courier:
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		Tracking No.:
Project Name: PG&E Topock - GMP	Signature: / Date:		
Project Number: RC000753.001A			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Total Chromium (unfiltered) HNO3, 500 mL poly 250 mL poly	Metals Dissolved (6020AFF) As, Cr, Ca, Fe, Mg, Na, Mn, Mo, Se, HNO3 500 mL poly	Anions (E300) Bromide, chloride, sulfate; 1 L poly 500 mL poly	Specific Conductance (E120.1) 1 L poly 500 mL poly	TDS (SM2540C) 1 L poly 500 mL poly	Nitrate/Nitrite as N (E353.3) Nitrate, H2SO4 125 mL poly 125 mL poly	Alkalinity (SM2320B) 1 L poly	Ammonia (SM4500) H2SO4; 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N019332 - 01	PM-04-0416	4-5-16	1047		X	X	X	X	X	X	X	X	X	C	6	P	BN	
2	- 02	PM-03-0416	4-5-16	1017		X	X	X	X	X	X	X	X	X	C	6	P	BN	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
[signature]	4-5-16 1200	[signature]	4/5/16 1224
[signature]	4/5/16 1900	[signature]	4/5/16 1943

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [X] C = 2 Workdays
- [ ] D = 3 Workdays
- [ ] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Tittle 22 Metals - Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/5/2016	Workorder:	N019332
Rep sample Temp (Deg C):	2.1	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☐	No ☑	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments:

Samplers initial was taken from the label.
Sample for Hex Chromium contained in a container with expired buffer.

Checklist Completed By: HG 4/6/2016

Reviewed By: 04/06/16

ASSET LV Sample Control

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Wednesday, April 06, 2016 10:53 AM
To: Glen Gesmundo; 'ASSET LV Sample Control'; Bush, Dan; Daniel.Moore@critigen.com; 'Marlon B. Cartin'
Cc: Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; Cichy, Dan
Subject: RE: COC and Work Order Summary for Samples Received 4/5/2016

Hi Glen,
Dissolved boron, please.

Thanks,
Laura

From: Glen Gesmundo [mailto:glen@assetlaboratories.com]
Sent: Wednesday, April 06, 2016 12:01 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>; 'ASSET LV Sample Control' <samplecontrol.lv@assetlaboratories.com>; Bush, Dan <Dan.Bush@arcadis.com>; Daniel.Moore@critigen.com; 'Marlon B. Cartin' <marlon@assetlaboratories.com>
Cc: Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; Cichy, Dan <Dan.Cichy@arcadis.com>
Subject: RE: COC and Work Order Summary for Samples Received 4/5/2016

HI Laura,

Do you need total or dissolved Boron?

Thanks,
Glen

From: Madsen, Laura [mailto:Laura.Madsen@arcadis.com]
Sent: Wednesday, April 06, 2016 10:33 AM
To: ASSET LV Sample Control; Bush, Dan; Daniel.Moore@critigen.com; Marlon B. Cartin; Glen Gesmundo
Cc: Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; Cichy, Dan
Subject: RE: COC and Work Order Summary for Samples Received 4/5/2016

Hi Marlon/Glen,
Can you please add Boron to both samples on SDG N019332? It was left off the COC inadvertently.

Thanks,
Laura

From: ASSET LV Sample Control [mailto:samplecontrol.lv@assetlaboratories.com]
Sent: Wednesday, April 06, 2016 10:11 AM
To: Bush, Dan <Dan.Bush@arcadis.com>; Daniel.Moore@critigen.com
Cc: Madsen, Laura <Laura.Madsen@arcadis.com>; Maurel, Sean <Sean.Maurel@arcadis.com>; Harmon, Alison <Ali.Harmon@arcadis.com>; Tina.Rice@critigen.com; Kalib.Sumter@critigen.com; rsunjara@blainetech.com
Subject: COC and Work Order Summary for Samples Received 4/5/2016

Enclosed are COC and WO Summary for samples received 4/5/2016. If you have any questions, please contact your Project Manager listed below.

Marlon Cartin
3151 W. Post Road
Las Vegas, Nevada
89118
Tel. No.: (702)-307-2659 Ext. 410
Cel. No.: (702)-439-0421
Email: marlon@assetlaboratories.com

Thank you for using ASSET Laboratories.

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Sample Control LV

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Wednesday, April 06, 2016 4:14 PM
To: Marlon B. Cartin
Cc: hanah.glodoviza@assetlaboratories.com; 'Sample Control LV'; yoandra@assetlaboratories.com
Subject: RE: GMP Rush Samples

Hi Marlon,
Please use method 200.8 for Total Chromium. Can you tell me what sample ID had the expired buffer solution? Was it Cr6 or for Total Cr?

Thanks
Laura

From: Marlon B. Cartin [mailto:marlon@assetlaboratories.com]
Sent: Wednesday, April 06, 2016 5:12 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: hanah.glodoviza@assetlaboratories.com; 'Sample Control LV' <samplecontrol.lv@assetlaboratories.com>; yoandra@assetlaboratories.com
Subject: GMP Rush Samples

Hi Laura,

For the rush samples we got yesterday from Topock, it looks like the field people used an expired buffer solution. The bottle indicates that it expires on 3/19/16. We tracked the bottles you ordered on Friday and it shows delivered on Monday.
Also, please confirm that th method you need for T. Chromium is 200.8. It was marked by 218.6 on the COC.

Thanks,

Marlon Cartin
Project Manager
California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421
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WORK ORDER Summary

07-Apr-16

WorkOrder: N019332

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.001A **QC Level:** Level IV **Date Received:** 4/6/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019332-001A	PM-04-0416	4/5/2016 10:47:00 AM	4/8/2016	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N019332-001B			4/8/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/8/2016		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N019332-001C			4/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N019332-001D			4/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			4/8/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			4/8/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			4/8/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			4/8/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/8/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/8/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/8/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N019332-001E			4/8/2016		SM4500-NO3 E	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	RB
			4/8/2016		353.3_W_PREP	Nitrate Cadmium Reduction Prep	☐	☐	☐	RB
N019332-001F			4/8/2016		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N019332-002A	PM-03-0416	4/5/2016 10:17:00 AM	4/8/2016		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N019332-002B			4/8/2016			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

07-Apr-16

WorkOrder: N019332

Client ID: ARCUS02

Project: PG&E Topock - GMP, RC000753.001A **QC Level:** Level IV **Date Received:** 4/6/2016

Comments: Title 22 Metals: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N019332-002B	PM-03-0416	4/5/2016 10:17:00 AM	4/8/2016	Groundwater	EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N019332-002C			4/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/8/2016		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/8/2016		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/8/2016		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N019332-002D			4/8/2016		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			4/8/2016		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			4/8/2016			Total Dissolved Solids Prep	☐	☐	☐	WW
			4/8/2016		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			4/8/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/8/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/8/2016		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/8/2016		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N019332-002E			4/8/2016		SM4500-NO3 E	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	RB
			4/8/2016		353.3_W_PREP	Nitrate Cadmium Reduction Prep	☐	☐	☐	RB
N019332-002F			4/8/2016		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N019332-003A	FOLDER		4/8/2016		EDD	RWQCB	☐	☐	☐	LAB
			4/8/2016		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

Truesdail
3337 Michelson Drive, Suite CN750
Irvine, CA 92612

TEL: (714) 730-6239
FAX: (714) 730-6462
Acct #:

Field Sampler:

06-Apr-16

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N019332-001F / PM-04-0416	Groundwater	4/5/2016 10:47:00 AM	8OZP	1		
N019332-002F / PM-03-0416	Groundwater	4/5/2016 10:17:00 AM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM.

Please use PO#:N19332A Please email Invoices and Account Receivable Statements to AssetAP@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: 1 Day TAT

Please analyze for Ammonia by SM4500NH3D.

		Date/Time			Date/Time
Relinquished by:	4/6/2016 1700		**Received by:**	GSO # 531489033	
Relinquished by:			**Received by:**		

List of Analysts

ASSET Laboratories Work Order: N019332

Item	Pages
Quennie Manimtim	EPA 300.0
Claire Ignacio	EPA 200.8, EPA 6020
Ryan Balilu	EPA 218.6, SM 4500- NO3F
Francis Jordan	EPA 6010B
Lilia Ramit	EPA 120.1,SM 2540C,SM 2320B

EPA 120.1

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106775 **Analyst:** LSR

ASSET #: N019332 **Date Analyzed:** 4/6/2016

Method: EPA 120.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .			X			
11. LCS compounds within control limits.			X			
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 4/7/2016

2nd Level Reviewer 4/8/2016 Date: —

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Date: 4/5/16 1126
Analyst: USR

Standard	Std ID	Reading	Comments
9.78 uS/cm	CINW-150619A	9.80 uS/cm @ 22.3°C	% Rec: (90-110%)
1412	150112A	1441 @ 22.2°C	
99992	160111B	10260 @ 22.4°C	
99797	151012B	101400 @ 22.6°C	

	Sample ID	Matrix	Reading	Comments
1	N019313-003A	Water	7420 @ 20.3°C	
2	4A		7670 @ 20.6°C	
3	N019315-001B		7570 @ 20.4°C	
4	2B		7120 @ 20.8°C	
5	3A		52600 @ 20.8°C	
6	N019313-003A DUP		7440 @ 20.8°C	LAR 3/16 20.0°C
7				
8				
9	1413 uS/cm	CINW-150527A	1463 uS/cm @ 24.0°C	
10	10000	150909A	10410 @ 24.0°C	
Dup	99893	151130A	99600 @ 24.0°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Date: 4/6/16 1115
Analyst: LAR

Julia Ramit 4/7/2016

Standard	Std ID	Reading	Comments
9.78 uS/cm	CINW-150619A	9.85 uS/cm @ 24.5°C	% Rec: (90-110%)
1412	150112A	1432 @ 24.4°C	
99992	160111B	10350 @ 24.3°C	
99797	151012B	102100 @ 24.3°C	

	Sample ID	Matrix	Reading	Comments
1	N019332-001D	Water	1882 @ 21.1°C	
2	1D DUP		1886 @ 21.0°C	
3	2D		1483 @ 20.8°C	
4				
5				
6				
7				
8				
9	1413 uS/cm	CINV-150527A	1472 uS/cm @ 24.5°C	
10	10000	150909A	10490 @ 24.3°C	
Dup	99893	151130A	99700 @ 24.3°C	Accept: 10% water, 20% soil
	Std Chk:			% Rec: (90-110%)

Logbook # 5

SM 2540C

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56914 **Analyst:** LSR

ASSET #: N019332 **Date Analyzed:** 4/6/2016

Method: EPA 160.1

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Julia Ramit Date: 4/7/2016

2nd Level Reviewer 4/8/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: Water

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N019332-001D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(64.1996–64.1160)*1000000}{75}$$
$$= 1114.6667 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 1100 mg/L

Silia Ramit 4/7/2016

SAMPLE PREPARATION LOG

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES
3151 W. Post Road, Las Vegas, NV 89118 P: 702.307.2659 F: 702.307.2691
www.assetlaboratories.com

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **4/6/2016 2:17:32 P**
Prep End Date: **4/7/2016 11:30:00 A**

Initials/ Date: Lilia Ramit 4/7/2016

Prep Batch **56914** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Prep Factor Units: **mL / mL**

Temp. (°C): **180**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56914	Water		100	☐	0	0	100	1.000		
MB-56914	Water		100	☐	0	0	100	1.000		
N019330-002C	Groundwater		40	☐	0	0	100	2.500		
N019330-002C-DU	Groundwater		40	☐	0	0	100	2.500		
N019330-003C	Groundwater		75	☐	0	0	100	1.333		
N019330-010C	Groundwater		60	☐	0	0	100	1.667		
N019330-015C	Groundwater		40	☐	0	0	100	2.500		
N019330-016C	Groundwater		40	☐	0	0	100	2.500		
N019330-017C	Groundwater		40	☐	0	0	100	2.500		
N019330-018C	Groundwater		75	☐	0	0	100	1.333		
N019332-001D	Groundwater		75	☐	0	0	100	1.333		
N019332-002D	Groundwater		100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Spk ID	Spike Name	SampType	AmtAdd
IWST160316A	1000 ppm NaCl	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **4/6/2016 2:17:32 P**
Prep End Date:

Initials/ Date: Lilia Ramit 4/7/2016

Prep Factor Units
mL / mL

Prep Batch **56914** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56914	Water	1W ST16 ~~0~~ 3 16 A	100 UR 4/6	☐	0	0	100	1.000		
MB-56914	Water		100	☐	0	0	100	1.000		
N019330-002C	Groundwater	3640	100/40	☐	0	0	100	1.000		
N019330-002C-DU	Groundwater	↓	100/40	☐	0	0	100	1.000		
N019330-003C	Groundwater	1864	100/75	☐	0	0	100	1.000		
N019330-010C	Groundwater	2360	100/60	☐	0	0	100	1.000		
N019330-015C	Groundwater	3510	100/40	☐	0	0	100	1.000		
N019330-016C	Groundwater	3530	100/40	☐	0	0	100	1.000		
N019330-017C	Groundwater	3070	100/40	☐	0	0	100	1.000		
N019330-018C	Groundwater	1848	100/75	☐	0	0	100	1.000		
N019332-001D	Groundwater	1882	100/75	☐	0	0	100	1.000		
N019332-002D	Groundwater	1483	100	☐	0	0	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

FILTER PAPER LOT #:
T50410

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SOLIDS RAW DATA

TEST :TSS/ TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
4/6/16 1417 al	MB 56914	100	55.0095 55.0092	55.0094 55.0095	
LS	LCS 56914	100	74.6724 74.6721	74.7722 74.7722	
C1	N019330-002C	40	60.8455 60.8452	60.9546 60.9542	
J	2C DVP	40	60.5042 60.5039	60.6140 60.6142	
CC	3C	75	54.5845 54.5840	54.6792 54.6794	
4	10C	60	53.8305 53.8302	53.9305 53.9306	
R2 ~~AR~~ 4/6	15C	40	58.3077 58.3079	58.4112 58.4112	
N1	16C	40	60.6306 60.6309	60.7355 60.7352	
LL	17C	40	59.9045 59.9044	59.9905 59.9903	
AR	18C	75	53.6151 53.6150	53.7096 53.7100	

Julia Ramit 4/7/2016

ASSET Laboratories

Logbook#1

SOLIDS RAW DATA

ST :TSS/TDS/TS

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS) Crucible (TDS, TS) Tare Wt.(g)	Crucible + Filter+Sample (TSS) Crucible + Sample (TDS, TS) Tare Wt.(g)	Comments
4/6/16 AC	N09332-001D	75	64.1155 64.1160	64.1997 64.1996	
17	2D	100	77.1069 77.1072	77.1974 77.1978	

Julia Ramit 4/7/2016 ASSET Laboratories Logbook#1

TOTAL DISSOLVED SOLIDS, TDS

TDS, mg/L = (A-B) X 10000*PF

where:
A = weight in grams of dish + residue after drying
B = weight of dish in grams
PF = 100/volume of sample used in mL

Date Finished:	vol of sample (mL)	weight of dish in grams (B)	weight in grams of dish + residue after drying (A)	(A-B)*10000	prep fact (PF)	TDS, mg/L	CONDUCTIVITY	RATIO	Sample Type
4/7/2016									
MBLK-56914	100	55.0092	55.0095	3	1	3			MBLK
LCS-56914	100	74.6721	74.7722	1001	1	1001			LCS
N019330-002C	40	60.8452	60.9542	1090	2.5	2725	3640	0.749	SAMP
N019330-002CDUP	40	60.5039	60.6142	1103	2.5	2757.5	3640	0.758	DUP
N019330-003C	75	54.584	54.6794	954	1.33333333	1272	1864	0.682	SAMP
N019330-010C	60	53.8302	53.9306	1004	1.66666667	1673.33333	2360	0.709	SAMP
N019330-015C	40	58.3079	58.4112	1033	2.5	2582.5	3510	0.736	SAMP
N019330-016C	40	60.6309	60.7352	1043	2.5	2607.5	3530	0.739	SAMP
N019330-017C	40	59.9044	59.9903	859	2.5	2147.5	3070	0.700	SAMP
N019330-018C	75	53.615	53.71	950	1.33333333	1266.66667	1848	0.685	SAMP
N019332-001D	75	64.116	64.1996	836	1.33333333	1114.66667	1882	0.592	SAMP
N019332-002D	100	77.1072	77.1978	906	1	906	1483	0.611	SAMP

Julia Ramit 4/7/2016

EPA 200.8

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56909
ASSET #: N019332

Instrument ID: ICPMS-02
Analyst: CEI

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Date Analyzed: 4/7/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?	X					
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 4/8/2016 Date: —

2nd Level Reviewer 4/8/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 200.8
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N019332-001B** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 16.8661 * 1 * (25/25)

Chromium , ug/L = 16.866100

Reporting results in two significant figures,

Chromium , ug/L = 17.0

4/8/2016

%RSD SUMMARY

PERCENT RSD SUMMARY: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	4.33	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.51	1.58	15	PASS
Std3-5/50 ppb	ICAL	1	5.1	1.034	15	PASS
Std4-10/100 ppb	ICAL	1	10.14	0.47	15	PASS
Std5-20/200 ppb	ICAL	1	20.42	1.045	15	PASS
Std6-40/400 ppb	ICAL	1	40.6	0.81	15	PASS
Std7-100/1000 ppb	ICAL	1	100.82	0.95	15	PASS
Std8-200/2000 ppb	ICAL	1	199.42	1.55	15	PASS
ICV	ICV	1	9.52	1.62	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV	CCV1	1	1.055	1.076	20	PASS
ICSA1	ICSA	1	0.16	10.59	15	PASS
ICSAB1	ICSAB	1	20.42	0.89	15	PASS
LLICV	CCV1	1	0.93	2.39	20	PASS
CCV1	CCV	1	20.35	0.21	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.5	0.83	15	PASS
CCB2	CCB	1	0.015	20.71	15	<PQL
CCV3	CCV	1	20.42	1.3	15	PASS
CCB3	CCB	1	0.0052	54.11	15	<PQL
LLCCV1	CCV2	1	0.94	1.0083	20	PASS
ICSA2	ICSA	1	0.16	8.054	15	PASS
ICSAB2	ICSAB	1	20.35	0.52	15	PASS
MB-56909	MBLK	1	<0.000	N/A	15	<PQL
LCS-56909	LCS	1	9.65	0.29	15	PASS
N019332-001B	SAMP	1	16.87	1.14	15	PASS
N019332-001B	SAMP	5	3.66	0.46	15	PASS
N019332-001B-PS	PS	1	26.14	1.46	15	PASS
N019332-001B-MS	MS	1	26.52	0.9	15	PASS
N019332-001B-MSD	MSD	1	26.46	0.57	15	PASS
N019332-002B	SAMP	1	9.29	0.93	15	PASS
CCV4	CCV	1	20.16	0.63	15	PASS
CCB4	CCB	1	0.0031	145.59	15	<PQL
CCV5	CCV	1	20.34	0.7	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL
LLCCV2	CCV2	1	1.2	3.73	20	PASS
ICSA3	ICSA	1	0.18	5.7	15	PASS
ICSAB3	ICSAB	1	20.11	1.66	15	PASS

4/8/2016

ANALYSIS RUN LOG

INJECTION LOG: 160407A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0407001.D	RINSE	RINSE	1	04/07/16 11:31 AM
A0407002.D	Cal Blank	IBLK	1	04/07/16 11:36 AM
A0407003.D	Std1-0.1/1 ppb	ICAL	1	04/07/16 11:42 AM
A0407004.D	Std2-0.5/5 ppb	ICAL	1	04/07/16 11:47 AM
A0407005.D	Std3-5/50 ppb	ICAL	1	04/07/16 11:53 AM
A0407006.D	Std4-10/100 ppb	ICAL	1	04/07/16 11:58 AM
A0407007.D	Std5-20/200 ppb	ICAL	1	04/07/16 12:04 PM
A0407008.D	Std6-40/400 ppb	ICAL	1	04/07/16 12:09 PM
A0407009.D	Std7-100/1000 ppb	ICAL	1	04/07/16 12:15 PM
A0407010.D	Std8-200/2000 ppb	ICAL	1	04/07/16 12:20 PM
A0407011.D	ICV	ICV	1	04/07/16 12:26 PM
A0407012.D	ICB	ICB	1	04/07/16 12:31 PM
A0407013.D	LLICV	CCV1	1	04/07/16 12:37 PM
A0407014.D	ICSA1	ICSA	1	04/07/16 12:42 PM
A0407015.D	ICSAB1	ICSAB	1	04/07/16 12:47 PM
A0407016.D	LLICV	CCV1	1	04/07/16 12:53 PM
A0407017.D	MB-56907	MBLK	1	04/07/16 12:59 PM
A0407018.D	LCS-56907	LCS	1	04/07/16 1:04 PM
A0407019.D	N019329-001H	SAMP	1	04/07/16 1:10 PM
A0407020.D	N019329-001H	SAMP	5	04/07/16 1:15 PM
A0407021.D	N019329-001H-PS	PS	1	04/07/16 1:21 PM
A0407022.D	N019329-001H-MS	MS	1	04/07/16 1:27 PM
A0407023.D	N019329-001H-MSD	MSD	1	04/07/16 1:32 PM
A0407024.D	MB-56868	MBLK	1	04/07/16 1:38 PM
A0407025.D	LCS-56868	LCS	1	04/07/16 1:53 PM
A0407026.D	N019277-001B	SAMP	1	04/07/16 1:58 PM
A0407027.D	CCV1	CCV	1	04/07/16 2:04 PM
A0407028.D	CCB1	CCB	1	04/07/16 2:09 PM
A0407029.D	N019277-001B	SAMP	5	04/07/16 2:13 PM
A0407030.D	N019277-002B	SAMP	1	04/07/16 2:19 PM
A0407031.D	N019277-003B	SAMP	1	04/07/16 2:24 PM
A0407032.D	N019313-003B	SAMP	1	04/07/16 2:30 PM
A0407033.D	N019313-004B	SAMP	1	04/07/16 2:35 PM
A0407034.D	N019313-004B	SAMP	5	04/07/16 2:41 PM
A0407035.D	N019315-001E	SAMP	1	04/07/16 2:46 PM
A0407036.D	N019315-001E	SAMP	5	04/07/16 2:52 PM
A0407037.D	N019315-001E	SAMP	25	04/07/16 2:57 PM
A0407038.D	N019315-002E	SAMP	5	04/07/16 3:03 PM
A0407039.D	CCV2	CCV	1	04/07/16 3:08 PM
A0407040.D	CCB2	CCB	1	04/07/16 3:14 PM
A0407041.D	N019315-002E	SAMP	1	04/07/16 3:19 PM
A0407042.D	N019315-002E	SAMP	25	04/07/16 3:25 PM

4/8/2016

INJECTION LOG: 160407A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0407043.D	N019315-003C	SAMP	5	04/07/16 3:30 PM
A0407044.D	N019315-003C	SAMP	25	04/07/16 3:36 PM
A0407045.D	N019315-003C	SAMP	125	04/07/16 3:42 PM
A0407046.D	N019315-003C-PS	PS	5	04/07/16 3:47 PM
A0407047.D	N019315-003C-PS	PS	25	04/07/16 3:53 PM
A0407048.D	N019315-003C-MS	MS	5	04/07/16 3:58 PM
A0407049.D	N019315-003C-MS	MS	25	04/07/16 4:04 PM
A0407050.D	N019315-003C-MSD	MSD	25	04/07/16 4:10 PM
A0407051.D	CCV3	CCV	1	04/07/16 4:15 PM
A0407052.D	CCB3	CCB	1	04/07/16 4:21 PM
A0407053.D	LLCCV1	CCV2	1	04/07/16 4:26 PM
A0407054.D	ICSA2	ICSA	1	04/07/16 4:32 PM
A0407055.D	ICSAB2	ICSAB	1	04/07/16 4:45 PM
A0407056.D	N019315-003C-MSD	MSD	5	04/07/16 4:58 PM
A0407057.D	MB-56909	MBLK	1	04/07/16 5:03 PM
A0407058.D	LCS-56909	LCS	1	04/07/16 5:09 PM
A0407059.D	N019332-001B	SAMP	1	04/07/16 5:14 PM
A0407060.D	N019332-001B	SAMP	5	04/07/16 5:20 PM
A0407061.D	N019332-001B-PS	PS	1	04/07/16 5:25 PM
A0407062.D	N019332-001B-MS	MS	1	04/07/16 5:31 PM
A0407063.D	N019332-001B-MSD	MSD	1	04/07/16 5:36 PM
A0407064.D	N019332-002B	SAMP	1	04/07/16 5:42 PM
A0407065.D	MB-56908	MBLK	1	04/07/16 5:47 PM
A0407066.D	CCV4	CCV	1	04/07/16 5:53 PM
A0407067.D	CCB4	CCB	1	04/07/16 5:58 PM
A0407068.D	LCS-56908	LCS	1	04/07/16 6:02 PM
A0407069.D	N019332-001C	SAMP	1	04/07/16 6:09 PM
A0407070.D	N019332-001C	SAMP	5	04/07/16 6:15 PM
A0407071.D	N019332-001C-PS	PS	1	04/07/16 6:21 PM
A0407072.D	N019332-001C-MS	MS	1	04/07/16 6:26 PM
A0407073.D	N019332-001C-MSD	MSD	1	04/07/16 6:32 PM
A0407074.D	N019332-002C	SAMP	1	04/07/16 6:37 PM
A0407075.D	CCV5	CCV	1	04/07/16 6:43 PM
A0407076.D	CCB5	CCB	1	04/07/16 6:48 PM
A0407077.D	LLCCV2	CCV2	1	04/07/16 6:52 PM
A0407078.D	ICSA3	ICSA	1	04/07/16 6:57 PM
A0407079.D	ICSAB3	ICSAB	1	04/07/16 7:03 PM

4/8/2016

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **4/7/2016 8:00:00 A**
Prep End Date: **4/7/2016 1:00:00 P**

Initials/ Date: 4/8/2016

Prep Batch **56909** Prep Code: **200.8_PR** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-14**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56909	Aqueous		25	☐	0	0	25	1.000		
MB-56909	Aqueous		25	☐	0	0	25	1.000		
N019332-001B	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-001B-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-002B	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Apr 2016 06:15:22 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element		Actual	Required	Flag
9	Be	152409.00	0.00	
24	Mg	1052800.00	0.00	
25	Mg	141461.00	0.00	
26	Mg	165426.00	0.00	
59	Co	1392710.00	0.00	
115	In	2916680.00	0.00	
206	Pb	767293.00	0.00	
207	Pb	667076.00	0.00	
208	Pb	1657490.00	0.00	

RSD (%)

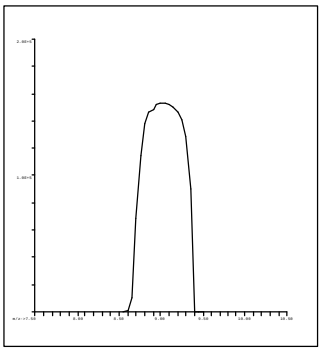
Element		Actual	Required	Flag
9	Be	0.98	5.00	
24	Mg	0.96	5.00	
25	Mg	1.03	5.00	
26	Mg	1.04	5.00	
59	Co	1.37	5.00	
115	In	0.99	5.00	
206	Pb	0.68	5.00	
207	Pb	0.83	5.00	
208	Pb	1.53	5.00	

Ion Ratio

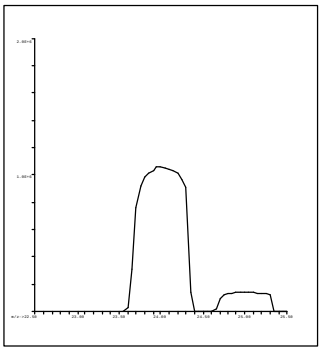
Element		Actual	Required	Flag
9	Be			
24	Mg			
25	Mg			
26	Mg			
59	Co			
115	In			
206	Pb			
207	Pb			
208	Pb			

Maximum Bkg. Count(CPS)

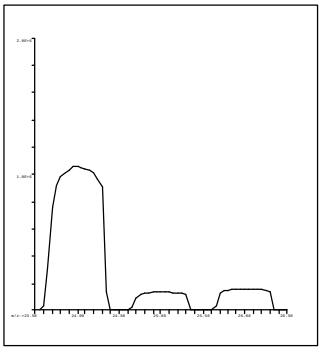
Element	Actual	Required	Flag



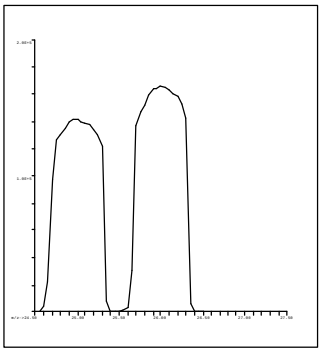
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



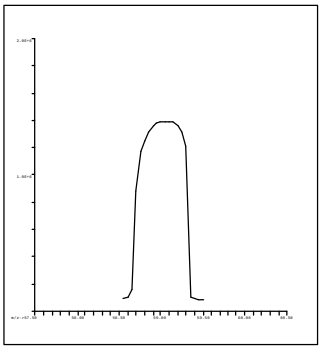
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



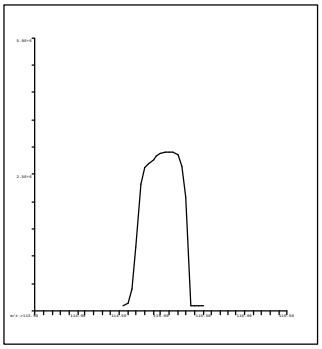
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



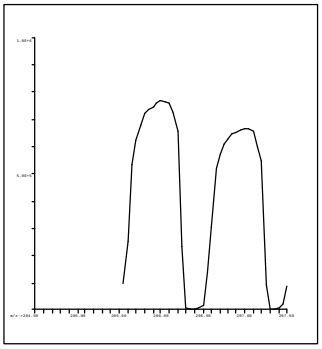
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



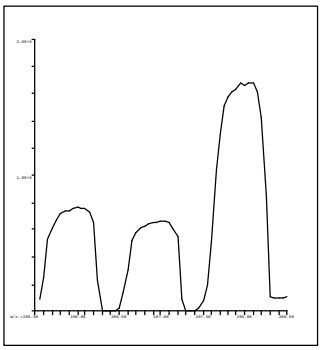
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

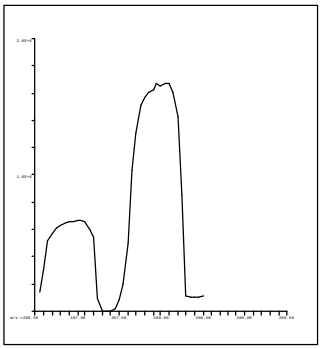


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
   Actual: 208.00
   Required: 207.90-208.10
   Flag:
Peak Width
   Actual: 0.65
   Required: 0.75
   Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160407A

Instrument ID: ICPMS-02

Analyte	Data File	A0407002.D	A0407004.D	A0407005.D	A0407006.D	A0407007.D	A0407008.D	A0407009.D	A0407010.D	
	Acq. Date-Time	04/07/2016 11:36 AM	04/07/2016 11:47 AM	04/07/2016 11:53 AM	04/07/2016 11:58 AM	04/07/2016 12:04 PM	04/07/2016 12:09 PM	04/07/2016 12:15 PM	04/07/2016 12:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	262161	262473.7	264954.5	264987.9	265659.5	266811.6	265642.4	267134.5	
52 Cr [2]	CPS	854.2	10950.3	103821	205558.3	414031.6	825751.7	2040609.3	4057175.2	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-150907G
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

4/8/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **ICV** SampType: **ICV** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICV** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.518	1.0	10.00	0	95.2	90	110				

Sample ID: **LLICV** SampType: **CCV1** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288871**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.055	1.0	1.000	0	106	80	120				

Sample ID: **CCV1** SampType: **CCV** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.348	1.0	20.00	0	102	90	110				

Sample ID: **CCV2** SampType: **CCV** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.496	1.0	20.00	0	102	90	110				

Sample ID: **CCV3** SampType: **CCV** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.417	1.0	20.00	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **LLCCV1** SampType: **CCV2** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.937	1.0	1.000	0	93.7	70	130				

Sample ID: **CCV4** SampType: **CCV** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.156	1.0	20.00	0	101	90	110				

Sample ID: **CCV5** SampType: **CCV** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.343	1.0	20.00	0	102	90	110				

Sample ID: **LLCCV2** SampType: **CCV2** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.203	1.0	1.000	0	120	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **ICB** SampType: **ICB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288870**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB1** SampType: **CCB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB2** SampType: **CCB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB3** SampType: **CCB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB4** SampType: **CCB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **CCB5** SampType: **CCB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.157	1.0									

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.419	1.0	20.00	0	102	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.159	1.0									

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.354	1.0	20.00	0	102	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **ICSAB3**	SampType: **ICSAB**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date:	RunNo: **106817**
Client ID: **ICSAB**	Batch ID: **R106817**	TestNo: **EPA 200.8**		Analysis Date: **4/7/2016**	SeqNo: **2288937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.108	1.0	20.00	0	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	262161	262161	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	266162.8	262161	101.53	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	262473.7	262161	100.12	PASS	70-130
Std3-5/50 ppb	ICAL	1	264954.5	262161	101.07	PASS	70-130
Std4-10/100 ppb	ICAL	1	264987.9	262161	101.08	PASS	70-130
Std5-20/200 ppb	ICAL	1	265659.5	262161	101.33	PASS	70-130
Std6-40/400 ppb	ICAL	1	266811.6	262161	101.77	PASS	70-130
Std7-100/1000 ppb	ICAL	1	265642.4	262161	101.33	PASS	70-130
Std8-200/2000 ppb	ICAL	1	267134.5	262161	101.9	PASS	70-130
ICV	ICV	1	290020.9	262161	110.63	PASS	70-130
ICB	ICB	1	270039	262161	103.01	PASS	70-130
LLICV	CCV1	1	284118.2	262161	108.38	PASS	70-130
ICSA1	ICSA	1	218740.2	262161	83.44	PASS	70-130
ICSAB1	ICSAB	1	233145.8	262161	88.93	PASS	70-130
LLICV	CCV1	1	310776.2	262161	118.54	PASS	70-130
CCV1	CCV	1	234379.1	262161	89.4	PASS	70-130
CCB1	CCB	1	232421.6	262161	88.66	PASS	70-130
CCV2	CCV	1	220400.9	262161	84.071	PASS	70-130
CCB2	CCB	1	220086.9	262161	83.95	PASS	70-130
CCV3	CCV	1	244187.8	262161	93.14	PASS	70-130
CCB3	CCB	1	244244.5	262161	93.17	PASS	70-130
LLCCV1	CCV2	1	251427.8	262161	95.91	PASS	70-130
ICSA2	ICSA	1	251183	262161	95.81	PASS	70-130
ICSAB2	ICSAB	1	233004.6	262161	88.88	PASS	70-130
MB-56909	MBLK	1	246227.2	262161	93.92	PASS	70-130
LCS-56909	LCS	1	245065	262161	93.48	PASS	70-130
N019332-001B	SAMP	1	229020	262161	87.36	PASS	70-130
N019332-001B	SAMP	5	223510.3	262161	85.26	PASS	70-130
N019332-001B-PS	PS	1	229692.1	262161	87.61	PASS	70-130
N019332-001B-MS	MS	1	219891.9	262161	83.88	PASS	70-130
N019332-001B-MSD	MSD	1	219182.3	262161	83.61	PASS	70-130
N019332-002B	SAMP	1	218808.4	262161	83.46	PASS	70-130
CCV4	CCV	1	221188.7	262161	84.37	PASS	70-130
CCB4	CCB	1	221451.4	262161	84.47	PASS	70-130
CCV5	CCV	1	214270.7	262161	81.73	PASS	70-130
CCB5	CCB	1	217300.4	262161	82.89	PASS	70-130
LLCCV2	CCV2	1	214298.8	262161	81.74	PASS	70-130
ICSA3	ICSA	1	218624.4	262161	83.39	PASS	70-130
ICSAB3	ICSAB	1	229238.2	262161	87.44	PASS	70-130

4/8/2016

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N019332
Test Method: EPA 6020
Analysis Date: 4/7/2016

Matrix: Groundwater
Batch No.: 56909

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N019332-001B DT 5X	Chromium	ug/L	18.319590	NA	16.866100	8.62%	10

Note: NA - Not Applicable

4/8/2016

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE

Sample ID: **N019332-001B-PS** SampType: **PS** TestCode: **200.8_W_CR** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **56909** TestNo: **EPA 200.8** Analysis Date: **4/7/2016** SeqNo: **2288919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	26.144	1.0	10.00	16.87	92.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 1.0
101515

QC Batch Number: R106785
ASSET #: N019332

Instrument ID: IC-07
Analyst: JAS
Date Analyzed: 4/6/2016

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [x] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X					
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X					
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?	X					
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X					
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X					
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM, GMP, ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 4/8/2016

2nd Level Reviewer _____ 4/8/2016 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

Cr^{+6}, µg/L = A * DF

where:

A = µg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For **N019332-001A** concentration in µg/L is calculated as follows:

Cr^{+6}, µg/L = 3.4058* 5

= 17.029

Reporting result in two significant figures,

Cr^{+6}, µg/L = 17

ANALYSIS RUN LOG

INJECTION LOG: 160401A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:00 PM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:11 PM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	04/01/16 1:21 PM	Reported
4	STD1-0.2 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:32 PM	Reported
5	STD2-1.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:43 PM	Reported
6	STD3-5.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:52 PM	Reported
7	STD4-10.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:02 PM	Reported
8	STD5-15.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:11 PM	Reported
9	STD6-20.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:20 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	04/01/16 2:32 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	04/01/16 2:44 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	04/01/16 2:53 PM	Reported
13	R160331B	ICAL	1	Hexavalent Chromium	04/01/16 3:06 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160401A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Apr/16 10:21:36**
No. of Injections:	**16**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		04/01/2016 13:00	Finished	BLANK
2	Blank	2	1000	Unknown		04/01/2016 13:11	Finished	BLANK R160331B
3	iBLANK	3	1000	Unknown		04/01/2016 13:21	Finished	INSTRUMENT BLANK
4	STD1-0.2 ppb	4	1000	Calibration Standard	01	04/01/2016 13:32	Finished	0.2 ppb, IWST160401A
5	STD2-1.0 ppb	5	1000	Calibration Standard	02	04/01/2016 13:43	Finished	1.0 ppb, IWST160401A
6	STD3-5.0 ppb	6	1000	Calibration Standard	03	04/01/2016 13:52	Finished	5.0 ppb, IWST160401A
7	STD4-10.0 ppb	7	1000	Calibration Standard	04	04/01/2016 14:02	Finished	10 ppb, IWST160401A
8	STD5-15.0 ppb	8	1000	Calibration Standard	05	04/01/2016 14:11	Finished	15 ppb, IWST160401A
9	STD6-20.0 ppb	9	1000	Calibration Standard	06	04/01/2016 14:20	Finished	20 ppb, IWST160401A
10	ICV,ICV,1,	10	1000	Unknown		04/01/2016 14:32	Finished	ICV, IWST-160401B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		04/01/2016 14:44	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		04/01/2016 14:53	Finished	ICB R160318C
13	R160331B	13	1000	Unknown		04/01/2016 15:06	Finished	BUFFER
14	SHUTDOWN	14	1000	Unknown		04/01/2016 15:17	Finished	BLANK
15	Eluent: R160331A	15	1000	Unknown		n.a.	Finished	Eluent
16	PCR: R160401A	16	1000	Unknown		n.a.	Finished	Post-Column Reagent

INJECTION LOG: 160406A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:00 PM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:11 PM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	04/01/16 1:21 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:32 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:43 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:52 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:02 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:11 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:20 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	04/06/16 10:14 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	04/06/16 10:26 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	04/06/16 10:35 AM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	04/06/16 10:45 AM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	04/06/16 10:54 AM	Reported
15	MB-R106785	MBLK	1	Hexavalent Chromium	04/06/16 11:04 AM	Not Reported
16	LCS-R106785	LCS	1	Hexavalent Chromium	04/06/16 11:13 AM	Reported
17	MB-R106785	MBLK	1	Hexavalent Chromium	04/06/16 11:32 AM	Reported
18	N019315-001C	SAMP	100	Hexavalent Chromium	04/06/16 11:43 AM	Reported
19	N019315-001CDUP	DUP	100	Hexavalent Chromium	04/06/16 11:52 AM	Reported
20	N019315-001CMS	MS	100	Hexavalent Chromium	04/06/16 12:02 PM	Reported
21	N019315-001CMSD	MSD	100	Hexavalent Chromium	04/06/16 12:11 PM	Reported
22	N019315-002C	SAMP	1	Hexavalent Chromium	04/06/16 12:21 PM	Reported
23	N019315-002CMS	MS	1	Hexavalent Chromium	04/06/16 12:30 PM	Reported
24	N019315-003B	SAMP	1	Hexavalent Chromium	04/06/16 12:40 PM	Not Reported
25	CCV-2	CCV1	1	Hexavalent Chromium	04/06/16 12:49 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	04/06/16 12:59 PM	Reported
27	N019315-003BMS	MS	1	Hexavalent Chromium	04/06/16 1:08 PM	Not Reported
28	N019332-001A	SAMP	5	Hexavalent Chromium	04/06/16 1:18 PM	Reported
29	N019332-001AMS	MS	5	Hexavalent Chromium	04/06/16 1:27 PM	Reported
30	N019332-002A	SAMP	1	Hexavalent Chromium	04/06/16 1:36 PM	Reported
31	N019332-002AMS	MS	1	Hexavalent Chromium	04/06/16 1:46 PM	Reported
32	N019315-002C	SAMP	5	Hexavalent Chromium	04/06/16 1:55 PM	Reported
33	N019315-002CMS	MS	5	Hexavalent Chromium	04/06/16 2:05 PM	Reported
34	N019315-003B	SAMP	5	Hexavalent Chromium	04/06/16 2:14 PM	Not Reported
35	N019315-003BMS	MS	5	Hexavalent Chromium	04/06/16 2:24 PM	Not Reported
36	N019317-001A	SAMP	1	Hexavalent Chromium	04/06/16 2:33 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	04/06/16 2:43 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	04/06/16 2:52 PM	Reported
39	N019315-003B	SAMP	25	Hexavalent Chromium	04/06/16 3:02 PM	Reported
40	N019315-003BMS	MS	25	Hexavalent Chromium	04/06/16 3:11 PM	Reported
41	N019317-002A	SAMP	1	Hexavalent Chromium	04/06/16 3:21 PM	Reported
42	N019317-003A	SAMP	1	Hexavalent Chromium	04/06/16 3:30 PM	Reported

INJECTION LOG: 160406A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N019317-004A	SAMP	1	Hexavalent Chromium	04/06/16 3:40 PM	Reported
44	N019317-005A	SAMP	1	Hexavalent Chromium	04/06/16 3:49 PM	Reported
45	N019317-006A	SAMP	1	Hexavalent Chromium	04/06/16 3:58 PM	Reported
46	N019317-007A	SAMP	1	Hexavalent Chromium	04/06/16 4:08 PM	Reported
47	N019317-008A	SAMP	1	Hexavalent Chromium	04/06/16 4:18 PM	Reported
48	N019317-009A	SAMP	1	Hexavalent Chromium	04/06/16 4:27 PM	Reported
49	CCV-4	CCV1	1	Hexavalent Chromium	04/06/16 4:36 PM	Not Reported
50	CCB-4	CCB	1	Hexavalent Chromium	04/06/16 4:46 PM	Not Reported
51	CCV-4	CCV1	1	Hexavalent Chromium	04/06/16 5:25 PM	Reported
52	CCV-4	CCV1	1	Hexavalent Chromium	04/06/16 5:39 PM	Not Reported
53	CCB-4	CCB	1	Hexavalent Chromium	04/06/16 5:50 PM	Reported
54	N019317-010A	SAMP	1	Hexavalent Chromium	04/06/16 6:01 PM	Reported
55	N019317-011A	SAMP	1	Hexavalent Chromium	04/06/16 6:13 PM	Reported
56	N019317-012A	SAMP	1	Hexavalent Chromium	04/06/16 6:22 PM	Reported
57	N019317-013A	SAMP	1	Hexavalent Chromium	04/06/16 6:32 PM	Reported
58	N019317-014A	SAMP	1	Hexavalent Chromium	04/06/16 6:41 PM	Reported
59	N019317-015A	SAMP	1	Hexavalent Chromium	04/06/16 6:51 PM	Reported
60	CCV-5	CCV	1	Hexavalent Chromium	04/06/16 7:00 PM	Not Reported
61	CCB-5	CCB	1	Hexavalent Chromium	04/06/16 7:10 PM	Not Reported
62	CCV-5	CCV	1	Hexavalent Chromium	04/06/16 7:23 PM	Reported
63	CCV-5	CCV	1	Hexavalent Chromium	04/06/16 7:35 PM	Not Reported
64	CCB-5	CCB	1	Hexavalent Chromium	04/06/16 7:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160406A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Apr/16 21:48:39**
No. of Injections:	**67**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		04/01/2016 13:00	Finished	BLANK
2	Blank	2	1000	Unknown		04/01/2016 13:11	Finished	BLANK R160331B
3	iBLANK	3	1000	Unknown		04/01/2016 13:21	Finished	INSTRUMENT BLANK
4	STD1-0.2 ppb	4	1000	Calibration Standard	01	04/01/2016 13:32	Finished	0.2 ppb, IWST160401A
5	STD2-1.0 ppb	5	1000	Calibration Standard	02	04/01/2016 13:43	Finished	1.0 ppb, IWST160401A
6	STD3-5.0 ppb	6	1000	Calibration Standard	03	04/01/2016 13:52	Finished	5.0 ppb, IWST160401A
7	STD4-10.0 ppb	7	1000	Calibration Standard	04	04/01/2016 14:02	Finished	10 ppb, IWST160401A
8	STD5-15.0 ppb	8	1000	Calibration Standard	05	04/01/2016 14:11	Finished	15 ppb, IWST160401A
9	STD6-20.0 ppb	9	1000	Calibration Standard	06	04/01/2016 14:20	Finished	20 ppb, IWST160401A
10	Blank	1	1000	Unknown		04/06/2016 10:14	Finished	BLANK
11	Blank	2	1000	Unknown		04/06/2016 10:26	Finished	BLANK
12	CCV-1,CCV,1,	3	1000	Unknown		04/06/2016 10:35	Finished	CCV @5ppb, IWST-160401A
13	PQL@0.2ppb,CCV2,1	4	1000	Unknown		04/06/2016 10:45	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	5	1000	Unknown		04/06/2016 10:54	Finished	CCB R160328B
15	MB-H2O,MBLK,1	6	1000	Unknown		04/06/2016 11:04	Finished	MB
16	LCS-H2O,LCS,1	7	1000	Unknown		04/06/2016 11:13	Finished	LCS, IWST-160401B
17	MB-H2O,MBLK,1	8	1000	Unknown		04/06/2016 11:32	Finished	MB
18	N019315-001C,SAMP	9	1000	Unknown		04/06/2016 11:43	Finished	SAMP, 10mL
19	N019315-001CDUP,D	10	1000	Unknown		04/06/2016 11:52	Finished	DUP, 10mL
20	N019315-001CMS,MS	11	1000	Unknown		04/06/2016 12:02	Finished	MS (5ppb) , IWST-160401B, 0.
21	N019315-001CMSD,M	12	1000	Unknown		04/06/2016 12:11	Finished	MSD (5ppb) , IWST-160401B,
22	N019315-002C,SAMP	13	1000	Unknown		04/06/2016 12:21	Finished	SAMP, 10mL
23	N019315-002CMS,MS	14	1000	Unknown		04/06/2016 12:30	Finished	SAMP, 10mL
24	N019315-003A,SAMP	15	1000	Unknown		04/06/2016 12:40	Finished	SAMP, 10mL
25	CCV-2,CCV1,1,	16	1000	Unknown		04/06/2016 12:49	Finished	CCV @10ppb, IWST-160401A
26	CCB-2,CCB,1,	17	1000	Unknown		04/06/2016 12:59	Finished	CCB
27	N019315-003BMS,MS	18	1000	Unknown		04/06/2016 13:08	Finished	MS (1ppb) , IWST-160401B, 10
28	N019332-001A,SAMP	19	1000	Unknown		04/06/2016 13:18	Finished	SAMP, 2 >10mL
29	N019332-001AMS,MS	20	1000	Unknown		04/06/2016 13:27	Finished	MS (5ppb) , IWST-160401B, 2
30	N019332-002A,SAMP	21	1000	Unknown		04/06/2016 13:36	Finished	SAMP, 10mL
31	N019332-002AMS,MS	22	1000	Unknown		04/06/2016 13:46	Finished	MS (5ppb) , IWST-160401B, 10
32	N019315-002C,SAMP	23	1000	Unknown		04/06/2016 13:55	Finished	SAMP, 2 >10mL
33	N019315-002CMS,MS	24	1000	Unknown		04/06/2016 14:05	Finished	MS (1ppb) , IWST-160401B, 2
34	N019315-003B,SAMP	25	1000	Unknown		04/06/2016 14:14	Finished	MS (5ppb) , IWST-160401B, 10
35	N019315-003BMS,MS	26	1000	Unknown		04/06/2016 14:24	Finished	MS (1ppb) , IWST-160401B, 2
36	N019317-001A,SAMP	27	1000	Unknown		04/06/2016 14:33	Finished	SAMP, 10mL
37	CCV-3,CCV,1,	28	1000	Unknown		04/06/2016 14:43	Finished	CCV @5pb, IWST-160401A
38	CCB-3,CCB,1,	29	1000	Unknown		04/06/2016 14:52	Finished	CCB
39	N019315-003B,SAMP	30	1000	Unknown		04/06/2016 15:02	Finished	CCB
40	N019315-003BMS,MS	31	1000	Unknown		04/06/2016 15:11	Finished	SAMP, 0.4> 10mL
41	N019317-002A,SAMP	32	1000	Unknown		04/06/2016 15:21	Finished	SAMP, 0.4> 10mL
42	N019317-003A,SAMP	33	1000	Unknown		04/06/2016 15:30	Finished	MS (1ppb) , IWST-160401B, 0.
43	N019317-004A,SAMP	34	1000	Unknown		04/06/2016 15:40	Finished	SAMP, 10mL
44	N019317-005A,SAMP	35	1000	Unknown		04/06/2016 15:49	Finished	SAMP, 10mL
45	N019317-006A,SAMP	36	1000	Unknown		04/06/2016 15:58	Finished	SAMP, 10mL
46	N019317-007A,SAMP	37	1000	Unknown		04/06/2016 16:08	Finished	SAMP, 10mL
47	N019317-008A,SAMP	38	1000	Unknown		04/06/2016 16:18	Finished	SAMP, 10mL
48	N019317-009A,SAMP	39	1000	Unknown		04/06/2016 16:27	Finished	SAMP, 10mL
49	CCV-4,CCV1,1,	40	1000	Unknown		04/06/2016 16:36	Finished	CCV @10ppb, IWST-160401A
50	CCB-4,CCB,1,	41	1000	Unknown		04/06/2016 16:46	Finished	CCB
51	CCV-4,CCV1,1,	42	1000	Unknown		04/06/2016 17:25	Finished	CCV @10ppb, IWST-160401A
52	CCV-4,CCV1,1,	43	1000	Unknown		04/06/2016 17:39	Finished	CCV @10ppb, IWST-160401A
53	CCB-4,CCB,1,	44	1000	Unknown		04/06/2016 17:50	Finished	CCB
54	N019317-010A,SAMP	1	1000	Unknown		04/06/2016 18:01	Finished	SAMP, 10mL
55	N019317-011A,SAMP	2	1000	Unknown		04/06/2016 18:13	Finished	SAMP, 10mL
56	N019317-012A,SAMP	3	1000	Unknown		04/06/2016 18:22	Finished	SAMP, 10mL
57	N019317-013A,SAMP	4	1000	Unknown		04/06/2016 18:32	Finished	SAMP, 10mL
58	N019317-014A,SAMP	5	1000	Unknown		04/06/2016 18:41	Finished	SAMP, 10mL
59	N019317-015A,SAMP	6	1000	Unknown		04/06/2016 18:51	Finished	SAMP, 10mL
60	CCV-5,CCV,1,	7	1000	Unknown		04/06/2016 19:00	Finished	CCV @5ppb, IWST-160401A

61	CCB-5,CCB,1,	8	1000	Unknown		04/06/2016 19:10	Finished	CCB
62	CCV-5,CCV,1,	9	1000	Unknown		04/06/2016 19:23	Finished	CCV @5ppb, IWST-160401A
63	CCV-5,CCV,1,	10	1000	Unknown		04/06/2016 19:35	Finished	CCV @5ppb, IWST-160401A
64	CCB-5,CCB,1,	11	1000	Unknown		04/06/2016 19:44	Finished	CCB
65	SHUTDOWN	12	1000	Unknown		04/06/2016 19:53	Finished	BLANK
66	Eluent: R160404E	13	1000	Unknown		n.a.	Finished	Eluent
67	PCR: R160405B	14	1000	Unknown		n.a.	Finished	Post-Column Reagent

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 4/6/16
Time Prepared: 9:40 AM
Prepared By: JAS

Slope: 99.2
pH 7: 7.04
4: 4.03
10: 10.03
LCS: 7.01

Reagent ID:
Sulfuric Acid: GNV-151130E
Diphenylcarbazide: GNV-160425H
NH4OH + NH4SO4 eluent: R160404E
NH4OH + NH4SO4 buffer: R160328B, R160219D

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N019330-1A	8.90	9.37			+8 drops 6N NaOH	R160328B
2)	N019331-01A	9.24	9.35	~250 mL	~250 mL	+2 drops 6N NaOH	
3)	-02A	9.51	-	-	-	-	
4)	-03A	8.93	9.34	~250 mL	~250 mL	+7 drops 6N NaOH	
5)	-04A	9.49	-	-	-	-	
6)	-05A	9.46	-	-	-	-	
7)	-06A	9.19	9.37	~250 mL	~250 mL	+3 drops 6N NaOH	
8)	-07A	9.48	-	-	-	-	
9)	-08A	9.32	-	-	-	-	
10)	-09A	9.45	-	-	-	-	
11)	-10A	9.41	-	-	-	-	
12)	N019332-1A	9.48	-	-	-	-	R160219D
13)	-2A	9.45	-	-	-	-	
14)	N019333-1A	9.32	-	-	-	-	R160328B
15)	-2A	9.34	-	-	-	-	
	-3A	9.34	-	-	-	-	

Sample Preparation

Date Prepared: 4/6/16
Time Prepared: 9:40 AM
Prepared By: JAS

LCS: 6.99

Reagent ID:
Sulfuric Acid:
Diphenylcarbazide:
NH4OH + NH4SO4 eluent:
NH4OH + NH4SO4 buffer:

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	N019333-4A	9.39	-	-	-	-	R160328B
2)	-5A	9.24	9.31	~250 mL	~250 mL	+1 drop 6N NaOH	
3)	-6A	9.34	-	-	-	-	
4)	-7A	9.37	-	-	-	-	
5)	-8A	9.40	-	-	-	-	
6)	-9A	9.35	-	-	-	-	
7)	-10A	9.40	-	-	-	-	
8)	-11A	9.35	-	-	-	-	
9)	-12A	9.34	-	-	-	-	
10)	-13A	9.35	-	-	-	-	
11)	-14A	9.32	-	-	-	-	
12)	-15A	9.17	9.32	~250 mL	~250 mL	+3 drops 6N NaOH	
13)	N019334-1A	9.43	-	-	-	-	
14)	-2A	9.49	-	-	-	-	
15)	-3A	9.41	-	-	-	-	
	-4A	9.39	-	-	-	-	

Logbook No. 10

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 4/1/2016

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0503	0.2450	1.2115	2.4280	3.6474	4.8561	1.0000

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST150306A	IWST160401A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICV** SampType: **ICV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ICV** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/1/2016** SeqNo: **2285873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.948	0.20	5.000	0	99.0	90	110				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/1/2016** SeqNo: **2285874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.213	0.20	0.2000	0	106	80	120				

Sample ID **CCV-1** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCV** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.040	0.20	5.000	0	101	95	105				

Sample ID **PQL@0.2ppb** SampType: **CCV2** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.230	0.20	0.2000	0	115	80	120				

Sample ID **CCV-2** SampType: **CCV1** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.958	0.20	10.00	0	99.6	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCV-3** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCV** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.038	0.20	5.000	0	101	95	105				

Sample ID **CCV-4** SampType: **CCV1** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ZZZZZZ** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.052	0.20	10.00	0	101	95	105				

Sample ID **CCV-5** SampType: **CCV** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCV** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.046	0.20	5.000	0	101	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **ICB** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/1/2016** SeqNo: **2285875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCB** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCB** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCB** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCB** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **CCB-5** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **106785**
Client ID: **CCB** Batch ID: **R106785** TestNo: **EPA 218.6** Analysis Date: **4/6/2016** SeqNo: **2285923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 4/6/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.081	
CCV-2	5.081	
CCV-3	5.081	
CCV-4	5.081	
CCV-5	5.081	
Average	5.081	
Actual RT Window	5.001 - 5.161	
Applied RT Window	4.881 - 5.281	
MB-R106785	N.A.	N.A.
LCS-R106785	5.073	PASS
MB-R106785	N.A.	N.A.
N019315-001C	5.081	PASS
N019315-001CDUP	5.081	PASS
N019315-001CMS	5.081	PASS
N019315-001CMSD	5.081	PASS
N019315-002C	4.965	PASS
N019315-002CMS	4.965	PASS
N019315-003B	N.A.	N.A.
N019315-003BMS	N.A.	N.A.
N019332-001A	5.081	PASS
N019332-001AMS	5.090	PASS
N019332-002A	5.065	PASS
N019332-002AMS	5.056	PASS
N019315-002C	5.056	PASS
N019315-002CMS	5.065	PASS
N019315-003B	4.840	FAIL
N019315-003BMS	4.840	FAIL
N019317-001A	5.056	PASS
N019315-003B	5.040	PASS
N019315-003BMS	5.048	PASS
N019317-002A	5.081	PASS
N019317-003A	5.073	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 4/6/2016

Sample Name	Retention Time	Evaluation
CCV-1	5.081	
CCV-2	5.081	
CCV-3	5.081	
CCV-4	5.081	
CCV-5	5.081	
Average	5.081	
Actual RT Window	5.001 - 5.161	
Applied RT Window	4.881 - 5.281	
N019317-004A	5.081	PASS
N019317-005A	5.081	PASS
N019317-006A	5.073	PASS
N019317-007A	5.073	PASS
N019317-008A	5.065	PASS
N019317-009A	5.081	PASS
N019317-010A	5.081	PASS
N019317-011A	5.073	PASS
N019317-012A	N.A.	N.A.
N019317-013A	5.065	PASS
N019317-014A	5.081	PASS
N019317-015A	5.081	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 2/26/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-06**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0329	0.0375	0.0281	0.0325	0.0403	0.0276	0.0265	0.0301	0.030	0.0049	2.998	**0.015**	**0.20**	OK,meets criteria

Students't Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/16/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0617	0.0578	0.0592	0.0604	0.0606	0.0686	0.0567	0.050	0.0039	3.143	**0.012**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT 2015

Method Name: **Hexavalent Chromium by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 3/5/2015
Analyst: Ryan Balilu

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Acceptance Criteria: MDL < spike < 10X MDL

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Hexavalent Chromium	0.0672	0.0679	0.0615	0.0664	0.0620	0.0637	0.0610	0.050	0.0029	3.143	**0.0090**	**0.20**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 160401A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:00 PM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:11 PM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	04/01/16 1:21 PM	Reported
4	STD1-0.2 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:32 PM	Reported
5	STD2-1.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:43 PM	Reported
6	STD3-5.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:52 PM	Reported
7	STD4-10.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:02 PM	Reported
8	STD5-15.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:11 PM	Reported
9	STD6-20.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:20 PM	Reported
10	ICV	ICV	1	Hexavalent Chromium	04/01/16 2:32 PM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	04/01/16 2:44 PM	Reported
12	ICB	ICB	1	Hexavalent Chromium	04/01/16 2:53 PM	Reported
13	R160331B	ICAL	1	Hexavalent Chromium	04/01/16 3:06 PM	Reported

Nancy 4/8/2016

Injection Log Summary

Sequence Details

Name:	**IC-07_160401A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Apr/16 10:21:36**
No. of Injections:	**16**	*Updated By:*	**ics 5000**

Injection Details

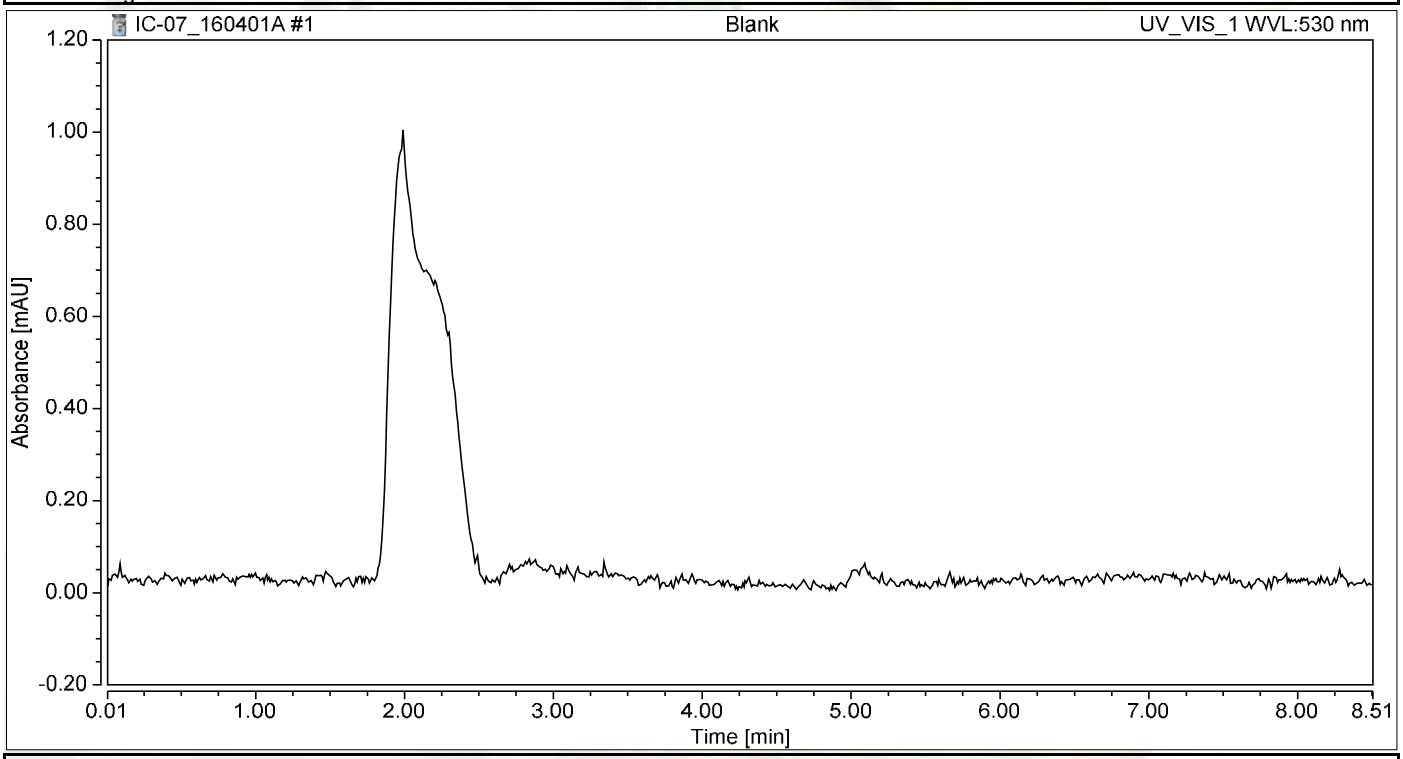
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		04/01/2016 13:00	Finished	BLANK
2	Blank	2	1000	Unknown		04/01/2016 13:11	Finished	BLANK R160331B
3	iBLANK	3	1000	Unknown		04/01/2016 13:21	Finished	INSTRUMENT BLANK
4	STD1-0.2 ppb	4	1000	Calibration Standard	01	04/01/2016 13:32	Finished	0.2 ppb, IWST160401A
5	STD2-1.0 ppb	5	1000	Calibration Standard	02	04/01/2016 13:43	Finished	1.0 ppb, IWST160401A
6	STD3-5.0 ppb	6	1000	Calibration Standard	03	04/01/2016 13:52	Finished	5.0 ppb, IWST160401A
7	STD4-10.0 ppb	7	1000	Calibration Standard	04	04/01/2016 14:02	Finished	10 ppb, IWST160401A
8	STD5-15.0 ppb	8	1000	Calibration Standard	05	04/01/2016 14:11	Finished	15 ppb, IWST160401A
9	STD6-20.0 ppb	9	1000	Calibration Standard	06	04/01/2016 14:20	Finished	20 ppb, IWST160401A
10	ICV,ICV,1,	10	1000	Unknown		04/01/2016 14:32	Finished	ICV, IWST-160401B
11	PQL@0.2ppb,CCV2,1	11	1000	Unknown		04/01/2016 14:44	Finished	PQL @ 0.2ppb
12	ICB,ICB,1,	12	1000	Unknown		04/01/2016 14:53	Finished	ICB R160318C
13	R160331B	13	1000	Unknown		04/01/2016 15:06	Finished	BUFFER
14	SHUTDOWN	14	1000	Unknown		04/01/2016 15:17	Finished	BLANK
15	Eluent: R160331A	15	1000	Unknown		n.a.	Finished	Eluent
16	PCR: R160401A	16	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

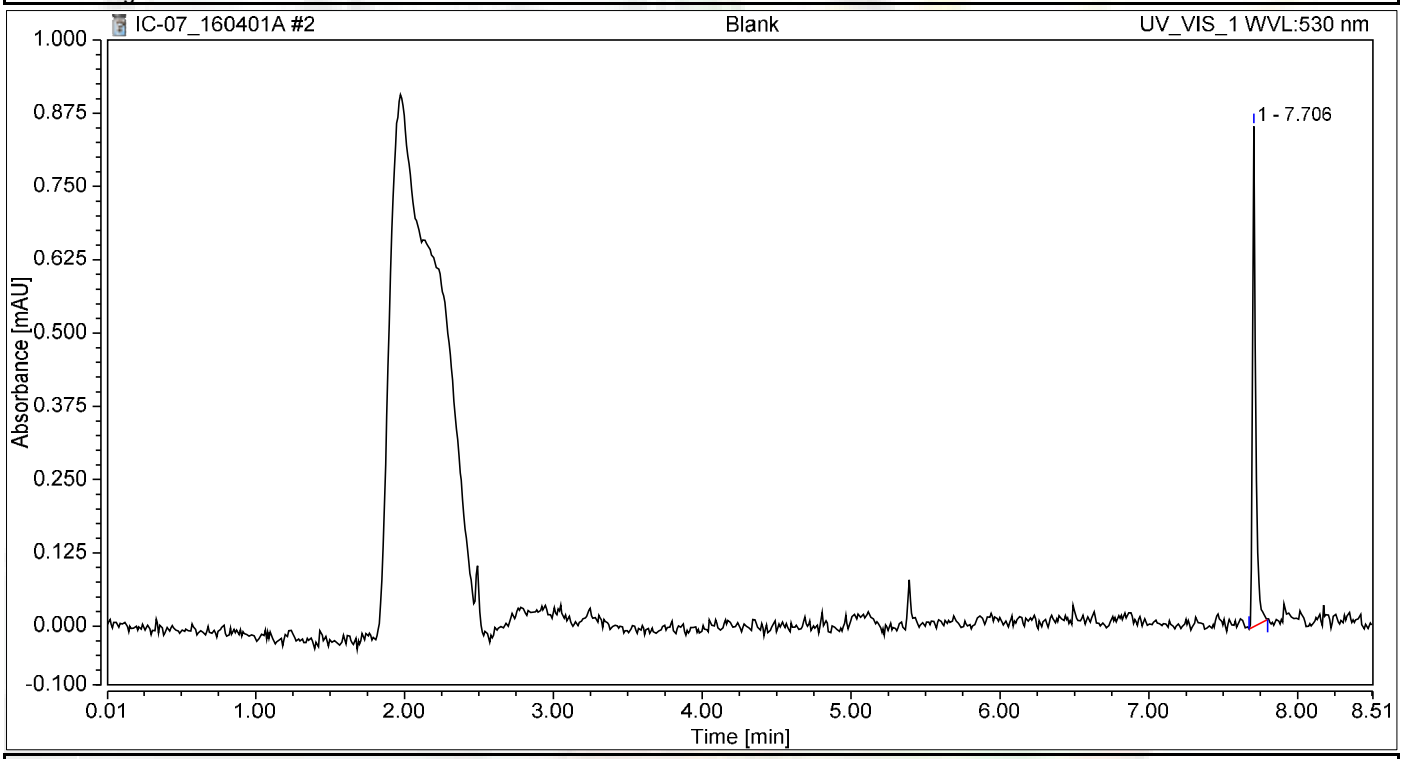
not reported

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		7.706	0.021	0.853	100.00	100.00	n.a.
Total:			**0.021**	**0.853**	**100.00**	**100.00**	

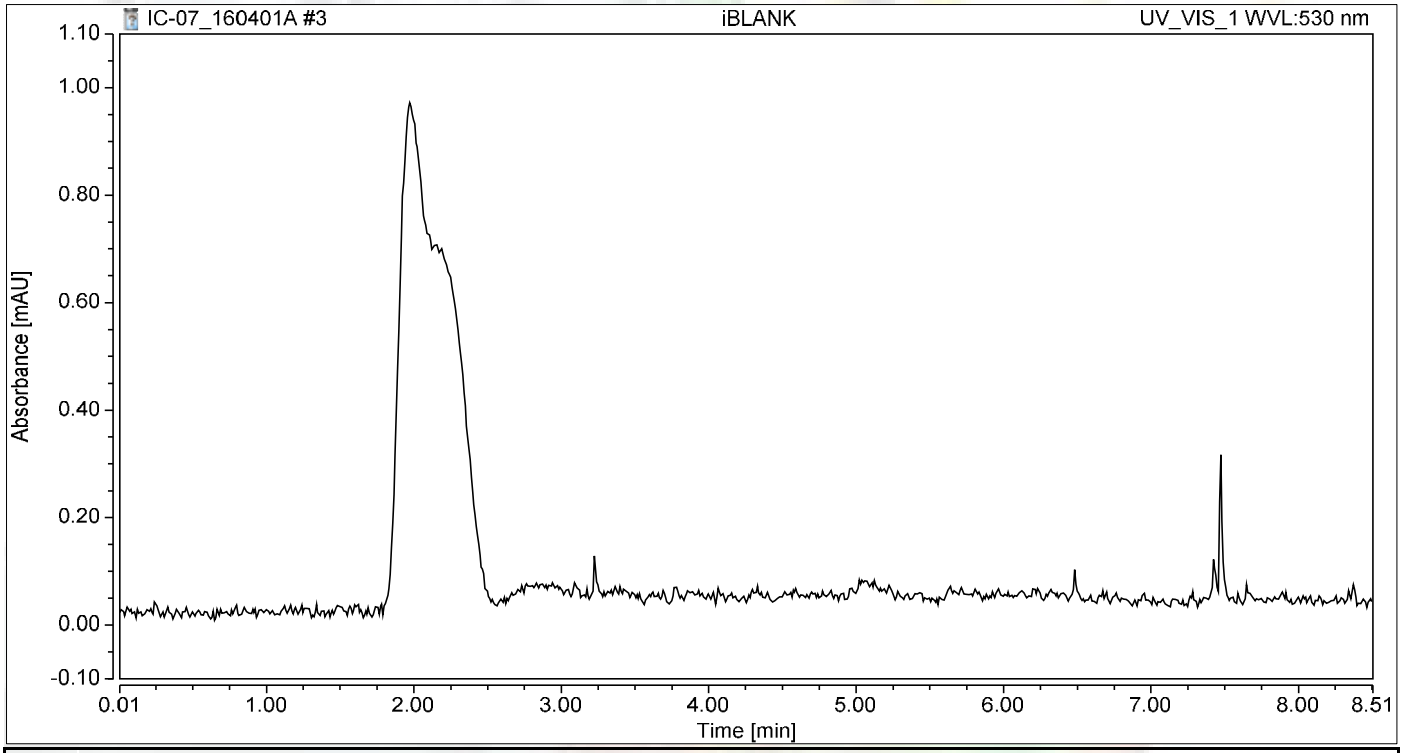
not reported

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

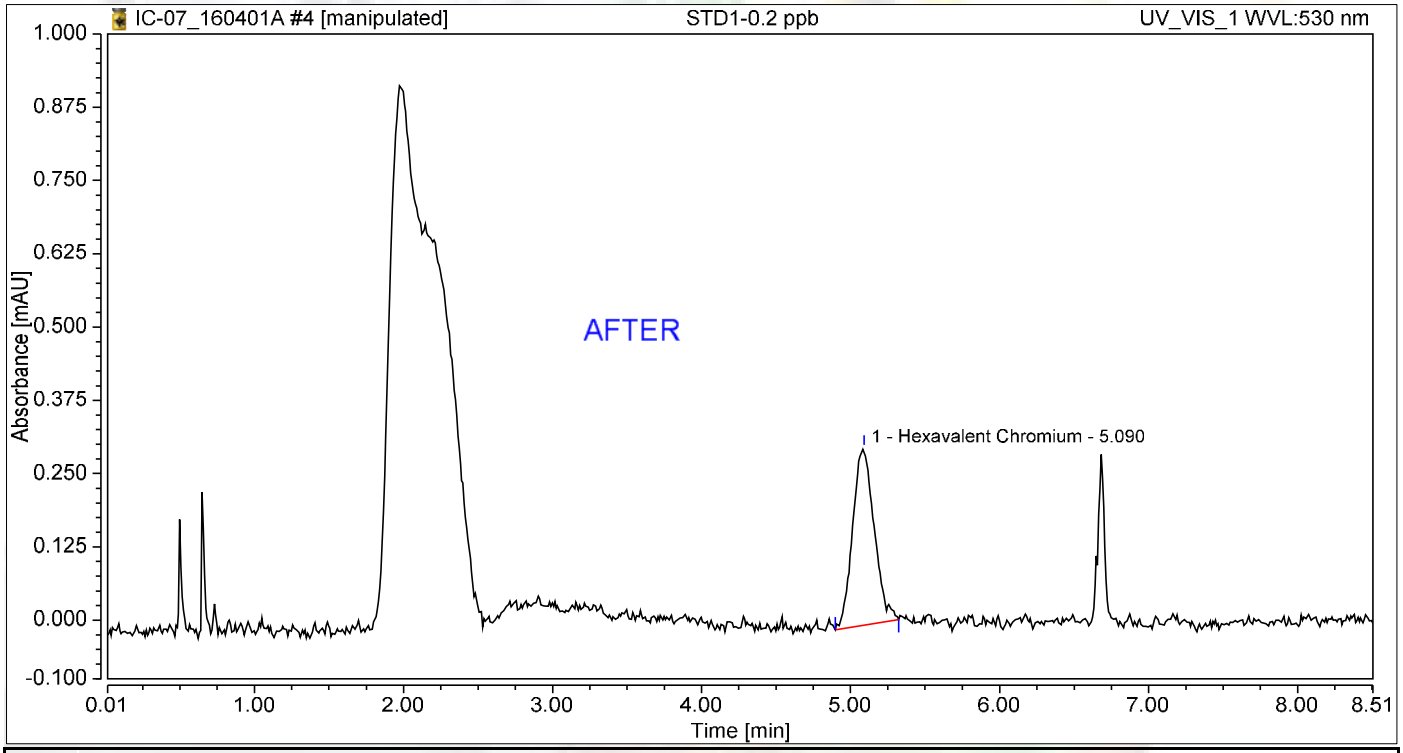
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD1-0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.050	0.302	100.00	100.00	0.2069
Total:			**0.050**	**0.302**	**100.00**	**100.00**	

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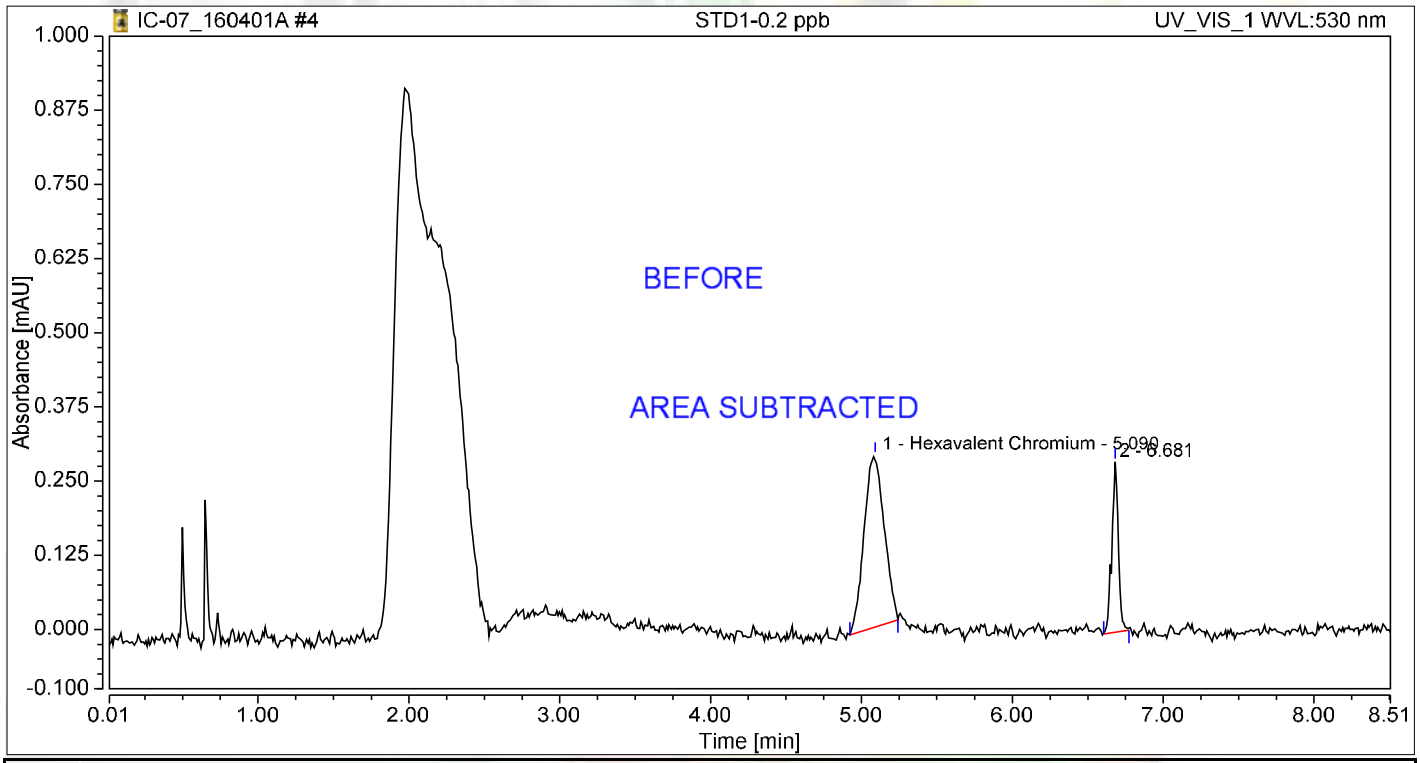
Chromatogram and Results

Injection Details

Injection Name:	**STD1-0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.045	0.289	75.31	50.16	0.1840
2		6.681	0.015	0.287	24.69	49.84	n.a.
Total:			**0.059**	**0.576**	**100.00**	**100.00**	

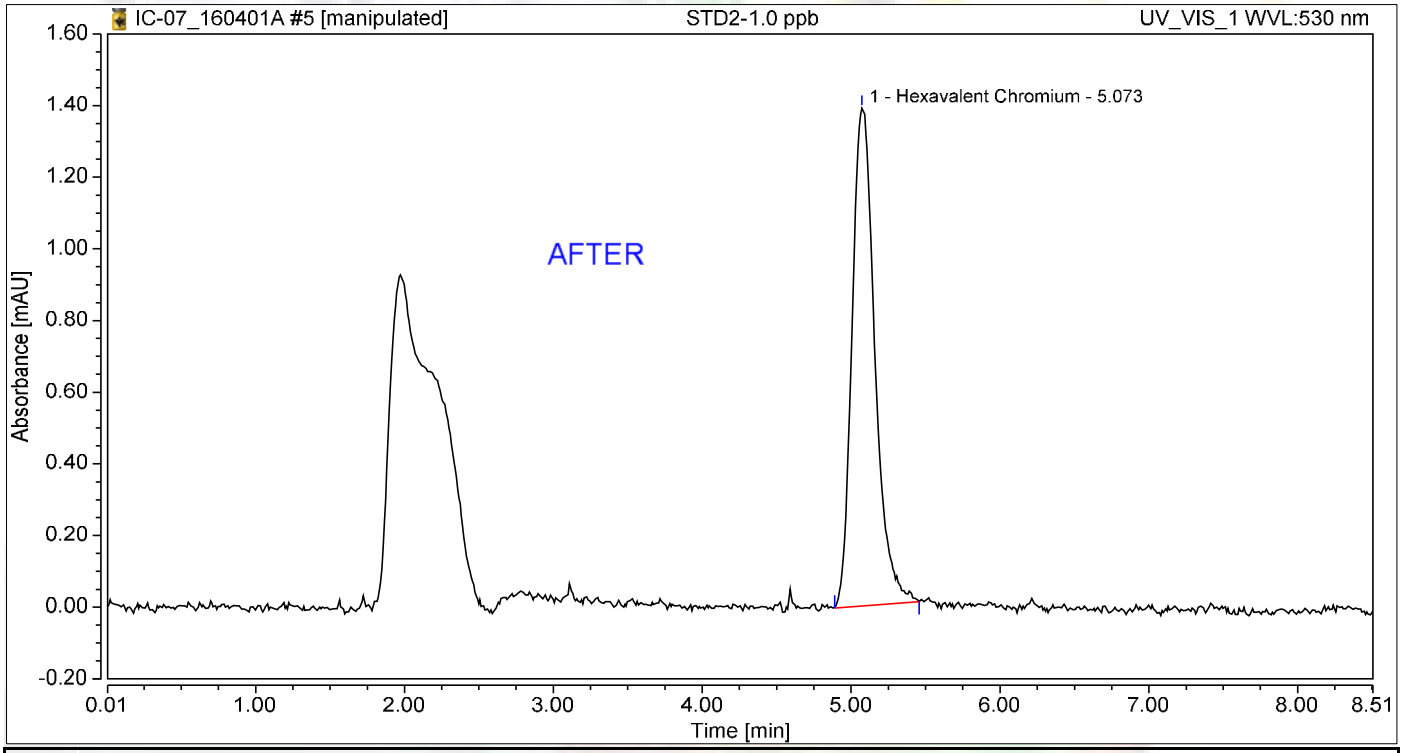
4/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**STD2-1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.245	1.390	100.00	100.00	1.0088
Total:			**0.245**	**1.390**	**100.00**	**100.00**	

jas 4/8/2016

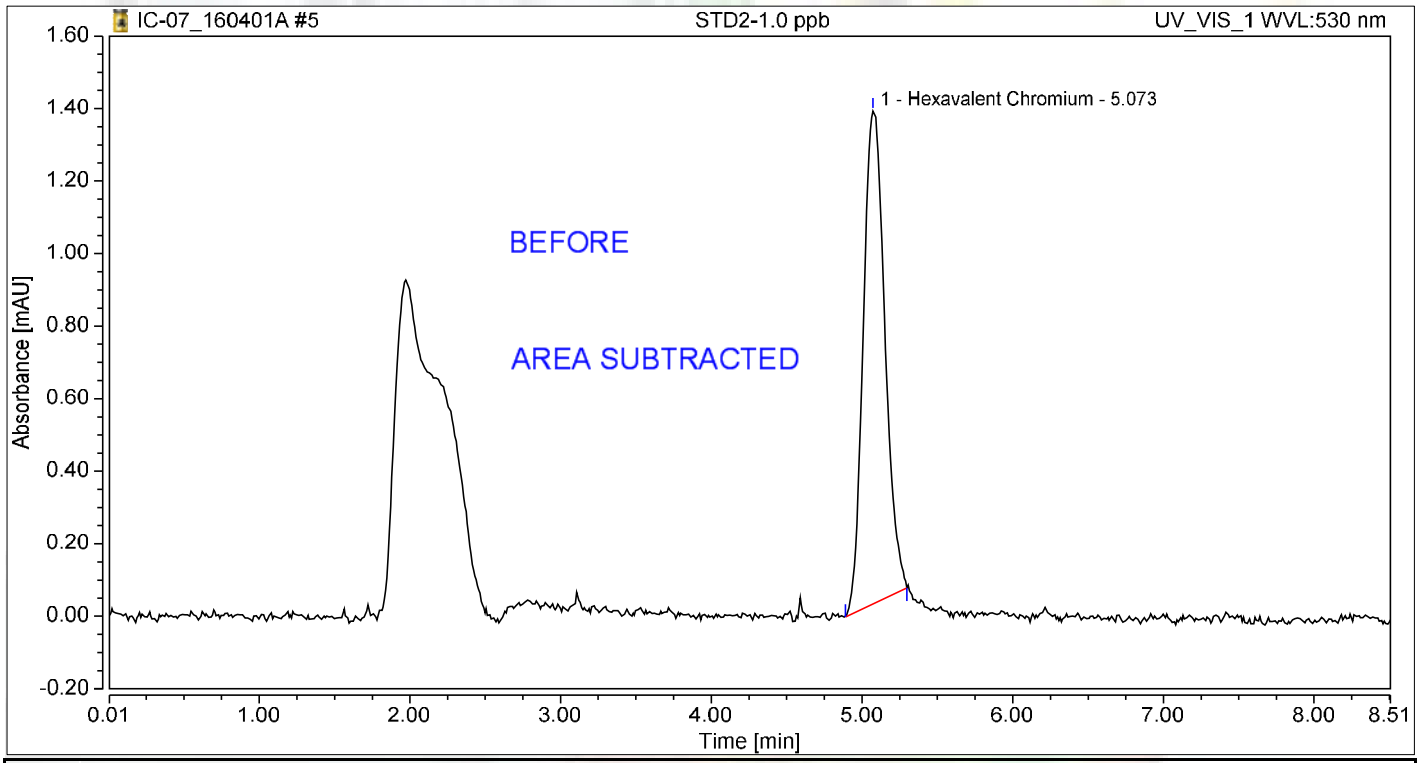
Nancy 4/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**STD2-1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.226	1.359	100.00	100.00	0.9319
Total:			**0.226**	**1.359**	**100.00**	**100.00**	

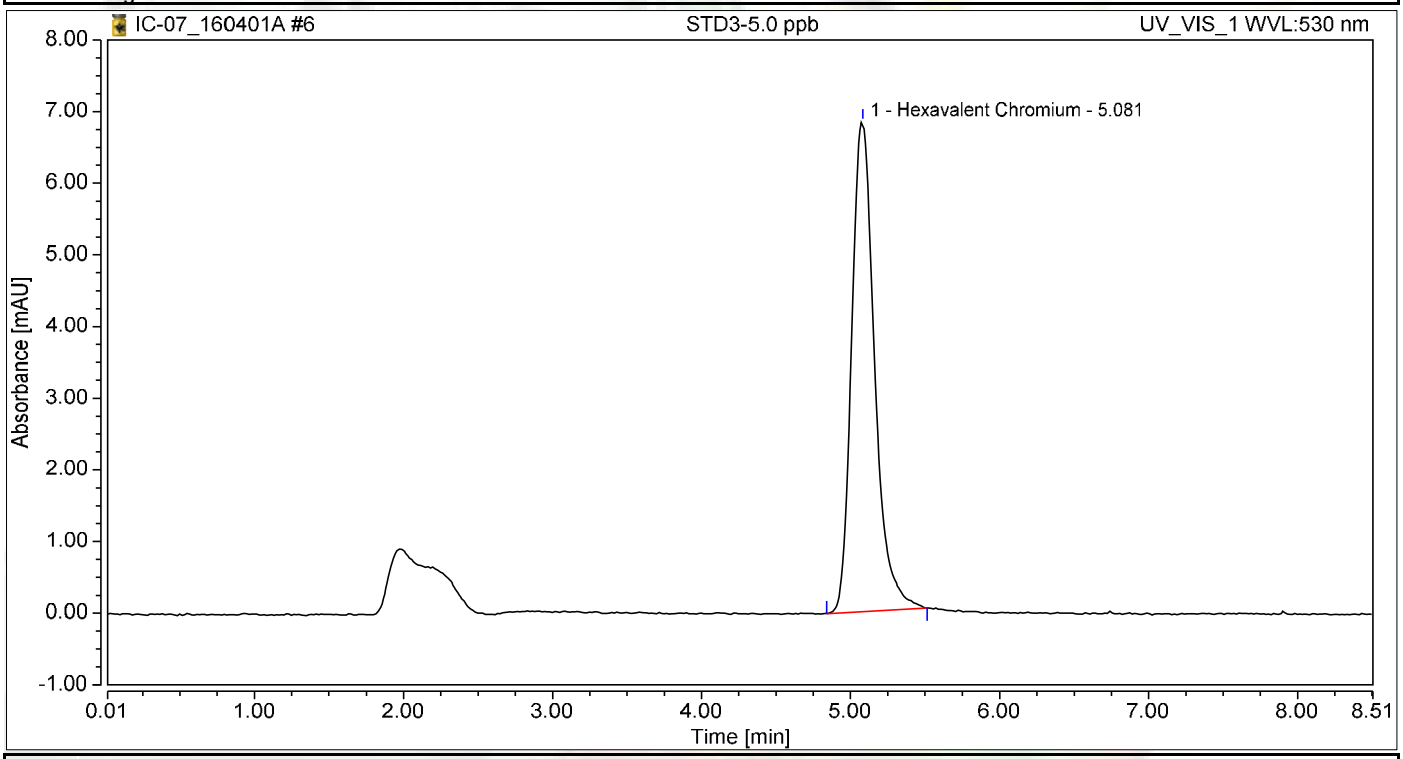
jas 4/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**STD3-5.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

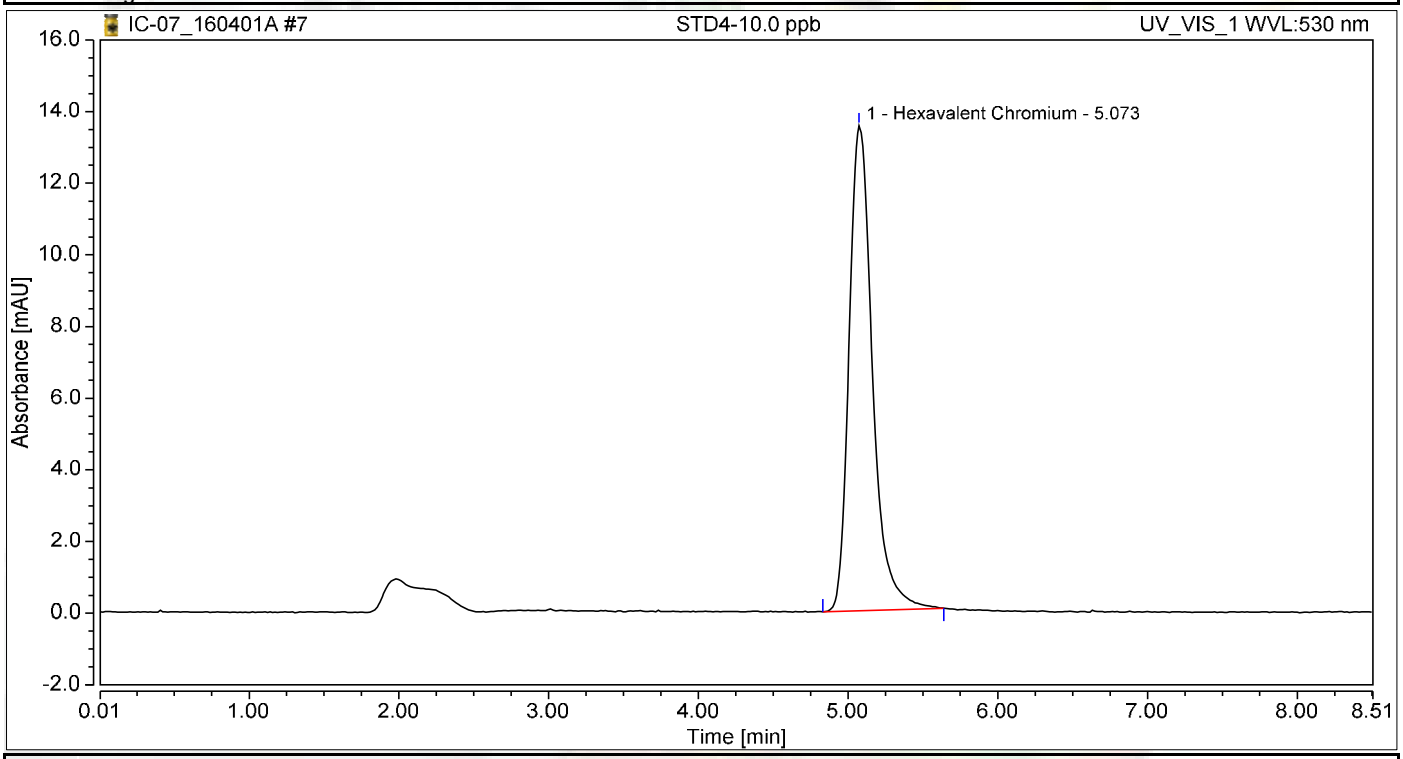
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.211	6.836	100.00	100.00	4.9876
Total:			**1.211**	**6.836**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD4-10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

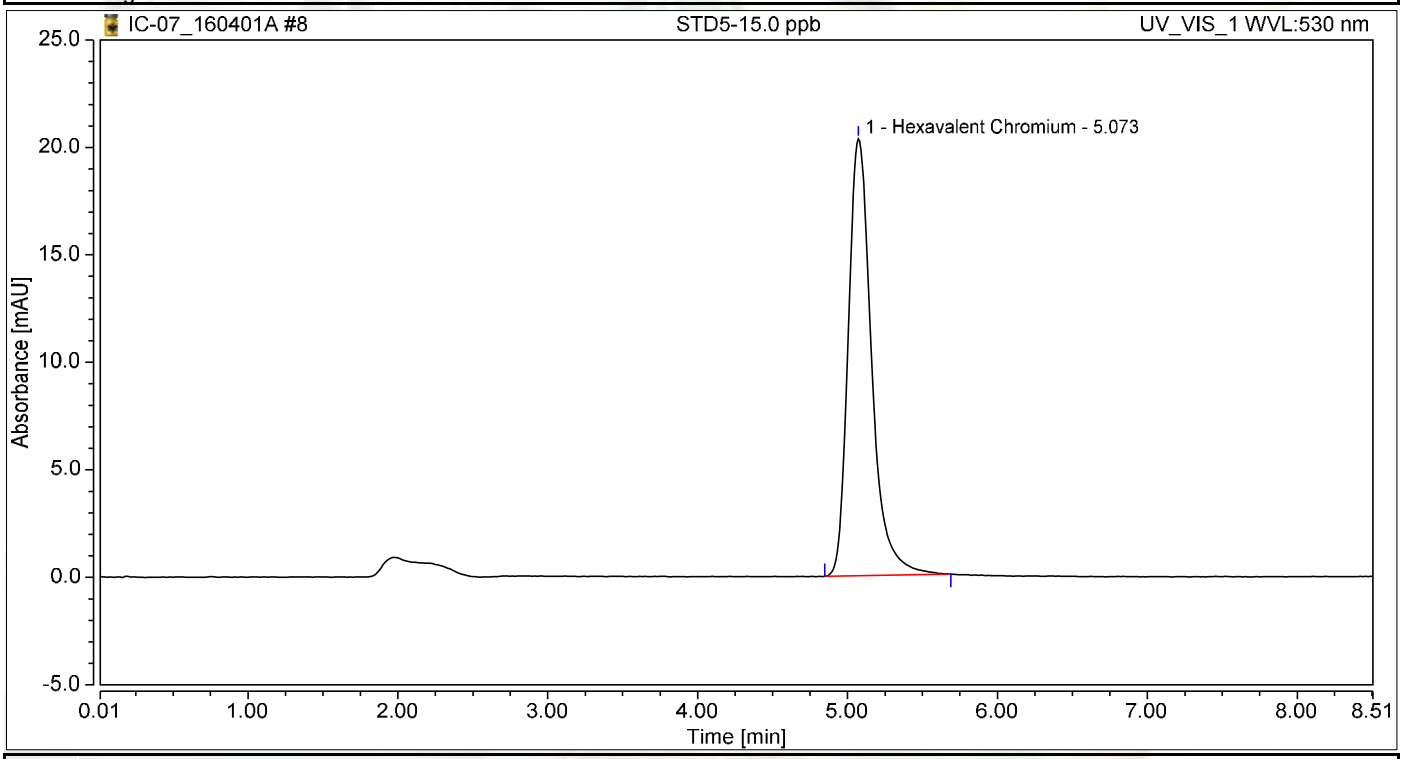
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	2.428	13.542	100.00	100.00	9.9961
Total:			**2.428**	**13.542**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD5-15.0 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

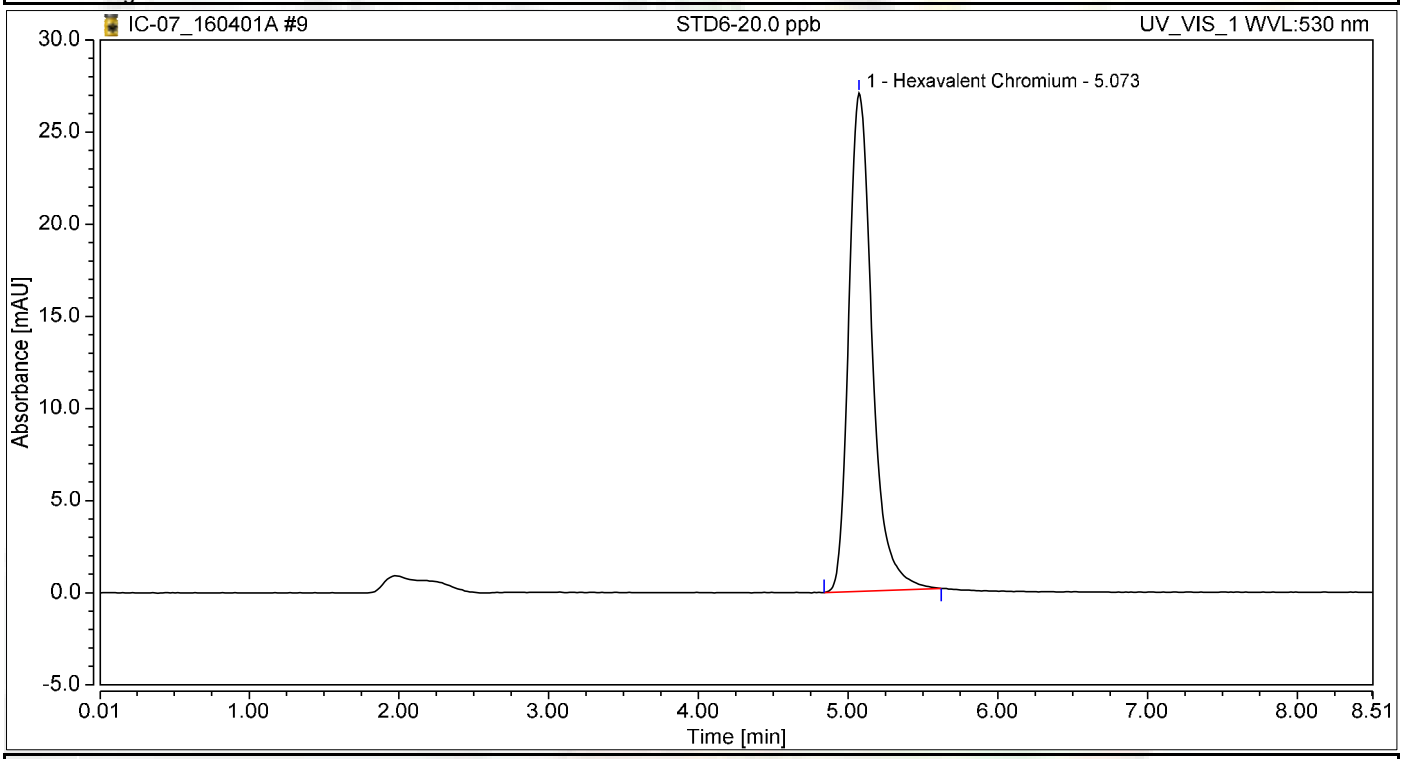
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	3.647	20.336	100.00	100.00	15.0161
Total:			**3.647**	**20.336**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD6-20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:20**	*Sample Weight:*	**1.0000**

Chromatogram



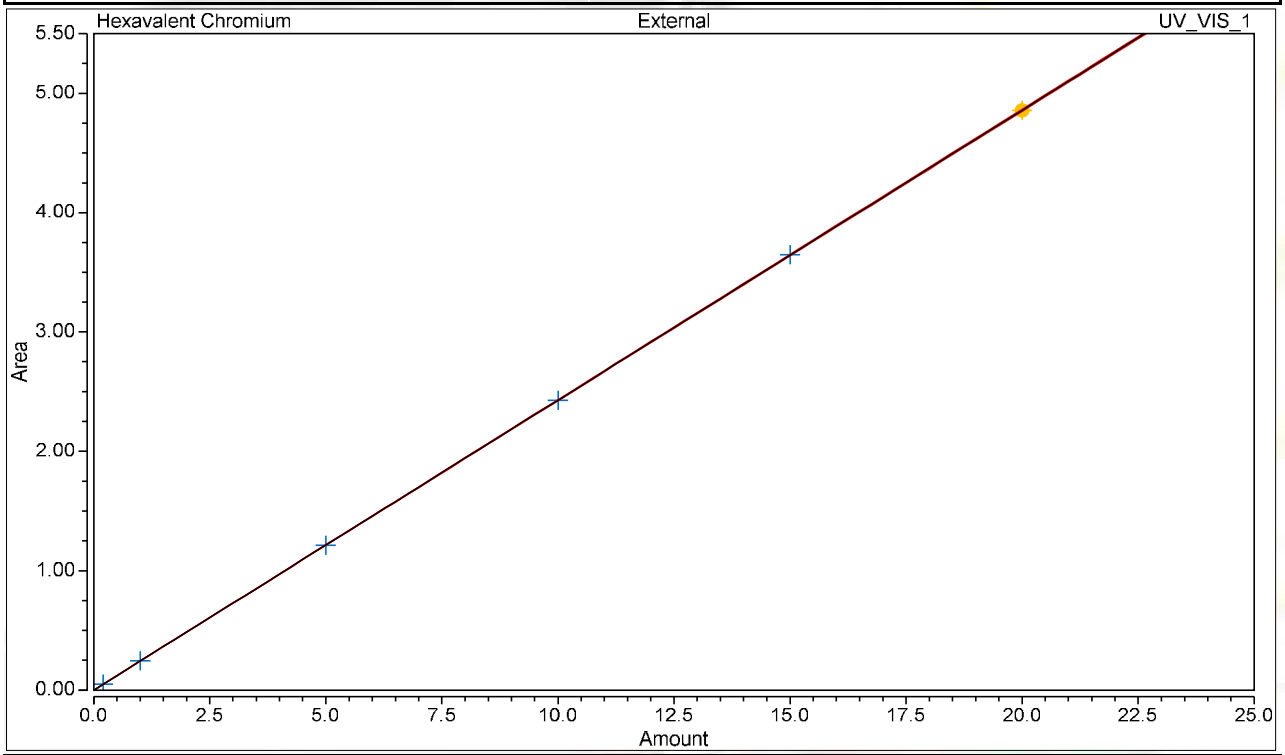
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	4.856	27.044	100.00	100.00	19.9925
Total:			**4.856**	**27.044**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2429
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	1.00000

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

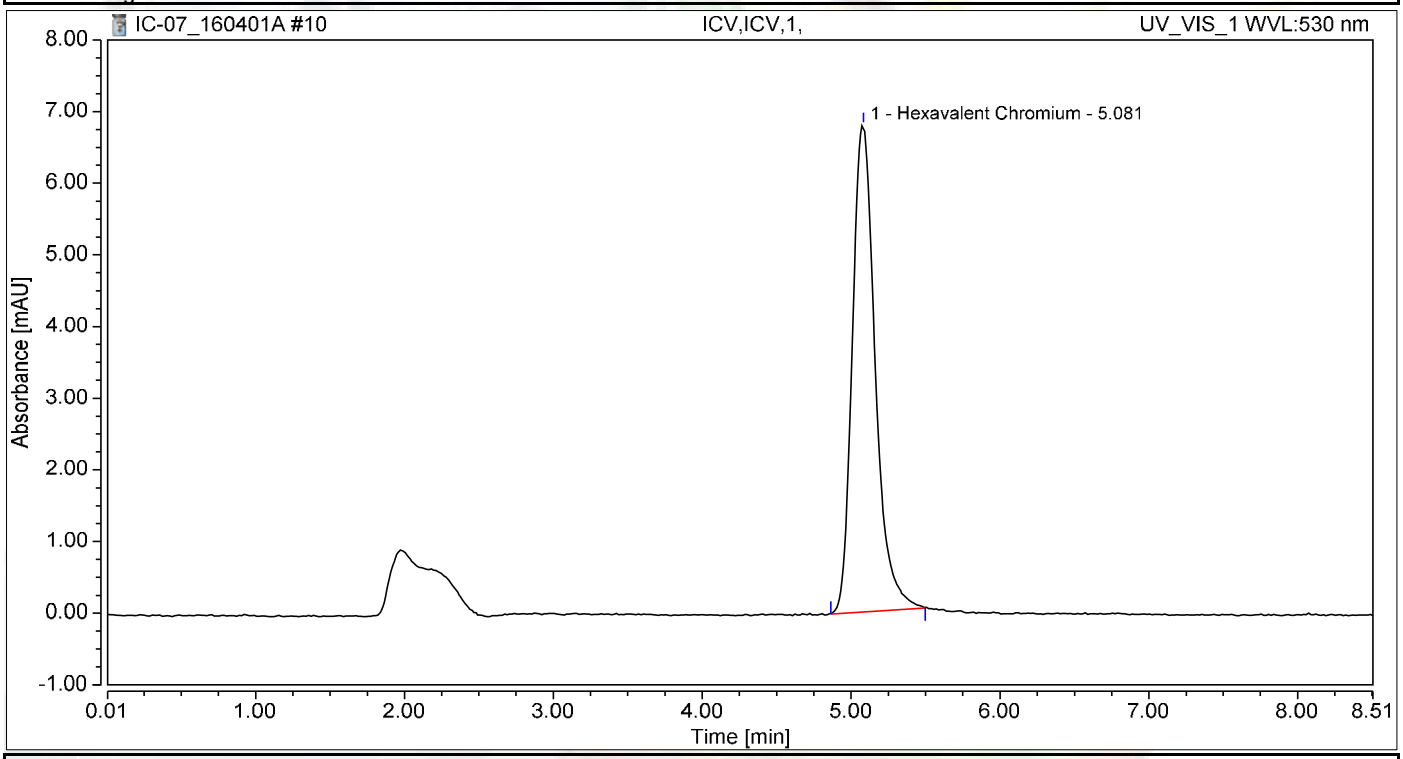
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
4	STD1-0.2 ppb	01	0.2000	0.0503	0.050	0.302
5	STD2-1.0 ppb	02	1.0000	0.2450	0.245	1.390
6	STD3-5.0 ppb	03	5.0000	1.2115	1.211	6.836
7	STD4-10.0 ppb	04	10.0000	2.4280	2.428	13.542
8	STD5-15.0 ppb	05	15.0000	3.6474	3.647	20.336
9	STD6-20.0 ppb	06	20.0000	4.8561	4.856	27.044

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

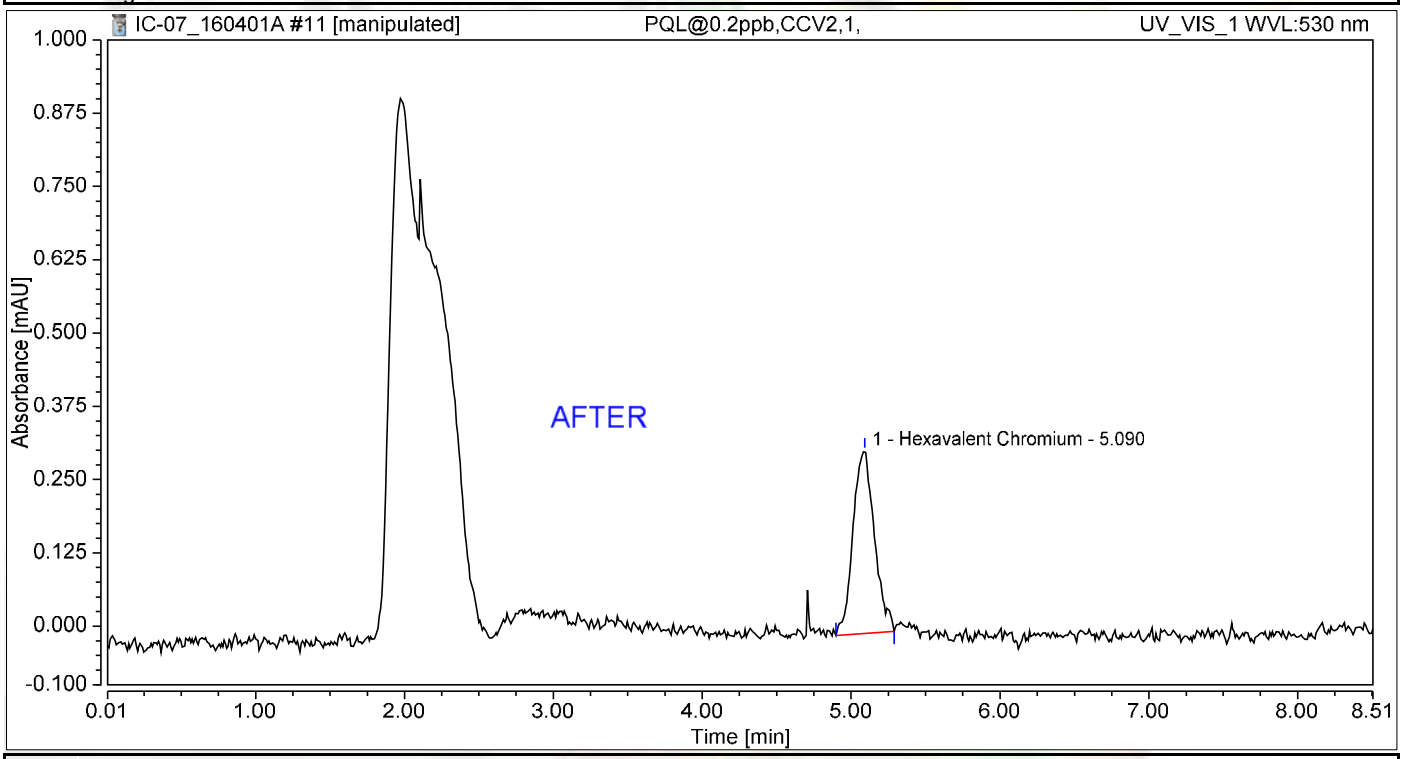
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.202	6.792	100.00	100.00	4.9484
Total:			**1.202**	**6.792**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.052	0.312	100.00	100.00	0.2129
Total:			**0.052**	**0.312**	**100.00**	**100.00**	

jas 4/8/2016

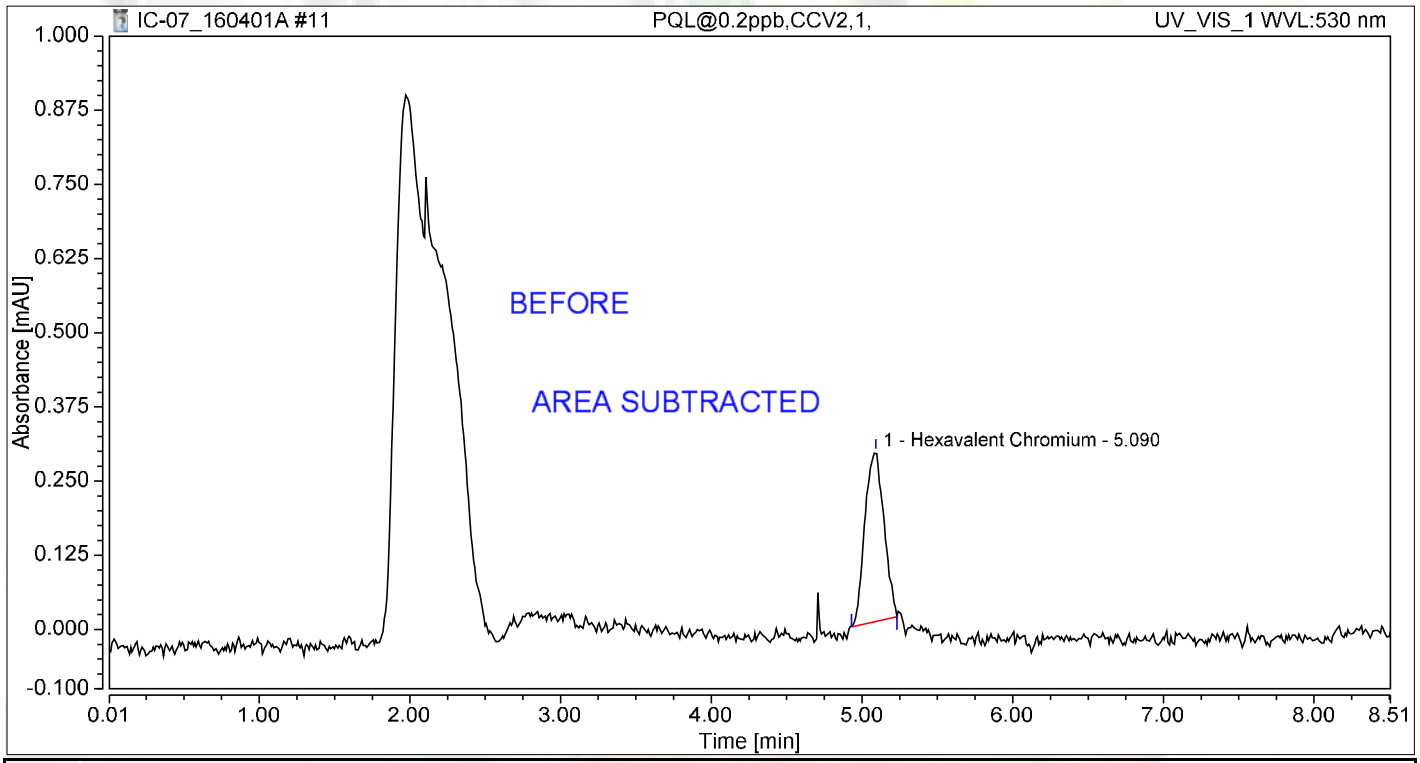
Nancy 4/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.042	0.286	100.00	100.00	0.1728
Total:			**0.042**	**0.286**	**100.00**	**100.00**	

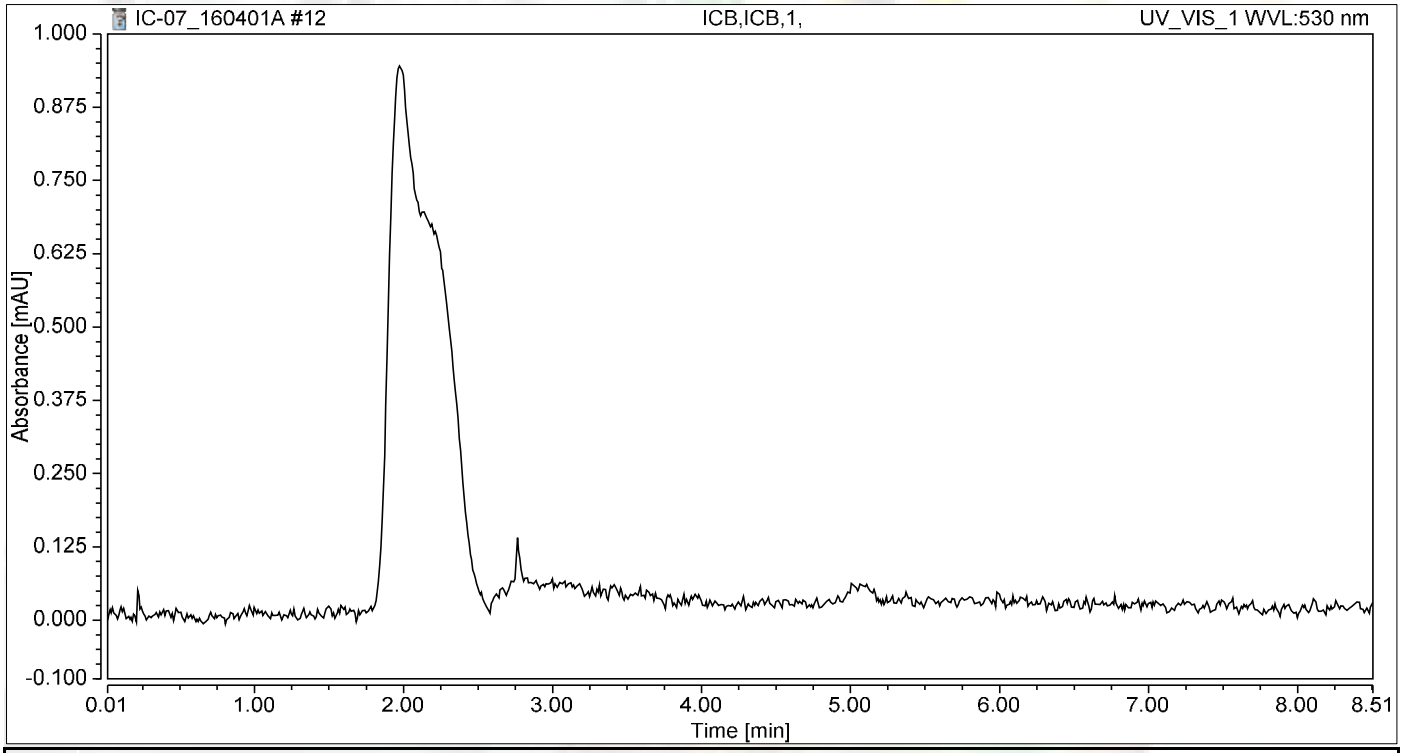
jas 4/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**01/Apr/16 14:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INJECTION LOG: 160406A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:00 PM	Not Reported
2	BLANK	BLANK	1	Hexavalent Chromium	04/01/16 1:11 PM	Not Reported
3	iBLANK	iBLANK	1	Hexavalent Chromium	04/01/16 1:21 PM	Reported
4	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:32 PM	Reported
5	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:43 PM	Reported
6	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 1:52 PM	Reported
7	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:02 PM	Reported
8	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:11 PM	Reported
9	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	04/01/16 2:20 PM	Reported
10	BLANK	BLANK	1	Hexavalent Chromium	04/06/16 10:14 AM	Not Reported
11	BLANK	BLANK	1	Hexavalent Chromium	04/06/16 10:26 AM	Not Reported
12	CCV-1	CCV	1	Hexavalent Chromium	04/06/16 10:35 AM	Reported
13	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	04/06/16 10:45 AM	Reported
14	CCB-1	CCB	1	Hexavalent Chromium	04/06/16 10:54 AM	Reported
15	MB-R106785	MBLK	1	Hexavalent Chromium	04/06/16 11:04 AM	Not Reported
16	LCS-R106785	LCS	1	Hexavalent Chromium	04/06/16 11:13 AM	Reported
17	MB-R106785	MBLK	1	Hexavalent Chromium	04/06/16 11:32 AM	Reported
18	N019315-001C	SAMP	100	Hexavalent Chromium	04/06/16 11:43 AM	Reported
19	N019315-001CDUP	DUP	100	Hexavalent Chromium	04/06/16 11:52 AM	Reported
20	N019315-001CMS	MS	100	Hexavalent Chromium	04/06/16 12:02 PM	Reported
21	N019315-001CMSD	MSD	100	Hexavalent Chromium	04/06/16 12:11 PM	Reported
22	N019315-002C	SAMP	1	Hexavalent Chromium	04/06/16 12:21 PM	Reported
23	N019315-002CMS	MS	1	Hexavalent Chromium	04/06/16 12:30 PM	Reported
24	N019315-003B	SAMP	1	Hexavalent Chromium	04/06/16 12:40 PM	Not Reported
25	CCV-2	CCV1	1	Hexavalent Chromium	04/06/16 12:49 PM	Reported
26	CCB-2	CCB	1	Hexavalent Chromium	04/06/16 12:59 PM	Reported
27	N019315-003BMS	MS	1	Hexavalent Chromium	04/06/16 1:08 PM	Not Reported
28	N019332-001A	SAMP	5	Hexavalent Chromium	04/06/16 1:18 PM	Reported
29	N019332-001AMS	MS	5	Hexavalent Chromium	04/06/16 1:27 PM	Reported
30	N019332-002A	SAMP	1	Hexavalent Chromium	04/06/16 1:36 PM	Reported
31	N019332-002AMS	MS	1	Hexavalent Chromium	04/06/16 1:46 PM	Reported
32	N019315-002C	SAMP	5	Hexavalent Chromium	04/06/16 1:55 PM	Reported
33	N019315-002CMS	MS	5	Hexavalent Chromium	04/06/16 2:05 PM	Reported
34	N019315-003B	SAMP	5	Hexavalent Chromium	04/06/16 2:14 PM	Not Reported
35	N019315-003BMS	MS	5	Hexavalent Chromium	04/06/16 2:24 PM	Not Reported
36	N019317-001A	SAMP	1	Hexavalent Chromium	04/06/16 2:33 PM	Reported
37	CCV-3	CCV	1	Hexavalent Chromium	04/06/16 2:43 PM	Reported
38	CCB-3	CCB	1	Hexavalent Chromium	04/06/16 2:52 PM	Reported
39	N019315-003B	SAMP	25	Hexavalent Chromium	04/06/16 3:02 PM	Reported
40	N019315-003BMS	MS	25	Hexavalent Chromium	04/06/16 3:11 PM	Reported
41	N019317-002A	SAMP	1	Hexavalent Chromium	04/06/16 3:21 PM	Reported
42	N019317-003A	SAMP	1	Hexavalent Chromium	04/06/16 3:30 PM	Reported

INJECTION LOG: 160406A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N019317-004A	SAMP	1	Hexavalent Chromium	04/06/16 3:40 PM	Reported
44	N019317-005A	SAMP	1	Hexavalent Chromium	04/06/16 3:49 PM	Reported
45	N019317-006A	SAMP	1	Hexavalent Chromium	04/06/16 3:58 PM	Reported
46	N019317-007A	SAMP	1	Hexavalent Chromium	04/06/16 4:08 PM	Reported
47	N019317-008A	SAMP	1	Hexavalent Chromium	04/06/16 4:18 PM	Reported
48	N019317-009A	SAMP	1	Hexavalent Chromium	04/06/16 4:27 PM	Reported
49	CCV-4	CCV1	1	Hexavalent Chromium	04/06/16 4:36 PM	Not Reported
50	CCB-4	CCB	1	Hexavalent Chromium	04/06/16 4:46 PM	Not Reported
51	CCV-4	CCV1	1	Hexavalent Chromium	04/06/16 5:25 PM	Reported
52	CCV-4	CCV1	1	Hexavalent Chromium	04/06/16 5:39 PM	Not Reported
53	CCB-4	CCB	1	Hexavalent Chromium	04/06/16 5:50 PM	Reported
54	N019317-010A	SAMP	1	Hexavalent Chromium	04/06/16 6:01 PM	Reported
55	N019317-011A	SAMP	1	Hexavalent Chromium	04/06/16 6:13 PM	Reported
56	N019317-012A	SAMP	1	Hexavalent Chromium	04/06/16 6:22 PM	Reported
57	N019317-013A	SAMP	1	Hexavalent Chromium	04/06/16 6:32 PM	Reported
58	N019317-014A	SAMP	1	Hexavalent Chromium	04/06/16 6:41 PM	Reported
59	N019317-015A	SAMP	1	Hexavalent Chromium	04/06/16 6:51 PM	Reported
60	CCV-5	CCV	1	Hexavalent Chromium	04/06/16 7:00 PM	Not Reported
61	CCB-5	CCB	1	Hexavalent Chromium	04/06/16 7:10 PM	Not Reported
62	CCV-5	CCV	1	Hexavalent Chromium	04/06/16 7:23 PM	Reported
63	CCV-5	CCV	1	Hexavalent Chromium	04/06/16 7:35 PM	Not Reported
64	CCB-5	CCB	1	Hexavalent Chromium	04/06/16 7:44 PM	Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_160406A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2016**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**06/Apr/16 21:48:39**
No. of Injections:	**67**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	Blank	1	1000	Unknown		04/01/2016 13:00	Finished	BLANK
2	Blank	2	1000	Unknown		04/01/2016 13:11	Finished	BLANK R160331B
3	iBLANK	3	1000	Unknown		04/01/2016 13:21	Finished	INSTRUMENT BLANK
4	STD1-0.2 ppb	4	1000	Calibration Standard	01	04/01/2016 13:32	Finished	0.2 ppb, IWST160401A
5	STD2-1.0 ppb	5	1000	Calibration Standard	02	04/01/2016 13:43	Finished	1.0 ppb, IWST160401A
6	STD3-5.0 ppb	6	1000	Calibration Standard	03	04/01/2016 13:52	Finished	5.0 ppb, IWST160401A
7	STD4-10.0 ppb	7	1000	Calibration Standard	04	04/01/2016 14:02	Finished	10 ppb, IWST160401A
8	STD5-15.0 ppb	8	1000	Calibration Standard	05	04/01/2016 14:11	Finished	15 ppb, IWST160401A
9	STD6-20.0 ppb	9	1000	Calibration Standard	06	04/01/2016 14:20	Finished	20 ppb, IWST160401A
10	Blank	1	1000	Unknown		04/06/2016 10:14	Finished	BLANK
11	Blank	2	1000	Unknown		04/06/2016 10:26	Finished	BLANK
12	CCV-1,CCV,1,	3	1000	Unknown		04/06/2016 10:35	Finished	CCV @5ppb, IWST-160401A
13	PQL@0.2ppb,CCV2,1	4	1000	Unknown		04/06/2016 10:45	Finished	PQL @ 0.2ppb
14	CCB-1,CCB,1,	5	1000	Unknown		04/06/2016 10:54	Finished	CCB R160328B
15	MB-H2O,MBLK,1	6	1000	Unknown		04/06/2016 11:04	Finished	MB
16	LCS-H2O,LCS,1	7	1000	Unknown		04/06/2016 11:13	Finished	LCS, IWST-160401B
17	MB-H2O,MBLK,1	8	1000	Unknown		04/06/2016 11:32	Finished	MB
18	N019315-001C,SAMP	9	1000	Unknown		04/06/2016 11:43	Finished	SAMP, 10mL
19	N019315-001CDUP,D	10	1000	Unknown		04/06/2016 11:52	Finished	DUP, 10mL
20	N019315-001CMS,MS	11	1000	Unknown		04/06/2016 12:02	Finished	MS (5ppb) , IWST-160401B, 0.
21	N019315-001CMSD,M	12	1000	Unknown		04/06/2016 12:11	Finished	MSD (5ppb) , IWST-160401B,
22	N019315-002C,SAMP	13	1000	Unknown		04/06/2016 12:21	Finished	SAMP, 10mL
23	N019315-002CMS,MS	14	1000	Unknown		04/06/2016 12:30	Finished	SAMP, 10mL
24	N019315-003A,SAMP	15	1000	Unknown		04/06/2016 12:40	Finished	SAMP, 10mL
25	CCV-2,CCV1,1,	16	1000	Unknown		04/06/2016 12:49	Finished	CCV @10ppb, IWST-160401A
26	CCB-2,CCB,1,	17	1000	Unknown		04/06/2016 12:59	Finished	CCB
27	N019315-003BMS,MS	18	1000	Unknown		04/06/2016 13:08	Finished	MS (1ppb) , IWST-160401B, 10
28	N019332-001A,SAMP	19	1000	Unknown		04/06/2016 13:18	Finished	SAMP, 2 >10mL
29	N019332-001AMS,MS	20	1000	Unknown		04/06/2016 13:27	Finished	MS (5ppb) , IWST-160401B, 2
30	N019332-002A,SAMP	21	1000	Unknown		04/06/2016 13:36	Finished	SAMP, 10mL
31	N019332-002AMS,MS	22	1000	Unknown		04/06/2016 13:46	Finished	MS (5ppb) , IWST-160401B, 10
32	N019315-002C,SAMP	23	1000	Unknown		04/06/2016 13:55	Finished	SAMP, 2 >10mL
33	N019315-002CMS,MS	24	1000	Unknown		04/06/2016 14:05	Finished	MS (1ppb) , IWST-160401B, 2
34	N019315-003B,SAMP	25	1000	Unknown		04/06/2016 14:14	Finished	MS (5ppb) , IWST-160401B, 10
35	N019315-003BMS,MS	26	1000	Unknown		04/06/2016 14:24	Finished	MS (1ppb) , IWST-160401B, 2
36	N019317-001A,SAMP	27	1000	Unknown		04/06/2016 14:33	Finished	SAMP, 10mL
37	CCV-3,CCV,1,	28	1000	Unknown		04/06/2016 14:43	Finished	CCV @5pb, IWST-160401A
38	CCB-3,CCB,1,	29	1000	Unknown		04/06/2016 14:52	Finished	CCB
39	N019315-003B,SAMP	30	1000	Unknown		04/06/2016 15:02	Finished	CCB
40	N019315-003BMS,MS	31	1000	Unknown		04/06/2016 15:11	Finished	SAMP, 0.4> 10mL
41	N019317-002A,SAMP	32	1000	Unknown		04/06/2016 15:21	Finished	SAMP, 0.4> 10mL
42	N019317-003A,SAMP	33	1000	Unknown		04/06/2016 15:30	Finished	MS (1ppb) , IWST-160401B, 0.
43	N019317-004A,SAMP	34	1000	Unknown		04/06/2016 15:40	Finished	SAMP, 10mL
44	N019317-005A,SAMP	35	1000	Unknown		04/06/2016 15:49	Finished	SAMP, 10mL
45	N019317-006A,SAMP	36	1000	Unknown		04/06/2016 15:58	Finished	SAMP, 10mL
46	N019317-007A,SAMP	37	1000	Unknown		04/06/2016 16:08	Finished	SAMP, 10mL
47	N019317-008A,SAMP	38	1000	Unknown		04/06/2016 16:18	Finished	SAMP, 10mL
48	N019317-009A,SAMP	39	1000	Unknown		04/06/2016 16:27	Finished	SAMP, 10mL
49	CCV-4,CCV1,1,	40	1000	Unknown		04/06/2016 16:36	Finished	CCV @10ppb, IWST-160401A
50	CCB-4,CCB,1,	41	1000	Unknown		04/06/2016 16:46	Finished	CCB
51	CCV-4,CCV1,1,	42	1000	Unknown		04/06/2016 17:25	Finished	CCV @10ppb, IWST-160401A
52	CCV-4,CCV1,1,	43	1000	Unknown		04/06/2016 17:39	Finished	CCV @10ppb, IWST-160401A
53	CCB-4,CCB,1,	44	1000	Unknown		04/06/2016 17:50	Finished	CCB
54	N019317-010A,SAMP	1	1000	Unknown		04/06/2016 18:01	Finished	SAMP, 10mL
55	N019317-011A,SAMP	2	1000	Unknown		04/06/2016 18:13	Finished	SAMP, 10mL
56	N019317-012A,SAMP	3	1000	Unknown		04/06/2016 18:22	Finished	SAMP, 10mL
57	N019317-013A,SAMP	4	1000	Unknown		04/06/2016 18:32	Finished	SAMP, 10mL
58	N019317-014A,SAMP	5	1000	Unknown		04/06/2016 18:41	Finished	SAMP, 10mL
59	N019317-015A,SAMP	6	1000	Unknown		04/06/2016 18:51	Finished	SAMP, 10mL
60	CCV-5,CCV,1,	7	1000	Unknown		04/06/2016 19:00	Finished	CCV @5ppb, IWST-160401A

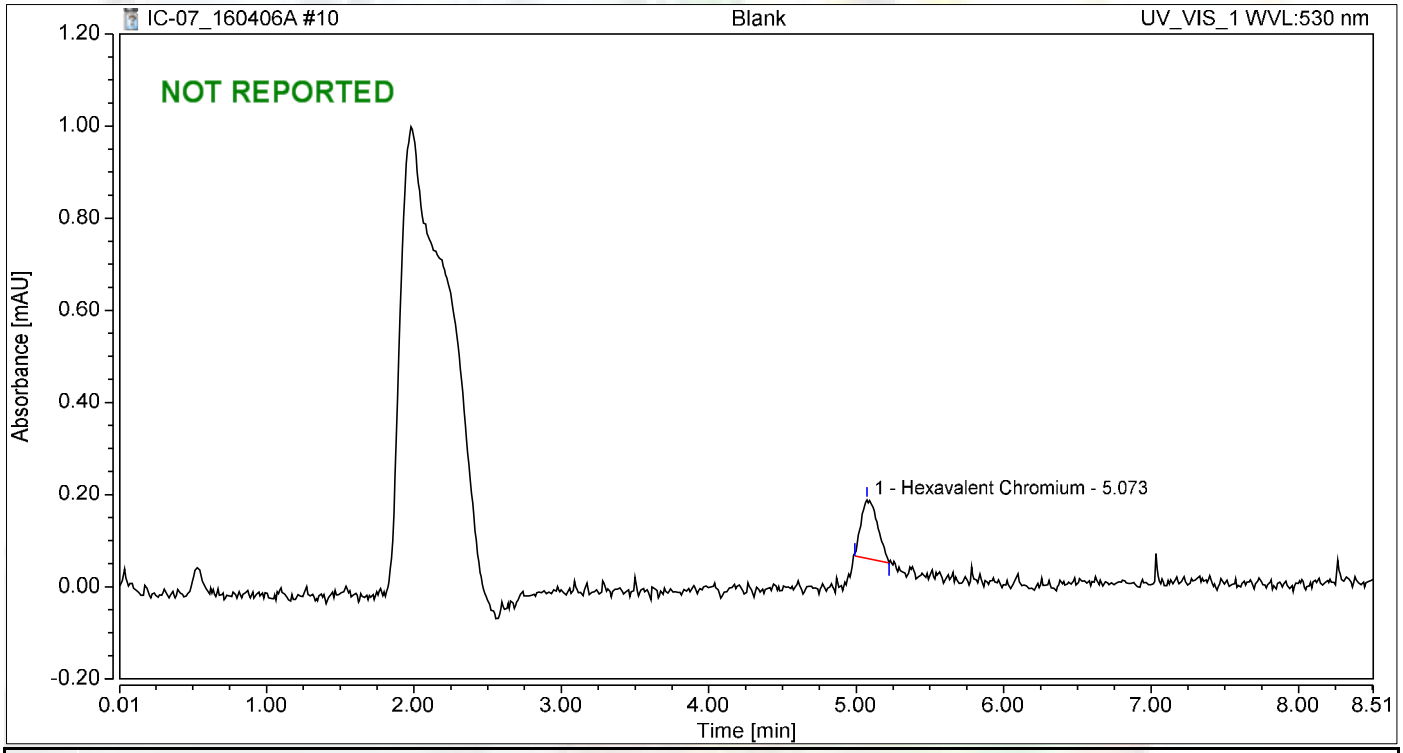
61	CCB-5,CCB,1,	8	1000	Unknown		04/06/2016 19:10	Finished	CCB
62	CCV-5,CCV,1,	9	1000	Unknown		04/06/2016 19:23	Finished	CCV @5ppb, IWST-160401A
63	CCV-5,CCV,1,	10	1000	Unknown		04/06/2016 19:35	Finished	CCV @5ppb, IWST-160401A
64	CCB-5,CCB,1,	11	1000	Unknown		04/06/2016 19:44	Finished	CCB
65	SHUTDOWN	12	1000	Unknown		04/06/2016 19:53	Finished	BLANK
66	Eluent: R160404E	13	1000	Unknown		n.a.	Finished	Eluent
67	PCR: R160405B	14	1000	Unknown		n.a.	Finished	Post-Column Reagent

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 10:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

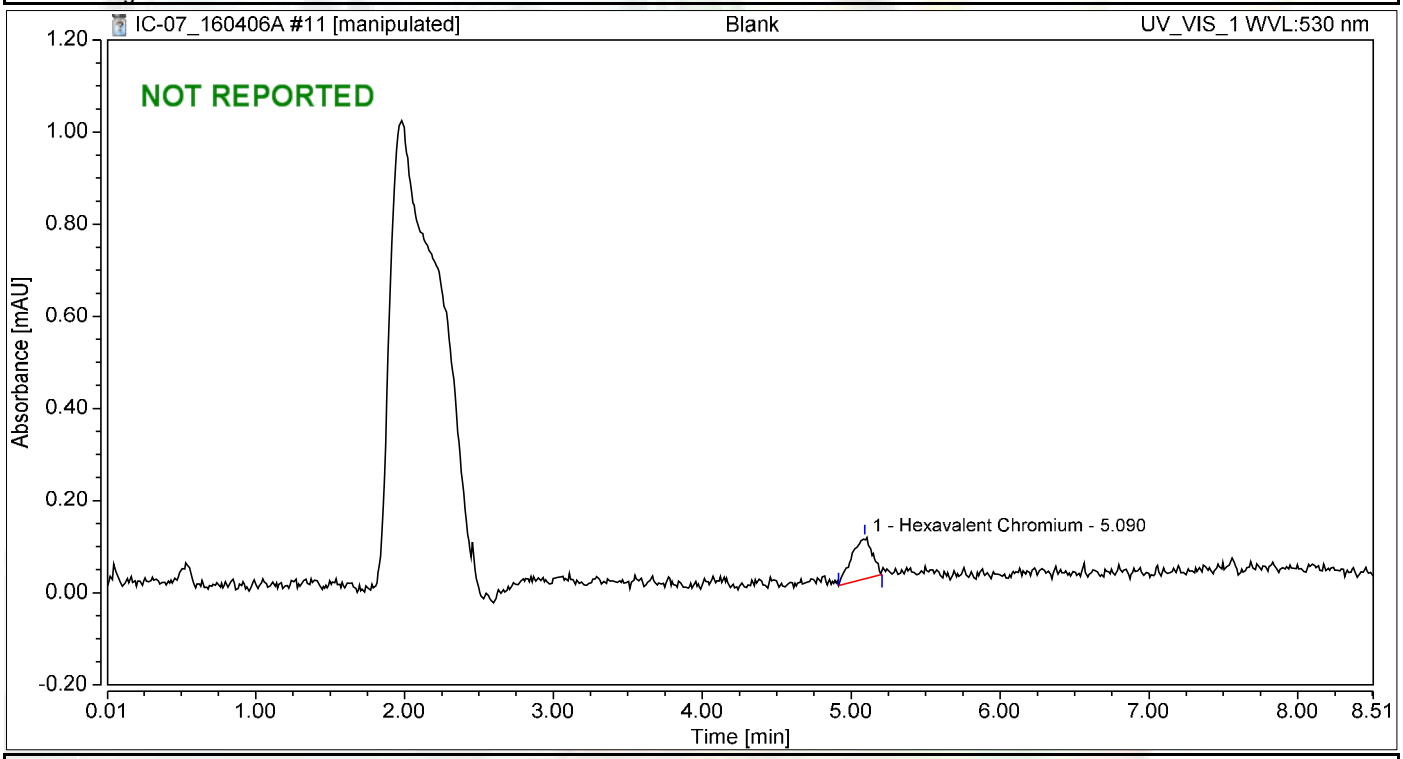
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.017	0.127	100.00	100.00	0.0690
Total:			**0.017**	**0.127**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**Blank**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 10:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

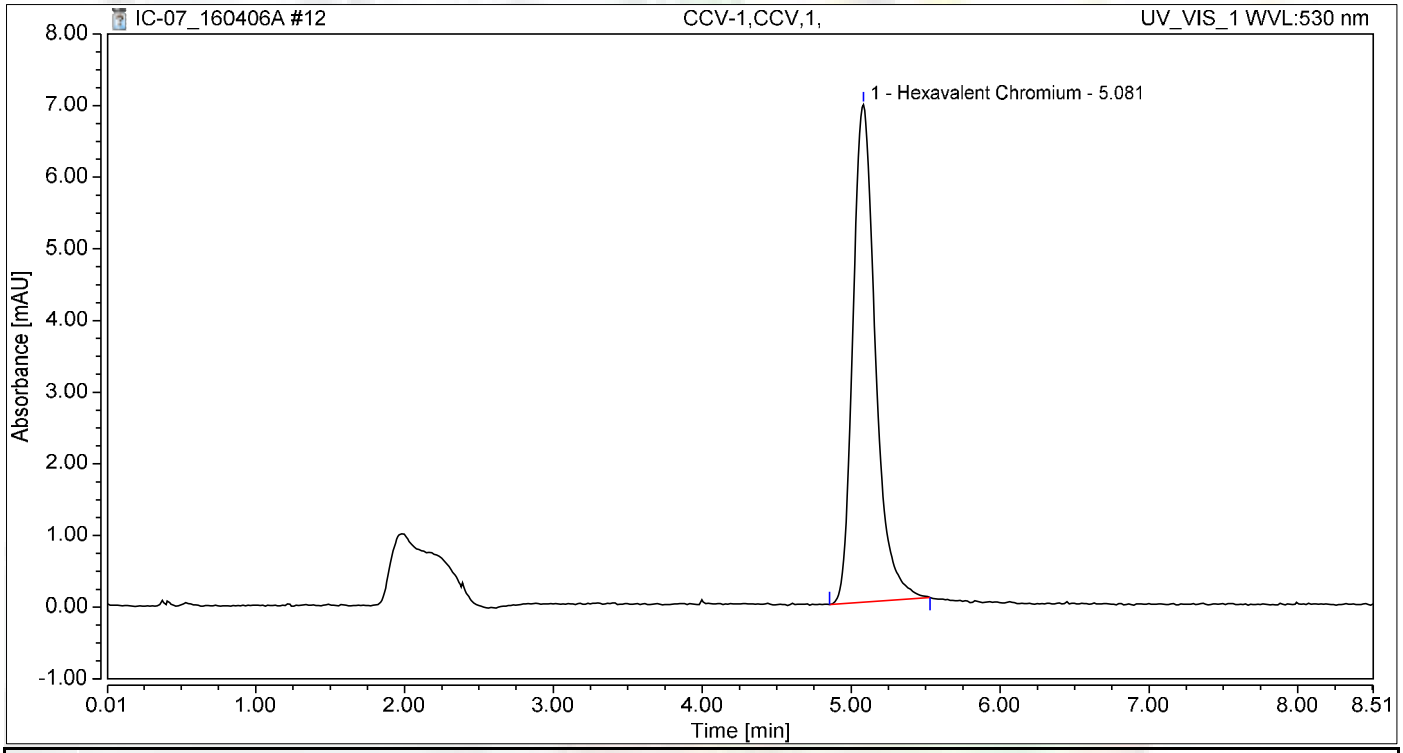
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.014	0.090	100.00	100.00	0.0594
Total:			**0.014**	**0.090**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 10:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

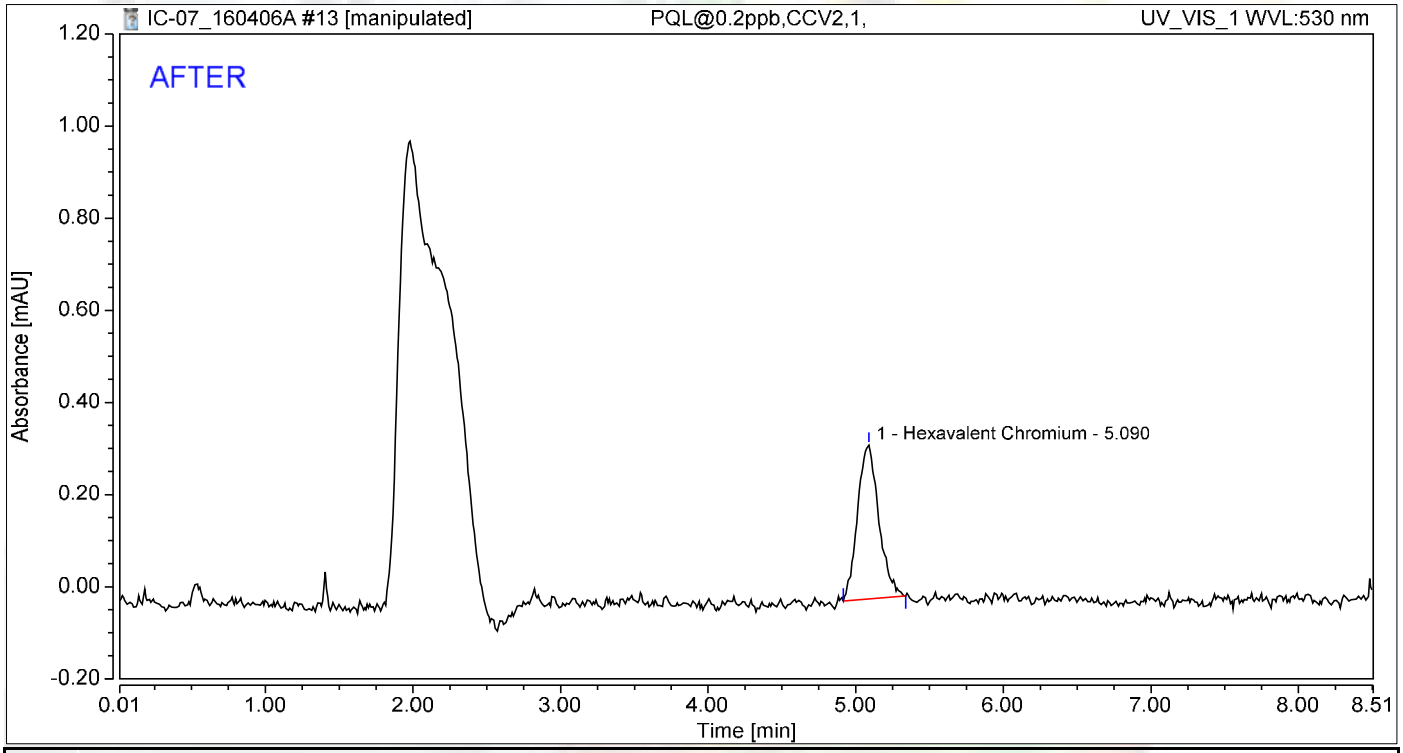
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.224	6.944	100.00	100.00	5.0397
Total:			**1.224**	**6.944**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 10:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.056	0.333	100.00	100.00	0.2302
Total:			**0.056**	**0.333**	**100.00**	**100.00**	

jas 4/8/2016

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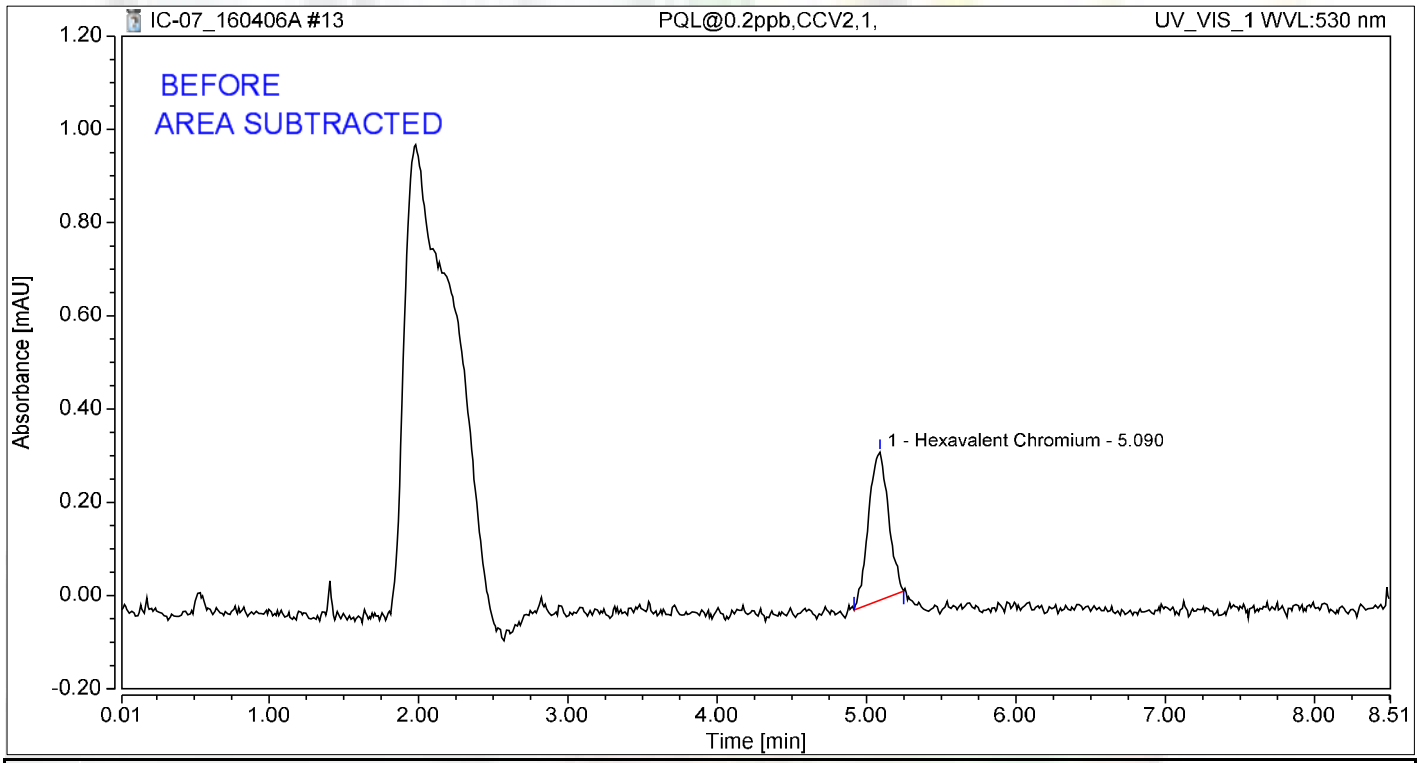
Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 10:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	0.049	0.317	100.00	100.00	0.2031
Total:			**0.049**	**0.317**	**100.00**	**100.00**	

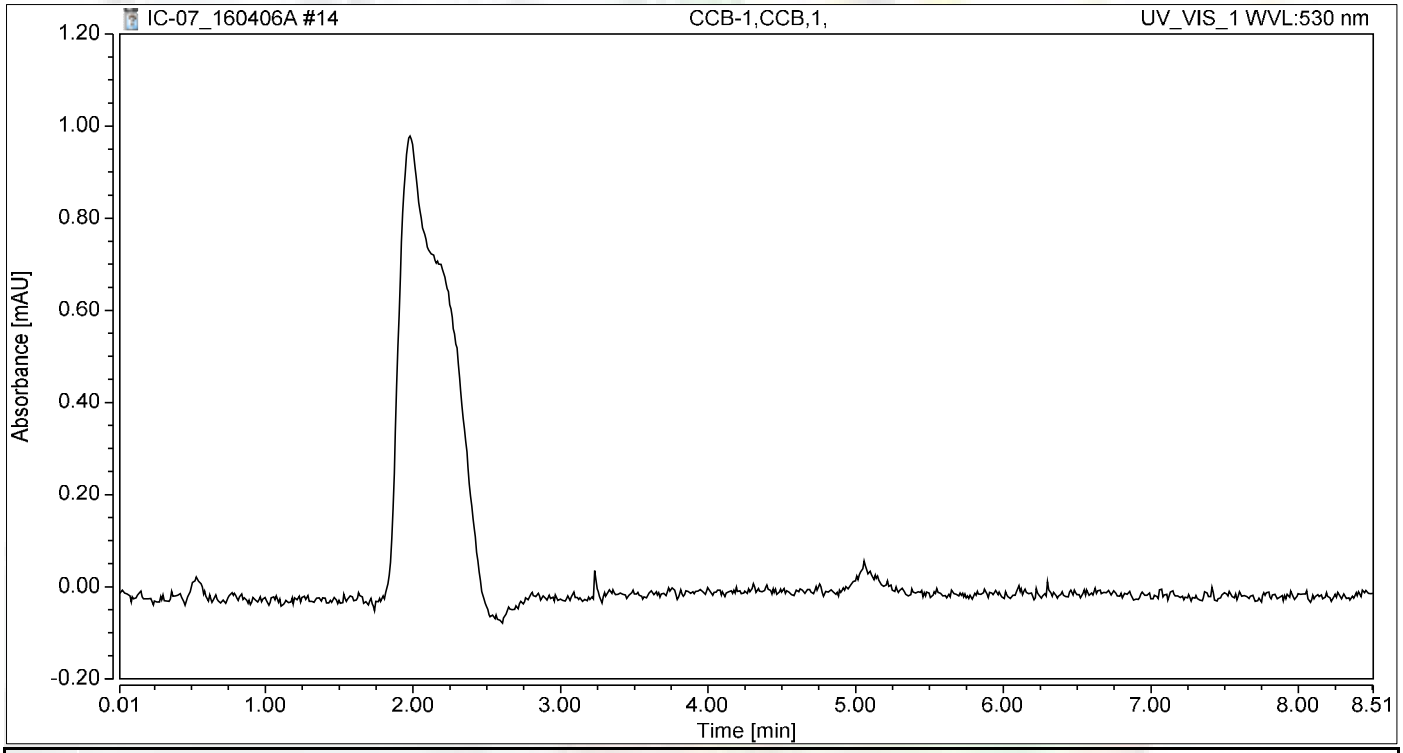
jas 4/8/2016

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 10:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

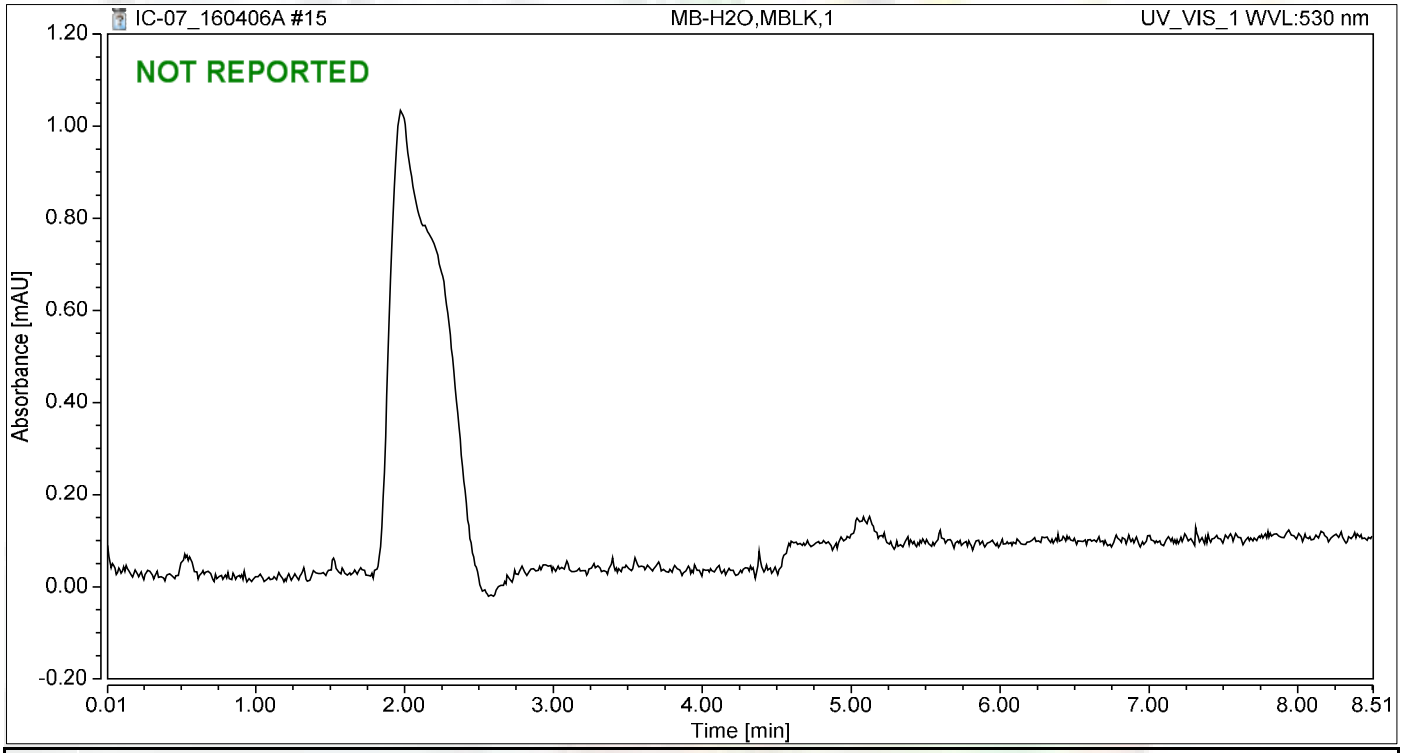
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 11:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

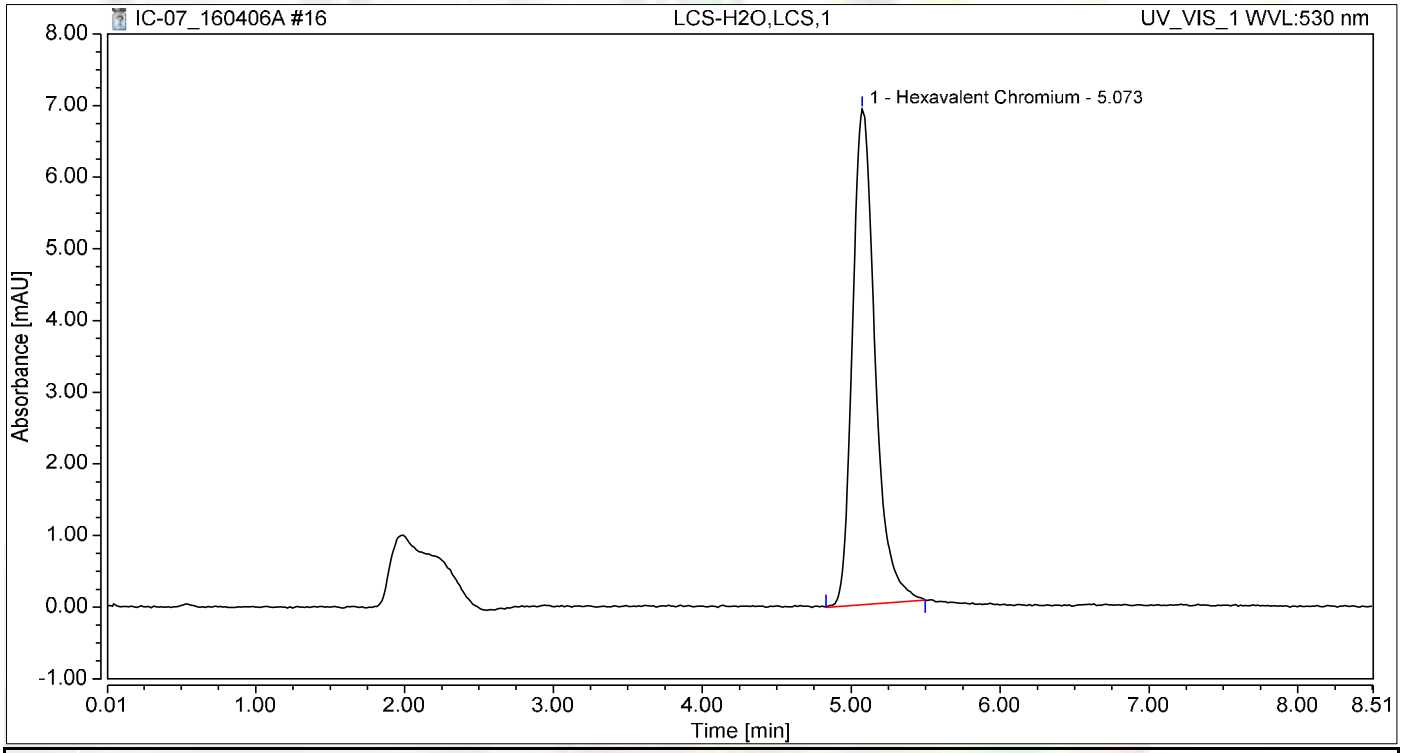
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 11:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

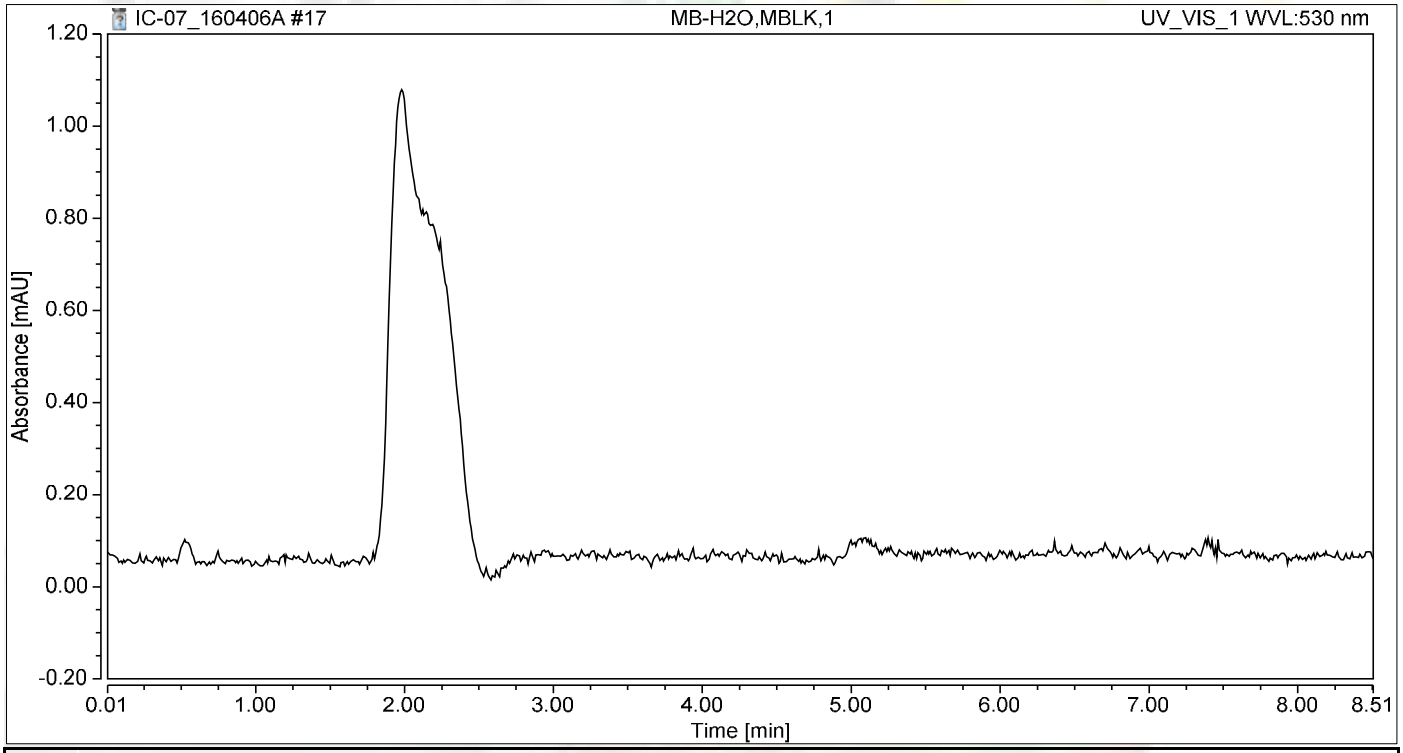
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	1.225	6.915	100.00	100.00	5.0451
Total:			**1.225**	**6.915**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 11:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

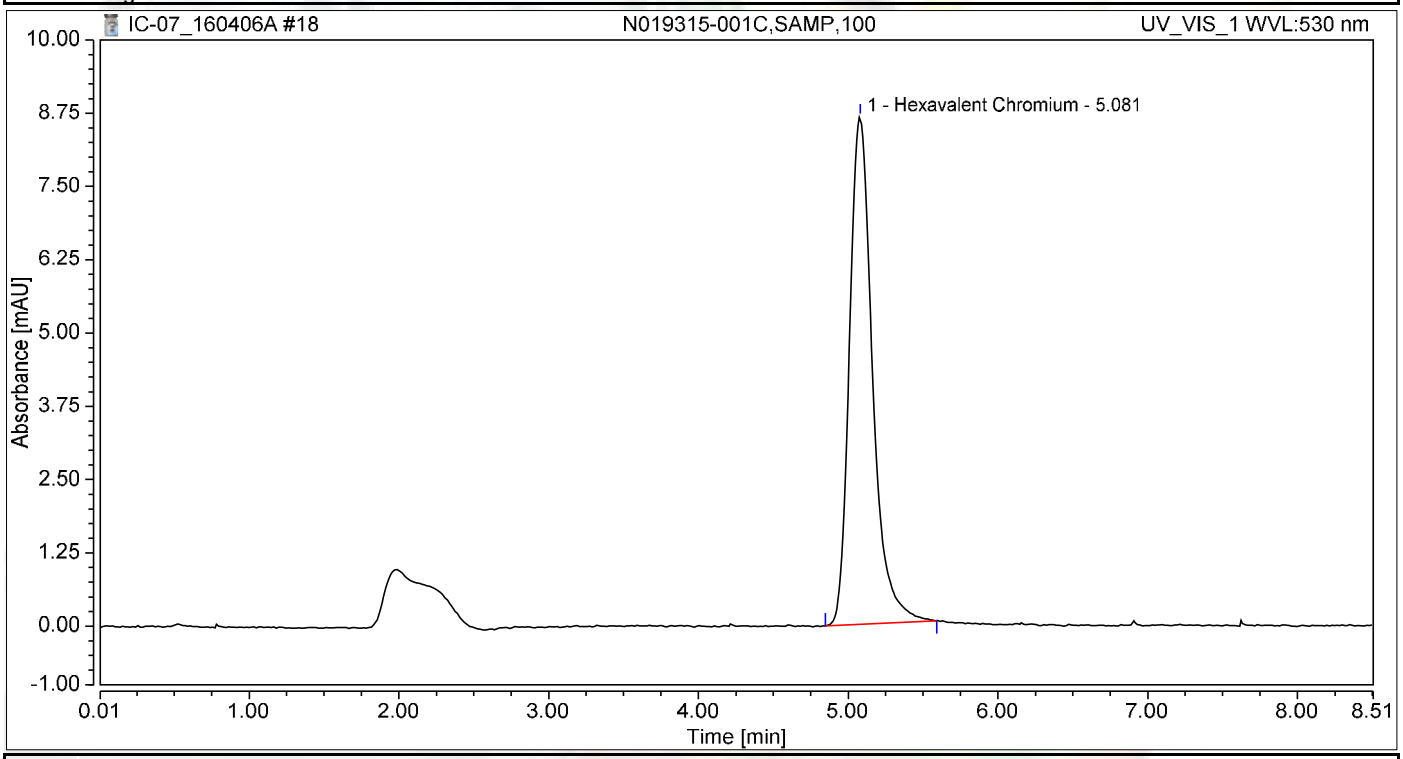
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-001C,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 11:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

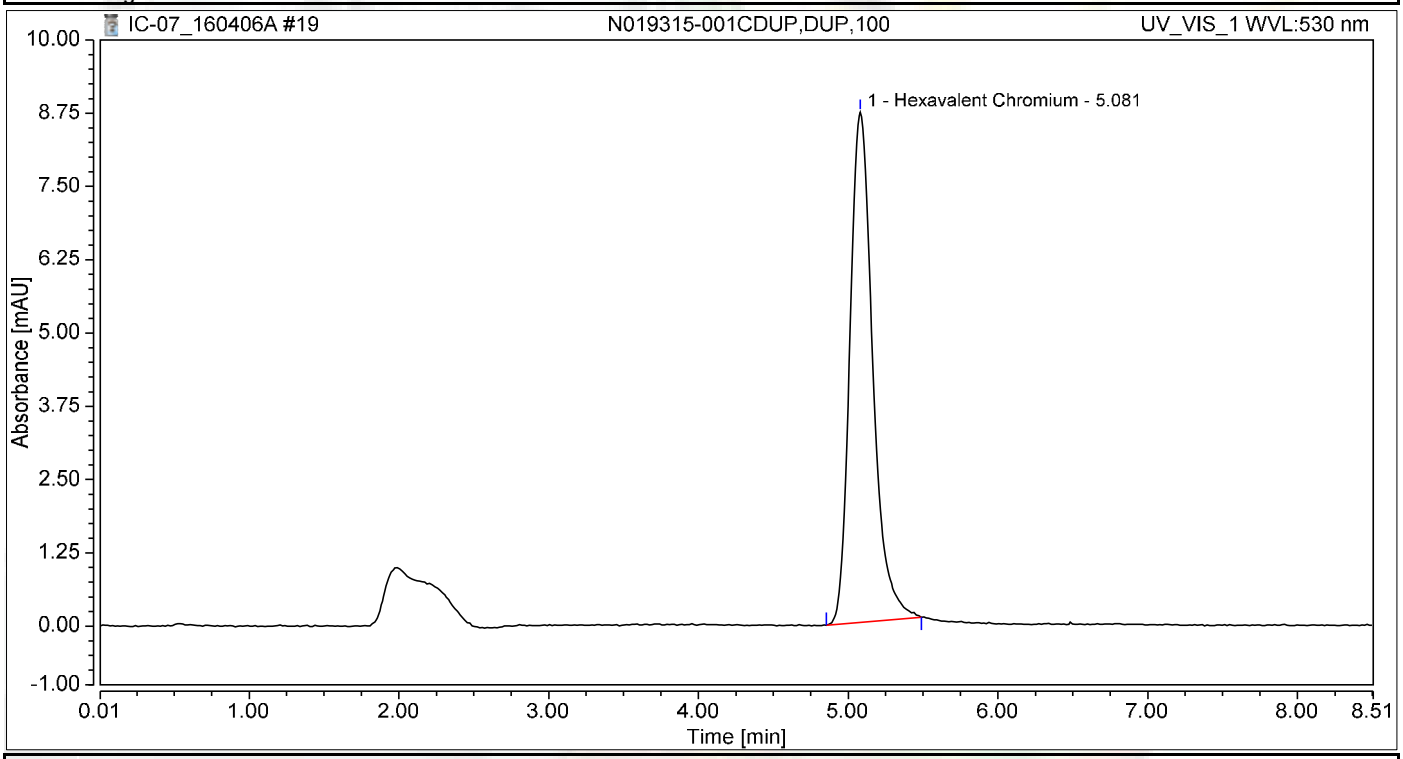
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.552	8.661	100.00	100.00	6.3897
Total:			**1.552**	**8.661**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-001CDUP,DUP,100**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

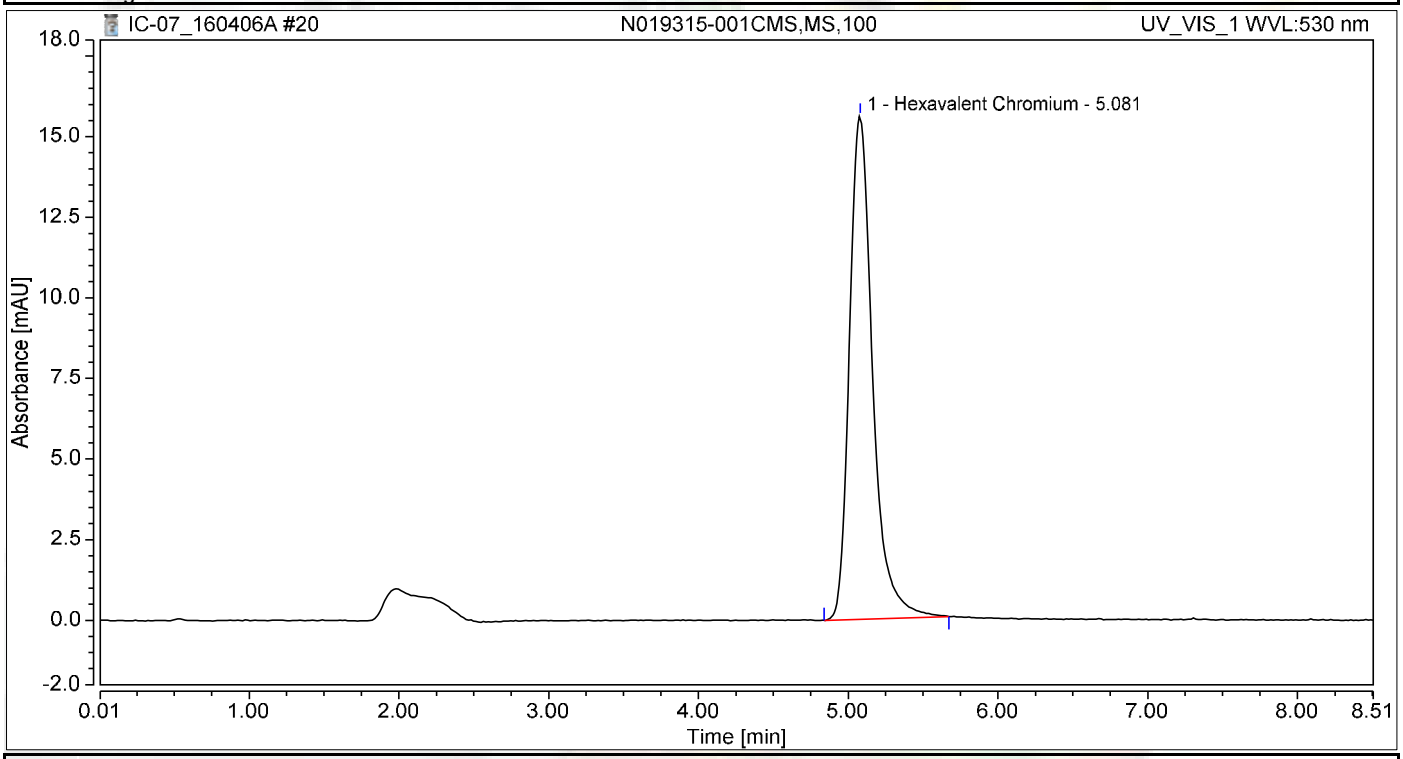
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.547	8.702	100.00	100.00	6.3686
Total:			**1.547**	**8.702**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-001CMS,MS,100**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

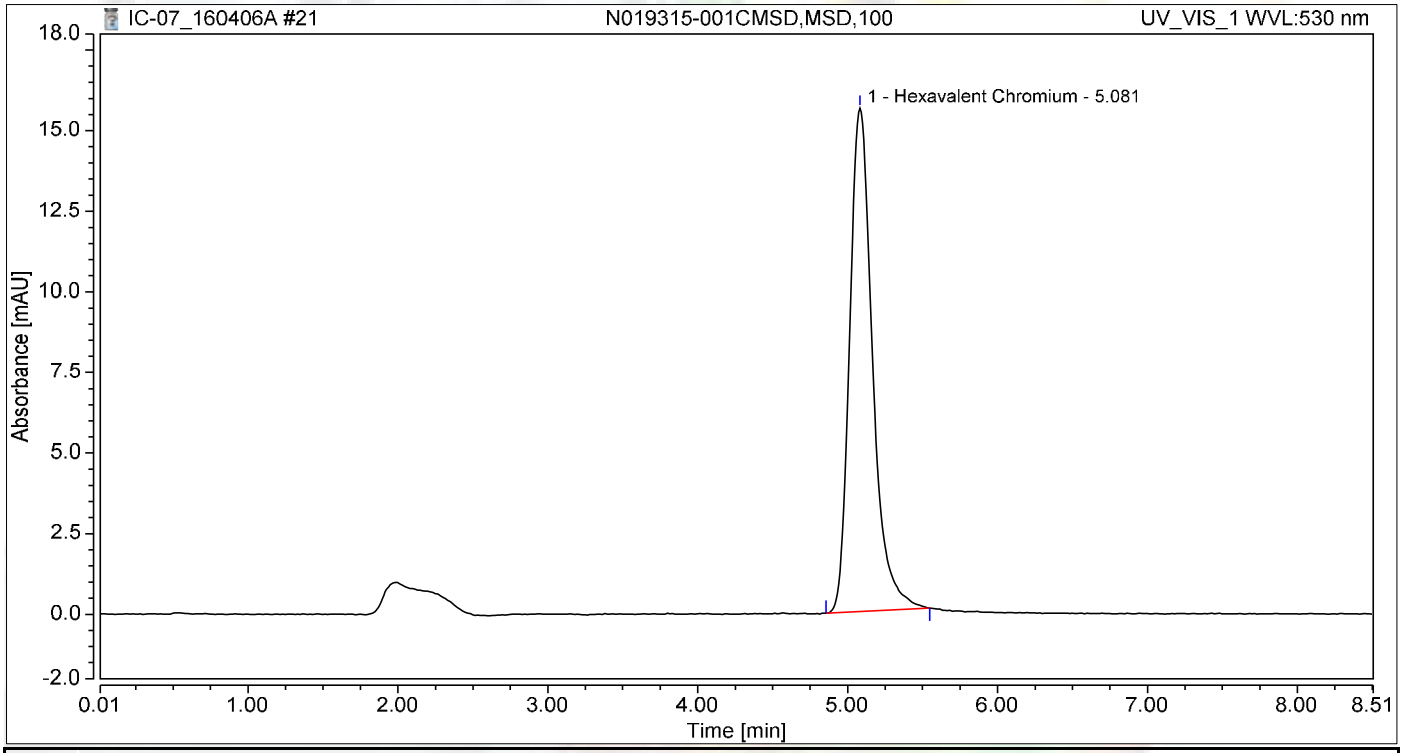
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	2.812	15.611	100.00	100.00	11.5772
Total:			**2.812**	**15.611**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-001CMSD,MSD,100**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

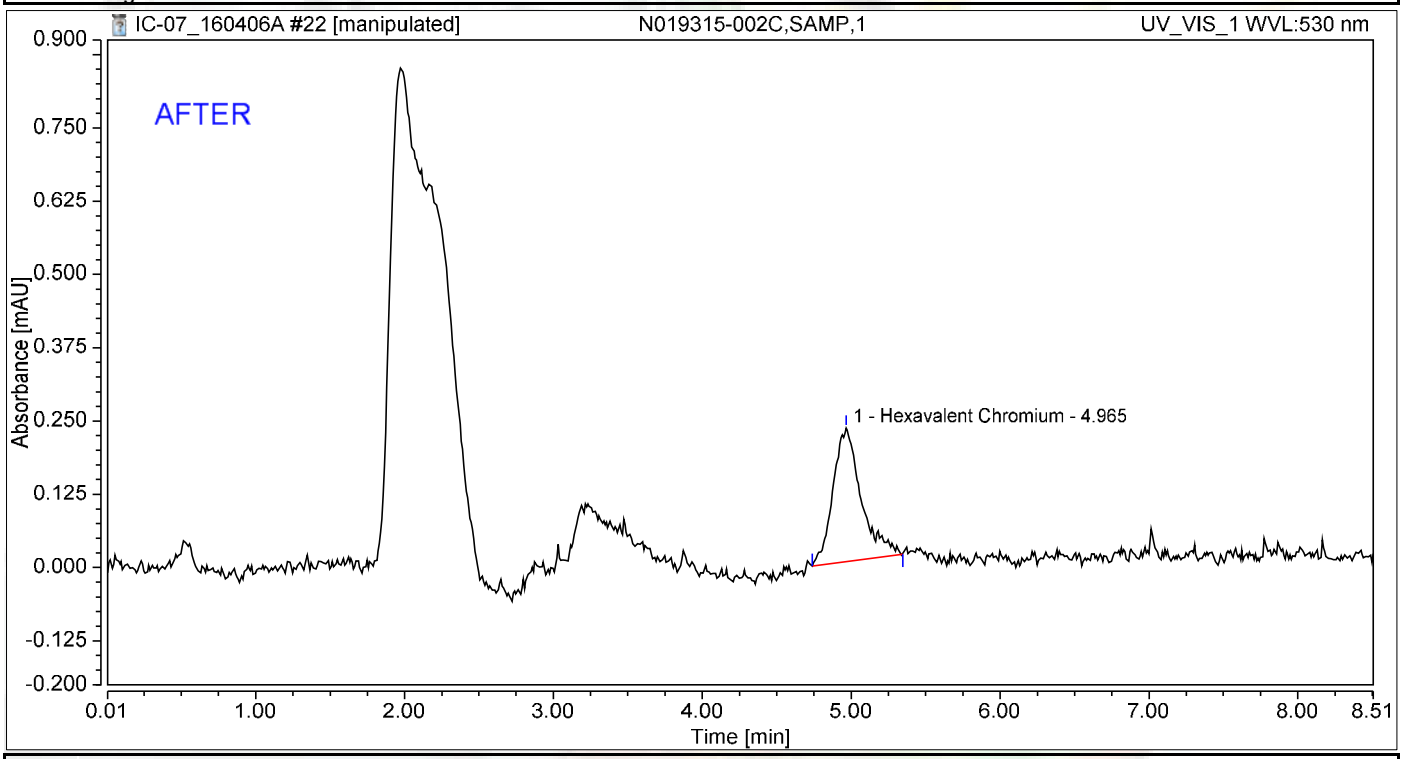
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	2.773	15.613	100.00	100.00	11.4167
Total:			**2.773**	**15.613**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-002C,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.965	0.050	0.228	100.00	100.00	0.2068
Total:			**0.050**	**0.228**	**100.00**	**100.00**	

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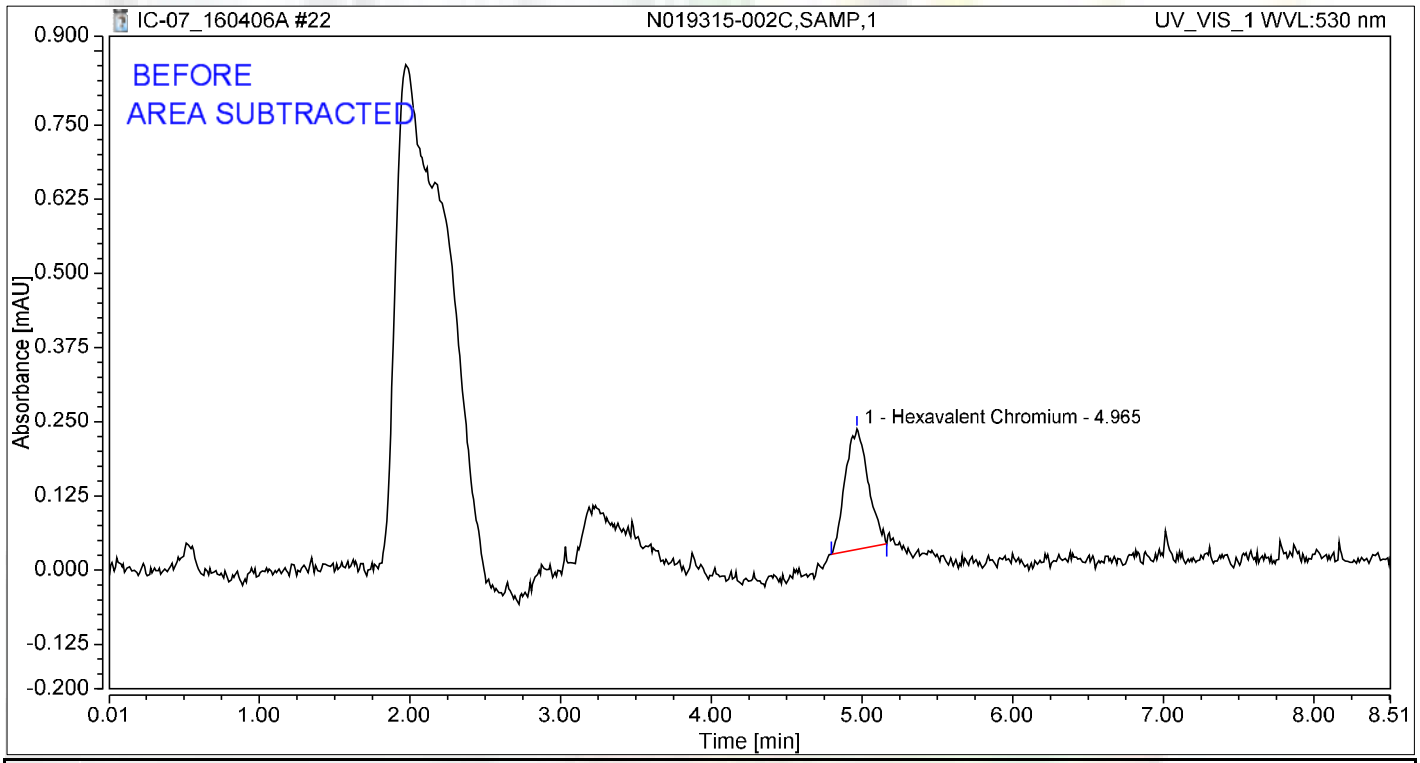
Chromatogram and Results

Injection Details

Injection Name:	**N019315-002C,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.965	0.036	0.203	100.00	100.00	0.1492
Total:			**0.036**	**0.203**	**100.00**	**100.00**	

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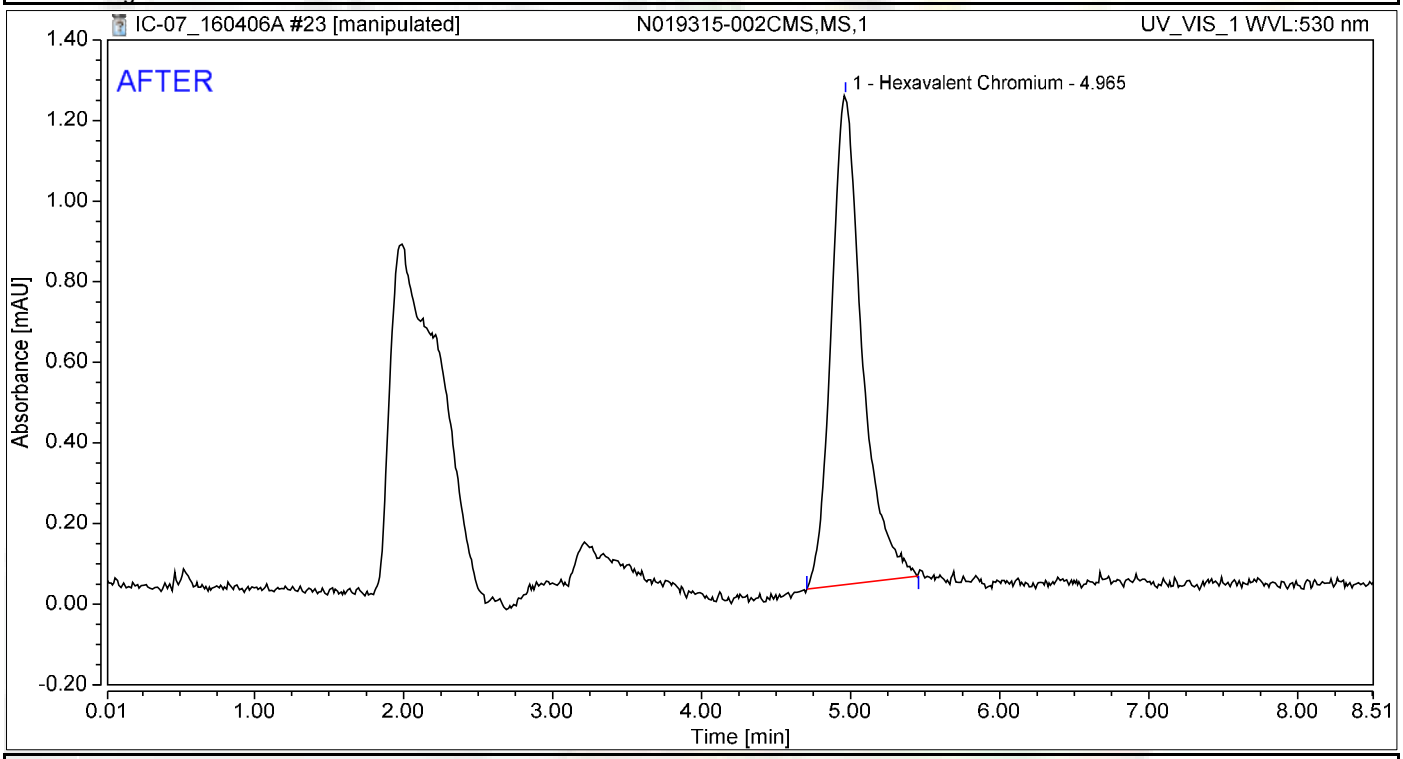
Chromatogram and Results

Injection Details

Injection Name:	**N019315-002CMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.965	0.290	1.214	100.00	100.00	1.1958
Total:			**0.290**	**1.214**	**100.00**	**100.00**	

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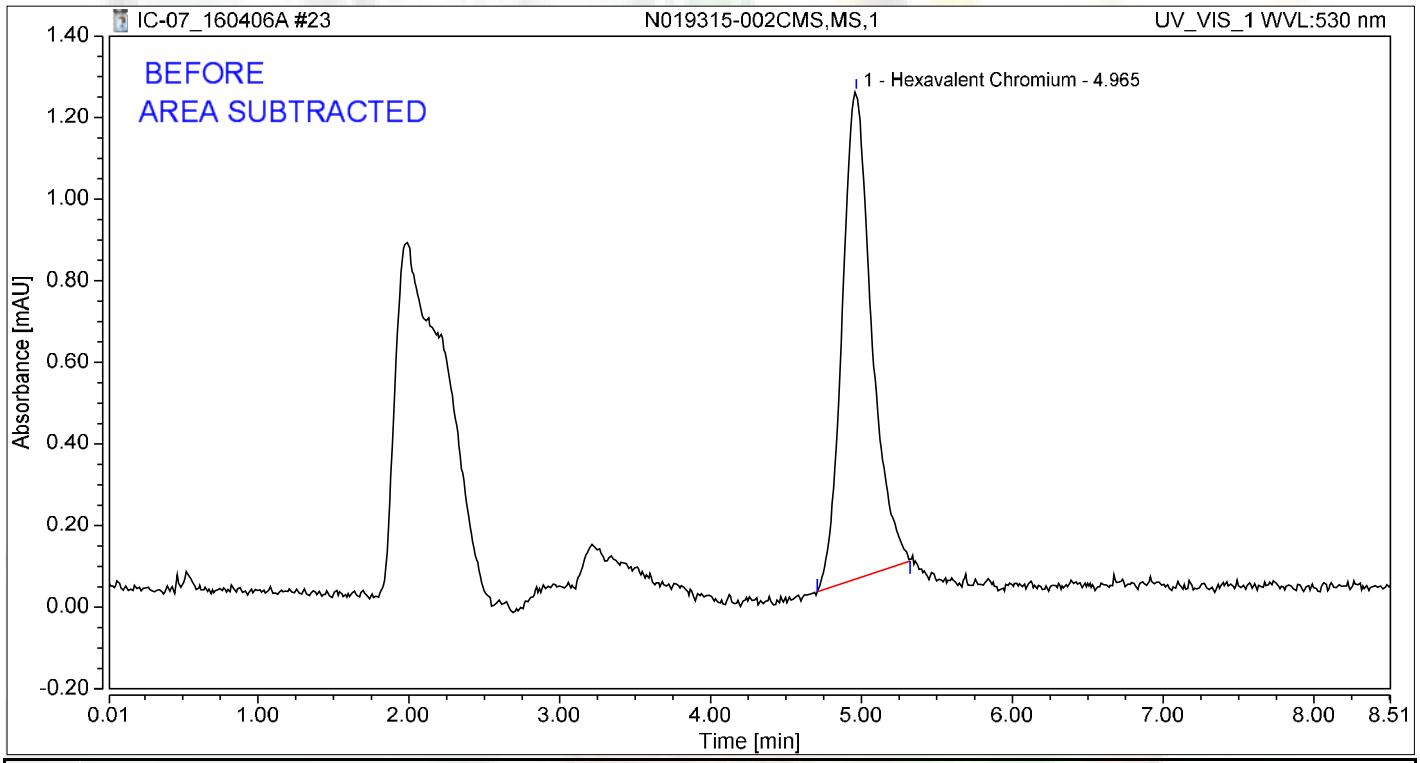
Chromatogram and Results

Injection Details

Injection Name:	**N019315-002CMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.965	0.271	1.194	100.00	100.00	1.1173
Total:			**0.271**	**1.194**	**100.00**	**100.00**	

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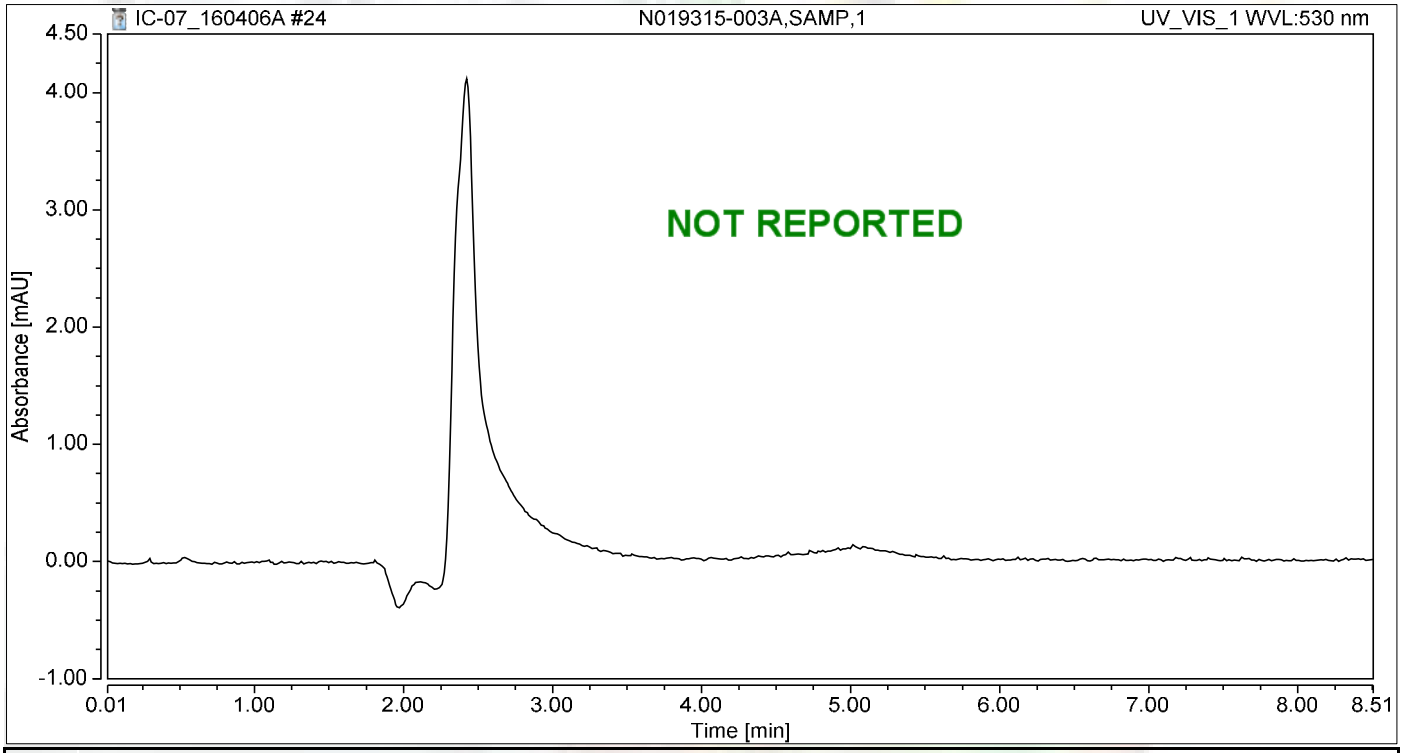
Chromatogram and Results

Injection Details

Injection Name:	**N019315-003A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

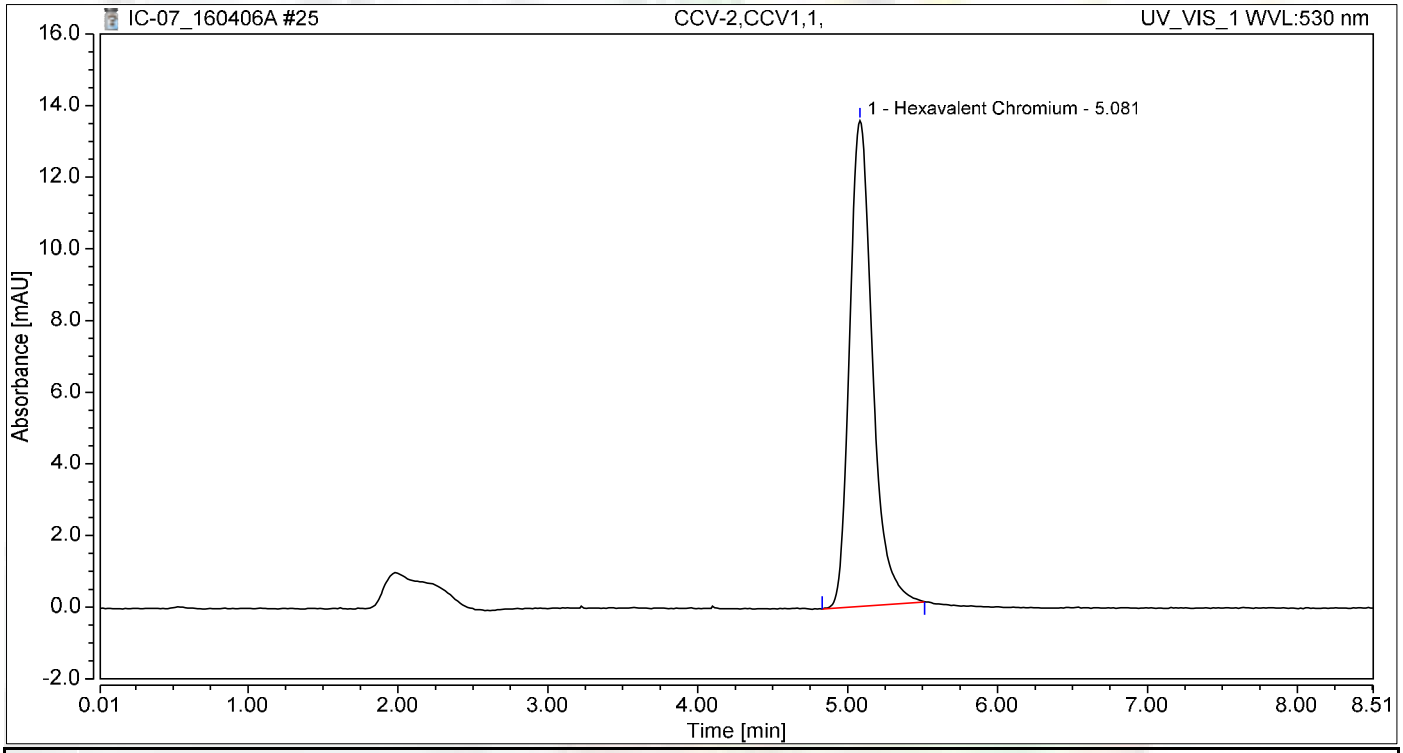
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV1,1,**	*Run Time (min):*	**8.49**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

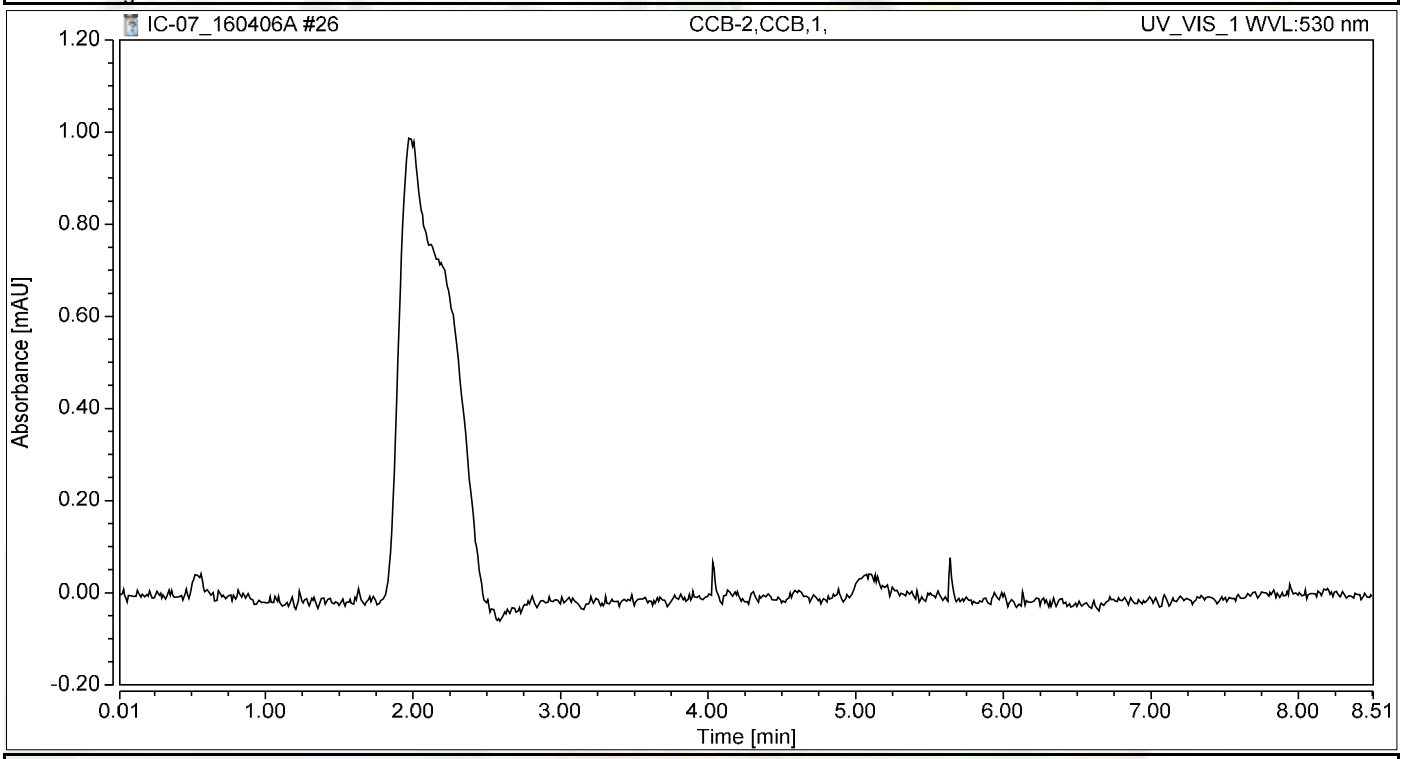
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	2.419	13.558	100.00	100.00	9.9583
Total:			**2.419**	**13.558**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 12:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

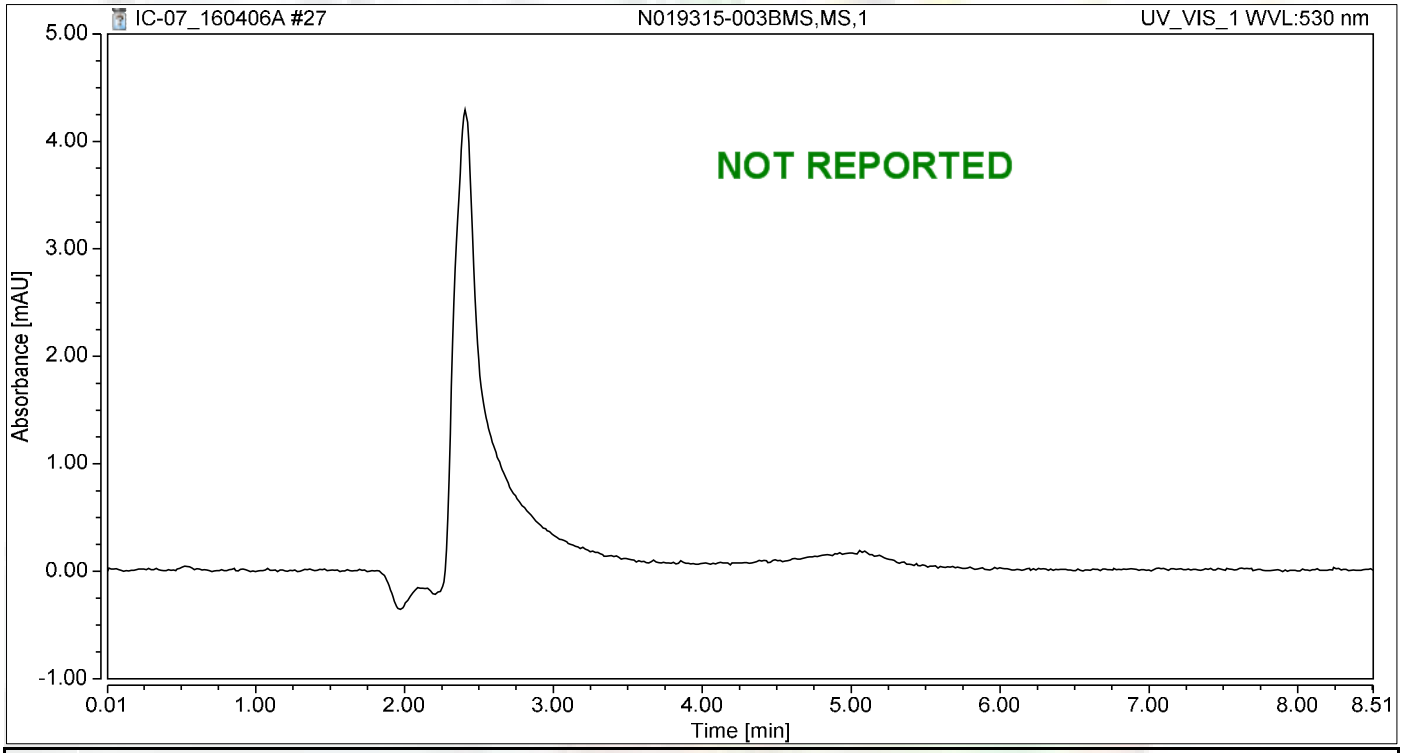
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-003BMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

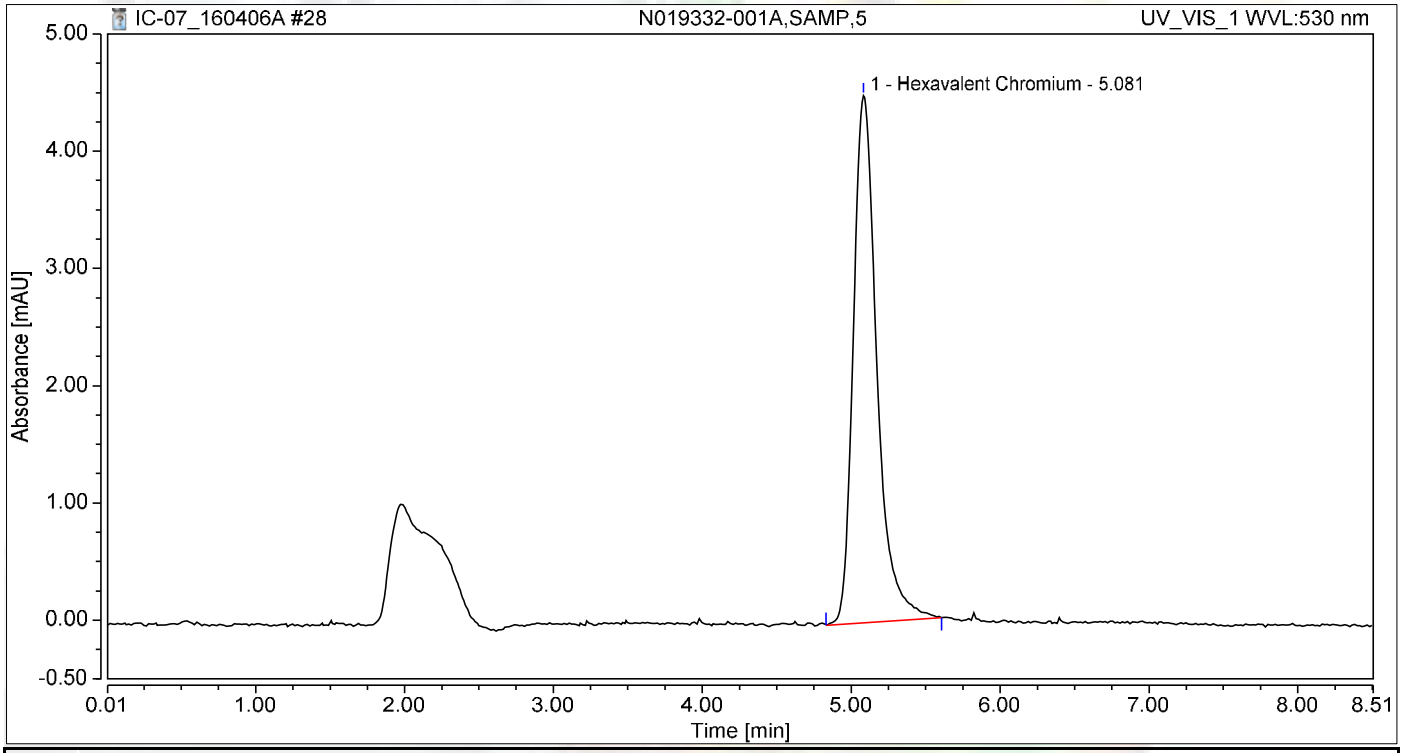
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019332-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

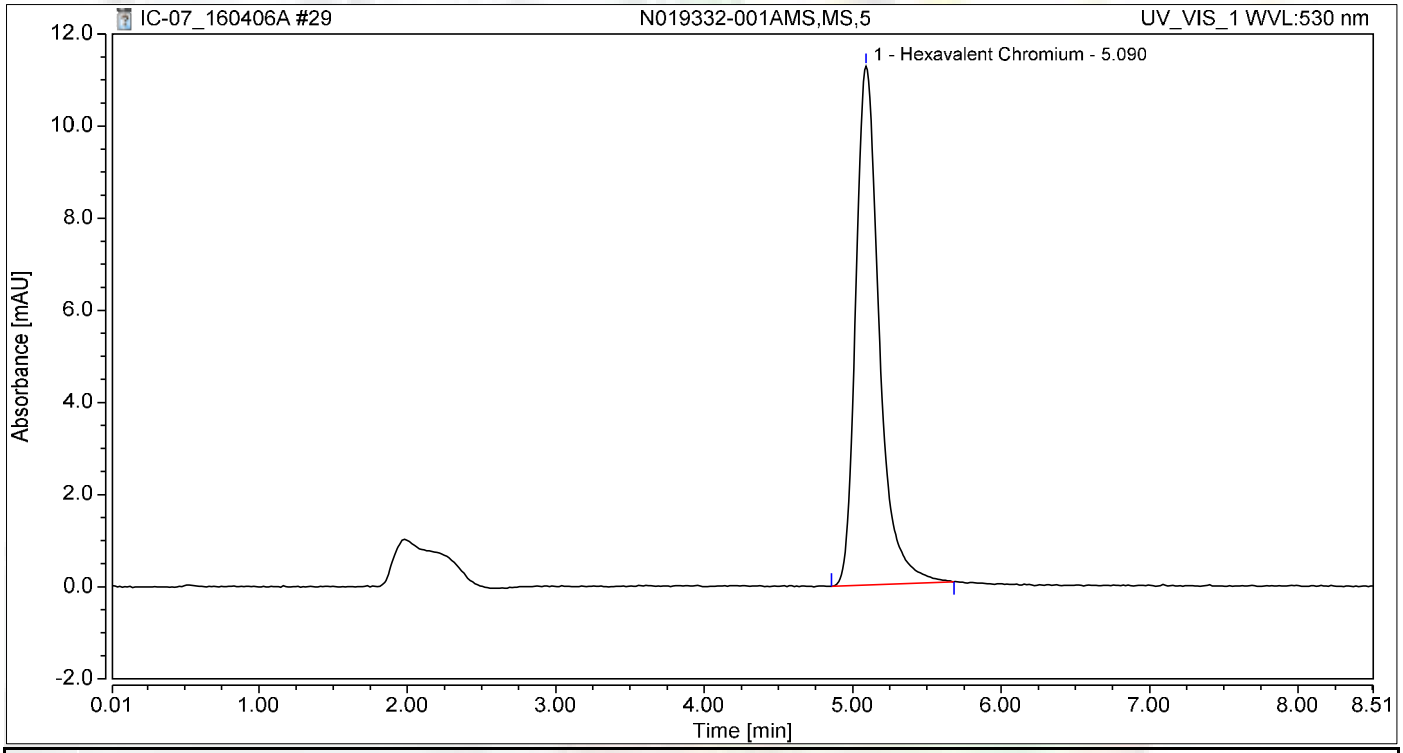
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.827	4.496	100.00	100.00	3.4058
Total:			**0.827**	**4.496**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019332-001AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

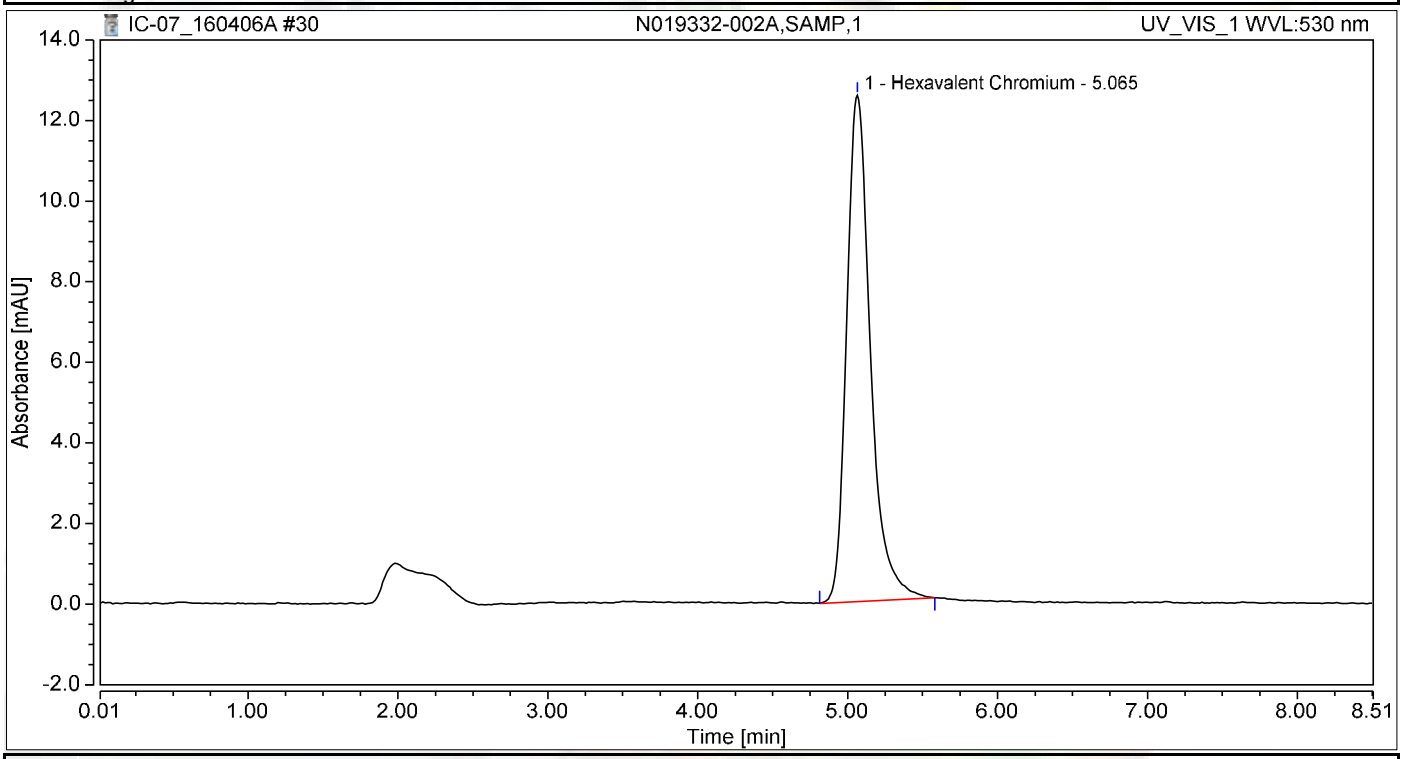
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.090	2.072	11.256	100.00	100.00	8.5304
Total:			**2.072**	**11.256**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019332-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

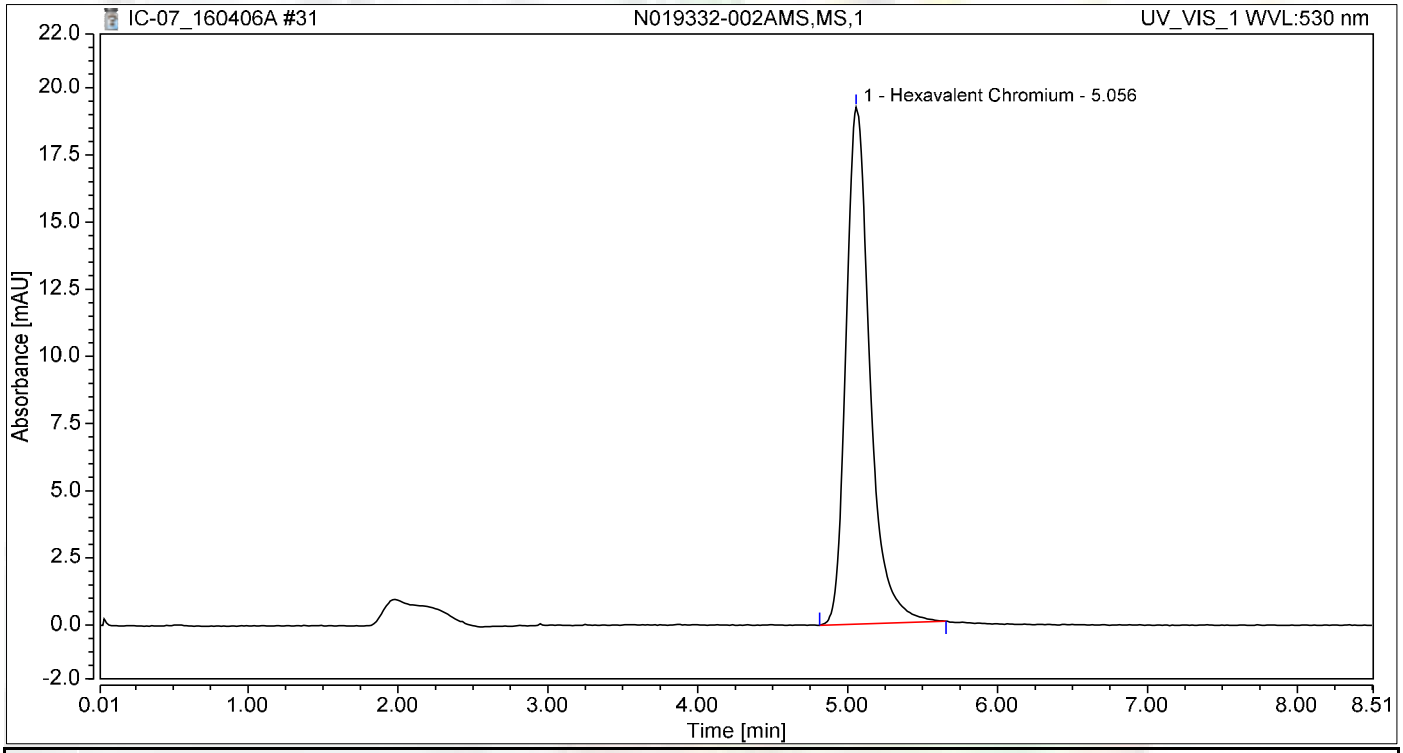
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	2.316	12.562	100.00	100.00	9.5353
Total:			**2.316**	**12.562**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019332-002AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

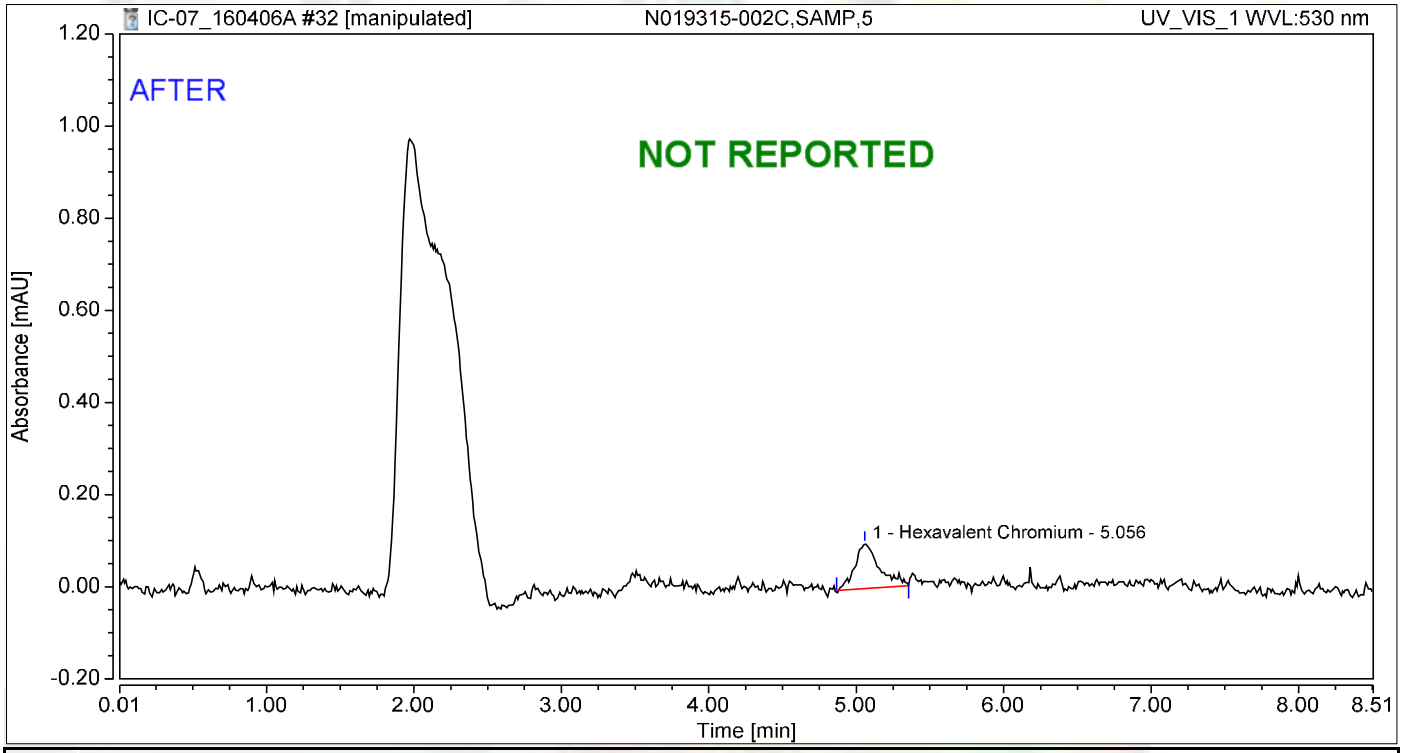
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	3.573	19.239	100.00	100.00	14.7113
Total:			**3.573**	**19.239**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-002C,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.019	0.096	100.00	100.00	0.0772
Total:			**0.019**	**0.096**	**100.00**	**100.00**	

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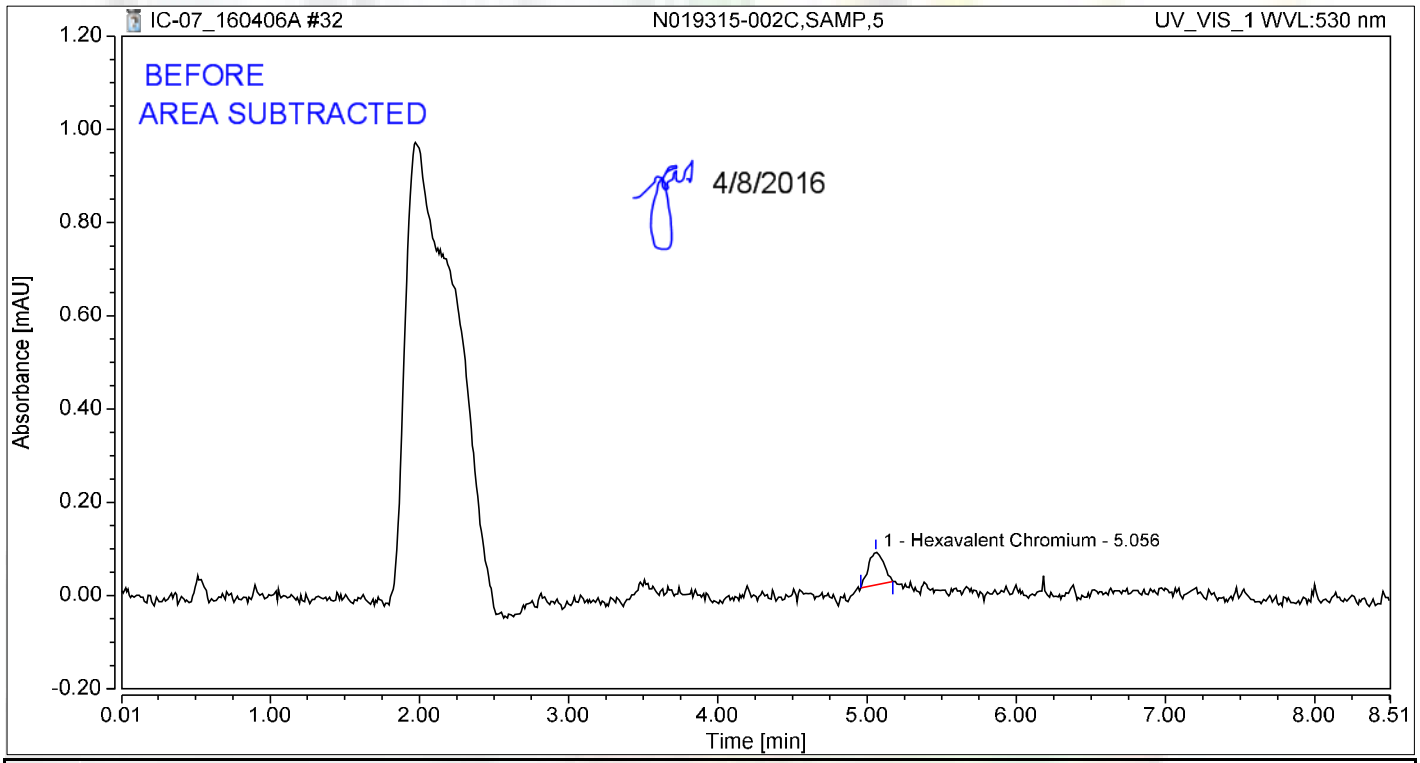
Chromatogram and Results

Injection Details

Injection Name:	**N019315-002C,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 13:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.008	0.069	100.00	100.00	0.0345
Total:			**0.008**	**0.069**	**100.00**	**100.00**	

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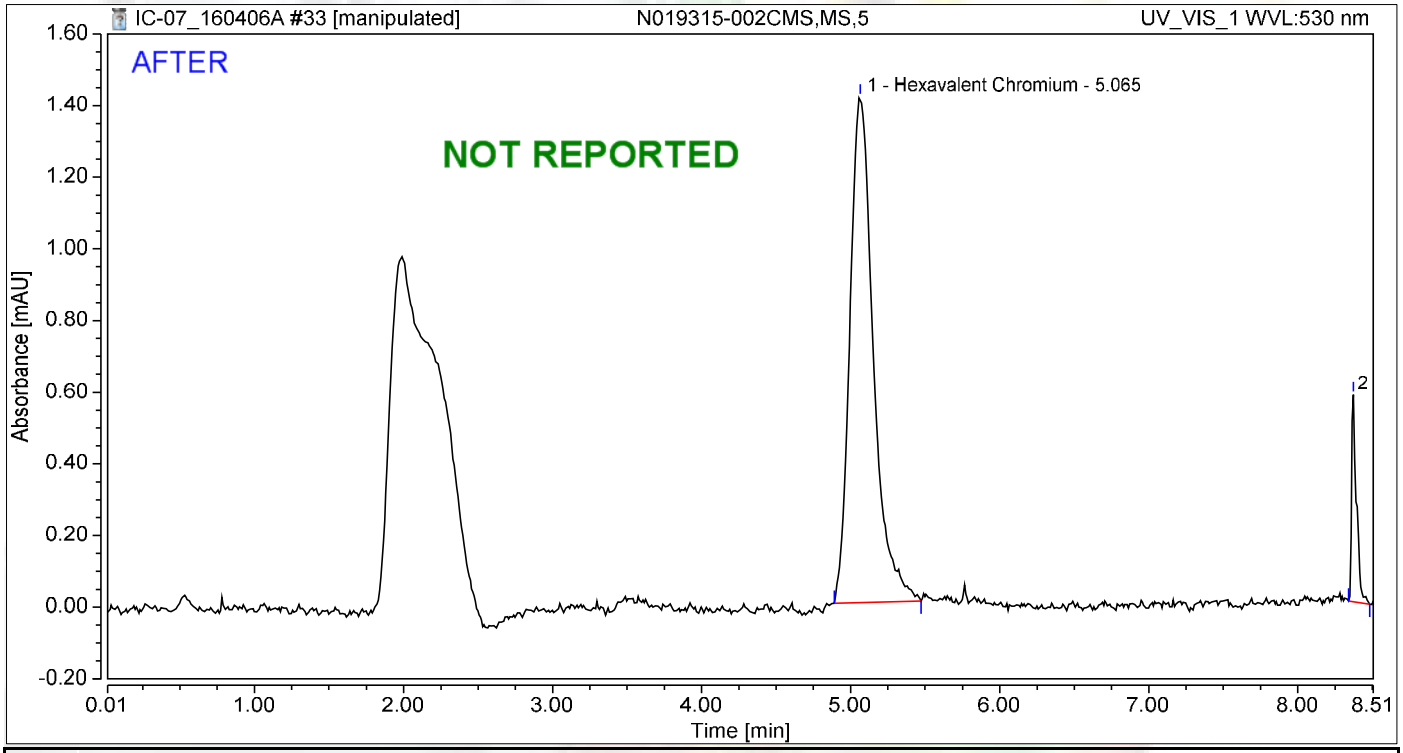
Chromatogram and Results

Injection Details

Injection Name:	**N019315-002CMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	0.258	1.411	92.16	70.95	1.0639
2		8.373	0.022	0.578	7.84	29.05	n.a.
Total:			**0.280**	**1.989**	**100.00**	**100.00**	

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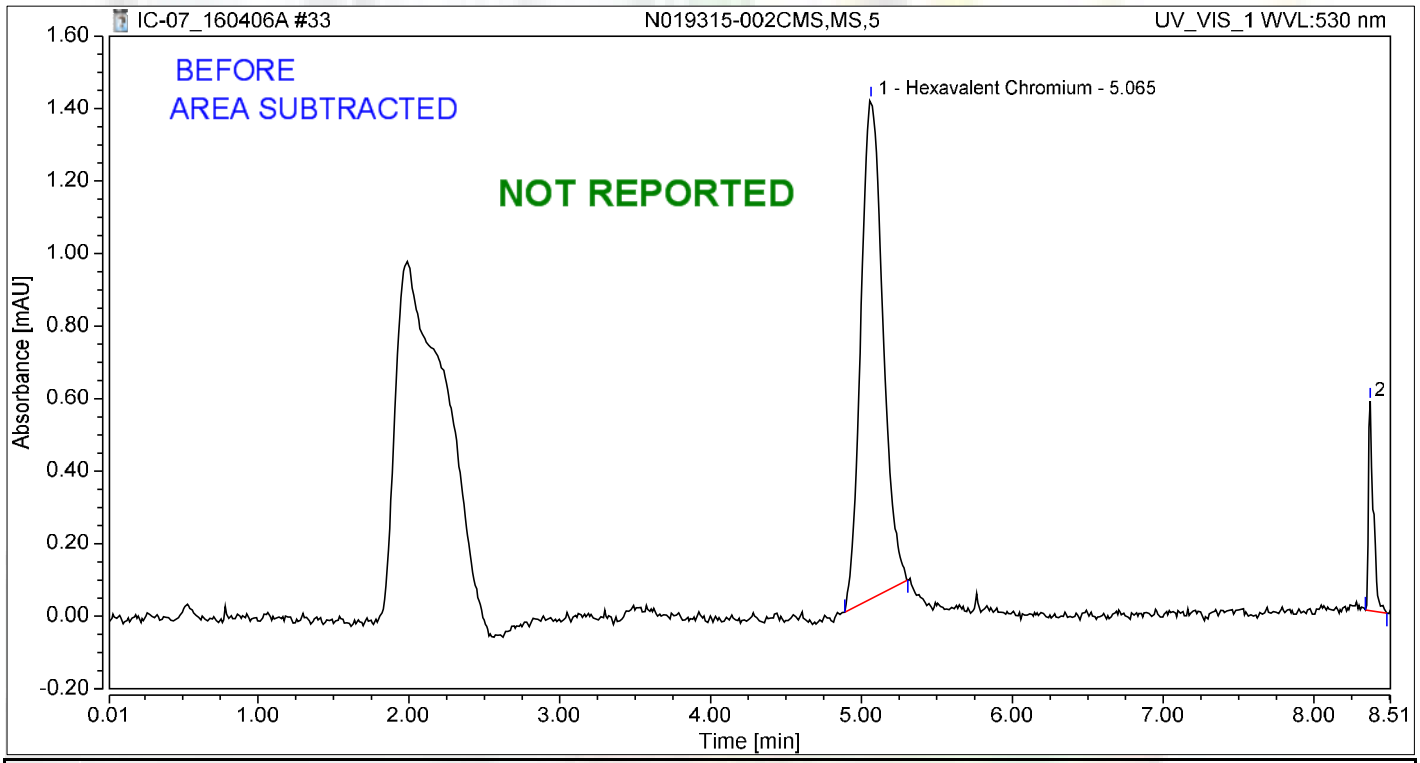
Chromatogram and Results

Injection Details

Injection Name:	**N019315-002CMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	0.234	1.376	91.42	70.42	0.9632
2		8.373	0.022	0.578	8.58	29.58	n.a.
Total:			**0.256**	**1.954**	**100.00**	**100.00**	

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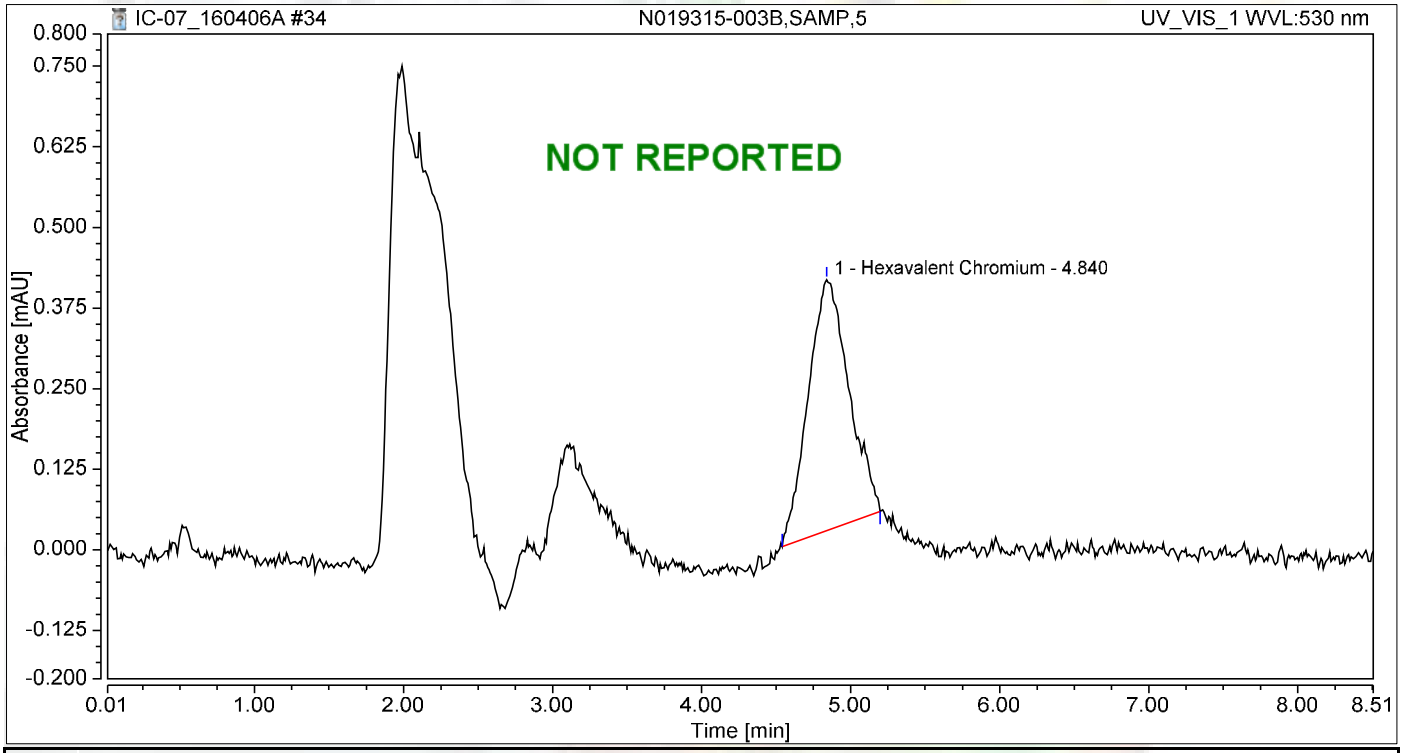
Chromatogram and Results

Injection Details

Injection Name:	**N019315-003B,SAMP,5**	*Run Time (min):*	**8.49**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

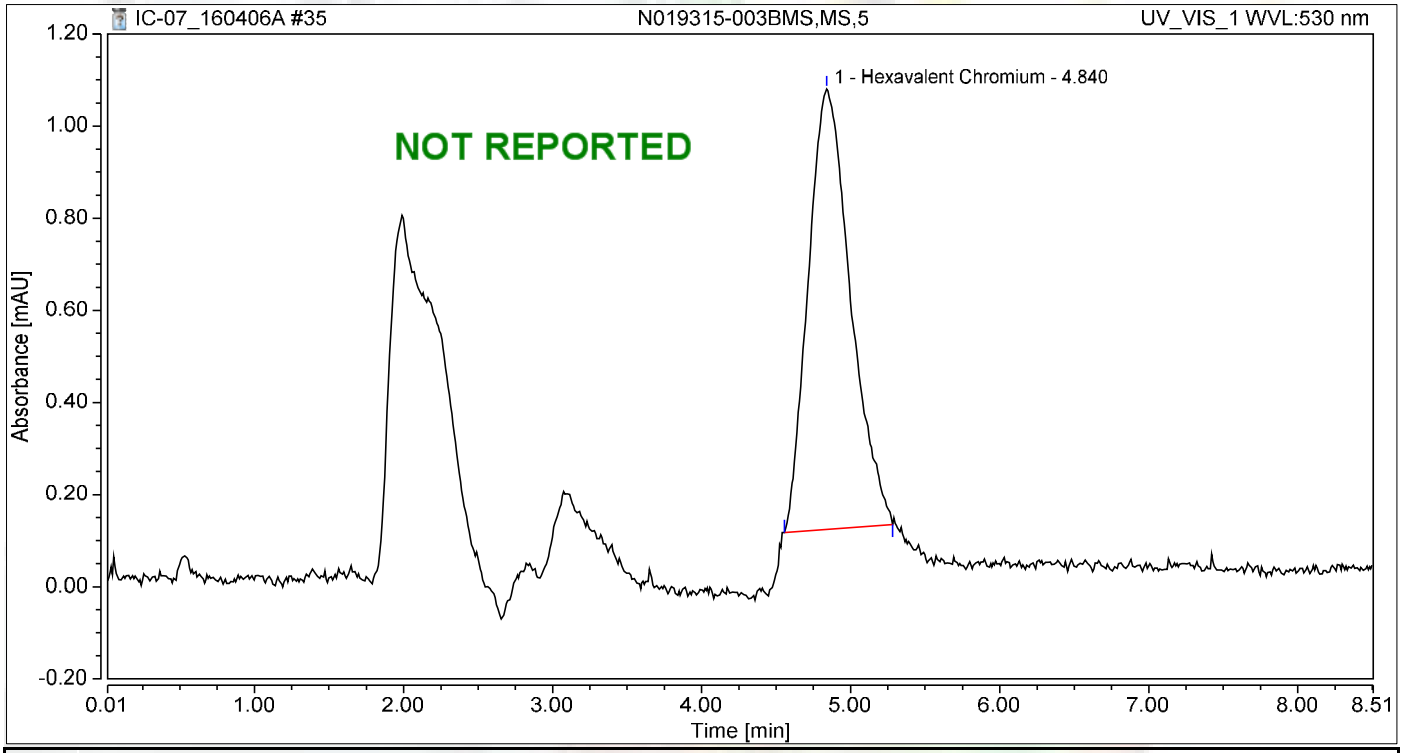
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.840	0.122	0.389	100.00	100.00	0.5041
Total:			**0.122**	**0.389**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-003BMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

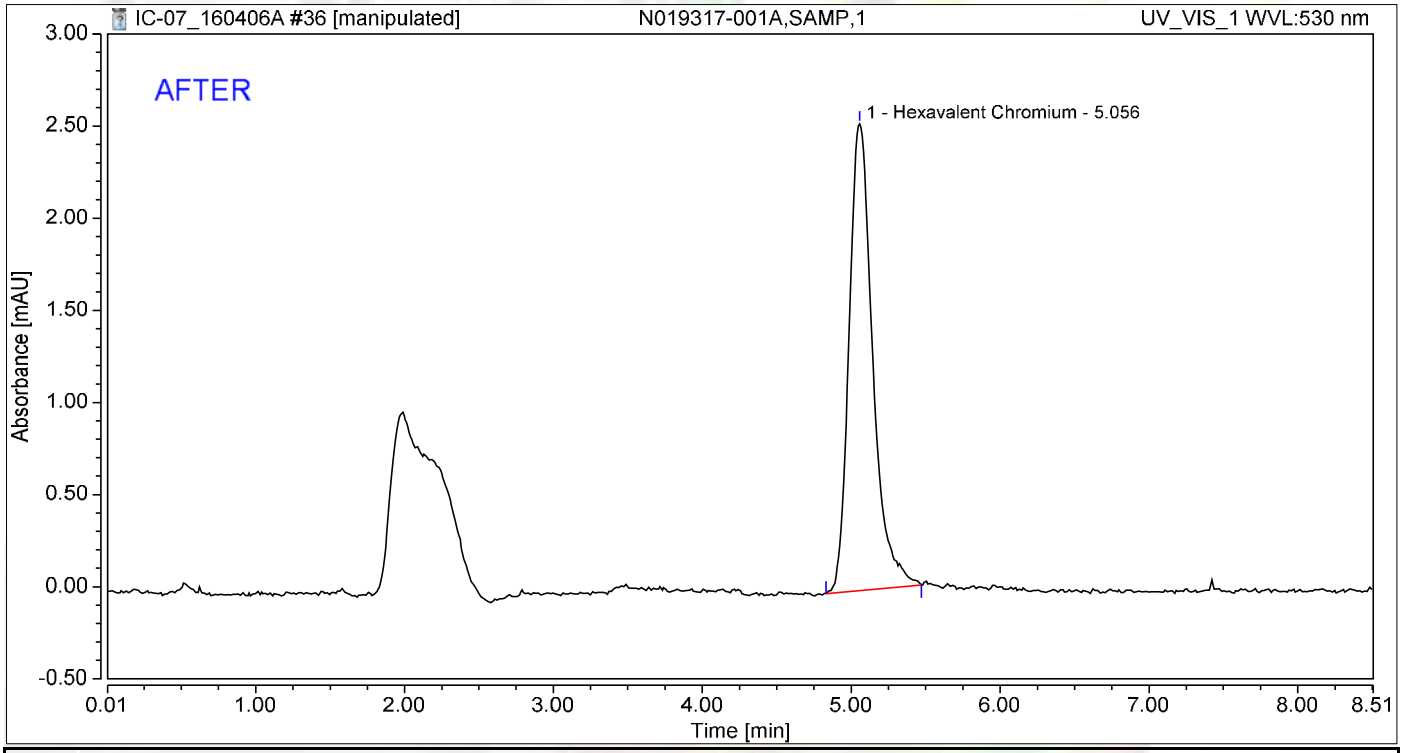
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.840	0.313	0.957	100.00	100.00	1.2873
Total:			**0.313**	**0.957**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.468	2.533	100.00	100.00	1.9262
Total:			**0.468**	**2.533**	**100.00**	**100.00**	

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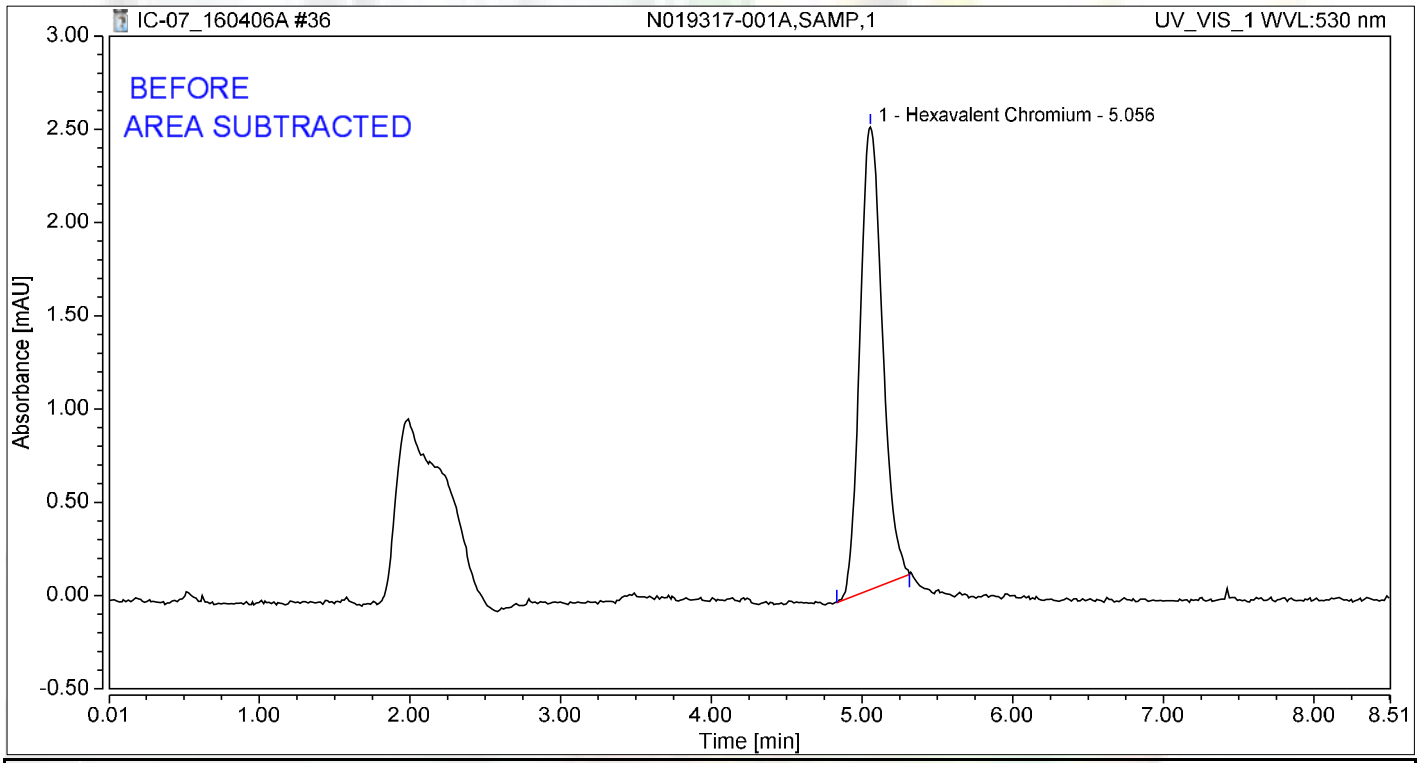
Chromatogram and Results

Injection Details

Injection Name:	**N019317-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.056	0.431	2.479	100.00	100.00	1.7752
Total:			**0.431**	**2.479**	**100.00**	**100.00**	

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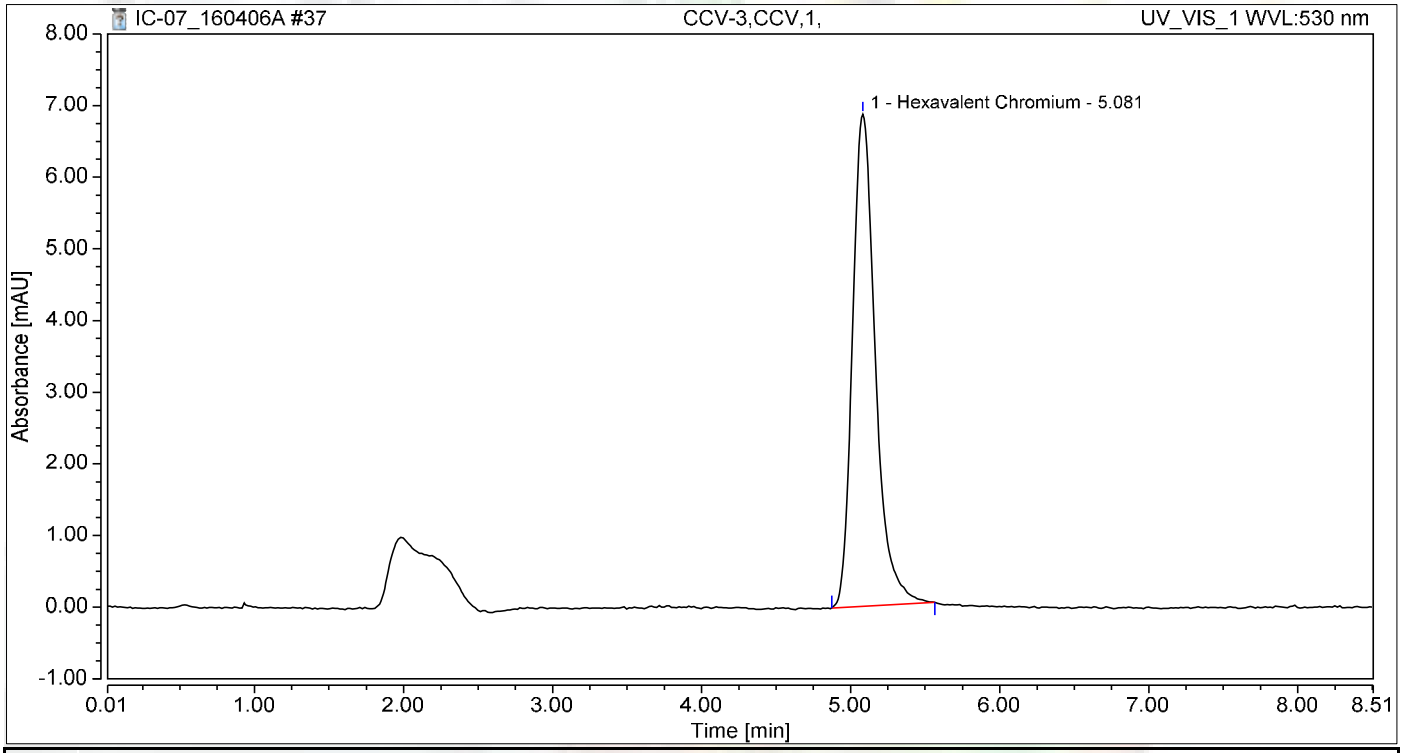
Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

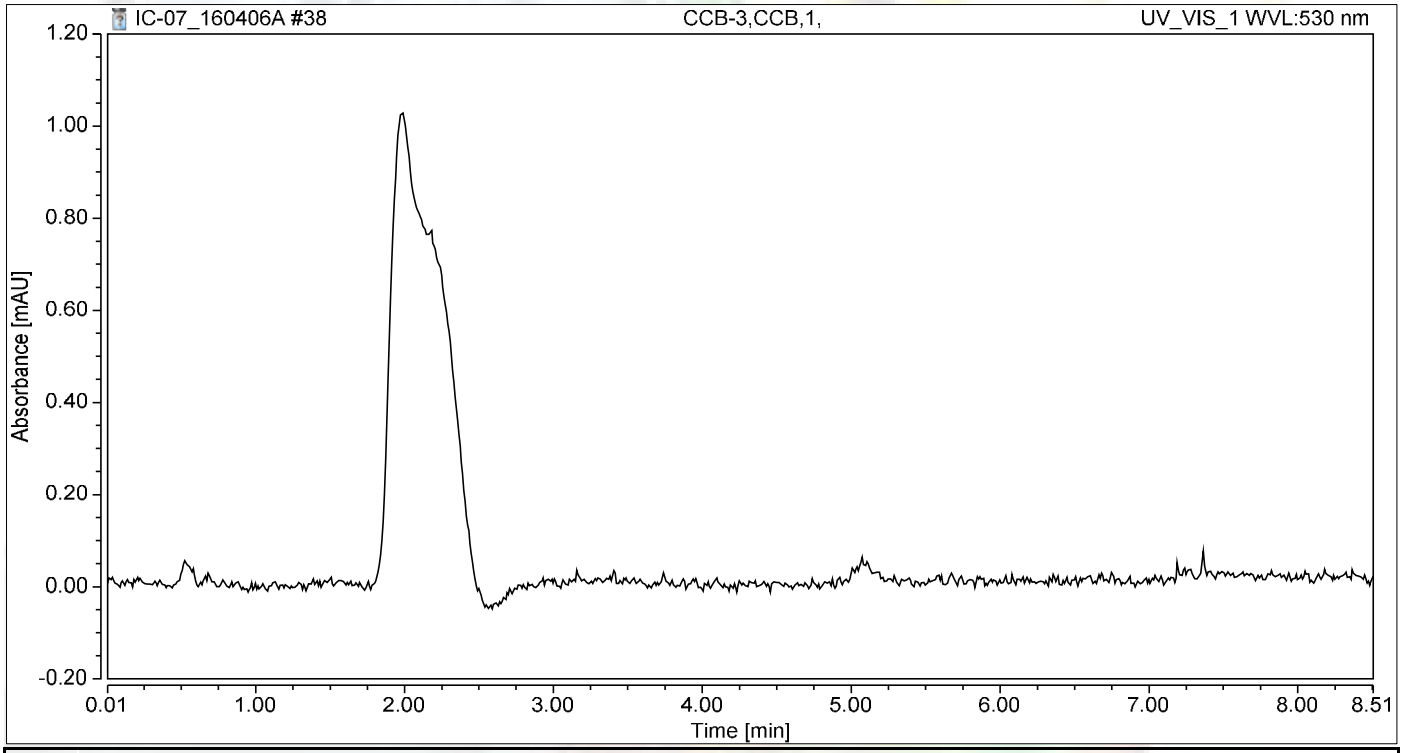
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.224	6.867	100.00	100.00	5.0380
Total:			**1.224**	**6.867**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 14:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

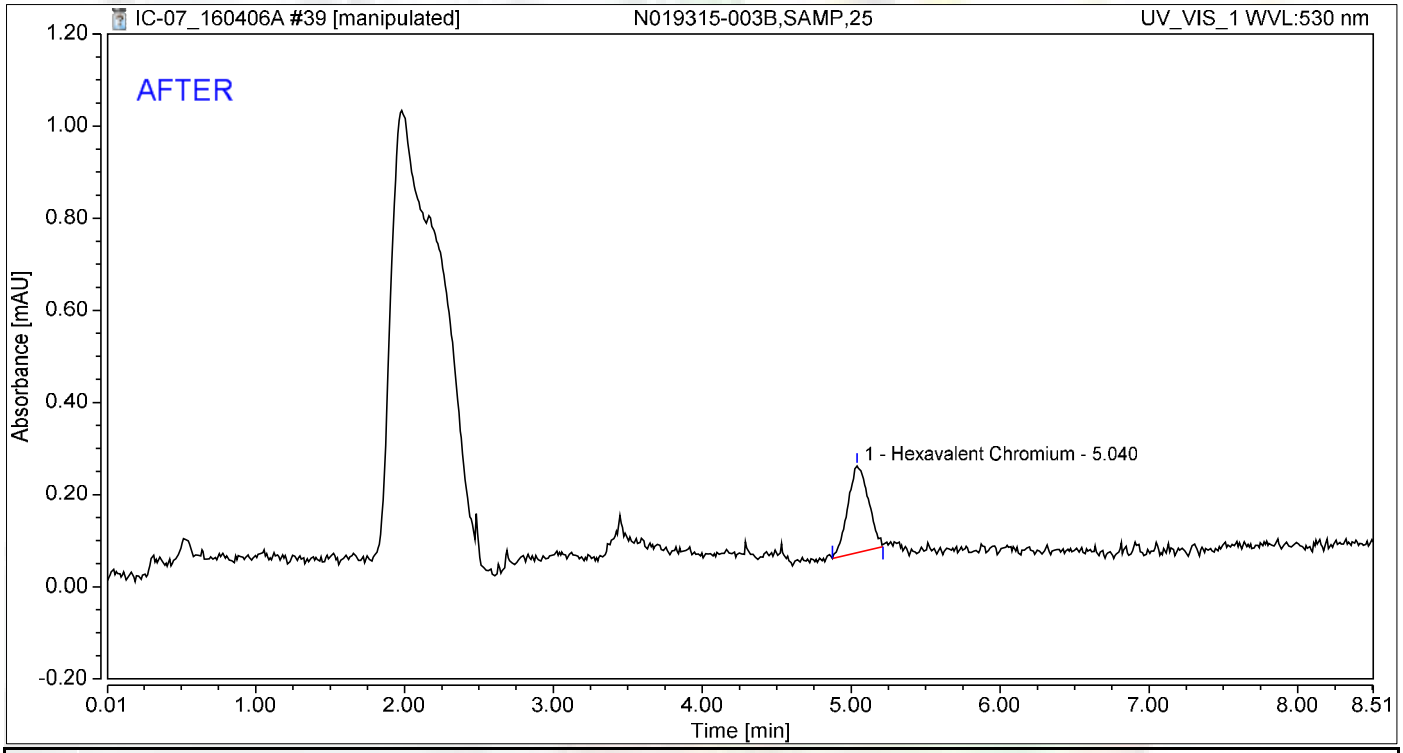
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019315-003B,SAMP,25**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.030	0.188	100.00	100.00	0.1252
Total:			**0.030**	**0.188**	**100.00**	**100.00**	

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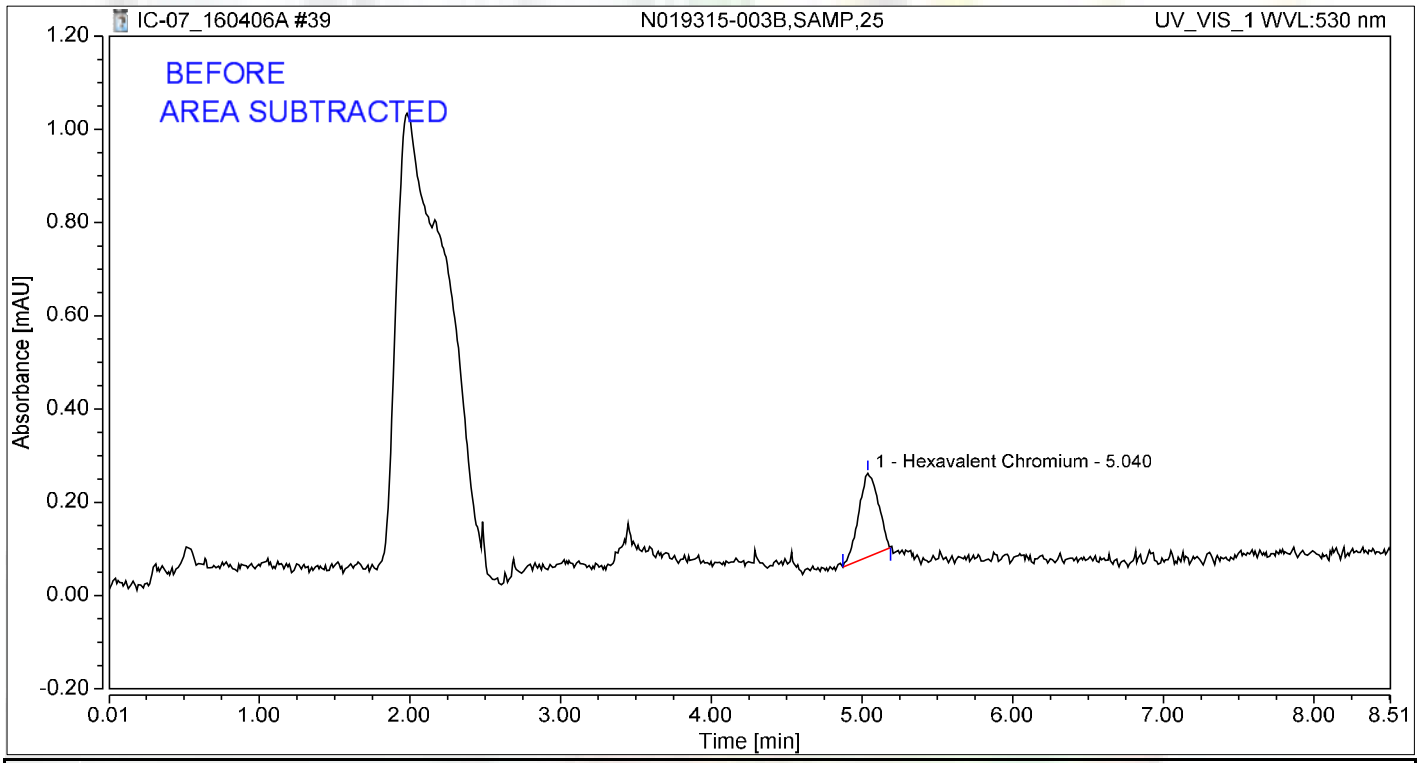
Chromatogram and Results

Injection Details

Injection Name:	**N019315-003B,SAMP,25**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.040	0.027	0.179	100.00	100.00	0.1127
Total:			**0.027**	**0.179**	**100.00**	**100.00**	

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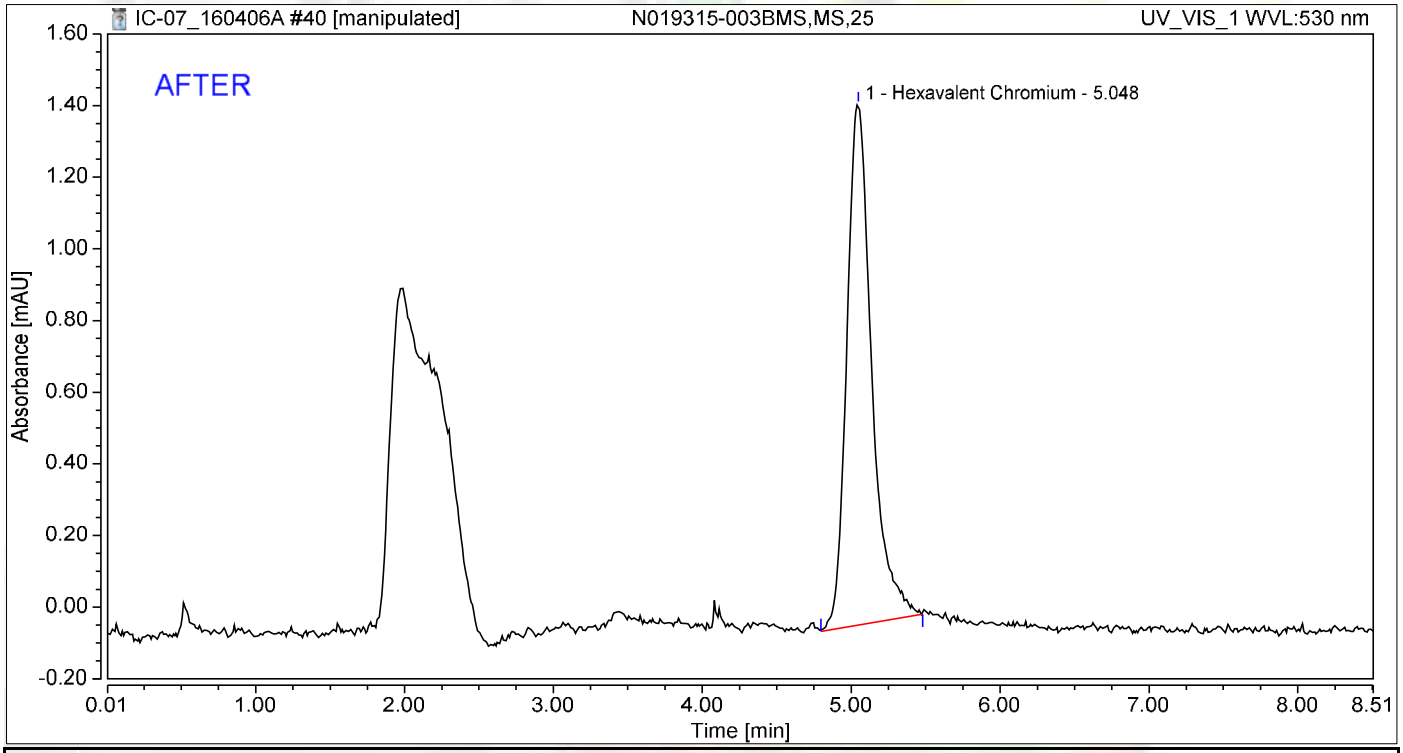
Chromatogram and Results

Injection Details

Injection Name:	**N019315-003BMS,MS,25**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.283	1.453	100.00	100.00	1.1646
Total:			**0.283**	**1.453**	**100.00**	**100.00**	

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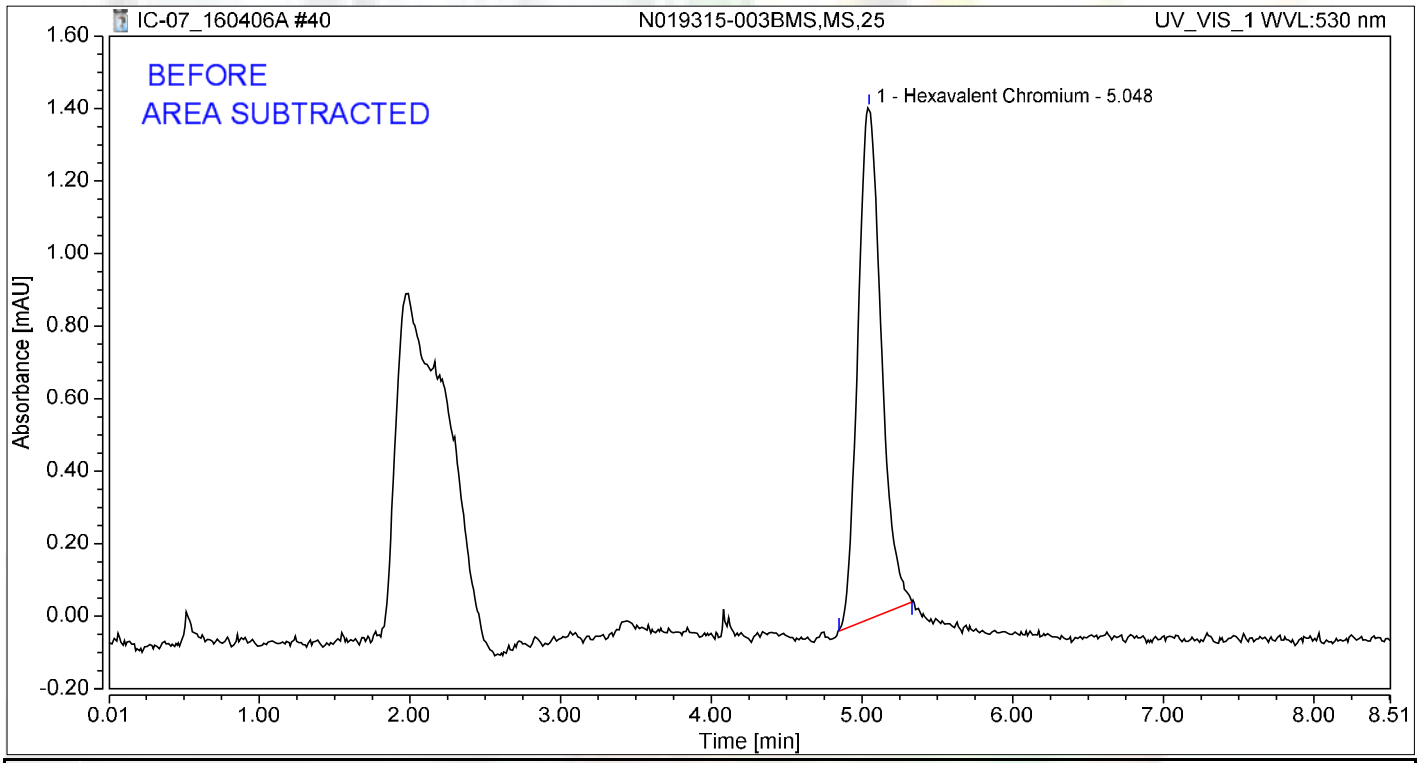
Chromatogram and Results

Injection Details

Injection Name:	**N019315-003BMS,MS,25**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.048	0.255	1.410	100.00	100.00	1.0511
Total:			**0.255**	**1.410**	**100.00**	**100.00**	

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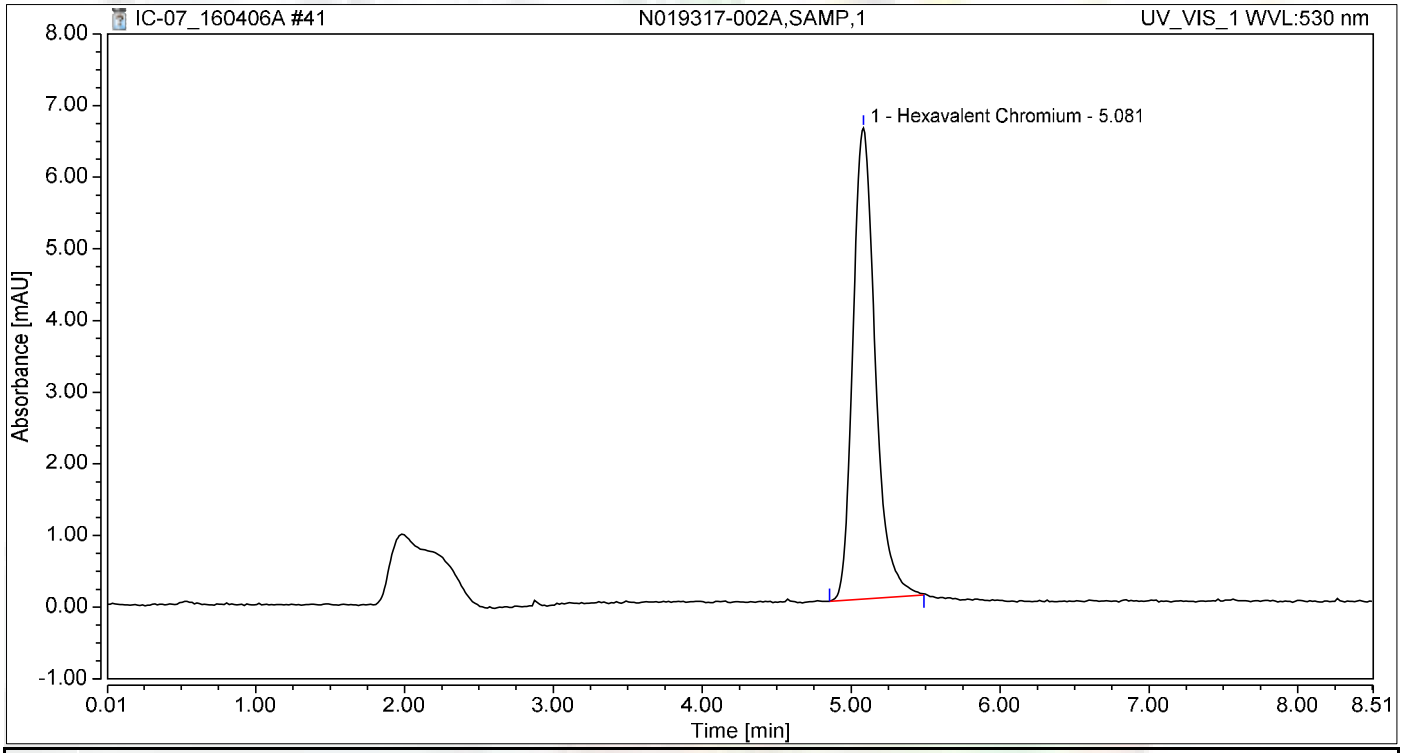
Chromatogram and Results

Injection Details

Injection Name:	**N019317-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

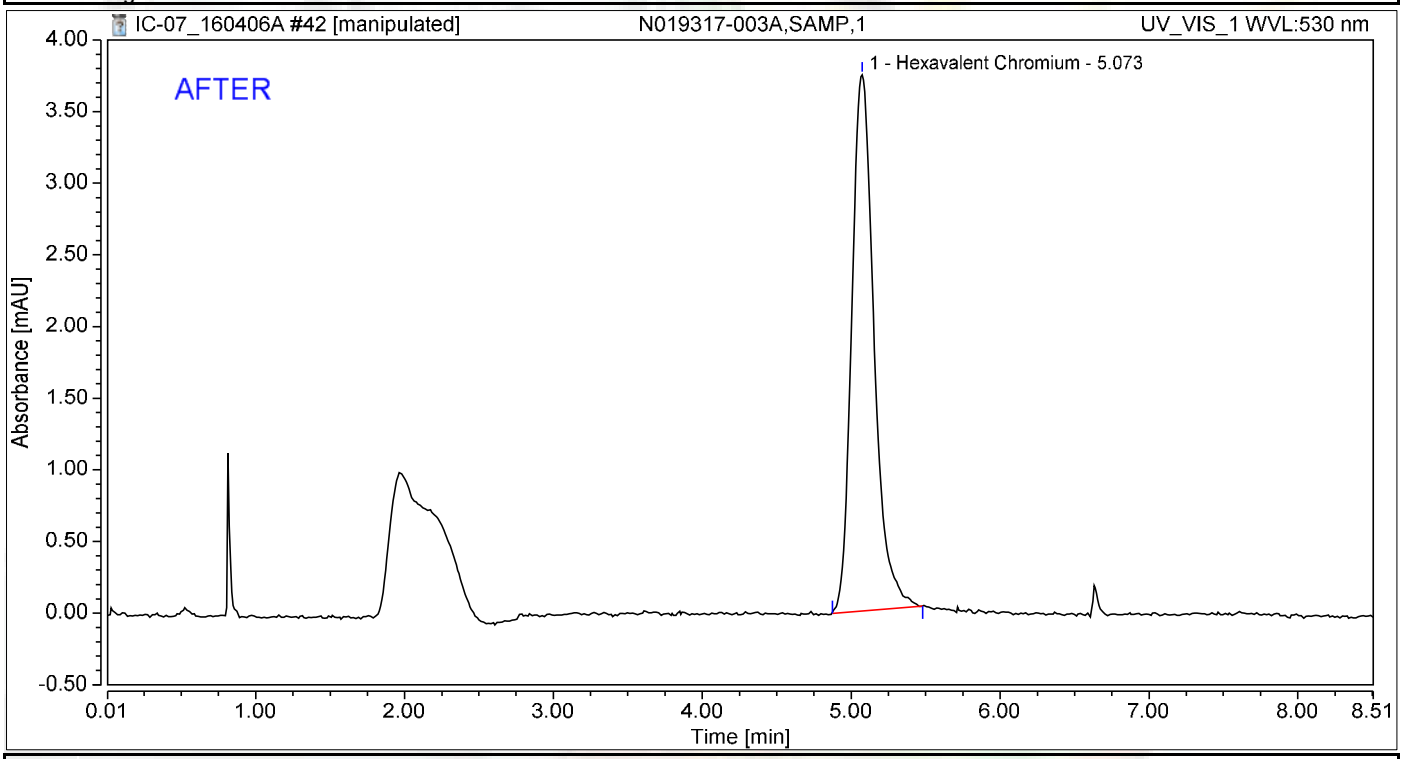
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.147	6.575	100.00	100.00	4.7211
Total:			**1.147**	**6.575**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.652	3.742	100.00	100.00	2.6854
Total:			**0.652**	**3.742**	**100.00**	**100.00**	

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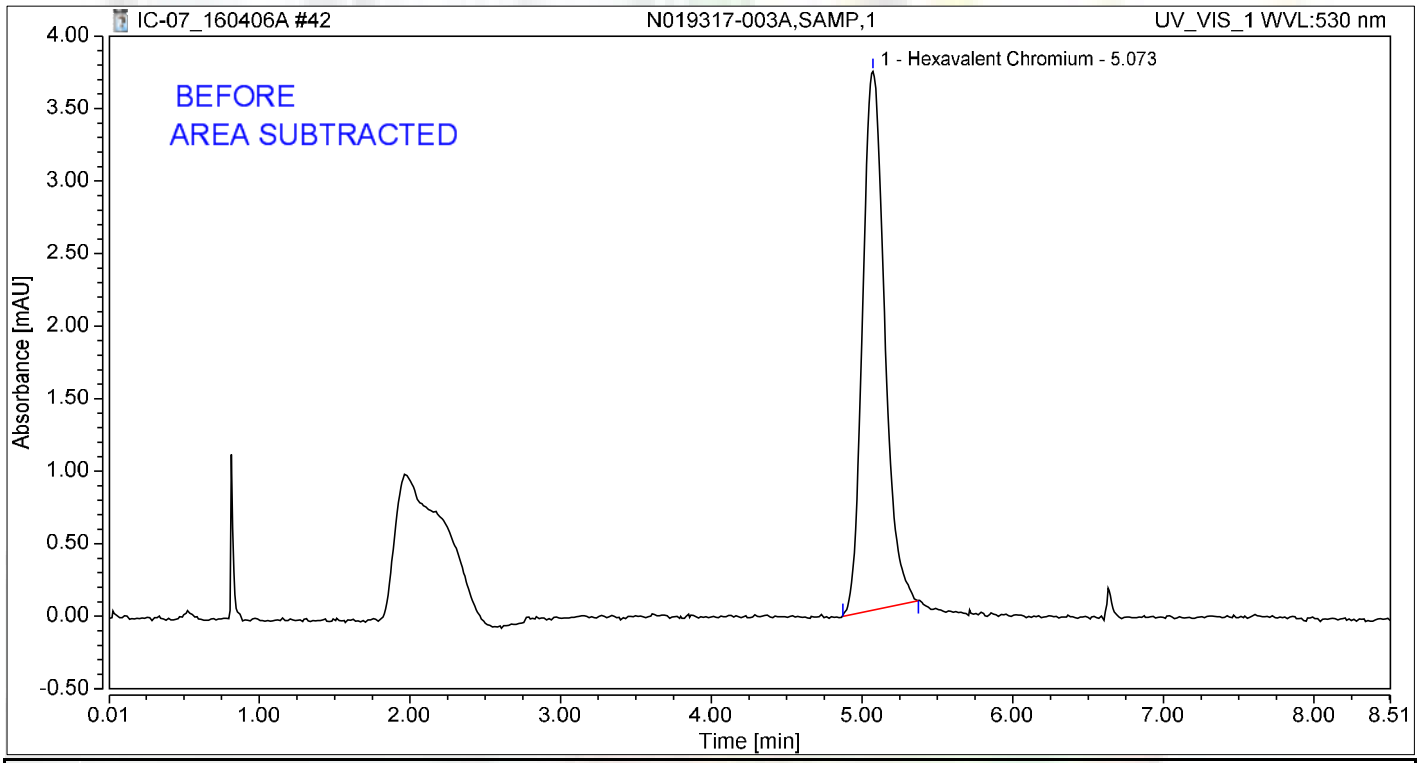
Chromatogram and Results

Injection Details

Injection Name:	**N019317-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.632	3.715	100.00	100.00	2.6038
Total:			**0.632**	**3.715**	**100.00**	**100.00**	

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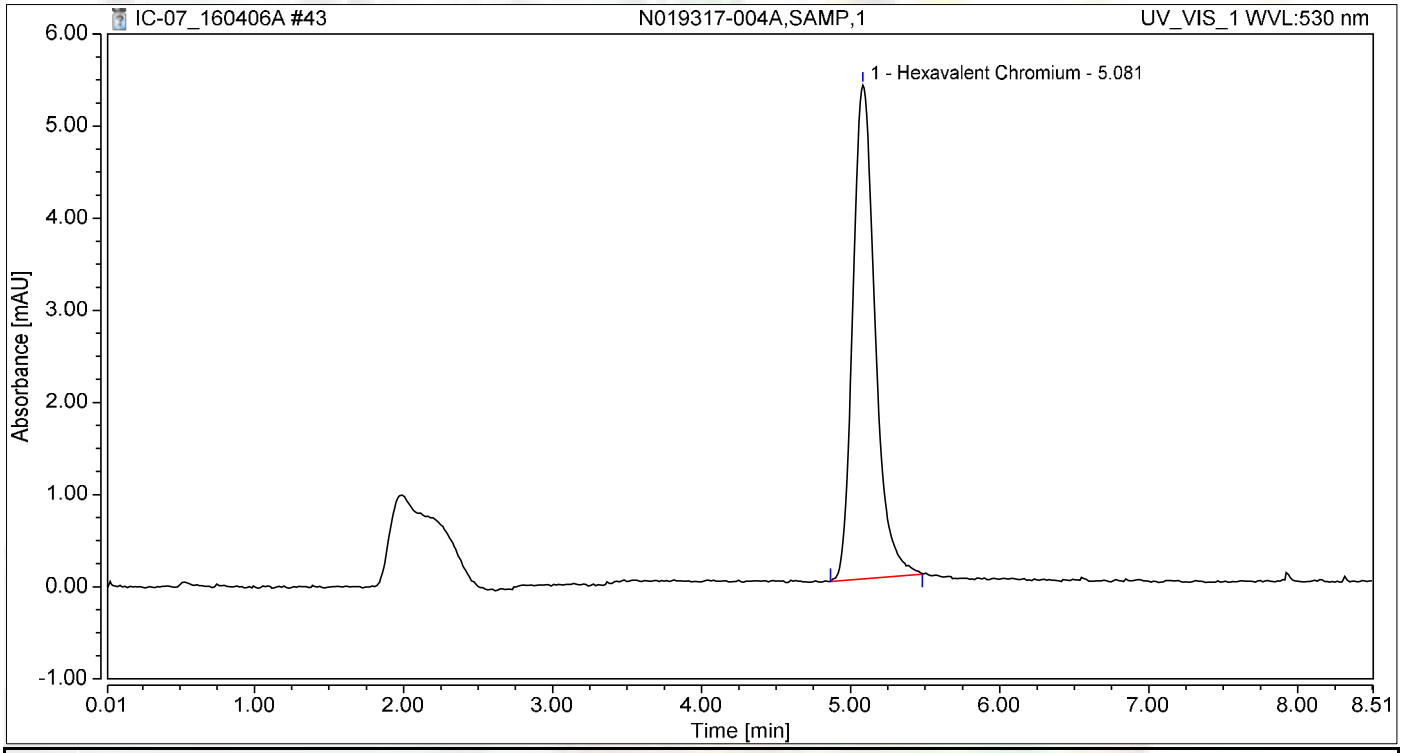
Chromatogram and Results

Injection Details

Injection Name:	**N019317-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

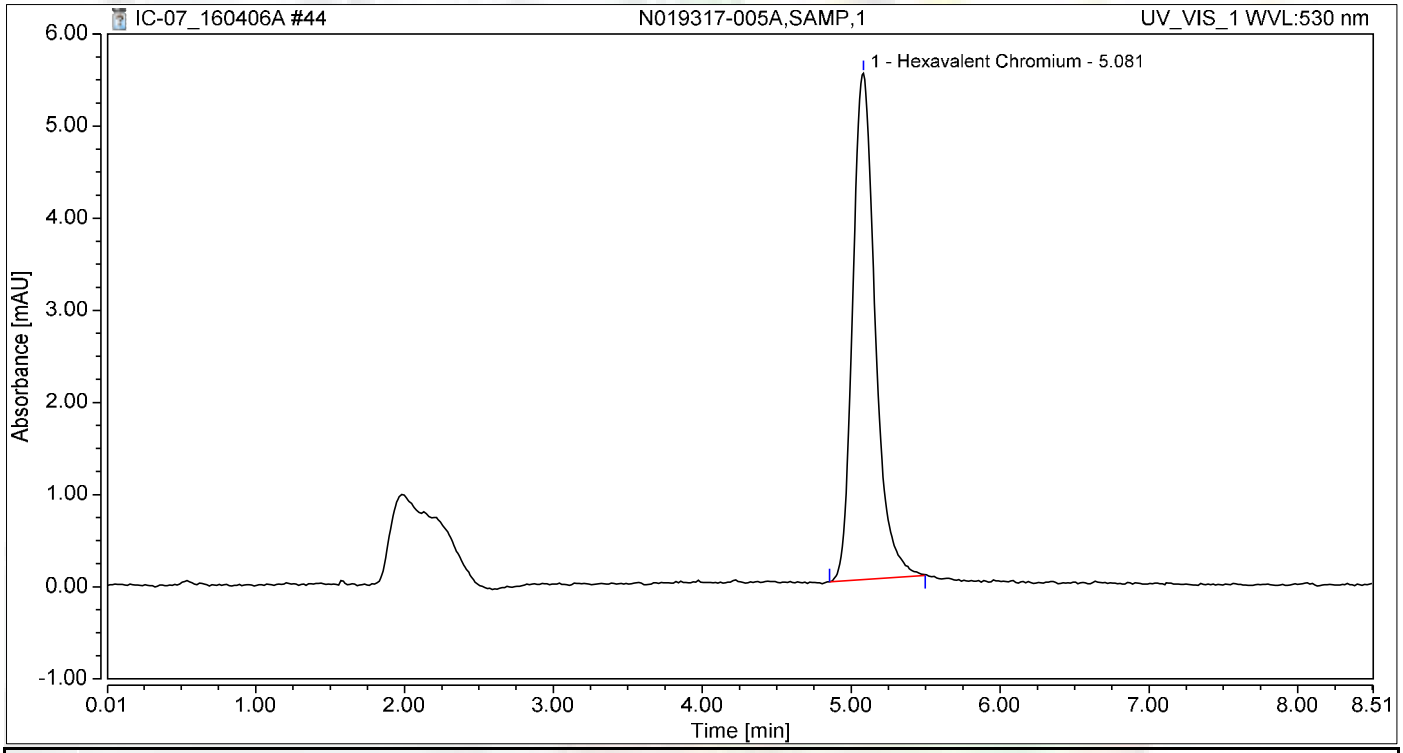
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.933	5.362	100.00	100.00	3.8396
Total:			**0.933**	**5.362**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

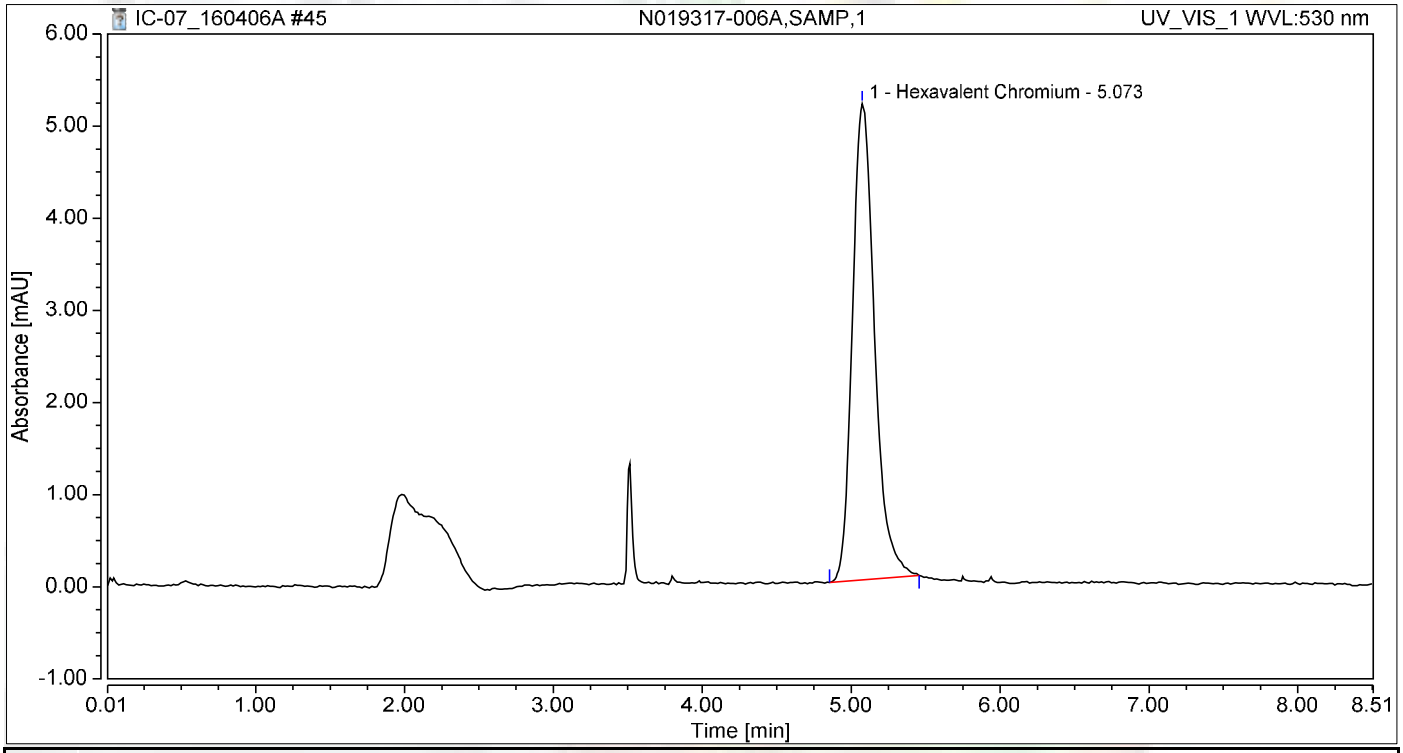
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.966	5.494	100.00	100.00	3.9758
Total:			**0.966**	**5.494**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 15:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

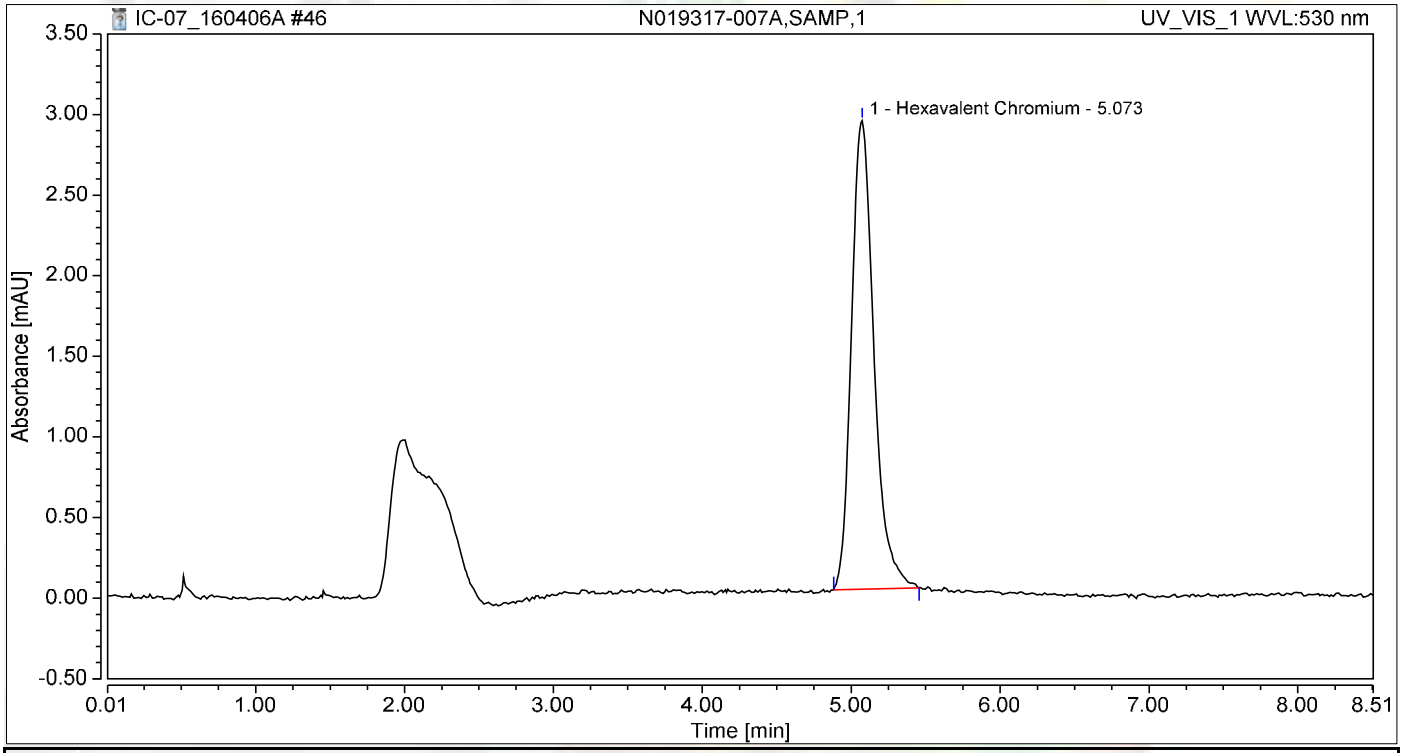
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.894	5.168	100.00	100.00	3.6795
Total:			**0.894**	**5.168**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-007A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

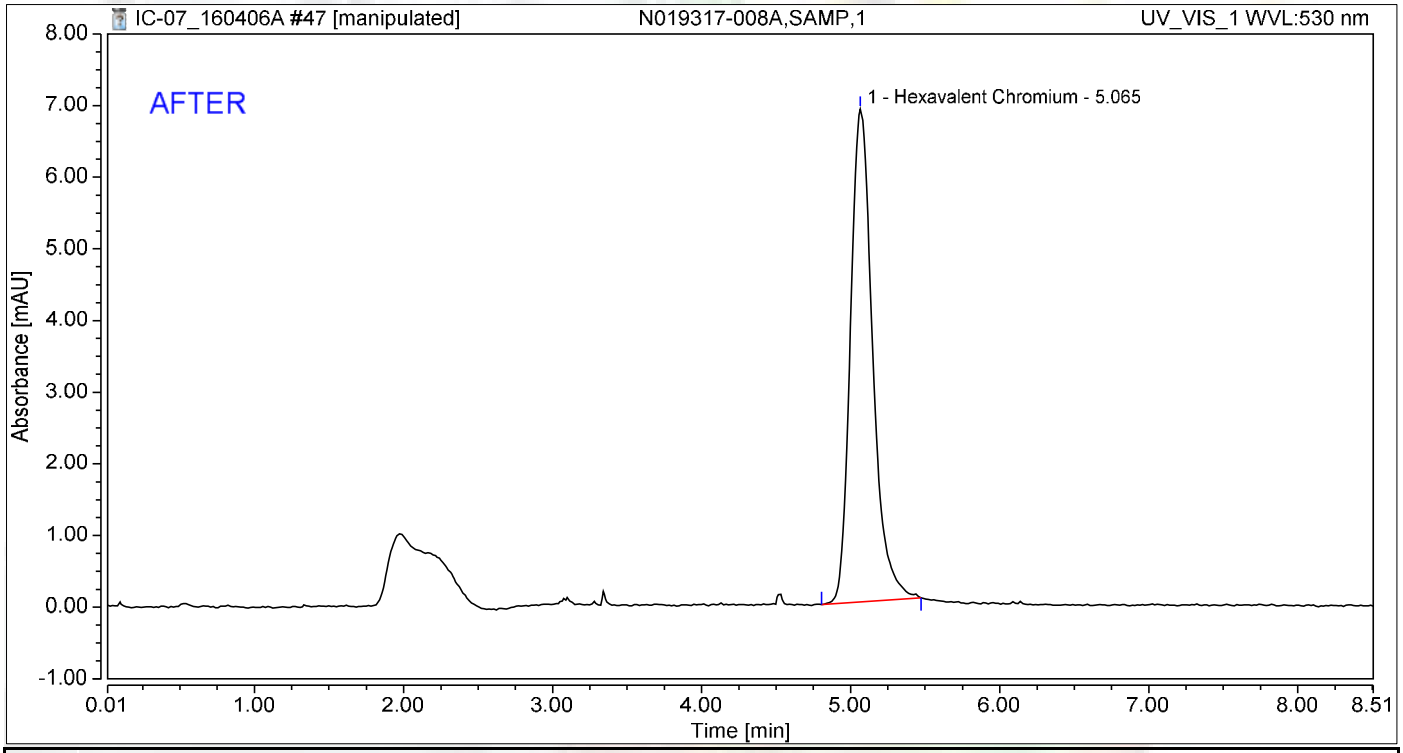
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.510	2.906	100.00	100.00	2.0986
Total:			**0.510**	**2.906**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	1.195	6.880	100.00	100.00	4.9207
Total:			**1.195**	**6.880**	**100.00**	**100.00**	

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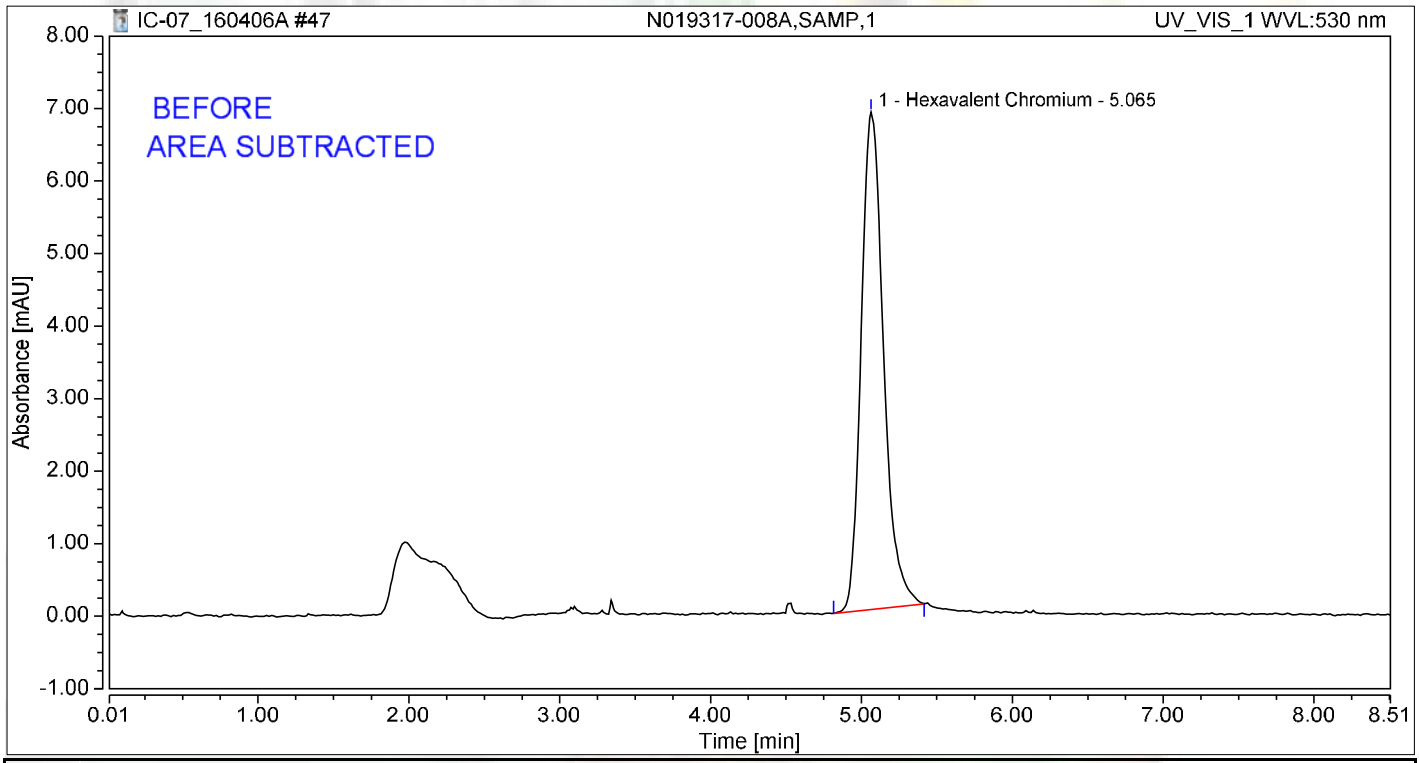
Chromatogram and Results

Injection Details

Injection Name:	**N019317-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	1.177	6.858	100.00	100.00	4.8475
Total:			**1.177**	**6.858**	**100.00**	**100.00**	

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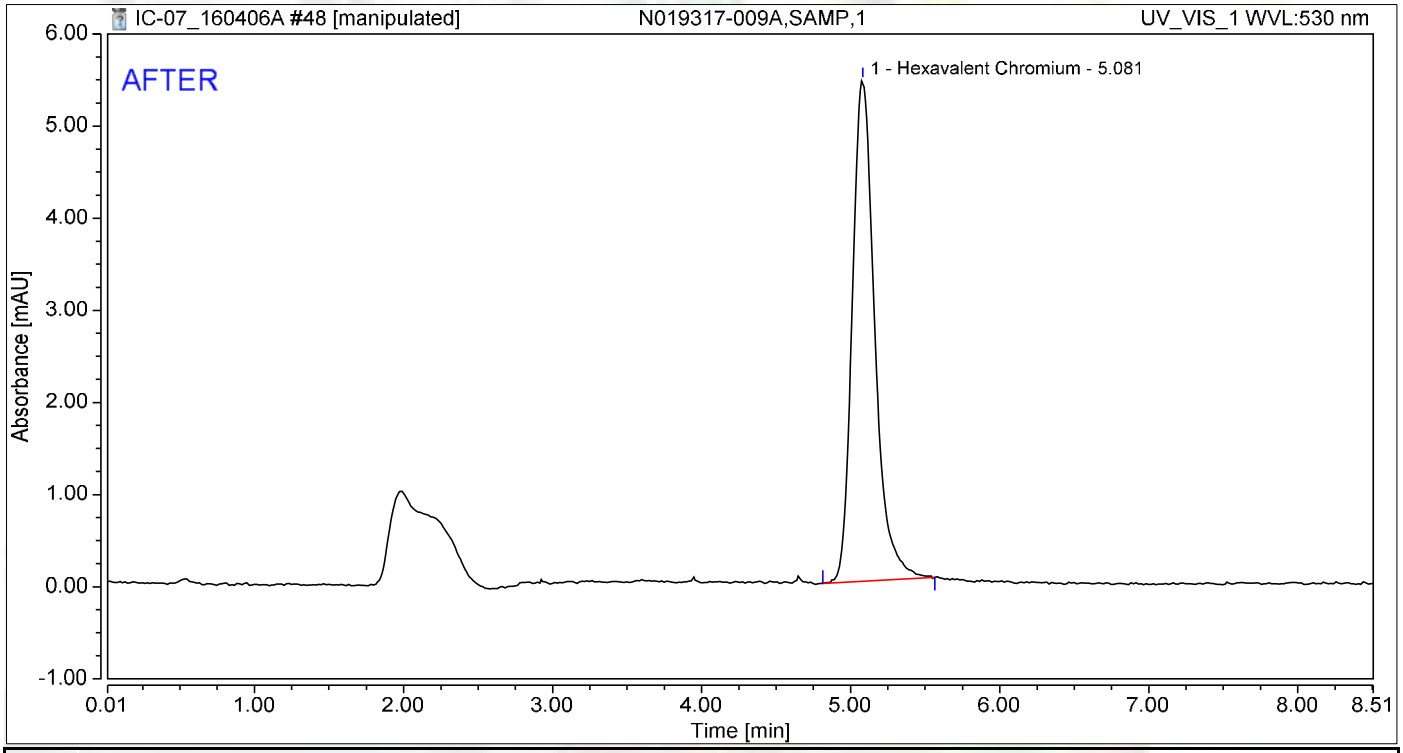
Chromatogram and Results

Injection Details

Injection Name:	**N019317-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.953	5.435	100.00	100.00	3.9218
Total:			**0.953**	**5.435**	**100.00**	**100.00**	

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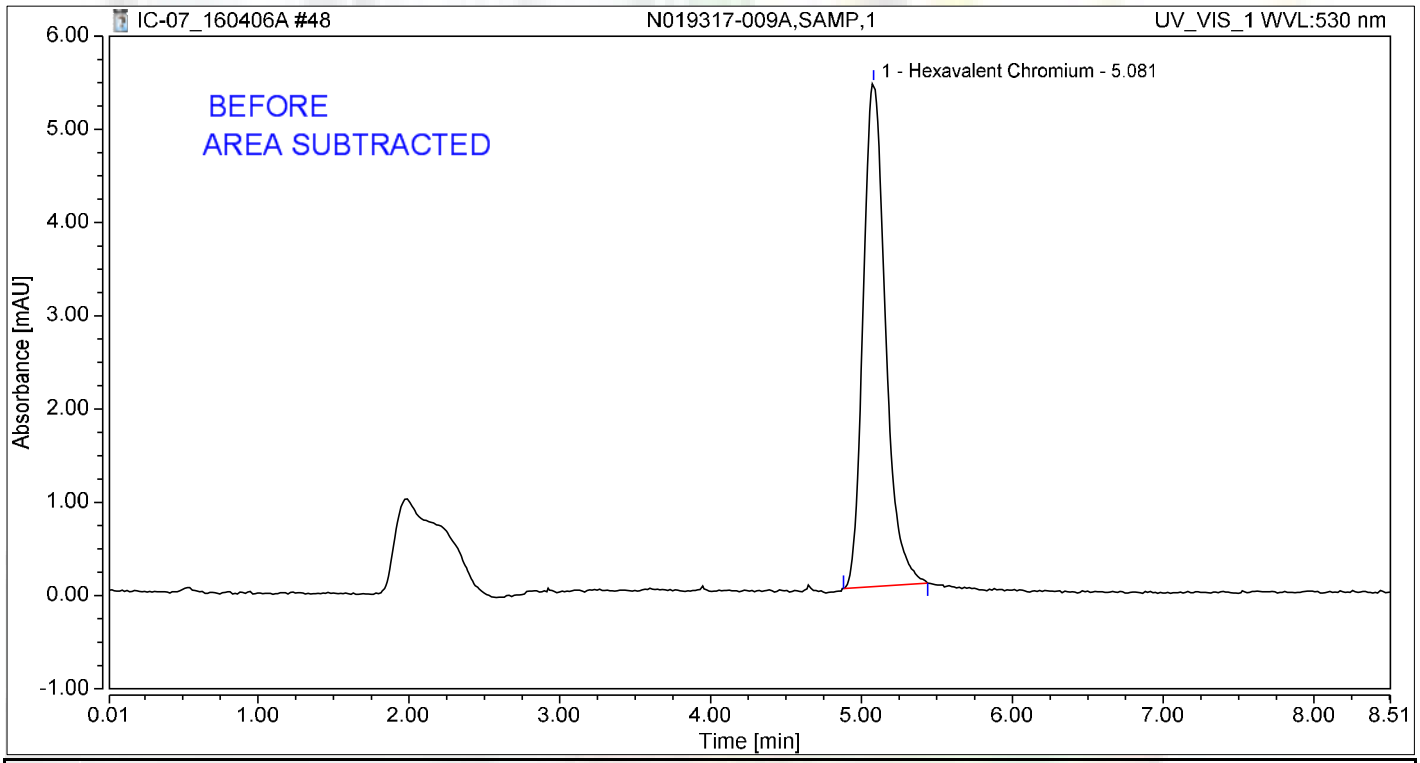
Chromatogram and Results

Injection Details

Injection Name:	**N019317-009A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.929	5.400	100.00	100.00	3.8255
Total:			**0.929**	**5.400**	**100.00**	**100.00**	

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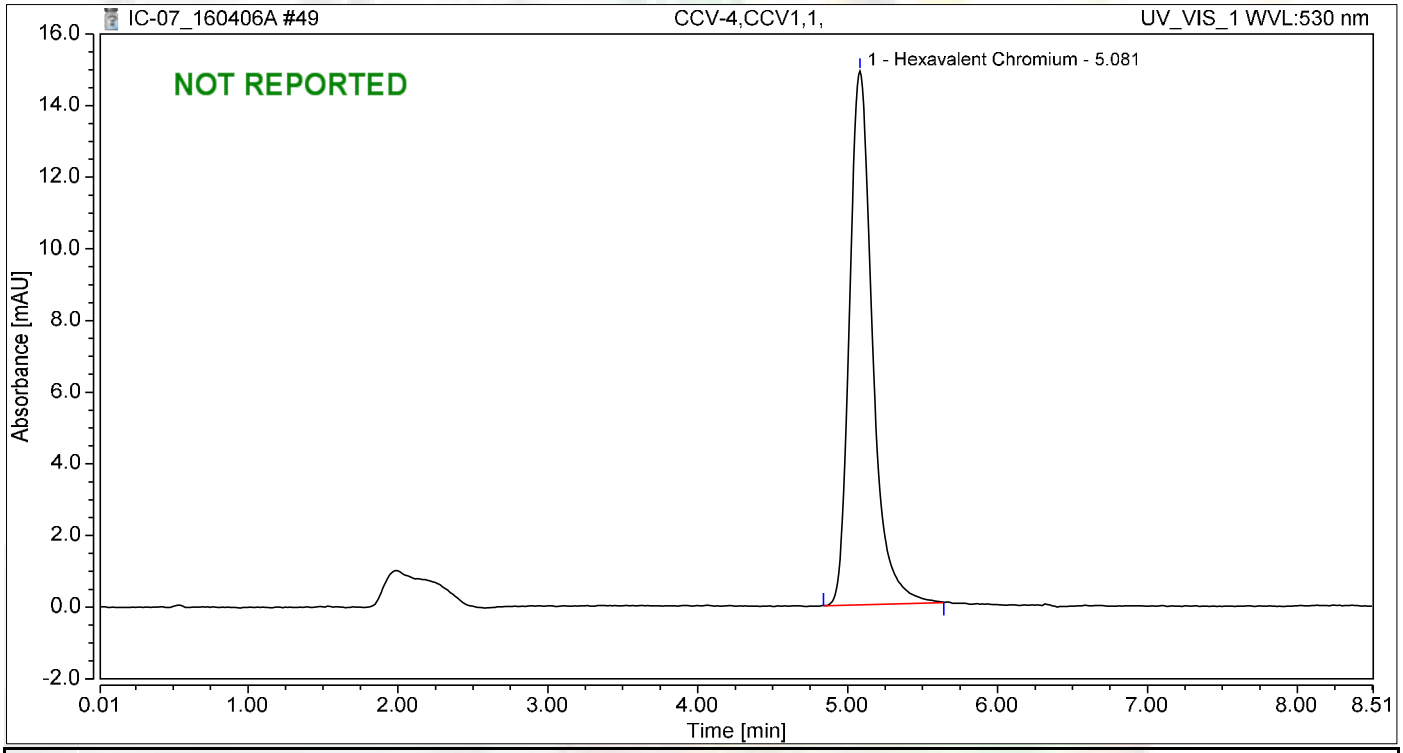
Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV1,1,**	*Run Time (min):*	**8.49**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

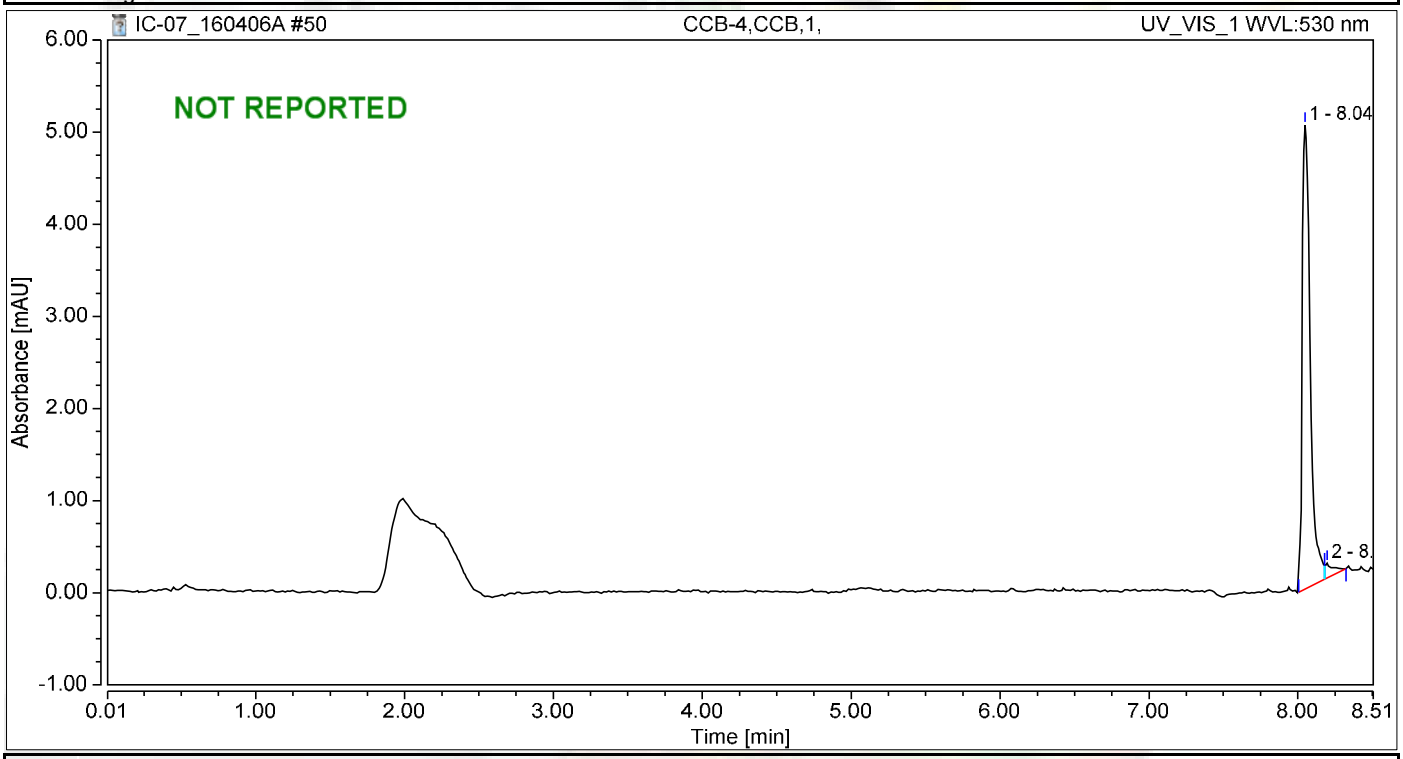
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	2.661	14.890	100.00	100.00	10.9546
Total:			**2.661**	**14.890**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 16:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

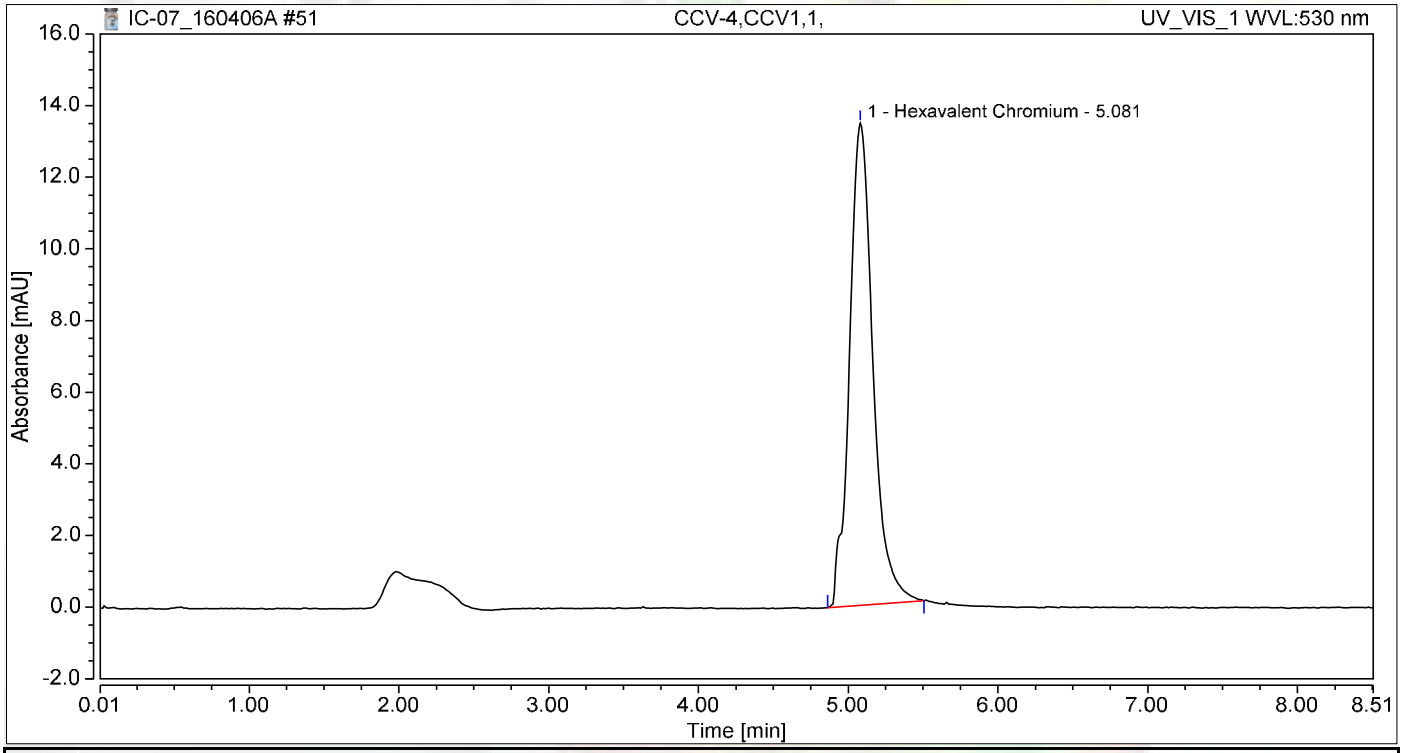
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		8.048	0.316	5.037	96.90	96.93	n.a.
2		8.198	0.010	0.160	3.10	3.07	n.a.
Total:			**0.326**	**5.197**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 17:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

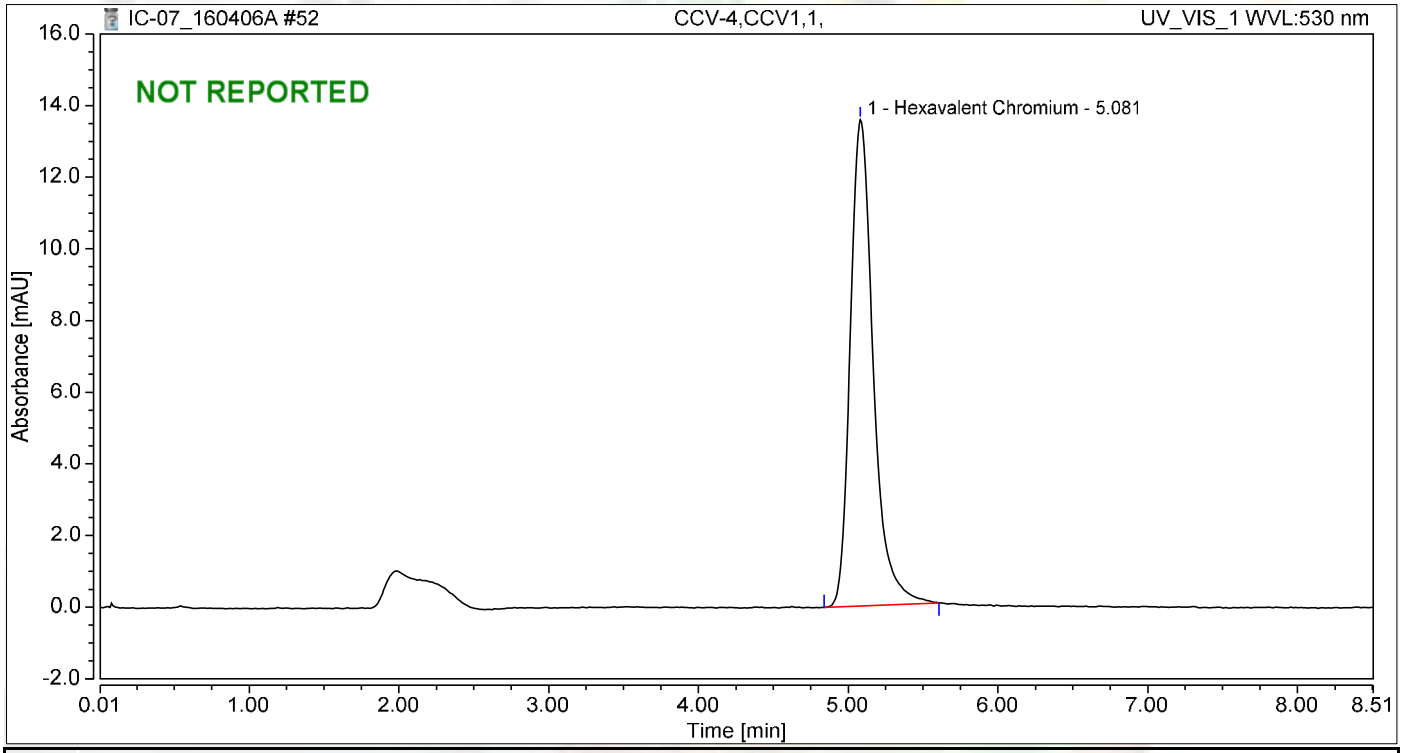
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	2.442	13.453	100.00	100.00	10.0519
Total:			**2.442**	**13.453**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 17:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

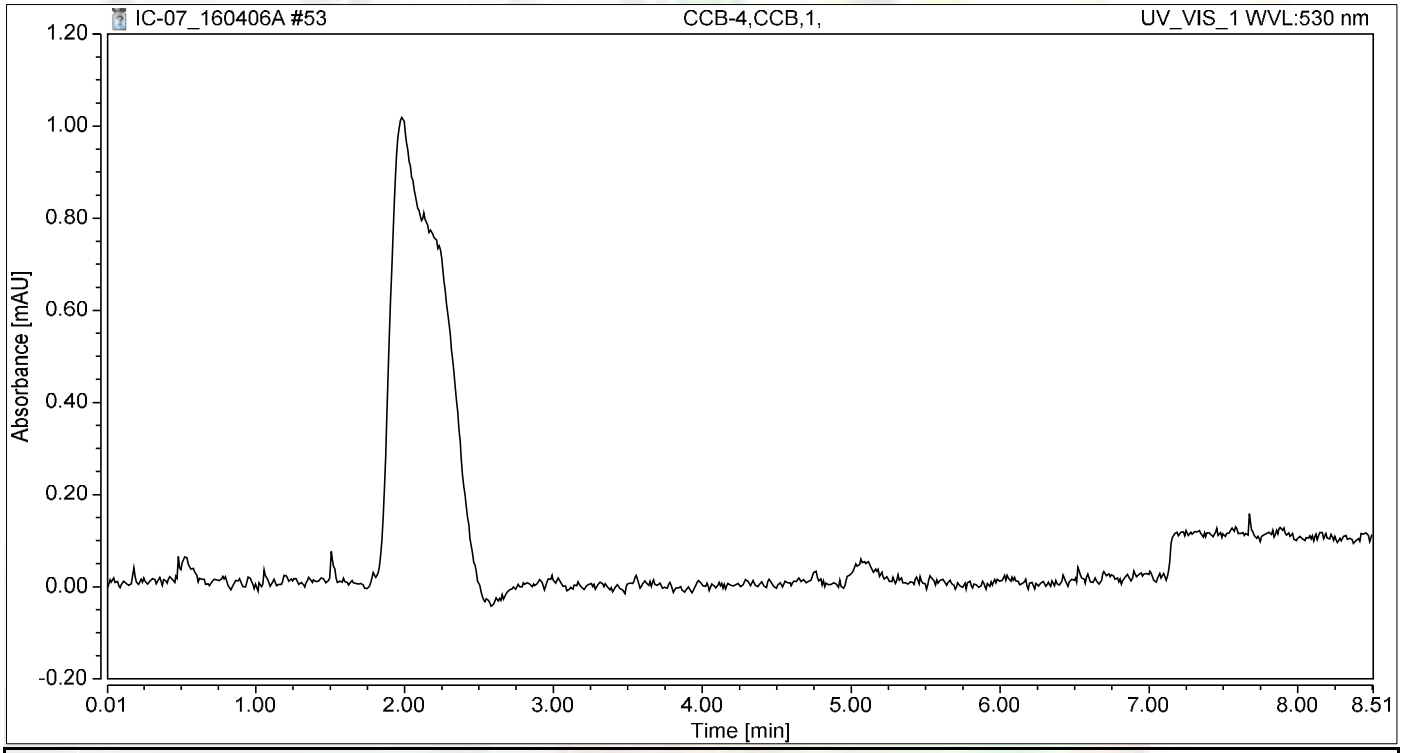
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	2.423	13.570	100.00	100.00	9.9747
Total:			**2.423**	**13.570**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 17:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

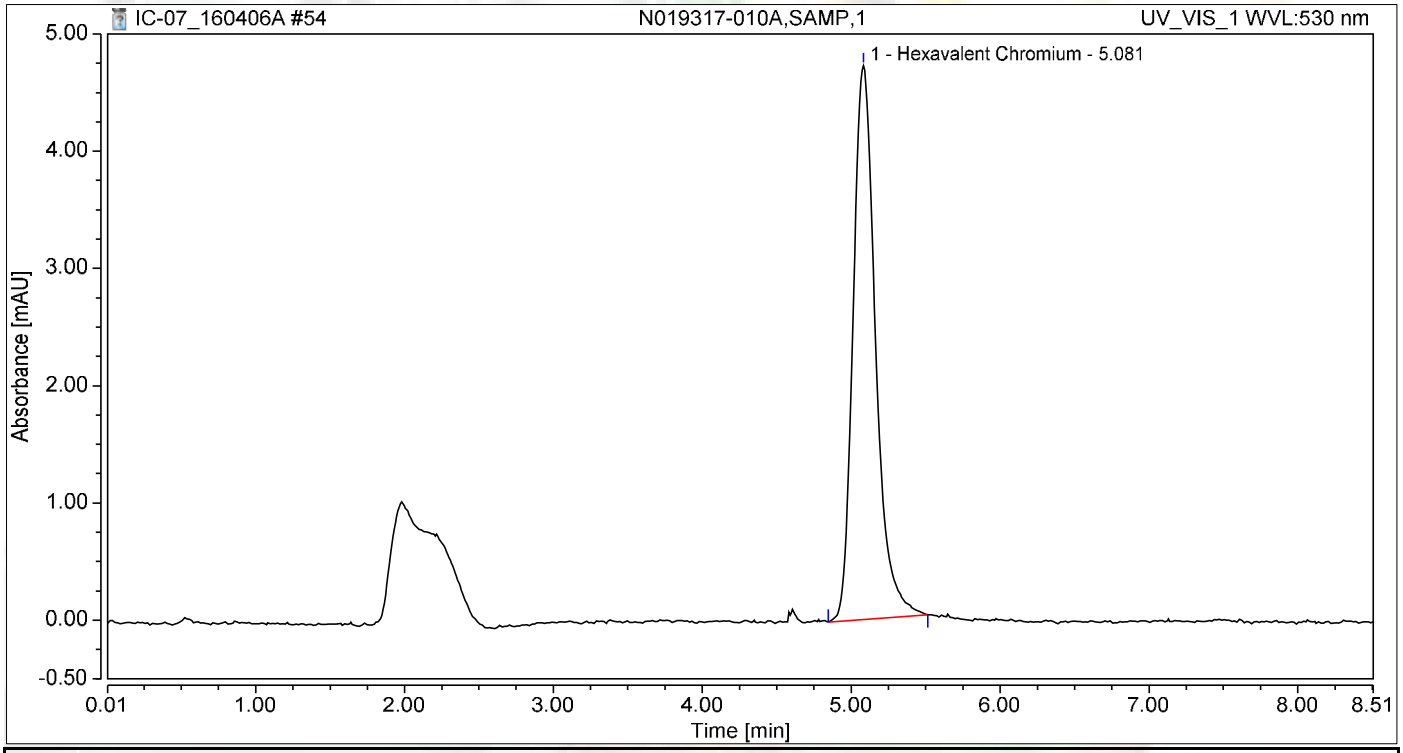
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-010A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

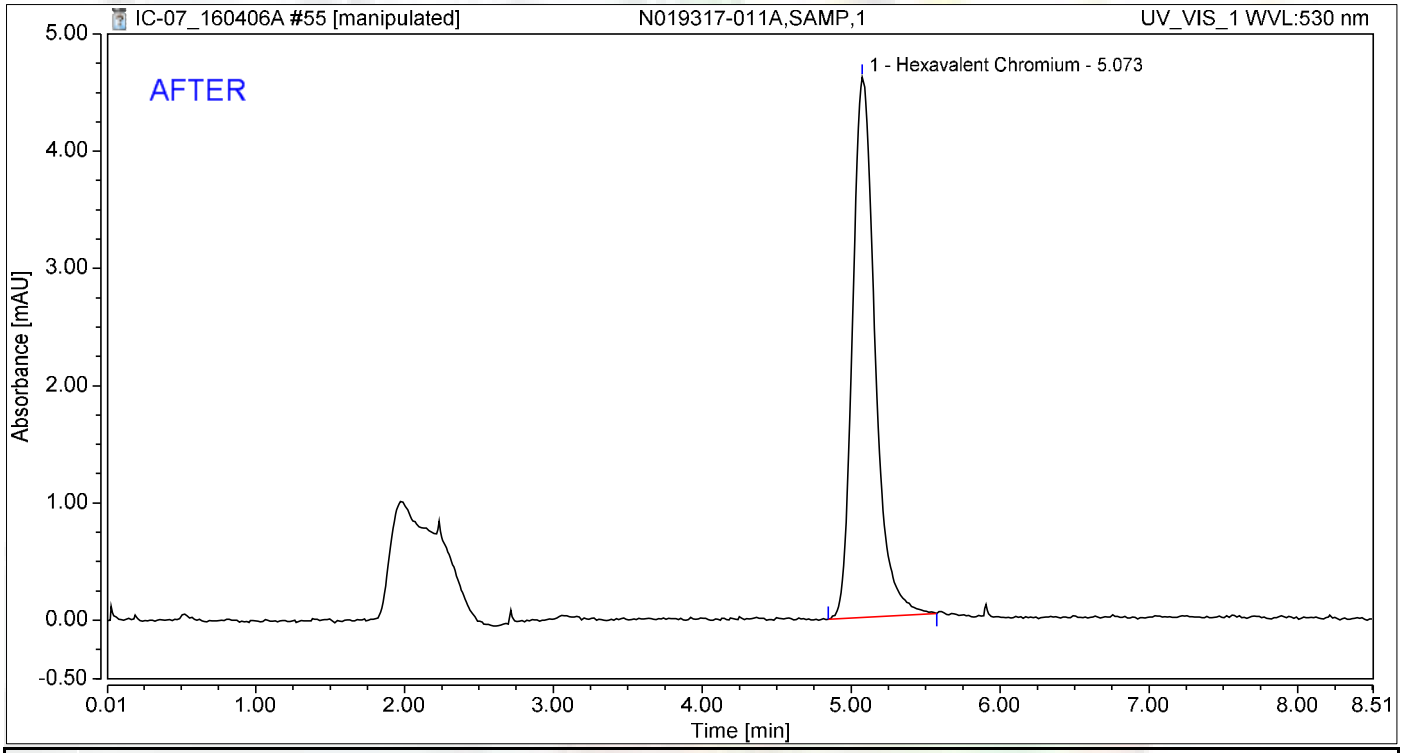
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.829	4.723	100.00	100.00	3.4140
Total:			**0.829**	**4.723**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-011A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.811	4.608	100.00	100.00	3.3386
Total:			**0.811**	**4.608**	**100.00**	**100.00**	

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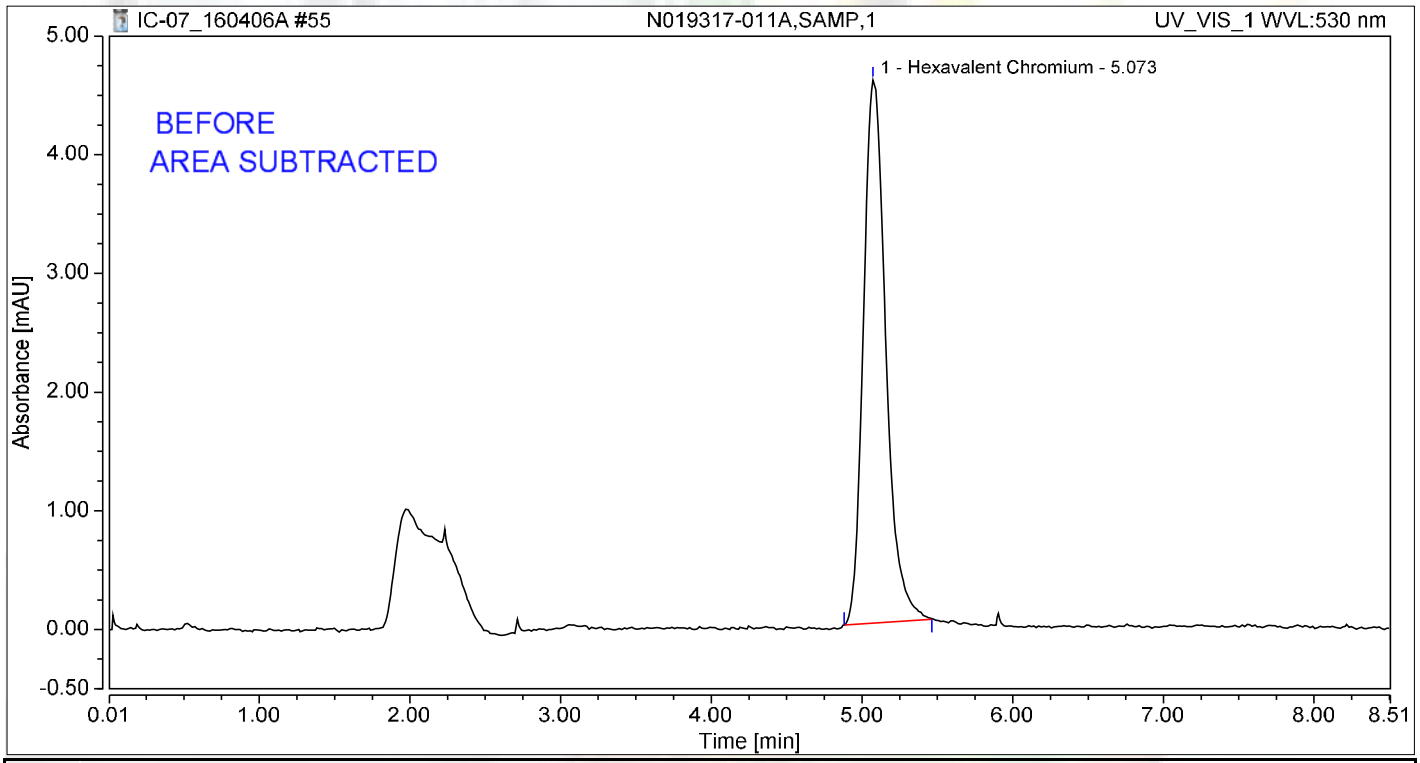
Chromatogram and Results

Injection Details

Injection Name:	**N019317-011A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.073	0.790	4.578	100.00	100.00	3.2531
Total:			**0.790**	**4.578**	**100.00**	**100.00**	

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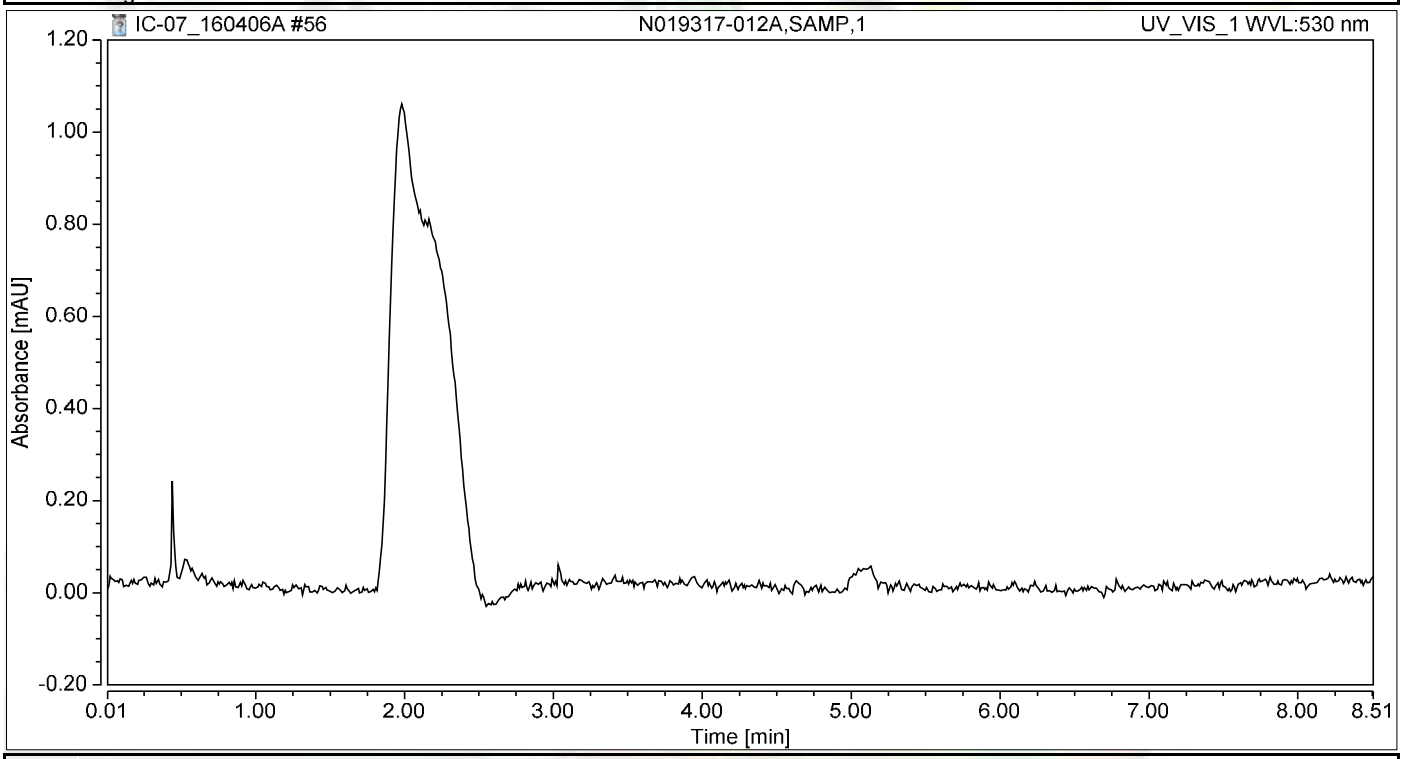
Chromatogram and Results

Injection Details

Injection Name:	**N019317-012A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

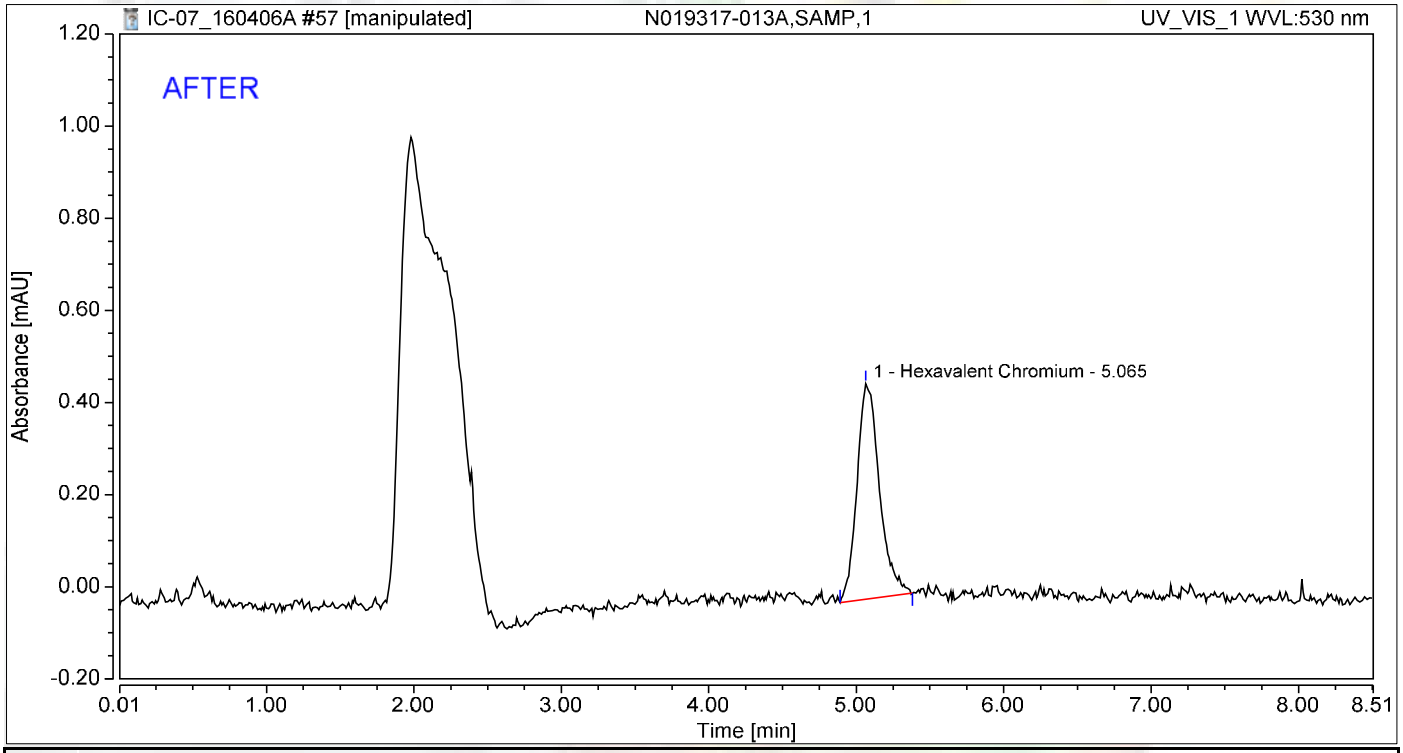
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N019317-013A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	0.083	0.467	100.00	100.00	0.3402
Total:			**0.083**	**0.467**	**100.00**	**100.00**	

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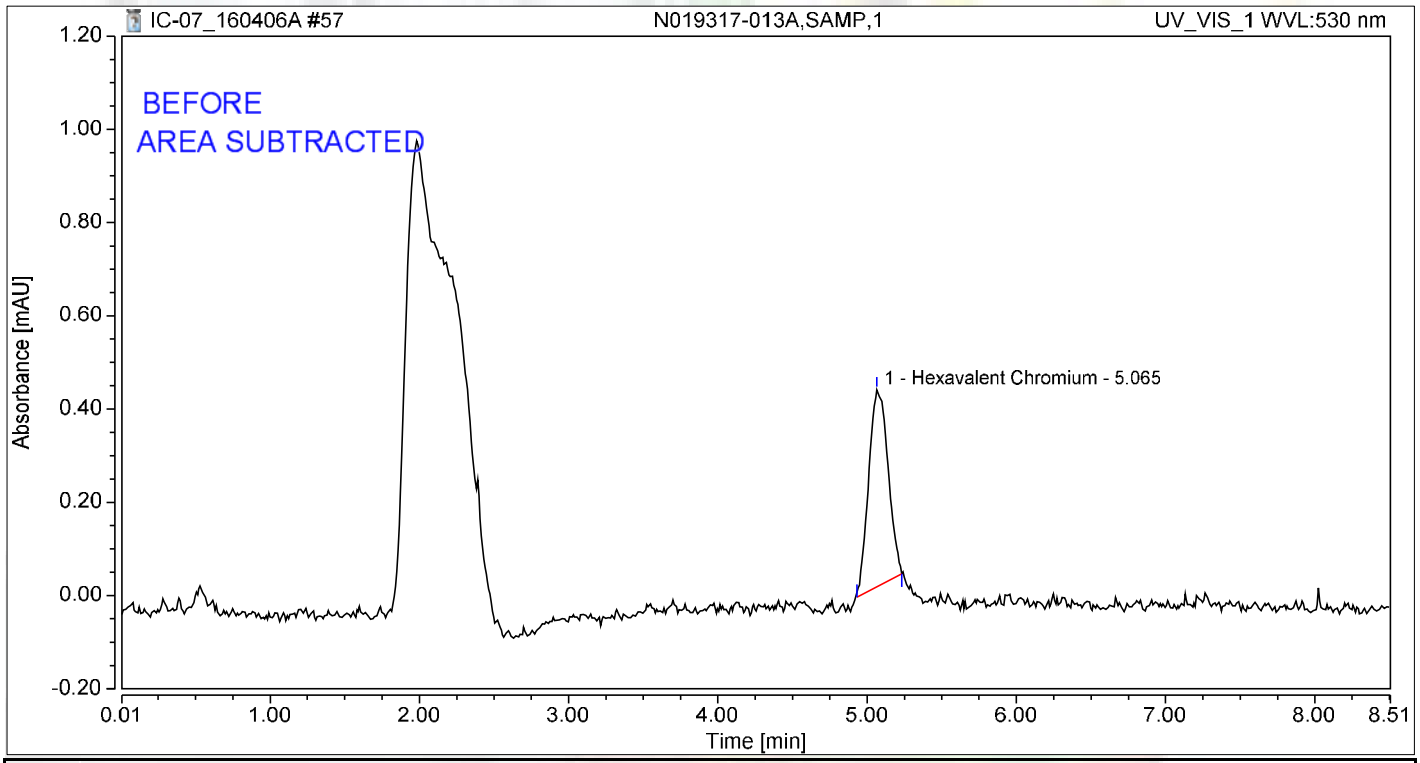
Chromatogram and Results

Injection Details

Injection Name:	**N019317-013A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.065	0.063	0.422	100.00	100.00	0.2613
Total:			**0.063**	**0.422**	**100.00**	**100.00**	

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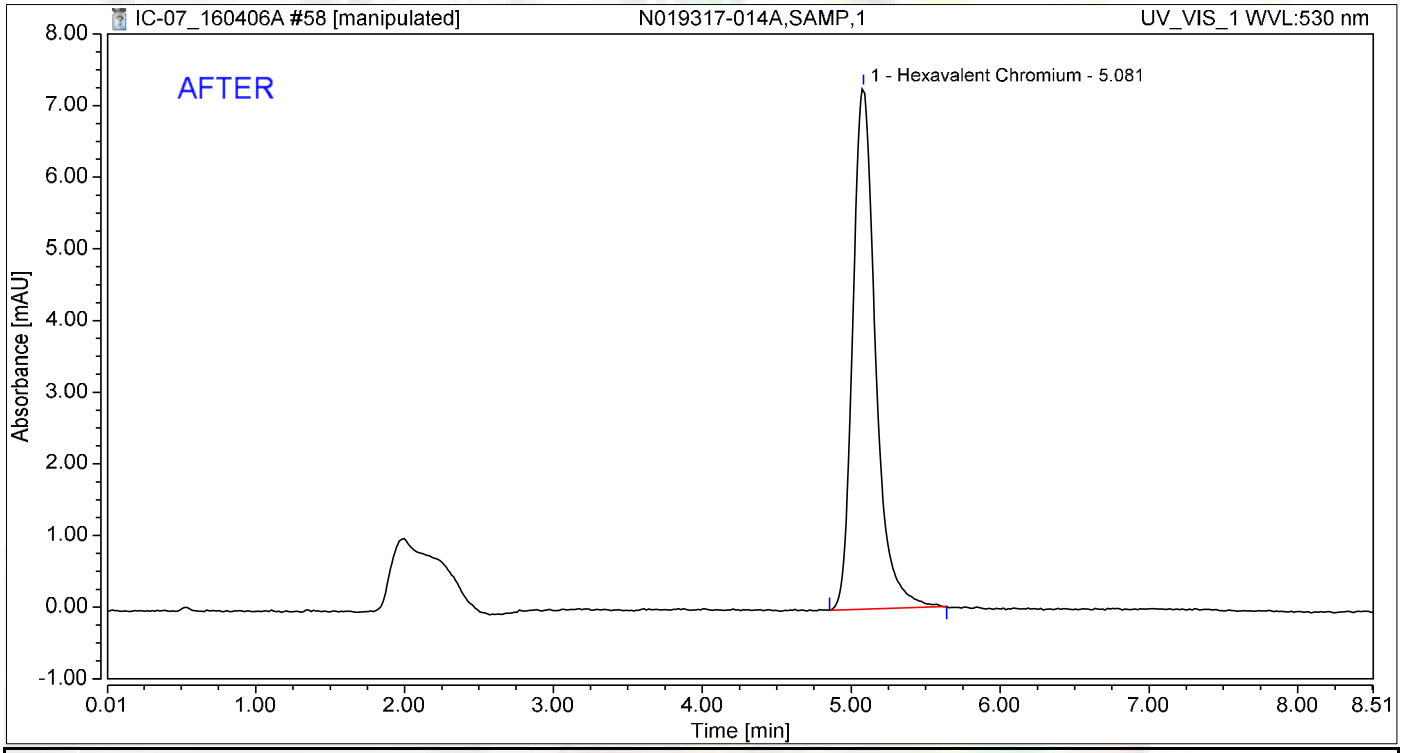
Chromatogram and Results

Injection Details

Injection Name:	**N019317-014A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.295	7.281	100.00	100.00	5.3300
Total:			**1.295**	**7.281**	**100.00**	**100.00**	

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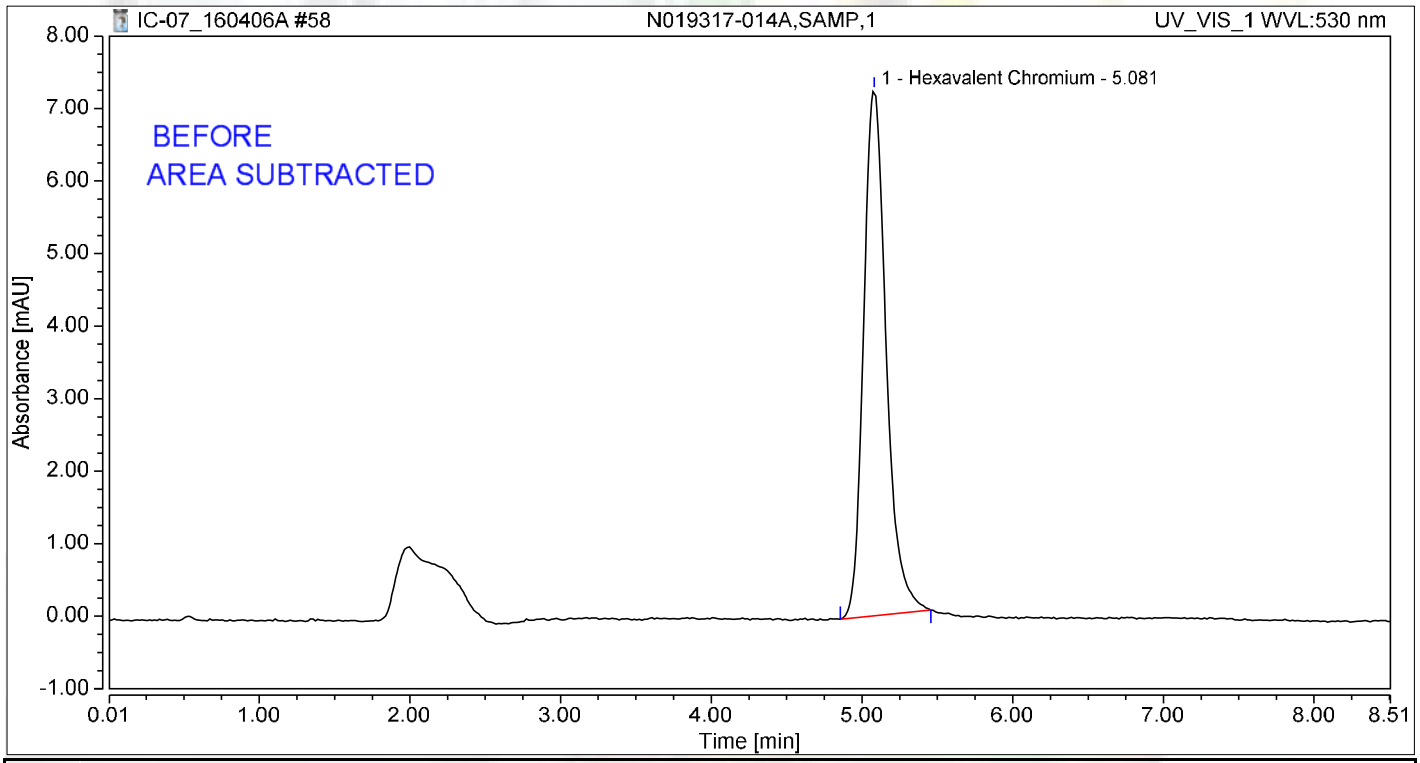
Chromatogram and Results

Injection Details

Injection Name:	**N019317-014A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.260	7.247	100.00	100.00	5.1880
Total:			**1.260**	**7.247**	**100.00**	**100.00**	

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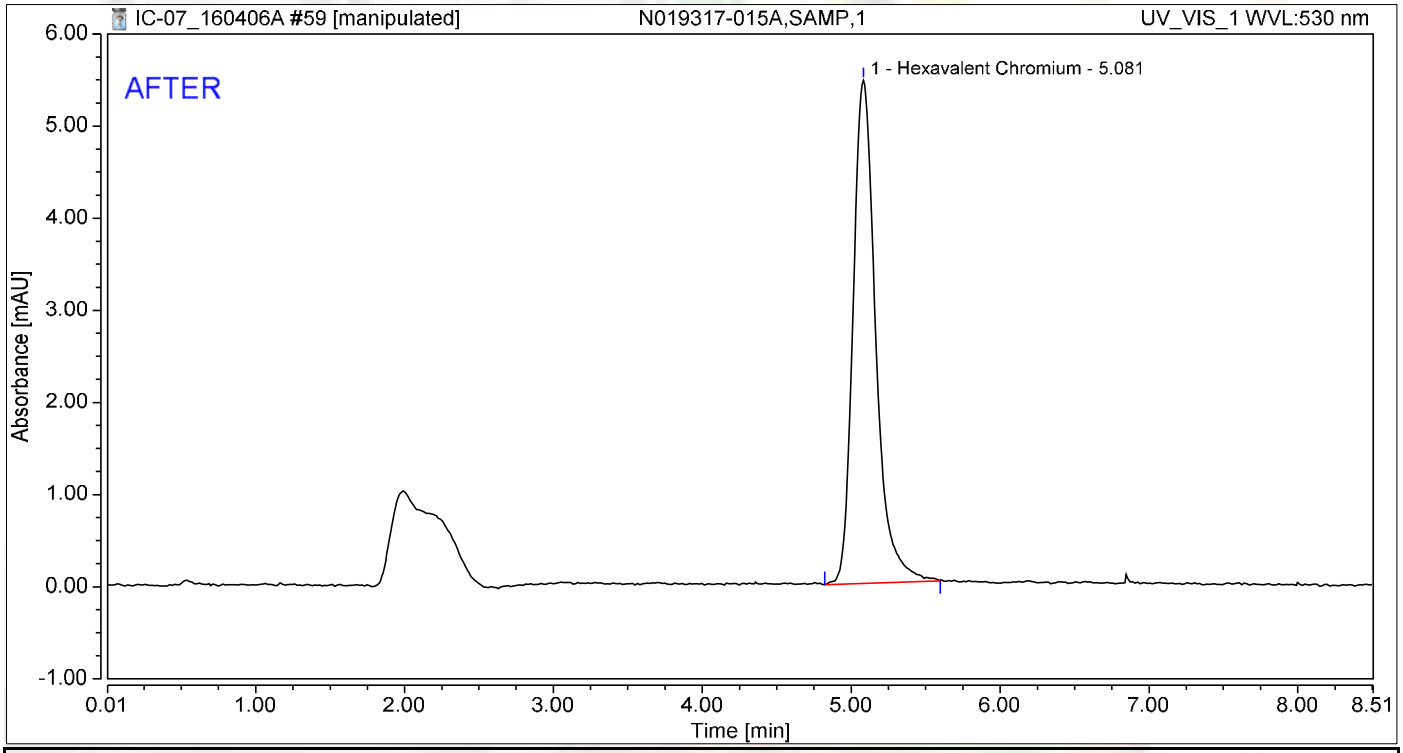
Chromatogram and Results

Injection Details

Injection Name:	**N019317-015A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.964	5.457	100.00	100.00	3.9700
Total:			**0.964**	**5.457**	**100.00**	**100.00**	

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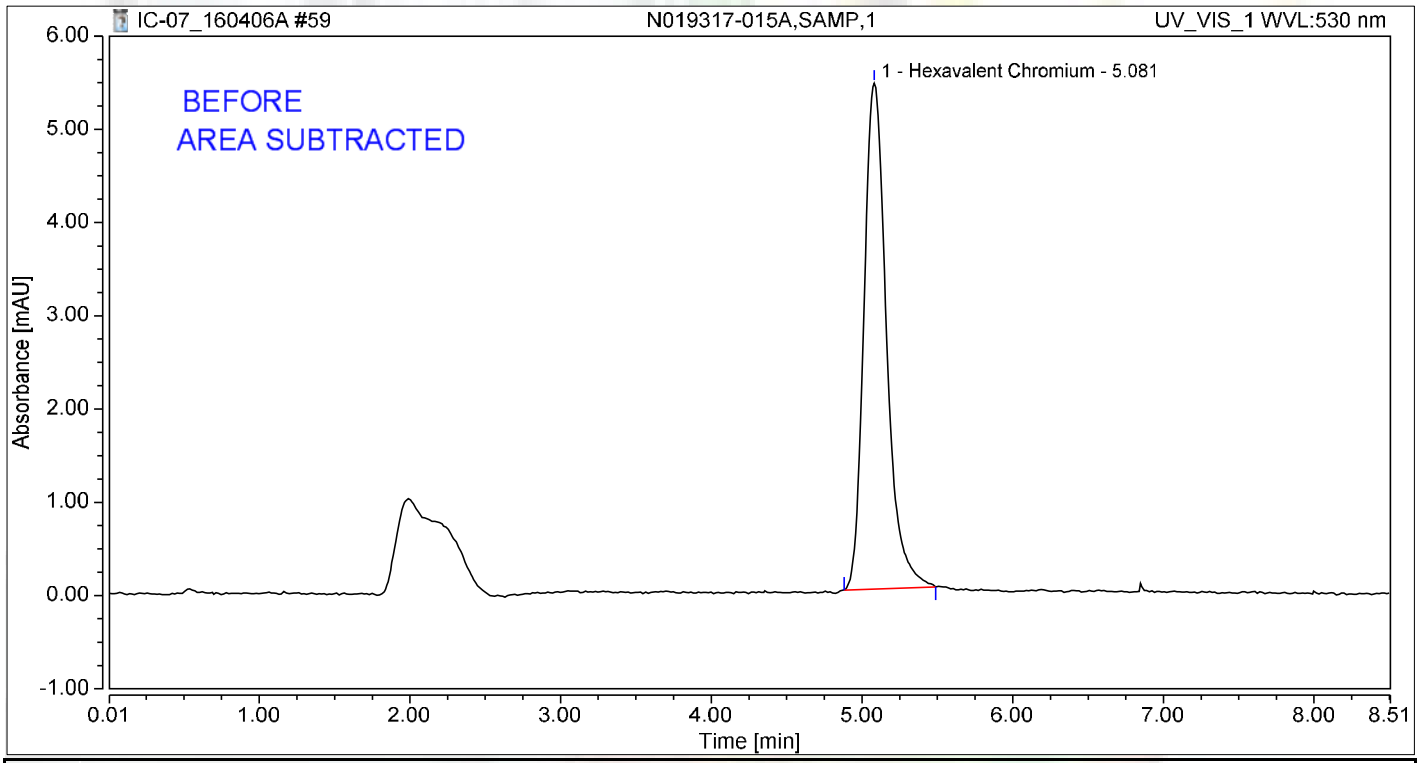
Chromatogram and Results

Injection Details

Injection Name:	**N019317-015A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 18:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

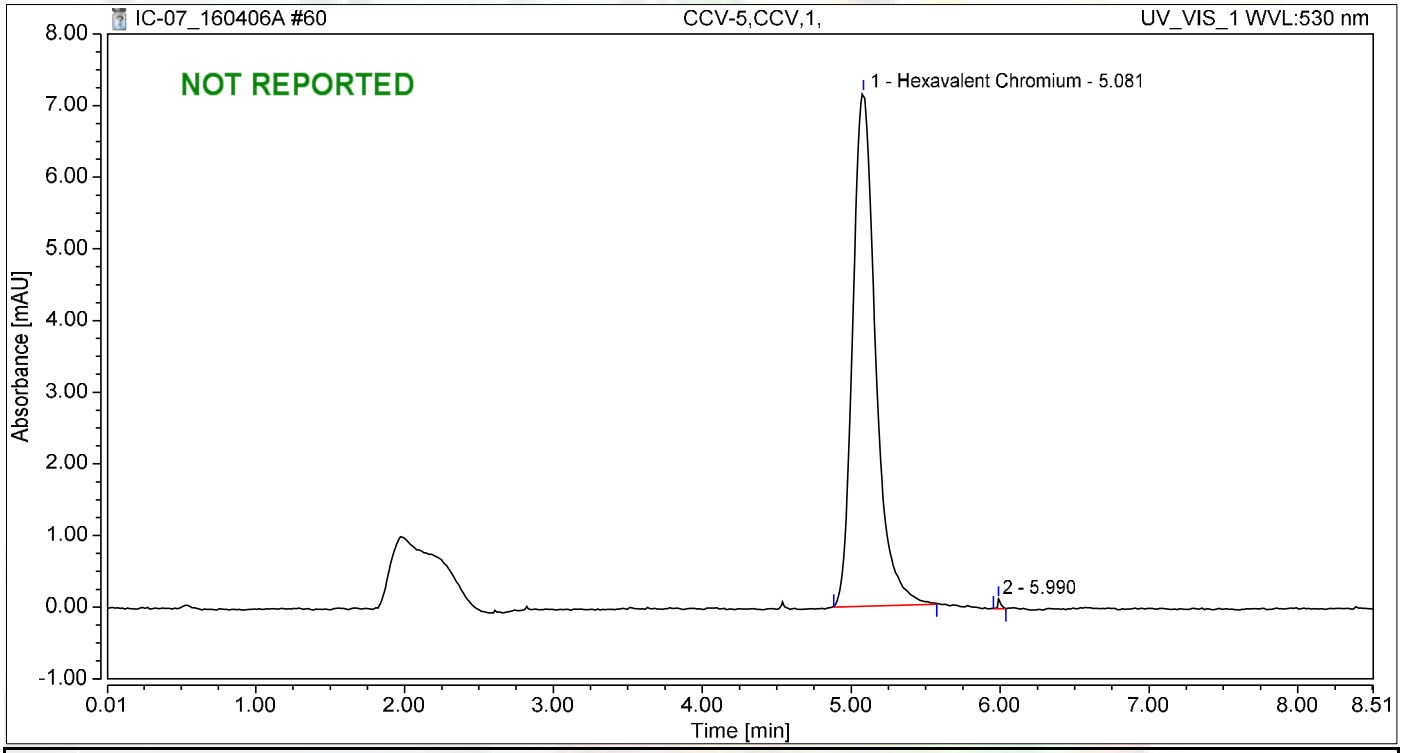
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	0.941	5.425	100.00	100.00	3.8752
Total:			**0.941**	**5.425**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 19:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

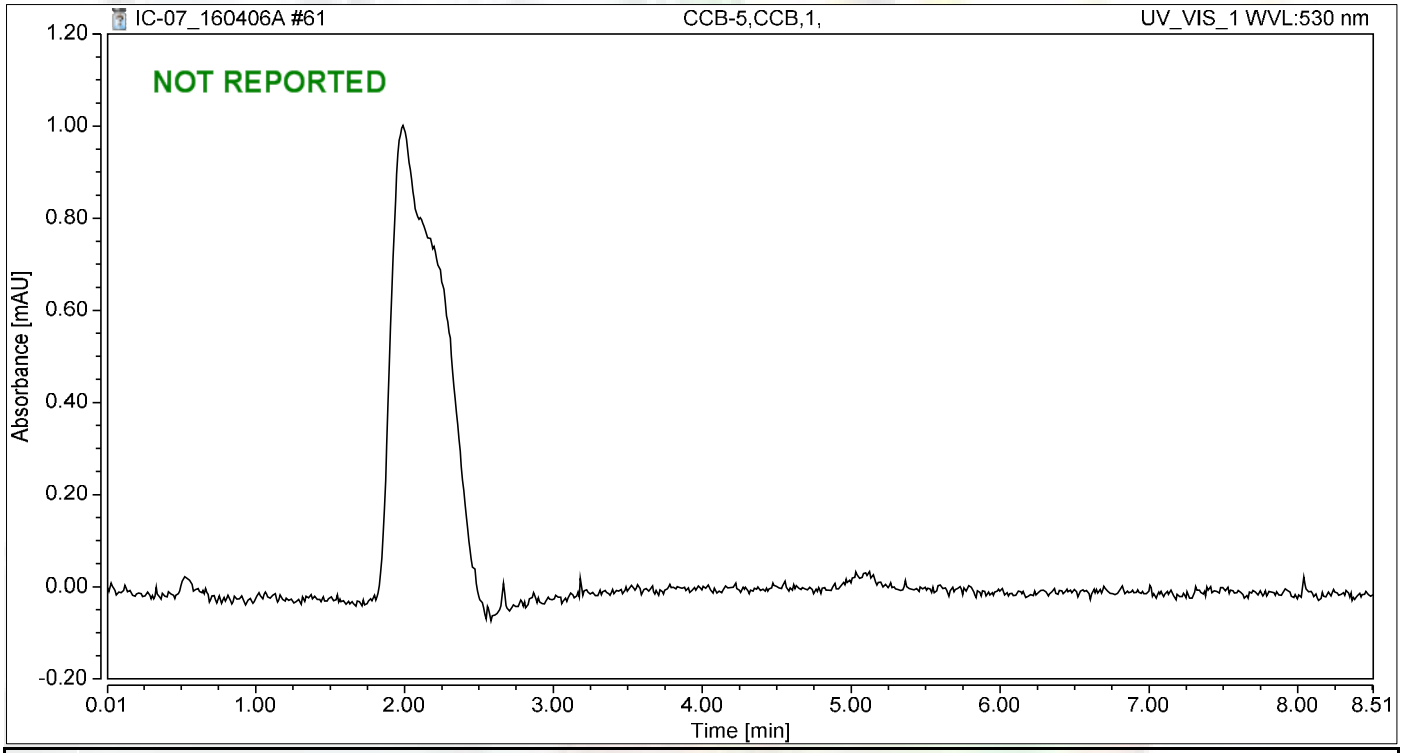
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.277	7.161	99.75	98.16	5.2559
2		5.990	0.003	0.134	0.25	1.84	n.a.
Total:			**1.280**	**7.295**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 19:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

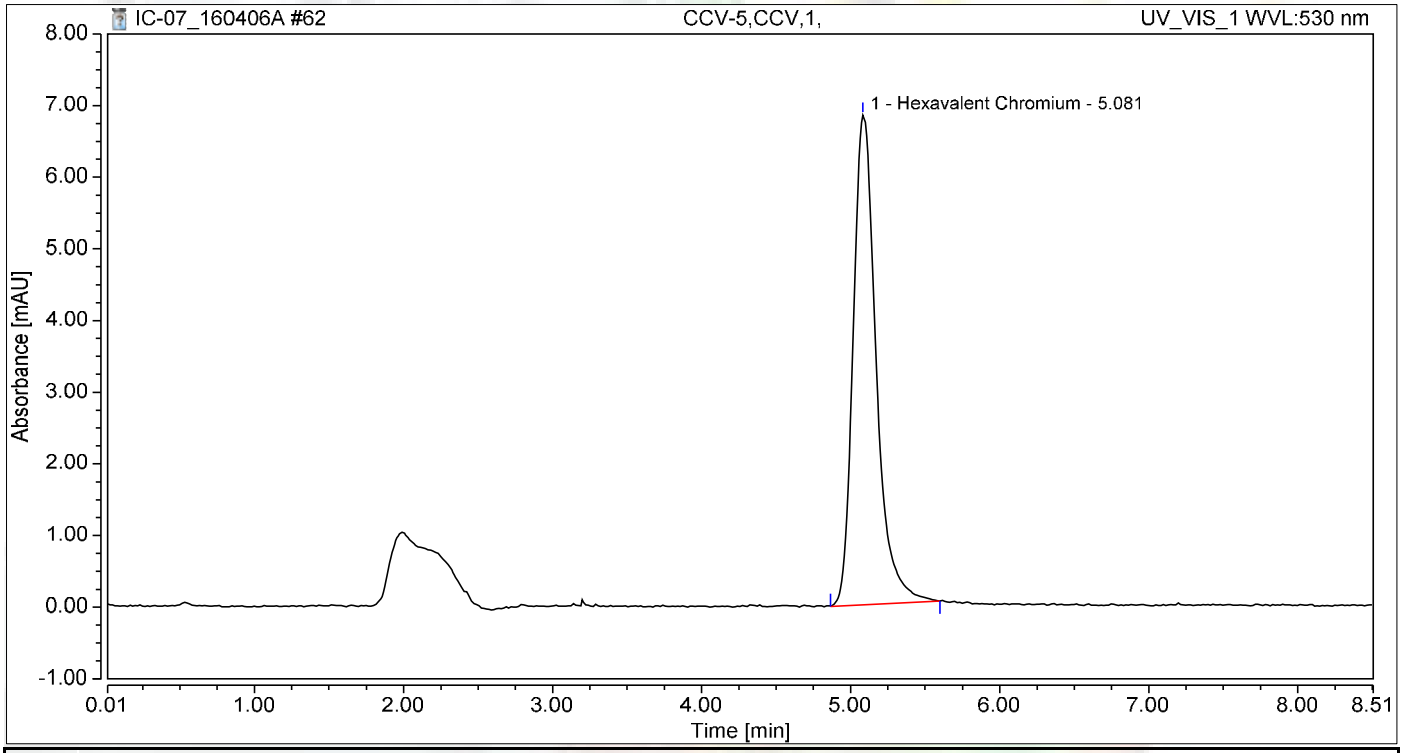
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 19:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

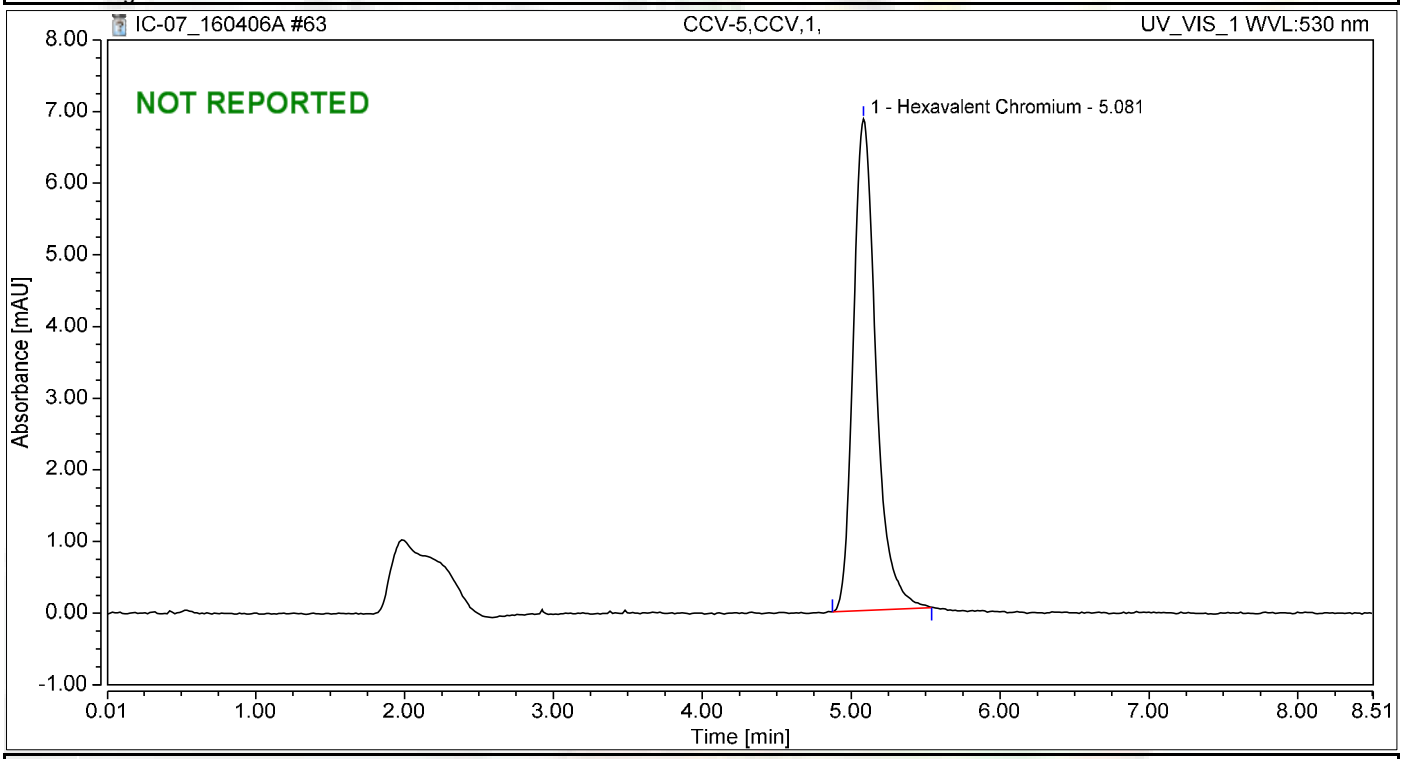
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.226	6.834	100.00	100.00	5.0460
Total:			**1.226**	**6.834**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 19:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

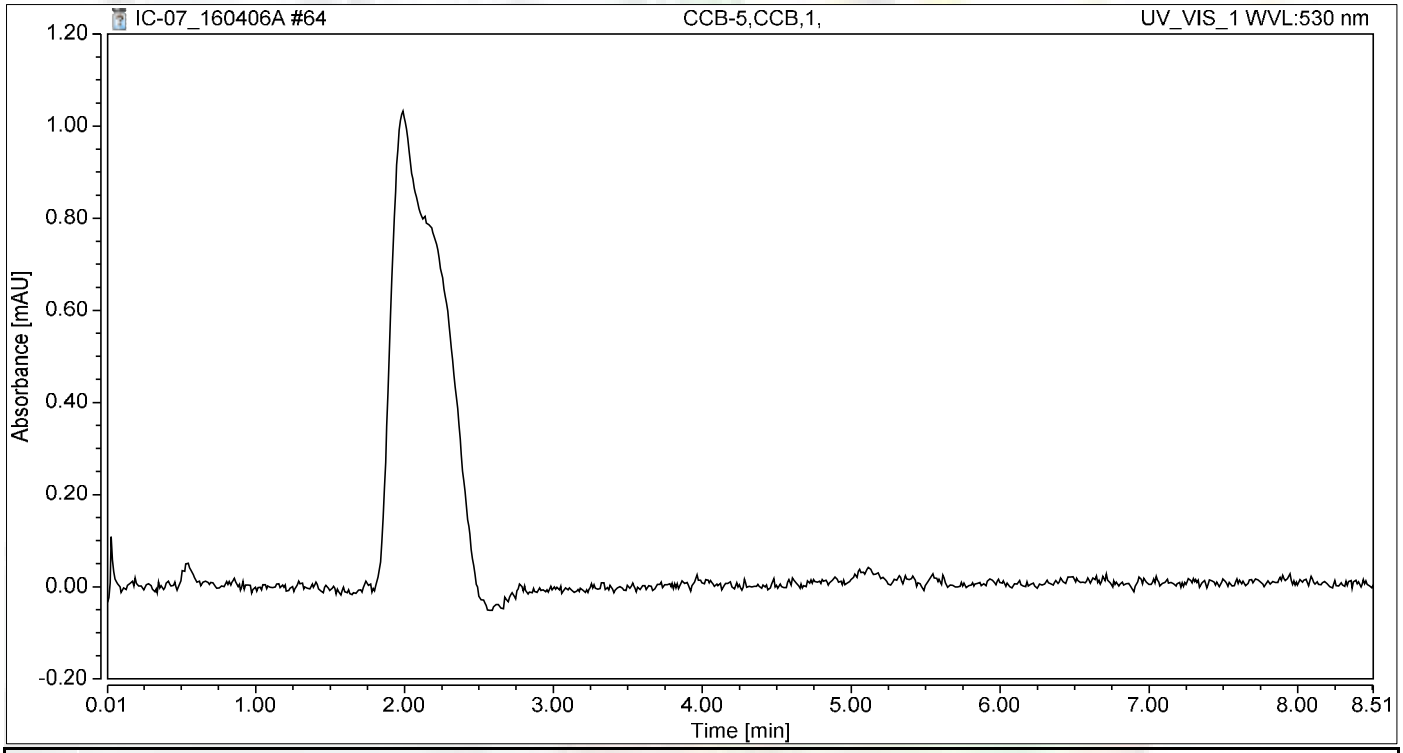
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	5.081	1.217	6.861	100.00	100.00	5.0120
Total:			**1.217**	**6.861**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**160401_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**06/Apr/16 19:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 2320B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106778 **Analyst:** LSR

ASSET #: N019332 **Date Analyzed:** 4/6/2016

Method: EPA 2320

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.			X			
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			
3. ICV within ± 15% of expected value.			X			
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			
5. CCV within ± 15% of expected value.			X			
6. Calibration blanks run after ICV and CCV?			X			
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)			X			
Sample Information						
8. All samples are within linear range.			X			
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Silia Ramit Date: 4/6/2016

2nd Level Reviewer 4/8/2016 Date: —

SAMPLE CALCULATION

Sample ID: **N019332-001D @ pH 7.91**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.10 mL)

= **0.02066 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$ volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (2.60) (0.02066 N) (1) * 1000

= 53.7160 mg**/L**

Reporting results in two significant figures,

= **54 mg/L** as CaCO3

Julia Ramit 4/6/2016

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02066 N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (2.60 mL) (0.02066) (1) * 1000

= 53.7160 **mg/L** as CaCO3

Where:

$P_{vol.}$ - Volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - Volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **53.7160 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **54 mg/L**

Julia Ramit 4/6/2016

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SAMPLE	PH SAMPLE	AMOUNT	V@8.3	VT TO 4.5	Sample Type
MB-1	5.16	50	0.00	0.05	MBLK
LCS-1	8.45	50	0.05	4.95	LCS
N019332-001D	7.91	50	0.00	2.60	SAMP
N019332-002D	8.00	50	0.00	4.10	SAMP
N019332-001DDUP	7.91	50	0.00	2.60	DUP
N019332-002DMS	8.27	50	0.00	8.80	MS
N019332-002DMSD	8.28	50	0.00	8.85	MSD

Standardization:		
Spike amt:	**5**	ml
Titrant used:	**12.1**	ml
N H2SO4	**0.02066**	Normal
Date Analyzed:	**4/6/16**	
Time:	**2:20 PM**	
Analyzed By:	**LSR**	
Sodium Carbonate:	**CINV-150202G**	
Sodium Bicarbonate:	**CINV-150601A**	
Sulfuric Acid:	**R160308A**	

Silia Ramit 4/6/2016

Date Analyzed:	4/6/16		**Reagents:**					**Standardization:**					**P = 0**
Time Started:	2:20 PM			Sodium Carbonate:		CINV-150202G			Spike amt:	5	**mL**		**P < 1/2 T**
Analyzed By:	**LSR**			Hydrochloric Acid:		0			Titrant used:	12.1	**mL**		**P = 1/2 T**
				Sulfuric Acid:		R160308A							**P > 1/2 T**
									N H2SO4	0.02066	**N**		**P = T**
Sample ID	**Sample Vol/Wt.**	**Sample pH**	**Std. Code**	**Spike Amount**	**Spike Conc.**	**Normality, Titrant**	**Vol. Used to pH 8.3, ml.**	**Vol. Used pH 8.3 to 4.5, ml.**	**Total Vol. Used, ml.**	**DF (50ml/Vsamp.)**	**P Alkalinity**	**T Alkalinity**	**Comments**
MB-1	50	5.16				0.02066	0.00	0.05	0.05	1	0.00	1.03	
LCS-1	50	8.45				0.02066	0.05	4.90	4.95	1	1.03	102.27	
N019332-001D	50	7.91				0.02066	0.00	2.60	2.60	1	0.00	53.72	
N019332-002D	50	8				0.02066	0.00	4.10	4.10	1	0.00	84.71	
N019332-001DDU	50	7.91				0.02066	0.00	2.60	2.60	1	0.00	53.72	
N019332-002DMS	50	8.27				0.02066	0.00	8.80	8.80	1	0.00	181.82	
N019332-002DMS	50	8.28				0.02066	0.00	8.85	8.85	1	0.00	182.85	

Silia Ramit 4/6/2016

Speciated, Alkalinity as CaCO3

SM 2320B

Date Analyzed:	4/6/16
Time:	2:20 PM
Analyzed By:	LSR

SAMPLE ID	OH	CO3	HCO3	TOTAL	CHECK	COMMENT	REMARKS
MB-1	0.00	0.00	1.03	1.03	1.03		P = 0
LCS-1	0.00	2.07	100.21	102.27	102.27		P < 1/2 T
N019332-001D	0.00	0.00	53.72	53.72	53.72		P = 0
N019332-002D	0.00	0.00	84.71	84.71	84.71		P = 0
N019332-001DDUP	0.00	0.00	53.72	53.72	53.72		P = 0
N019332-002DMS	0.00	0.00	181.82	181.82	181.82		P = 0
N019332-002DMSD	0.00	0.00	182.85	182.85	182.85		P = 0

Silia Ramit 4/6/2016

Alkalinity Preparation and Runlog

Book #5

Matrix: H_2O

Date Extracted: 4/6/16
Time Extracted: 4/6/16
Extracted By: LSR

Date Analyzed: 4/6/16
Time Analyzed: 1420
Analyzed By: LSR

Reagent Lot # / Reagent ID
Sodium Carbonate: CINV150202G
Hydrochloric Acid: -
Sulfuric Acid: R160308A
NaHCO3: CINV150601A

pH METER CALIBRATION:
SLOPE: 98.4%
pH 4 - 4.03 - CINV-150828B
7 - 6.97 - ↓ A
10 - 10.03 - CINV160111D

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added	Spike Conc.	Norm. Titrant	Vol. At pH = 8.3	Vol. At pH = 4.5	Dilution (F/I)	Calculations	Comments
	STANDARDIZATION											
	#1	50 mL	10.53	IWST160405A	5 mL	0.05N	-	-	12.10	50/50	N H2SO4 = (2.65 g/L)(5 mL) / (53)(V titrant)	= 0.020661157
	#2	↓	10.48	↓	↓	↓	-	-	12.10	↓		
1)	MBLK	50 mL	5.16	-	-	-	0.02066	0	0.05	50/50		
2)	LCS	↓	8.45	IWST160405B	1 mL	0.05N	↓	0.05	4.95	↓		
3)	N019332-001D	↓	7.91	-	-	-	↓	0	2.60	↓		
4)	2D	↓	8.00	-	-	-	↓	0	4.10	↓		
5)	1D DUP	↓	7.91	-	-	-	↓	0	2.60	↓		
6)	2D MS	↓	8.27	IWST160405B	1 mL	0.05N	↓	0	8.80	↓		
7)	2D MSD	↓	8.28	↓	↓	↓	↓	0	8.85	↓		
8)												
9)												
10)												
11)												
12)												
13)												
14)												
15)												
16)				P = (V pH 8.3)(N H2SO4)(50,000) / Vsx								
17)												
18)												
19)				T = (V pH 4.5)(N H2SO4)(50,000) / Vsx								
20)												
	MS											
	MSD											
	LCS											

Julia Ramit 4/6/2016

EPA 300.0

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R106794
ASSET #: N019330 / N019332

Instrument ID: IC2
Analyst: QBM
Date Analyzed: 4/6/2016

Method:

[X] EPA 300.0
[ ] EPA 7199

[ ] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X					
3. ICV within ± 10% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X					
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)			X			
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X					
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?			X			
Sample Information						
10. All samples are within linear range.	X					
11. All samples pH within 9.3-9.7 when analyzed?			X			
12. Duplicate sample injections for every sample. (7199 only)			X			
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)			X			
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)			X			
19. EPA 3060A digestion performed on solid samples (7199 only)			X			
20. Are all peaks within RT window, ± 0.2 min?	X					
21. Are all samples analyzed within hold time?	X					
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X					
24. LCS compounds are within control limits.	X					
25. MS/MSD, RPD's are within control limits.	X					
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X					
28. Extraction log complete and included in package (if applicable)			X			
29. All manual integrations initialed, date and reasons included.	X					
30. Before and after manual integration chromatogram included in the package	X					
31. All samples and QC raw data present in package.	X					
Preliminary Report						
32. Does the raw data match the preliminary report?	X					
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
34 Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer _____ Date: 4/8/2016

2nd Level Reviewer _____ 4/8/2016 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 300.0
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: GROUNDWATER

FORMULA:

Calculate the Sulfate concentration, in mg/L, in the original sample as follows:

Sulfate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N019332-001D** concentration in mg/L is calculated as follows:

Sulfate, mg/L = 8.733 * 10

= 87.33

Reporting result in two significant figures,

Sulfate, mg/L = 87

ANALYSIS RUN LOG

DIONEX SCHEDULE - C:\DX\SCHEDULE\160318.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\160318.M	..\16031801.D01	1	1	1
2	,BLANK,	..\160318.M	..\16031801.D02	1	1	1
3	AUTOCAL1R	..\160318.M	..\16031801.D03	1	1	1
4	AUTOCAL2R	..\160318.M	..\16031801.D04	1	1	1
5	AUTOCAL3R	..\160318.M	..\16031801.D05	1	1	1
6	AUTOCAL4R	..\160318.M	..\16031801.D06	1	1	1
7	AUTOCAL5R	..\160318.M	..\16031801.D07	1	1	1
8	AUTOCAL6R	..\160318.M	..\16031801.D08	1	1	1
9	,ICV,ICV,1,	..\160318.M	..\16031801.D09	1	1	1
10	,ICB,ICB,1,	..\160318.M	..\16031801.D10	1	1	1
11	,MB-H2O,MBLK,1,	..\160318.M	..\16031801.D11	1	1	1
12	,LCS-H2O,LCS,1,	..\160318.M	..\16031801.D12	1	1	1
13	,N019143-001A,SAMP,	..\160318.M	..\16031801.D13	1	1	1
14	,N019144-001A,SAMP,	..\160318.M	..\16031801.D14	1	1	1
15	,N019143-001ADUP,DU	..\160318.M	..\16031801.D15	1	1	1
16	,N019144-001AMS,MS,	..\160318.M	..\16031801.D16	1	1	1
17	,N019144-001AMSD,MS	..\160318.M	..\16031801.D17	1	1	1
18	,N019143-001A,SAMP,	..\160318.M	..\16031801.D18	1	1	1
19	,N019144-001A,SAMP,	..\160318.M	..\16031801.D19	1	1	1
20	,N019143-001ADUP,DU	..\160318.M	..\16031801.D20	1	1	1
21	,CCV-1,CCV,1,	..\160318.M	..\16031801.D21	1	1	1
22	,CCB-1,CCB,1,	..\160318.M	..\16031801.D22	1	1	1
23	,N019144-001AMS,MS,	..\160318.M	..\16031801.D23	1	1	1
24	,N019144-001AMSD,MS	..\160318.M	..\16031801.D24	1	1	1
25	,CCV-2,CCV,1,	..\160318.M	..\16031801.D25	1	1	1
26	,CCB-2,CCB,1,	..\160318.M	..\16031801.D26	1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST160211F, G, H, I, J, K and L

3/28/2016

DIONEX SCHEDULE - C:\DX\SCHEDULE\160406.SCH

Inj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	,BLANK,	..\160318.M	..\16040601.D01	1	1	1
2	,CCV-1,CCV,1,	..\160318.M	..\16040601.D02	1	1	1
3	,CCB-1,CCB,1,	..\160318.M	..\16040601.D03	1	1	1
4	,MB-H2O,MBLK,1,	..\160318.M	..\16040601.D04	1	1	1
5	,LCS-H2O,LCS,1,	..\160318.M	..\16040601.D05	1	1	1
6	,N019330-002D,SAMP,	..\160318.M	..\16040601.D06	1	1	1
7	,N019330-003D,SAMP,	..\160318.M	..\16040601.D07	1	1	1
8	,N019330-010D,SAMP,	..\160318.M	..\16040601.D08	1	1	1
9	,N019330-015D,SAMP,	..\160318.M	..\16040601.D09	1	1	1
10	,N019330-016D,SAMP,	..\160318.M	..\16040601.D10	1	1	1
11	,N019330-017D,SAMP,	..\160318.M	..\16040601.D11	1	1	1
12	,N019330-018D,SAMP,	..\160318.M	..\16040601.D12	1	1	1
13	,N019330-003DDUP,DU	..\160318.M	..\16040601.D13	1	1	1
14	,CCV-2,CCV,1,	..\160318.M	..\16040601.D14	1	1	1
15	,CCB-2,CCB,1,	..\160318.M	..\16040601.D15	1	1	1
16	,N019330-010DMS,MS,	..\160318.M	..\16040601.D16	1	1	1
17	,N019330-010DMSD,MS	..\160318.M	..\16040601.D17	1	1	1
18	,N019332-001D,SAMP,	..\160318.M	..\16040601.D18	1	1	1
19	,N019332-002D,SAMP,	..\160318.M	..\16040601.D19	1	1	1
20	,N019332-001DMS,MS,	..\160318.M	..\16040601.D20	1	1	1
21	,N019332-001DMSD,MS	..\160318.M	..\16040601.D21	1	1	1
22	,N019332-002DDUP,DU	..\160318.M	..\16040601.D22	1	1	1
23	,N019332-001D,SAMP,	..\160318.M	..\16040601.D23	1	1	1
24	,N019332-001DDUP,DU	..\160318.M	..\16040601.D24	1	1	1
25	,N019332-002D,SAMP,	..\160318.M	..\16040601.D25	1	1	1
26	,CCV-3,CCV,1,	..\160318.M	..\16040601.D26	1	1	1
27	,CCB-3,CCB,1,	..\160318.M	..\16040601.D27	1	1	1
28	,N019332-002DMS,MS,	..\160318.M	..\16040601.D28	1	1	1
29	,~~N019332-002DMSD,MS~~	..\160318.M	..\16040601.D29	N019332-001D,SAMP,100	1	1
30	,~~N019332-001D,SAMP~~,	..\160318.M	..\16040601.D30	N019332-001DDUP,DUP,100	1	1
31	,~~N019332-001DDUP,DU~~	..\160318.M	..\16040601.D31	N019332-002D,SAMP,100	1	1
32	,~~N019332-002D,SAMP~~,	..\160318.M	..\16040601.D32	N019332-002DMS,MS,100	1	1
33	,~~N019332-002DMS,MS~~,	..\160318.M	..\16040601.D33	N019332-002DMSD,MSD,100	1	1
34	,~~N019332-002DMSD,MS~~	..\160318.M	..\16040601.D34	N019313-003A,SAMP,500	1	1
35	,~~N019313-003A,SAMP~~,	..\160318.M	..\16040601.D35	N019313-004A,SAMP,500	1	1
36	,N019313-003A,SAMP,	..\160318.M	..\16040601.D19	1	1	1
37	,N019332-002DMSD,MS	..\160318.M	..\16040601.D19	1	1	1
38	,CCV-4,CCV,1,	..\160318.M	..\16040601.D19	1	1	1
39	,CCB-4,CCB,1,	..\160318.M	..\16040601.D19	1	1	1
40	,N019313-004A,SAMP,	..\160318.M	..\16040601.D19	1	1	1
41	,N019315-001B,SAMP,	..\160318.M	..\16040601.D19	1	1	1
42	,N019315-002B,SAMP,	..\160318.M	..\16040601.D19	1	1	1
43	,N019315-001B,SAMP,	..\160318.M	..\16040601.D19	1	1	1
44	,N019315-001BDUP,DU	..\160318.M	..\16040601.D19	1	1	1
45	,N019315-002B,SAMP,	..\160318.M	..\16040601.D19	1	1	1
46	,N019315-002BMS,MS,	..\160318.M	..\16040601.D19	1	1	1
47	,N019315-002BMSD,MS	..\160318.M	..\16040601.D19	1	1	1
48	,N019315-003A,SAMP,	..\160318.M	..\16040601.D19	1	1	1
49	,CCV-5,CCV,1,	..\160318.M	..\16040601.D19	1	1	1
50	,CCB-5,CCB,1,	..\160318.M	..\16040601.D19	1	1	1
51	SHUTDOWN	..\SHUTDOWN		1	1	1

Comment:
Standard for IC-02 (Anions) = ICAL/CCV : ISST-150730A, B, C, D, E, F, G; ICV/LCS/MS/MSD: ISST160211F, G, H, I, J, K and L

INITIAL CALIBRATION DATA SUMMARY

DIONEX METHOD PARAMETERS - 160318.MET

Method Comment:
Column ID:
Analyst ID:

System Parameters

System Name: ANIONS

Number of Detectors	1
Run Time (minutes)	13.00
Sampling Rate (seconds)	0.20
Detector 1 Type	COND
Detector 1 real time plot scale maximum (mV)	100.000
minimum	-10.000
Detector 1 Output Equivalent to 1 Volt (in mV)	100.00
Detector 1 ACI Analog Input Connection	DET1
Save Data File	Yes

Data File Name: C:\DX\DATA\14120201.D02

-- DETECTOR 1 PARAMETERS --

Report Options

Create ASCII Report File	No
Print Report	Yes
Print All Components	Yes
Print Components Found	No
Print Missing Components	No
Print All Peaks	Yes
Print Unknown Peaks	Yes
Print Chromatogram	Yes
Autoscale Chromatogram Maximum	Yes
Autoscale Maximum Value Delay (minutes)	0.0
Autoscale Chromatogram Minimum	Yes
Autoscale Minimum Value Delay (minutes)	0.0
Fill Peaks with Color	No
Draw Grid Lines on Chromatogram	No
Show Component Fraction Numbers	No
Label with Peak Number	No
Label with Retention Times on Chromatogram	No
Label with Component Name	Yes

Format File Name: C:\DX\METHOD\DEFAULT.PRF

Integration Parameters

Starting Peak Width (seconds)	5.0
Peak Threshold	0.500
Peak Area Reject	2000
Area Reject for Reference Peaks	3000

Data Events

Time	Description
0.50	Start peak detection
0.51	Force baseline at start of this peak
0.51	Split peak
0.51	Force common baseline following this peak
0.52	End peaks on baseline penetration

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Calibration Parameters

Number Of Levels for Calibration.....	6
Force Calibration Curve Through Origin.....	No
Calibration Fit Type.....	Linear
Replace Or Average Calibrations.....	Replace
External or Internal Calibration.....	External
Calculate Unknowns by Area or Height.....	Area
Default Sample Volume.....	1.0
Default Dilution Factor.....	1.0
Default Response Factor for Unknown Peaks.....	0.0
Calibration Standard Volume	1.0
Internal Standard Amount in Samples	1.0
Amount Units	

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Component Table -- Last Modified: 12:42 on Fri, 18 Mar 2016

Component # 1 Fluoride Retention Time 2.53
Reference Comp. Fluoride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 3.40483E-002
K1 = 2.72800E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	20460	2318
3	5.00000E-001	164870	19244
4	1.00000E+000	328286	38768
5	2.50000E+000	903208	107158
6	5.00000E+000	1825736	226637

Component # 2 Chloride Retention Time 3.79
Reference Comp. Chloride Window Size 0.10 min.
Amount = K0 + K1*Area
K0 = 7.34917E-002
K1 = 3.69359E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	125500	14089
3	1.00000E+000	256507	28444
4	2.50000E+000	630385	73047
5	5.00000E+000	1306326	154892
6	1.00000E+001	2705945	336045

Component # 3 Nitrite Retention Time 4.64
Reference Comp. Nitrite Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 2.16322E-002
K1 = 1.99851E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	25993	2366
3	5.00000E-001	245266	20227
4	1.00000E+000	459947	40644
5	2.50000E+000	1232864	112291
6	5.00000E+000	2499357	237425

Component # 4 Bromide Retention Time 5.63
Reference Comp. Bromide Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = -6.30164E-002
K1 = 8.90119E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	2.00000E-001	24810	1995
3	5.00000E-001	81029	5239
4	1.00000E+000	109744	9048
5	2.50000E+000	296775	24328
6	5.00000E+000	563689	50487

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Component # 5 Nitrate Retention Time 6.39
Reference Comp. Nitrate Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 2.48441E-002
K1 = 1.47400E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-002	38466	2813
3	5.00000E-001	323758	23840
4	1.00000E+000	617802	48734
5	2.50000E+000	1672307	134450
6	5.00000E+000	3386292	281477

Component # 6 Phosphate Retention Time 8.38
Reference Comp. Phosphate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = 8.42558E-003
K1 = 4.30202E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	1.00000E-001	20324	1329
3	5.00000E-001	116215	6569
4	1.00000E+000	225729	13123
5	2.50000E+000	581306	34578
6	5.00000E+000	1159962	72499

Component # 7 Sulfate Retention Time 9.63
Reference Comp. Sulfate Window Size 0.50 min.
Amount = K0 + K1*Area
K0 = 1.34180E-001
K1 = 5.12500E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	96477	5216
3	2.00000E+000	361558	20308
4	5.00000E+000	918831	51995
5	1.00000E+001	1876943	109070
6	2.00000E+001	3906180	237000

Timed Events File: C:\DX\METHOD\AS4ASC2.TE

Step	Time	Description
Init		ACI Autosmp OFF
Init		ACI Autooff OFF
Init		ACI Pmpstrt ON
Init		ACI Inject OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
Init		ACI OFF
1	0.0	ACI Autosmp ON
2	2.3	ACI Autosmp OFF
2	2.3	ACI Autooff ON
3	2.4	ACI Inject ON
3	2.4	Start Sampling

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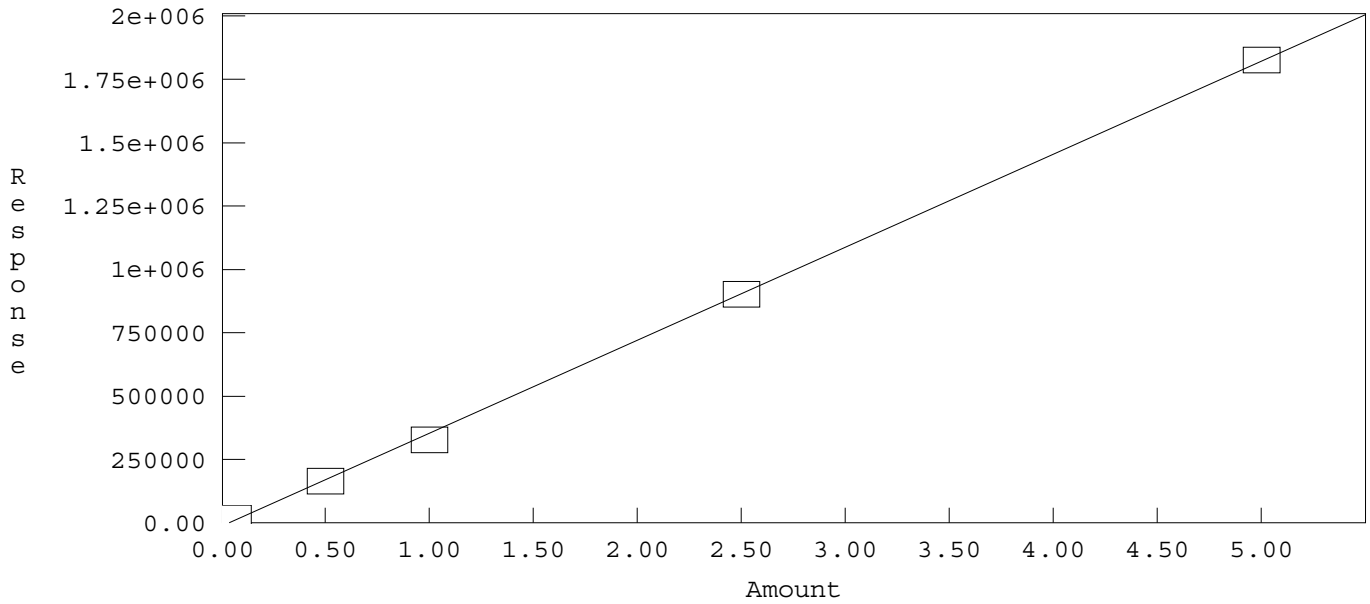
Method: 160318.MET - Last Updated: 12:42 on Fri, 18 Mar 2016

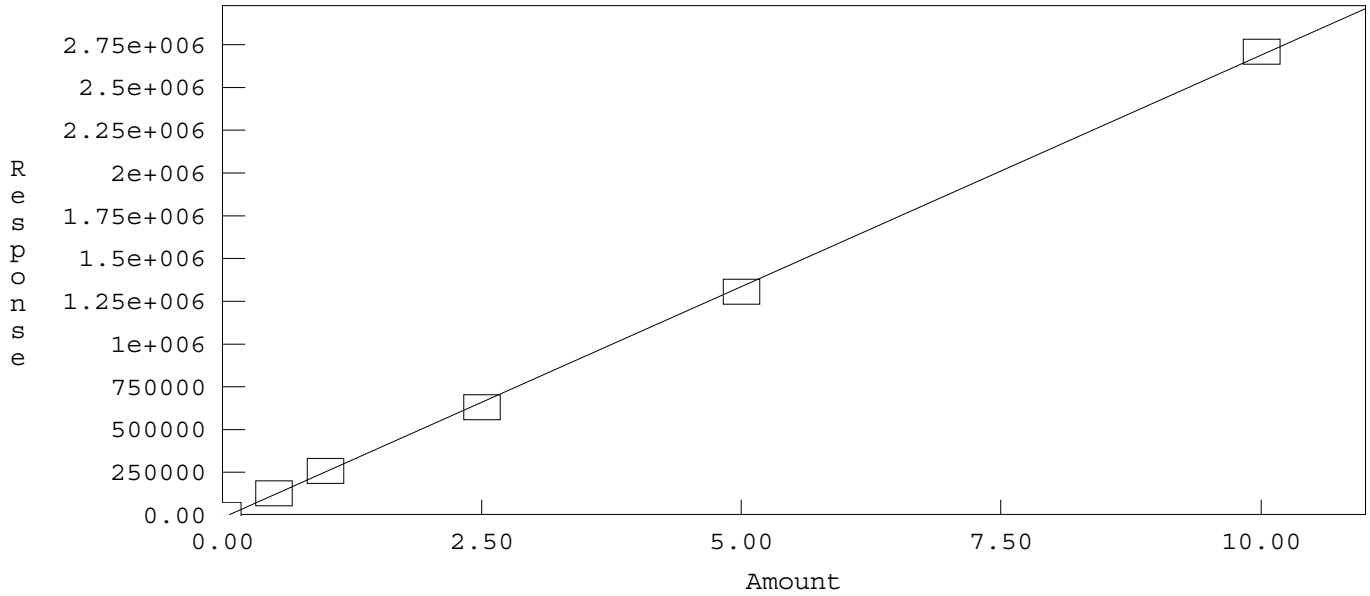
Component: Fluoride
Fit Type: Linear
r^2 = 0.999566
Amt = Resp * 2.728e-006 + 0.03405
Resp = Amt * 3.666e+005 + -1.248e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160318.MET

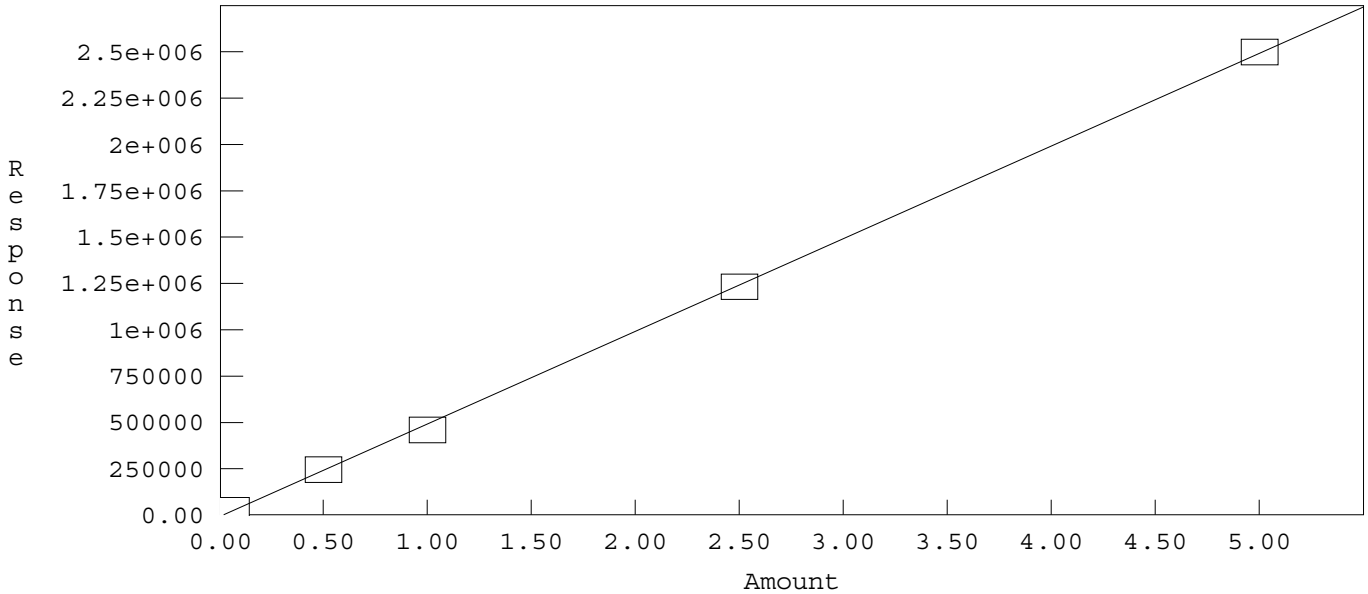
Component: Chloride
Fit Type: Linear
r^2 = 0.999561
Amt = Resp * 3.694e-006 + 0.07349
Resp = Amt * 2.707e+005 + -1.99e+004
Standardization: External
Calibration: Area

3/28/2016



Method: C:\DX\METHOD\160318.MET

Component: Nitrite
Fit Type: Linear
r^2 = 0.999727
Amt = Resp * 1.999e-006 + 0.02163
Resp = Amt * 5.004e+005 + -1.082e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160318.MET

Component: Bromide
Fit Type: Linear
r^2 = 0.997479
Amt = Resp * 8.901e-006 + -0.06302
Resp = Amt * 1.123e+005 + 7080
Standardization: External
Calibration: Area

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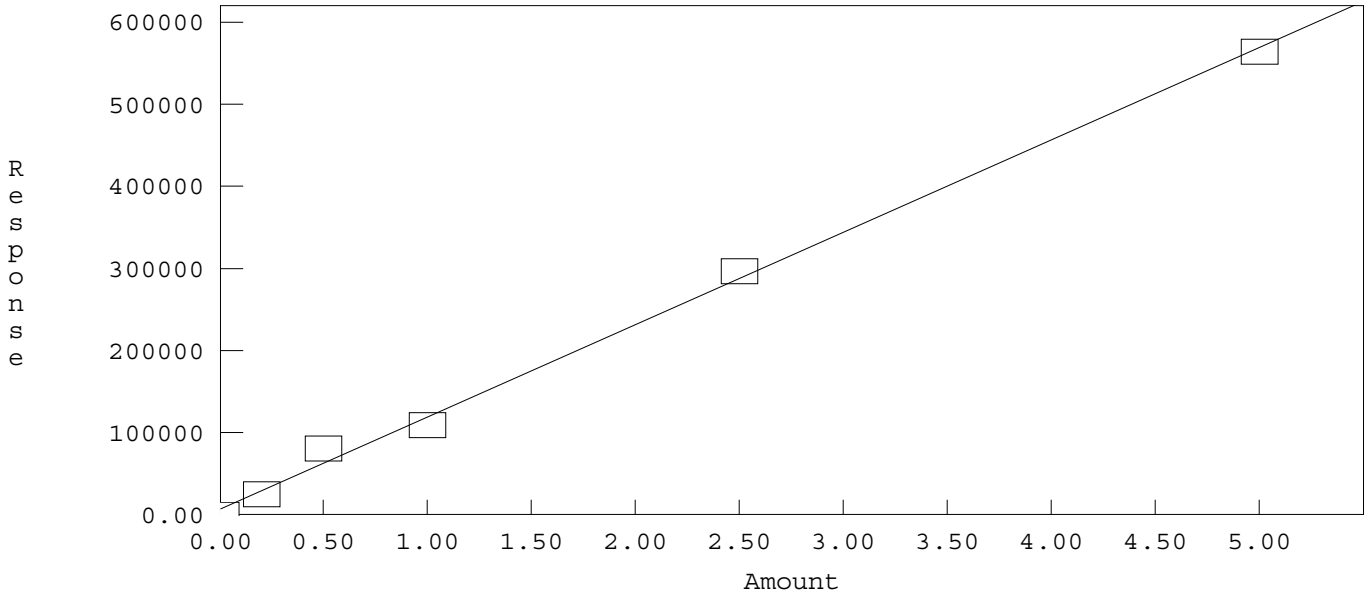
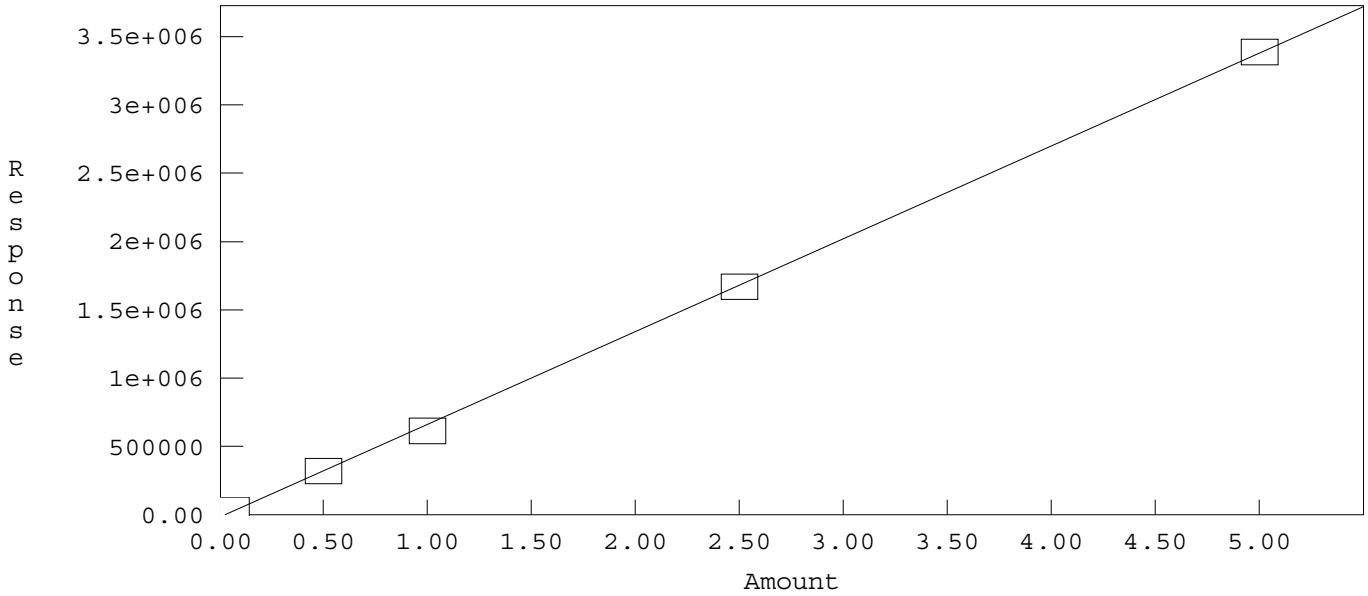


Method: C:\DX\METHOD\160318.MET

Component: Nitrate
Fit Type: Linear
r^2 = 0.999674
Amt = Resp * 1.474e-006 + 0.02484
Resp = Amt * 6.784e+005 + -1.685e+004
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\160318.MET

Component: Phosphate
Fit Type: Linear
r^2 = 0.999964
Amt = Resp * 4.302e-006 + 0.008426
Resp = Amt * 2.324e+005 + -1959
Standardization: External
Calibration: Area

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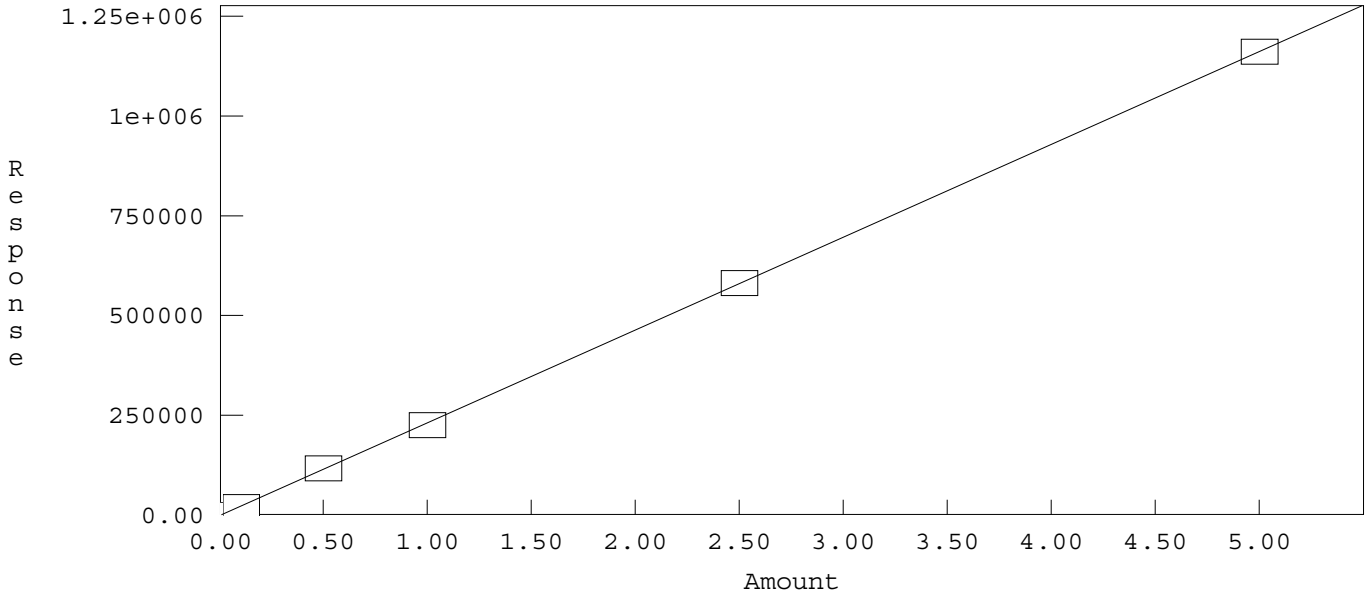
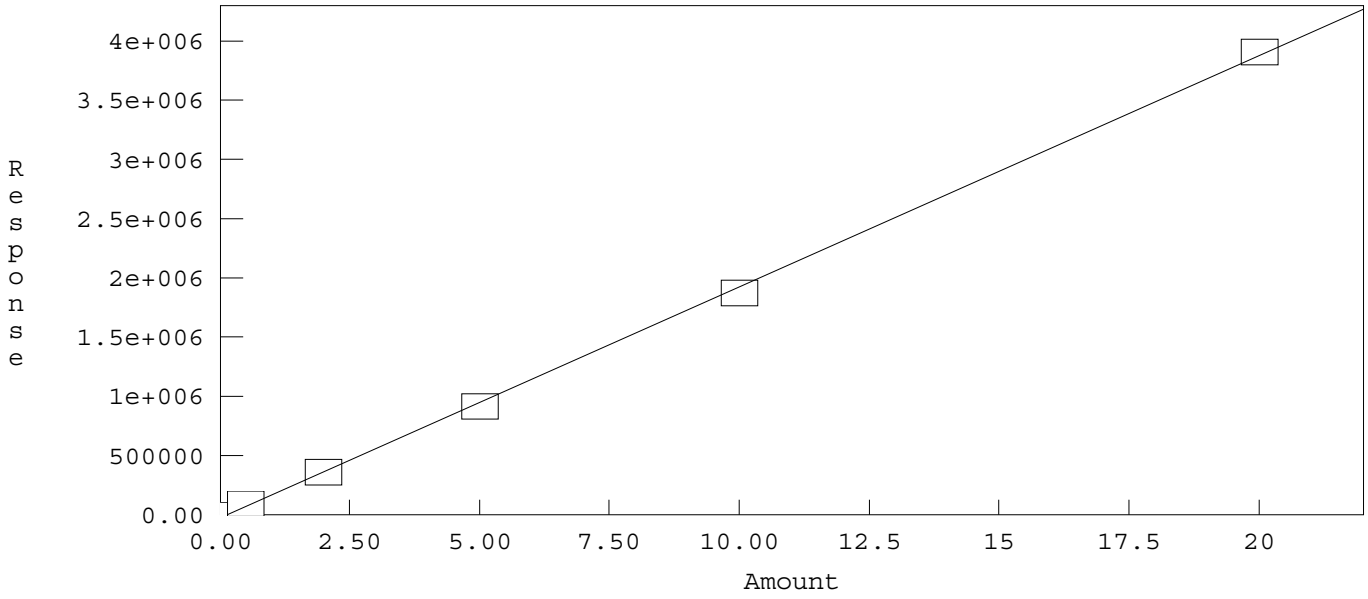


Method: C:\DX\METHOD\160318.MET

Component: Sulfate
Fit Type: Linear
r^2 = 0.999513
Amt = Resp * 5.125e-006 + 0.1342
Resp = Amt * 1.951e+005 + -2.618e+004
Standardization: External
Calibration: Area



3/28/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ICV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **3/18/2016** SeqNo: **2286574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.551	0.50	2.500	0	102	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.350	0.50	2.500	0	94.0	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.334	0.50	2.500	0	93.4	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.264	0.50	2.500	0	90.6	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.313	0.50	2.500	0	92.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID	CCV-5	SampType:	CCV	TestCode:	300_W_BRP	Units:	mg/L	Prep Date:		RunNo:	106794
Client ID:	CCV	Batch ID:	R106794	TestNo:	EPA 300.0			Analysis Date:	4/6/2016	SeqNo:	2286591

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.384	0.50	2.500	0	95.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICV** SampType: **ICV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ICV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **3/18/2016** SeqNo: **2286615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.490	0.50	2.500	0	99.6	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.393	0.50	2.500	0	95.7	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.415	0.50	2.500	0	96.6	90	110				

Sample ID **CCV-3** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.319	0.50	2.500	0	92.8	90	110				

Sample ID **CCV-4** SampType: **CCV** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCV** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.343	0.50	2.500	0	93.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	CCV-5	SampType:	CCV	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	106794
Client ID:	CCV	Batch ID:	R106794	TestNo:	EPA 300.0			Analysis Date:	4/6/2016	SeqNo:	2286634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.412	0.50	2.500	0	96.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICV	**ICV**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **ICV**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **3/18/2016**	SeqNo: **2286636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.897	0.50	5.000	0	97.9	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV-1	**CCV**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCV**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.887	0.50	5.000	0	97.7	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV-2	**CCV**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCV**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.666	0.50	5.000	0	93.3	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV-3	**CCV**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCV**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.709	0.50	5.000	0	94.2	90	110				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCV-4	**CCV**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCV**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.795	0.50	5.000	0	95.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	CCV-5	SampType:	CCV	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	106794
Client ID:	CCV	Batch ID:	R106794	TestNo:	EPA 300.0			Analysis Date:	4/6/2016	SeqNo:	2286657

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.742	0.50	5.000	0	94.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID **ICB** SampType: **ICB** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ICB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **3/18/2016** SeqNo: **2286575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID **CCB-1** SampType: **CCB** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID **CCB-2** SampType: **CCB** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID **CCB-3** SampType: **CCB** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID **CCB-4** SampType: **CCB** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID	CCB-5	SampType:	CCB	TestCode:	300_W_BRP	Units:	mg/L	Prep Date:		RunNo:	106794
Client ID:	CCB	Batch ID:	R106794	TestNo:	EPA 300.0			Analysis Date:	4/6/2016	SeqNo:	2286592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **ICB** SampType: **ICB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **ICB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **3/18/2016** SeqNo: **2286616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-1** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-2** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-3** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID **CCB-4** SampType: **CCB** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **106794**
Client ID: **CCB** Batch ID: **R106794** TestNo: **EPA 300.0** Analysis Date: **4/6/2016** SeqNo: **2286633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	CCB-5	SampType:	CCB	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	106794
Client ID:	CCB	Batch ID:	R106794	TestNo:	EPA 300.0			Analysis Date:	4/6/2016	SeqNo:	2286635

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **ICB**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **3/18/2016**	SeqNo: **2286637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-1	**CCB**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCB**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-2	**CCB**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCB**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-3	**CCB**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCB**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286648**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-4	**CCB**	**300_W_SO4P**	**mg/L**		**106794**
Client ID: **CCB**	Batch ID: **R106794**	TestNo: **EPA 300.0**		Analysis Date: **4/6/2016**	SeqNo: **2286653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	CCB-5	SampType:	CCB	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	106794
Client ID:	CCB	Batch ID:	R106794	TestNo:	EPA 300.0			Analysis Date:	4/6/2016	SeqNo:	2286658

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 4/6/2016

Sample Name		Retention Time	Evaluation
CCV-1	Chloride	3.78	
CCV-2	Chloride	3.79	
CCV-3	Chloride	3.75	
CCV-4	Chloride	3.80	
CCV-5	Chloride	3.78	
	Average	3.780	
	Lower Limit	3.580	
	Upper Limit	3.980	
MB-R106794_CL	Chloride	0	N.A.
LCS-R106794_CL	Chloride	3.78	PASS
N019332-001D	Chloride	3.75	PASS
N019332-001DDUP	Chloride	3.79	PASS
N019332-002D	Chloride	3.76	PASS
N019332-002DMS	Chloride	3.77	PASS
N019332-002DMSD	Chloride	3.79	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 4/6/2016

Sample Name		Retention Time	Evaluation
CCV-1	Sulfate	9.53	
CCV-2	Sulfate	9.57	
CCV-3	Sulfate	9.51	
CCV-4	Sulfate	9.59	
CCV-5	Sulfate	9.56	
	Average	9.552	
	Lower Limit	9.352	
	Upper Limit	9.752	
MB-R106794_SO4	Sulfate	0	N.A.
LCS-R106794_SO4	Sulfate	9.55	PASS
N019332-001D	Sulfate	9.52	PASS
N019332-001DDUP	Sulfate	9.51	PASS
N019332-002D	Sulfate	9.56	PASS
N019332-002DMS	Sulfate	9.61	PASS
N019332-002DMSD	Sulfate	9.49	PASS

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-02

Analytical Sequence

Date Analyzed: 4/6/2016

Sample Name		Retention Time	Evaluation
CCV-1	Bromide	5.60	
CCV-2	Bromide	5.61	
CCV-3	Bromide	5.55	
CCV-4	Bromide	5.63	
CCV-5	Bromide	5.63	
	Average	5.604	
	Lower Limit	5.404	
	Upper Limit	5.804	
MB-R106794_BR	Bromide	0	N.A.
LCS-R106794_BR	Bromide	5.61	PASS
N019332-001D	Bromide	5.63	PASS
N019332-002D	Bromide	5.59	PASS
N019332-001DMS	Bromide	5.57	PASS
N019332-001DMSD	Bromide	5.59	PASS
N019332-002DDUP	Bromide	5.63	PASS

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **INORGANIC IONS by Ion Chromatography**
Method Number: EPA 300.0
Analysis Date(s): 3/23/2015 & 10/12/2015
Analyst: Quennie Manimtim

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-02**

Acceptance Criteria: MDL < spike < 10X MDL

Datafile: 15032301.D06 15032301.D07 15032301.D08 15032301.D09 15032301.D10 15032301.D11 15032301.D12

Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Fluoride	0.039	0.047	0.046	0.038	0.039	0.046	0.045	0.020	0.0040	3.143	**0.0125**	**0.10**	OK,meets criteria
Chloride	0.159	0.149	0.158	0.169	0.149	0.142	0.141	0.10	0.0101	3.143	**0.0317**	**0.50**	OK,meets criteria
Nitrite	0.033	0.027	0.030	0.027	0.030	0.026	0.026	0.020	0.0026	3.143	**0.0083**	**0.050**	OK,meets criteria
Nitrate	0.034	0.027	0.036	0.033	0.028	0.027	0.030	0.020	0.0036	3.143	**0.0114**	**0.050**	OK,meets criteria
Phosphate	0.050	0.053	0.060	0.046	0.049	0.062	0.044	0.050	0.0068	3.143	**0.0214**	**0.10**	OK,meets criteria
Sulfate	0.267	0.246	0.243	0.238	0.250	0.245	0.235	0.10	0.0104	3.143	**0.0327**	**0.50**	OK,meets criteria

Datafile: 15101201.D13 15101201.D14 15101201.D15 15101201.D16 15101201.D17 15101201.D18 15101201.D19

Bromide	0.074	0.045	0.102	0.055	0.057	0.071	0.061	0.10	0.0185	3.143	**0.0581**	**0.50**	OK,meets criteria

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

SM 4500-NO3F

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R106821 **Analyst:** REB

ASSET #: N019332 **Date Analyzed:** 4/7/2016

Method: 4500_NO3

	Ist Level Review			2nd Level Review		
Initial Calibration	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. ICAL before initial sample analysis or every 24 hrs.	X					
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
3. ICV within ± 15% of expected value.	X					
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.	X					
5. CCV within ± 15% of expected value.	X					
6. Calibration blanks run after ICV and CCV?	X					
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
Sample Information						
8. All samples are within linear range.	X					
9. Are all samples analyzed within hold time.	X					
QC Items						
10. Method blank values are below the PQL .	X					
11. LCS compounds within control limits.	X					
12. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			
14. Runlog complete and included in package.	X					
15. Spectrophotometer tape included (Spec work only)			X			
16. Digestion log complete and included in package (if applicable)			X			
Preliminary Report						
17. Does the raw data match the preliminary report?	X					
18. Are analytical results correct?	X					
19. Is the QC summary report present and complete?	X					

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer Reb 04/08/2016 Date:

2nd Level Reviewer Nancy 4/8/2016 Date:

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 4500NO3F
TEST NAME: Nitrate/Nitrite-N by Automated Cadmium Reduction
MATRIX: Water

FORMULA:

Calculate the Nitrate/Nitrite-N concentration, in mg/L, in the original sample as follows:

Nitrate/Nitrite-N, mg/L = A * DF

where:

A = mg/L, Nitrate/Nitrite-N instrument calculated concentration
DF = dilution factor

For **N019332-001E**, concentration in mg/L is calculated as follows:

Nitrate/Nitrite-N, mg/L = 0.4269*5

= 2.1345 mg/L

Reporting results in two significant figures:
Nitrate/Nitrite-N, mg/L = 2.1

Reb 04/08/2016

INITIAL CALIBRATION DATA SUMMARY

EPA 353.2 NO3 as N (NO3CD) - Endpoint

General setup

Measuring unit	ppm
Number of decimals	4
Stabilization time (sec)	26
Measurement time (sec)	3
Sample volume (µl)	450
Filter	546
Reagent prime	No
CD Reduction	Yes

Limits and dilution

Low level	-0.2
High level	4
Max linearity	4
Blank min	0
Blank max	0.049
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	6
Wash every	R1, R2

O.D.Corrections

Carry Over	No
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

N.	Volume (µl)	Incubation time (sec)
1	200	102
2	300	663
3	0	0

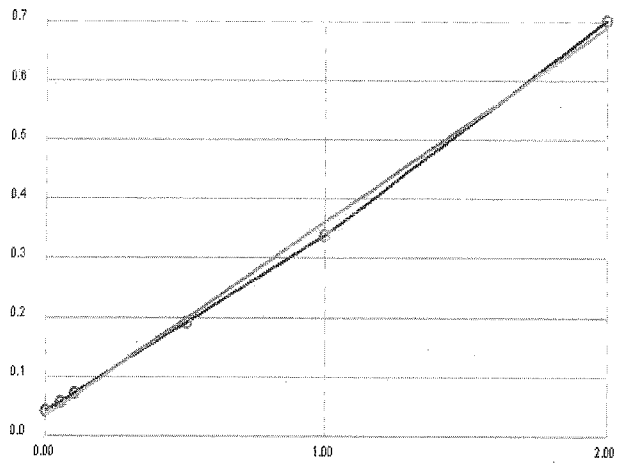
QC

N.	Value	Tolerance
1	1	0.1

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No

Formula	y = 0.3275x + 0.0343
Correlation	.998768



Calibrant	Energy	Set	Conc
1	0.0409	0.0000	0.0202
2	0.0564	0.0500	0.0675
3	0.0719	0.1000	0.1148
4	0.1904	0.5000	0.4766
5	0.3397	1.0000	0.9325
6	0.7019	2.0000	2.0384

Notes:

R 2% CuSO4 - R160406A
R1 Buffer - 1 B
R2 Coloring rgt - 1 C

1° STD - ISST-160211J
2° STD - ISST-150730E

Reb 04/08/2016

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INITIAL CALIBRATION AND CONTINUING CALIBRATON VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICV** SampType: **ICV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **ICV** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.492	0.050	0.5000	0	98.4	90	110				

Sample ID **CCV-1** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **CCV** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.540	0.050	0.5000	0	108	90	110				

Sample ID **CCV-2** SampType: **CCV** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **CCV** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.479	0.050	0.5000	0	95.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INITIAL CALIBRATION AND CONTINUING CALIBRATON BLANK SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **ICB** SampType: **ICB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **ICB** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.023	0.050									

Sample ID **CCB-1** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **CCB** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **CCB-2** SampType: **CCB** TestCode: **4500N03F_W** Units: **mg/L** Prep Date: RunNo: **106821**
Client ID: **CCB** Batch ID: **R106821** TestNo: **SM4500-NO3** Analysis Date: **4/7/2016** SeqNo: **2289172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Advanced Technology Laboratories, Inc.

3151 W. Post Rd.
Las Vegas, NV. 89118
702-307-2659
702-307-2691
www.atl-labs.com

Time start: 04-07-2016 11:12
Time end: 04-07-2016 13:12

			EPA 353.2 NO3 as N		
			ppm	Flags	OD
1	<BLANK>	12:46:14	0.0363		0.0462
2	<BLANK>	12:47:08	0.0263		0.0429
3	<CAL1>	12:48:08	0.0202	[0]	0.0409
4	<CAL2>	12:49:03	0.0675	[0.05]	0.0564
5	<CAL3>	12:50:05	0.1148	[0.1]	0.0719
6	<CAL4>	12:51:00	0.4766	[0.5]	0.1904
7	<CAL5>	12:52:00	0.9325	[1]	0.3397
8	<CAL6>	12:52:55	2.0384	[2]	0.7019
9	,BLANK,BLANK,1,	12:53:50	0.0324		0.0449
10	,ICV,ICV,1,	12:54:51	0.4919		0.1954
11	,ICB,ICB,1,	12:55:45	0.0232		0.0419
12	,MB-H2O,MBLK,1,	12:56:35	0.0153		0.0393
13	,LCS-H2O,LCS,1,	12:57:17	0.4830		0.1925
14	,N019315-001D,SAMP,5,	12:58:06	0.5988		0.2304
15	,N019315-001DDUP,DUP,5,	12:58:49	0.6333		0.2417
16	,N019315-001DMS,MS,5,	12:59:31	1.1053		0.3963
17	,N019315-001DMSD,MSD,5,	13:00:21	1.1972		0.4264
18	,N019315-002D,SAMP,5,	13:01:03	0.6159		0.2360
19	,N019313-003C,SAMP,1,	13:01:46	0.9389		0.3418
20	,N019313-004C,SAMP,5,	13:02:34	0.6656		0.2523
21	,BLANK,BLANK,1	13:03:17	0.0238		0.0421
22	,CCV-1,CCV,1,	13:04:07	0.5398		0.2111
23	,CCB-1,CCB,1,	13:04:48	0.0183		0.0403
24	,N019332-001E,SAMP,5,	13:05:32	0.4269		0.1741
25	,N019332-002E,SAMP,5,	13:06:20	0.6256		0.2392
NR 26	,N019332-001E,SAMP,1,	13:07:03	2.0064		0.6914

Reb 04/08/2016

				EPA 353.2 NO3 as N ppm	Flags	OD
NR	27	,N019332-002E,SAMP,1,	13:07:45	3.5684		1.2030
	28	,BLANK,BLANK,1	13:08:34	0.0305		0.0443
	29	,CCV-2,CCV,1,	13:09:16	0.4794		0.1913
	30	,CCB-2,CCB,1,	13:10:00	0.0177		0.0401

Reb 04/08/2016

Nitrate/Nitrite as N by Cadmium Reduction Preparation and Runlog

Matrix:

Method: SM 4500-NO3-F/ EPA 353.2
Insturument: Easy Chem Analyzer

Date Analyzed: 04/7/2016
Time Analyzed: 11:12 AM
Analyzed By: REB

Reagent ID #
Ammonium Chloride reagent/Buffer: R160406B
Color reagent: R160406C
2% Copper Sulfate: R160406A
Ammonium Hydroxide: CINV-160125C

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added (mL)	Spike Conc.(PPM)	Final Volume (mL)	Dilution (F/I)	Reading & Calculations (mg/L)
1)	N019313-003C		8.49						
2)	N019313-004C		8.73						
3)	N019315-001D		8.65						
4)	N019315-002D		8.43						
5)	N019332-001E		8.43						
6)	N019332-002E		8.38						
7)									
8)									
9)									
10)									
11)									
12)									
13)									
14)									
15)									
16)									
17)									
18)									
19)									
20)									
21)									
22)									
23)									

Advanced Technology Laboratories, Inc.
Book # 1

Reb 04/08/2016

EPA 6010B_Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56910
ASSET #: N019332

Instrument ID: ICP-02
Analyst: FJ

Method:
[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Date Analyzed: 4/7/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

For Na run only.
%Rec of Na in N019332-002C MS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer FJ 04/11/2016 Date: —

2nd Level Reviewer [illegible] 4/11/201 Date: —

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56910 **Instrument ID:** ICP-02
ASSET #: N019332 **Analyst:** FJ
Method: **Date Analyzed:** 4/9/2016

[X] EPA 6010B / 200.7 [ ] EPA 7470A / 7471A/245.1
[ ] EPA 6020 / 200.8 [ ] Other _____

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X				
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits		X				
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented		X				
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

%Rec of B & Ca in N019332-001C PS/MS/MSD & Fe in N019332-001C PS failed. However LCS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 04/11/2016 Date:

2nd Level Reviewer 4/11/201 Date:

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 200.7
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Sodium concentration, in µg/L, in the original sample as follows:

Sodium ,µg/L = A * DF * PF * 1000

where:

A = mg/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate, mL / Amt. of Sample, mL

For Sample **N019332-001C** , the concentration in µg/L is calculated as follows:

Sodium ,µg/L = 5.165340000 * 50 * (25 / 25) * 1000

Sodium ,µg/L = 258267.0000

Reporting results in two significant figures,

Sodium ,µg/L = 260000

% RSD SUMMARY

RSD SUMMARY: 160407C

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Na	0	4.89	15	PASS
Standard1	ICAL	1	Na	0.1	4.58	15	PASS
Standard2	ICAL	1	Na	1	0.33	15	PASS
Standard3	ICAL	1	Na	5	0.049	15	PASS
Standard4	ICAL	1	Na	10	0.19	15	PASS
Standard5	ICAL	1	Na	20	0.04	15	PASS
Standard6	ICAL	1	Na	40	0.048	15	PASS
ICV	ICV	1	Na	10.2	0.33	15	PASS
ICB	ICB	1	Na	-0.04	4.32	15	PASS
ICSA0	ICSA	1	Na	0.1	3.26	15	PASS
ICSAB0	ICSAB	1	Na	11.26	0.18	15	PASS
MB-56910	MBLK	1	Na	-0.033	3.57	15	PASS
LCS2-56910	LCS	1	Na	18.47	0.17	15	PASS
N019332-001C	SAMP	50	Na	5.17	0.1	15	PASS
N019332-002C	SAMP	50	Na	3.41	0.22	15	PASS
N019332-002C	SAMP	250	Na	0.54	0.34	15	PASS
N019332-002C-PS	PS	50	Na	3.85	0.18	15	PASS
N019332-002C-MS	MS	50	Na	3.93	0.18	15	PASS
N019332-002C-MSD	MSD	50	Na	3.84	0.28	15	PASS
CCV0	CCV	1	Na	10.089	0.28	15	PASS
CCB0	CCB	1	Na	-0.096	2.68	15	PASS
ICSA0	ICSA	1	Na	0.04	7.38	15	PASS
ICSAB0	ICSAB	1	Na	10.97	0.0046	15	PASS

RSD SUMMARY: 160409A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	B	0	2.56	15	PASS
Standard1	ICAL	1	B	0.1	1.61	15	PASS
Standard3	ICAL	1	B	1	0.75	15	PASS
Standard4	ICAL	1	B	2.5	1.21	15	PASS
Standard5	ICAL	1	B	3.75	1.37	15	PASS
Standard6	ICAL	1	B	5	0.78	15	PASS
Standard7	ICAL	1	B	10	0.84	15	PASS
ICV	ICV	1	B	4.87	0.38	15	PASS
ICB	ICB	1	B	0.08	17.41	15	<PQL
LLICV	CCV1	1	B	0.085	1.36	20	PASS
ICSA1	ICSA	1	B	0.09	0.81	15	PASS
ICSAB1	ICSAB	1	B	1.054	0.46	15	PASS
MB-56910	MBLK	1	B	-0.0064	20.6	15	<PQL
LCS1-56910	LCS	1	B	5.49	1.049	15	PASS
N019332-001C	SAMP	1	B	0.42	2.023	15	PASS
N019332-002C	SAMP	1	B	0.33	1.12	15	PASS
N019332-001C	SAMP	5	B	0.085	2.61	15	PASS
N019332-001C-PS	PS	1	B	6.99	0.94	15	PASS
N019332-001C-MS1	MS	1	B	7.088	0.64	15	PASS
N019332-001C-MSD1	MSD	1	B	7.099	0.83	15	PASS
CCV1	CCV	1	B	4.85	0.61	15	PASS
CCB1	CCB	1	B	0.059	14.54	15	PASS
CCV2	CCV	1	B	4.91	0.5	15	PASS
CCB2	CCB	1	B	0.055	12.094	15	PASS
LLCCV1	CCV2	1	B	0.12	1.94	20	PASS
ICSA2	ICSA	1	B	0.15	1.6	15	PASS
ICSA2	ICSA	1	B	0.09	0.99	15	PASS
ICSAB2	ICSAB	1	B	1.065	0.34	15	PASS
CalBlk	IBLK	1	Ca	0	2.49	15	PASS
Standard1	ICAL	1	Ca	0.2	5.19	15	PASS
Standard2	ICAL	1	Ca	1	2.053	15	PASS
Standard3	ICAL	1	Ca	2	0.66	15	PASS
Standard4	ICAL	1	Ca	5	0.43	15	PASS
Standard5	ICAL	1	Ca	7.5	0.29	15	PASS
Standard6	ICAL	1	Ca	10	0.46	15	PASS
Standard7	ICAL	1	Ca	20	0.94	15	PASS
ICV	ICV	1	Ca	9.42	0.24	15	PASS
ICB	ICB	1	Ca	0.016	21.88	15	<PQL
LLICV	CCV1	1	Ca	0.16	10.81	20	PASS
ICSA1	ICSA	1	Ca	476.57	0.27	15	PASS
ICSAB1	ICSAB	1	Ca	496.51	0.36	15	PASS
MB-56910	MBLK	1	Ca	0.013	51.56	15	<PQL

RSD SUMMARY: 160409A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
LCS1-56910	LCS	1	Ca	8.69	0.91	15	PASS
N019332-001C	SAMP	1	Ca	96.8	0.7	15	PASS
N019332-002C	SAMP	1	Ca	94.88	0.49	15	PASS
N019332-001C	SAMP	5	Ca	17.51	0.28	15	PASS
N019332-001C-PS	PS	1	Ca	100.77	1.064	15	PASS
N019332-001C-MS1	MS	1	Ca	97.67	0.5	15	PASS
N019332-001C-MSD1	MSD	1	Ca	98.024	0.79	15	PASS
CCV1	CCV	1	Ca	9.23	0.013	15	PASS
CCB1	CCB	1	Ca	0.013	152.18	15	<PQL
CCV2	CCV	1	Ca	9.26	0.29	15	PASS
CCB2	CCB	1	Ca	0.016	72.67	15	<PQL
LLCCV1	CCV2	1	Ca	0.17	4.3	20	PASS
ICSA2	ICSA	1	Ca	455.52	0.088	15	PASS
ICSA2	ICSA	1	Ca	442.89	0.3	15	PASS
ICSAB2	ICSAB	1	Ca	468.89	0.2	15	PASS
CalBlk	IBLK	1	Fe	0	9.73	15	PASS
Standard1	ICAL	1	Fe	0.02	1.042	15	PASS
Standard2	ICAL	1	Fe	0.05	0.58	15	PASS
Standard3	ICAL	1	Fe	2	0.073	15	PASS
Standard4	ICAL	1	Fe	5	1.23	15	PASS
Standard5	ICAL	1	Fe	7.5	0.27	15	PASS
Standard6	ICAL	1	Fe	10	0.09	15	PASS
Standard7	ICAL	1	Fe	20	0.083	15	PASS
ICV	ICV	1	Fe	9.54	0.18	15	PASS
ICB	ICB	1	Fe	-0.00027	86.099	15	<PQL
LLICV	CCV1	1	Fe	0.018	0.96	20	PASS
ICSA1	ICSA	1	Fe	184.85	0.053	15	PASS
ICSAB1	ICSAB	1	Fe	179.31	0.061	15	PASS
MB-56910	MBLK	1	Fe	0.0044	9.038	15	PASS
LCS1-56910	LCS	1	Fe	0.099	1.57	15	PASS
N019332-001C	SAMP	1	Fe	0.015	5.28	15	PASS
N019332-002C	SAMP	1	Fe	0.0076	5.28	15	PASS
N019332-001C	SAMP	5	Fe	0.0027	8.2	15	PASS
N019332-001C-PS	PS	1	Fe	0.12	1.26	15	PASS
N019332-001C-MS1	MS	1	Fe	0.12	0.27	15	PASS
N019332-001C-MSD1	MSD	1	Fe	0.12	1.21	15	PASS
CCV1	CCV	1	Fe	9.61	0.17	15	PASS
CCB1	CCB	1	Fe	-0.00019	152.071	15	<PQL
CCV2	CCV	1	Fe	9.65	0.083	15	PASS
CCB2	CCB	1	Fe	-0.00021	232.9	15	<PQL
LLCCV1	CCV2	1	Fe	0.019	2.21	20	PASS
ICSA2	ICSA	1	Fe	178.04	0.13	15	PASS

RSD SUMMARY: 160409A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
ICSA2	ICSA	1	Fe	177.95	0.031	15	PASS
ICSAB2	ICSAB	1	Fe	172.28	0.63	15	PASS
CalBlk	IBLK	1	Mg	0	48.3	15	<PQL
Standard1	ICAL	1	Mg	0.1	1.77	15	PASS
Standard2	ICAL	1	Mg	1	0.72	15	PASS
Standard3	ICAL	1	Mg	2	0.16	15	PASS
Standard4	ICAL	1	Mg	5	1.37	15	PASS
Standard5	ICAL	1	Mg	7.5	0.16	15	PASS
Standard6	ICAL	1	Mg	10	0.21	15	PASS
Standard7	ICAL	1	Mg	20	0.25	15	PASS
ICV	ICV	1	Mg	9.5	0.15	15	PASS
ICB	ICB	1	Mg	-0.00028	284.35	15	<PQL
LLICV	CCV1	1	Mg	0.084	1.49	20	PASS
ICSA1	ICSA	1	Mg	455.31	0.028	15	PASS
ICSAB1	ICSAB	1	Mg	446.7	0.048	15	PASS
MB-56910	MBLK	1	Mg	0.0088	7.6	15	PASS
LCS1-56910	LCS	1	Mg	9.77	0.14	15	PASS
N019332-001C	SAMP	1	Mg	16.31	0.52	15	PASS
N019332-002C	SAMP	1	Mg	19.58	0.58	15	PASS
N019332-001C	SAMP	5	Mg	2.88	0.2	15	PASS
N019332-001C-PS	PS	1	Mg	25.072	0.33	15	PASS
N019332-001C-MS1	MS	1	Mg	24.59	0.072	15	PASS
N019332-001C-MSD1	MSD	1	Mg	24.67	0.11	15	PASS
CCV1	CCV	1	Mg	9.67	0.29	15	PASS
CCB1	CCB	1	Mg	-0.00036	164.12	15	<PQL
CCV2	CCV	1	Mg	9.56	0.35	15	PASS
CCB2	CCB	1	Mg	0.00051	73.43	15	<PQL
LLCCV1	CCV2	1	Mg	0.086	0.68	20	PASS
ICSA2	ICSA	1	Mg	437.98	0.35	15	PASS
ICSA2	ICSA	1	Mg	444.88	0.00073	15	PASS
ICSAB2	ICSAB	1	Mg	421.98	0.7	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 160407C

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207G,0.025<50mL
Standard2	MWST-151207G,0.25<50mL
Standard3	MWST-151207G,1.25<50mL
Standard4	MWST-151207G,2.5<50mL
Standard5	MWST-151207G,5<50mL
Standard6	MWST-151207G,10<50mL
ICV	MSST-160318A/-111006A/-160918A
CCV	MWST-151207G,2.5<50mL
ICSA/ICSAB	MWST-151207H
Int. Std. (Sc):	MSST-150923A
PS Spike	MSST-151207G/-111006A/-150717A

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	04/07/2016	09:59:12 PM
14	Standard1	ICAL	1	04/07/2016	10:02:28 PM
15	Standard2	ICAL	1	04/07/2016	10:05:46 PM
16	Standard3	ICAL	1	04/07/2016	10:09:34 PM
17	Standard4	ICAL	1	04/07/2016	10:13:22 PM
18	Standard5	ICAL	1	04/07/2016	10:17:12 PM
19	Standard6	ICAL	1	04/07/2016	10:21:06 PM
26	ICV	ICV	1	04/07/2016	10:25:09 PM
1	ICB	ICB	1	04/07/2016	10:29:01 PM
28	ICSA1	ICSA	1	04/07/2016	10:32:19 PM
29	ICSAB1	ICSAB	1	04/07/2016	10:35:36 PM
98	MB-56910	MBLK	1	04/07/2016	10:39:27 PM
99	LCS2-56910	LCS	1	04/07/2016	10:42:48 PM
100	N019332-001C	SAMP	50	04/07/2016	10:46:45 PM
101	N019332-002C	SAMP	50	04/07/2016	10:50:06 PM
102	N019332-002C	SAMP	250	04/07/2016	10:53:27 PM
103	N019332-002C-PS	PS	50	04/07/2016	10:56:47 PM
104	N019332-002C-MS	MS	50	04/07/2016	11:00:08 PM
105	N019332-002C-MSD	MSD	50	04/07/2016	11:03:28 PM
27	CCV1	CCV	1	04/07/2016	11:06:50 PM
1	CCB1	CCB	1	04/07/2016	11:10:41 PM
28	ICSA2	ICSA	1	04/07/2016	11:13:58 PM
29	ICSAB2	ICSAB	1	04/07/2016	11:17:15 PM

INJECTION LOG: 160409A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-151207A,0.5<50mL
Standard2	MWST-151207F
Standard3	MWST-151207L,5<50mL
Standard4	MWST-151207L,12.5<50mL
Standard5	MWST-151207L,15<40mL
Standard6	MWST-151207L,25<50mL
Standard7	MWST-151207L
ICV	MWST-160201D
CCV	MWST-151207L,25<50mL
ICSA/ICSAB	MWST-151123F/MWST-151207M
Int. Std. (Y)	MSST-150923A/B
PS Spike	MWST-160201G/H/I

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	04/09/2016	06:52:15 AM
2	Standard1	ICAL	1	04/09/2016	06:57:06 AM
3	Standard2	ICAL	1	04/09/2016	07:01:54 AM
4	Standard3	ICAL	1	04/09/2016	07:06:43 AM
5	Standard4	ICAL	1	04/09/2016	07:11:34 AM
6	Standard5	ICAL	1	04/09/2016	07:17:26 AM
7	Standard6	ICAL	1	04/09/2016	07:23:16 AM
8	Standard7	ICAL	1	04/09/2016	07:28:41 AM
9	ICV	ICV	1	04/09/2016	07:32:44 AM
1	ICB	ICB	1	04/09/2016	07:38:09 AM
2	LLICV	CCV1	1	04/09/2016	07:58:04 AM
4	ICSA1	ICSA	1	04/09/2016	08:31:47 AM
5	ICSAB1	ICSAB	1	04/09/2016	08:42:41 AM
38	MB-56910	MBLK	1	04/09/2016	08:48:41 AM
39	LCS1-56910	LCS	1	04/09/2016	08:58:39 AM
40	N019332-001C	SAMP	1	04/09/2016	09:04:31 AM
41	N019332-002C	SAMP	1	04/09/2016	09:09:21 AM
42	N019332-001C	SAMP	5	04/09/2016	09:14:10 AM
43	N019332-001C-PS	PS	1	04/09/2016	09:18:59 AM
44	N019332-001C-MS1	MS	1	04/09/2016	09:23:43 AM
45	N019332-001C-MSD1	MSD	1	04/09/2016	09:29:35 AM
46	MB-56902	MBLK	1	04/09/2016	09:39:25 AM
47	LCS1-56902	LCS	1	04/09/2016	09:44:17 AM
7	CCV1	CCV	1	04/09/2016	09:50:09 AM
1	CCB1	CCB	1	04/09/2016	09:55:34 AM
48	N019315-001E	SAMP	1	04/09/2016	10:00:23 AM
49	N019315-002E	SAMP	1	04/09/2016	10:06:15 AM
50	N019315-001E	SAMP	5	04/09/2016	10:12:07 AM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
51	N019315-001E-PS	PS	1	04/09/2016	10:16:57 AM
52	N019315-001E-MS1	MS	1	04/09/2016	10:22:50 AM
53	N019315-001E-MSD1	MSD	1	04/09/2016	10:28:43 AM
54	N019313-003B	SAMP	1	04/09/2016	10:34:35 AM
55	N019313-004B	SAMP	1	04/09/2016	10:40:26 AM
7	CCV2	CCV	1	04/09/2016	10:46:19 AM
1	CCB2	CCB	1	04/09/2016	10:51:44 AM
2	LLCCV1	CCV2	1	04/09/2016	10:56:33 AM
4	ICSA2	ICSA	1	04/09/2016	11:01:22 AM
4	ICSA2	ICSA	1	04/09/2016	11:59:54 AM
5	ICSAB2	ICSAB	1	04/09/2016	12:05:54 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **4/6/2016 11:08:47 A**
Prep End Date: **4/6/2016 4:00:00 P**

Initials/ Date: For: 04/11/2016

Prep Batch **56910** Prep Code: **3010_W_DISS** Technician: **Amy Mata**

Prep Factor Units: **mL / mL** Temp. (°C): **94.6** Location: **01-19**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-56910	Aqueous		25	☐	0	0	25	1.000		
LCS2-56910	Aqueous		25	☐	0	0	25	1.000		
MB-56910	Aqueous		25	☐	0	0	25	1.000		
N019332-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-002C	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-002C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-002C-MS	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
8292 ~~8242~~	HYDROCHLORIC ACID
8385	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-160201G	ICP Solution A	LCS/MS/MSD	0.5
MWST-160201H	ICP Solution B	LCS/MS/MSD	0.5
MWST-160201I	ICP Solution C	LCS/MS/MSD	0.5

Nancy 4/11/201
for

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160407C

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Sodium								
CalBlk	04/07/2016	09:59:12 PM	Na	589.594	733	0.00	mg/L	
Standard1	04/07/2016	10:02:28 PM	Na	589.594	297	0.1000	mg/L	
Standard2	04/07/2016	10:05:46 PM	Na	589.594	3298	1.000	mg/L	
Standard3	04/07/2016	10:09:34 PM	Na	589.594	16468	5.000	mg/L	
Standard4	04/07/2016	10:13:22 PM	Na	589.594	35494	10.000	mg/L	
Standard5	04/07/2016	10:17:12 PM	Na	589.594	70611	20.000	mg/L	
Standard6	04/07/2016	10:21:06 PM	Na	589.594	143763	40.000	mg/L	0.9999

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 160409A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Boron								
CalBlk	04/09/2016	06:52:15 AM	B	249.677	6280	0.00	mg/L	
Standard1	04/09/2016	06:57:06 AM	B	249.677	3207	0.1000	mg/L	
Standard3	04/09/2016	07:06:43 AM	B	249.677	33482	1.000	mg/L	
Standard4	04/09/2016	07:11:34 AM	B	249.677	88454	2.500	mg/L	
Standard5	04/09/2016	07:17:26 AM	B	249.677	135881	3.750	mg/L	
Standard6	04/09/2016	07:23:16 AM	B	249.677	184007	5.000	mg/L	
Standard7	04/09/2016	07:28:41 AM	B	249.677	399434	10.000	mg/L	0.9990
Magnesium								
CalBlk	04/09/2016	06:52:15 AM	Mg	279.079	15	0.00	mg/L	
Standard1	04/09/2016	06:57:06 AM	Mg	279.079	1301	0.1000	mg/L	
Standard2	04/09/2016	07:01:54 AM	Mg	279.079	14903	1.000	mg/L	
Standard3	04/09/2016	07:06:43 AM	Mg	279.079	25519	2.000	mg/L	
Standard4	04/09/2016	07:11:34 AM	Mg	279.079	65925	5.000	mg/L	
Standard5	04/09/2016	07:17:26 AM	Mg	279.079	99535	7.500	mg/L	
Standard6	04/09/2016	07:23:16 AM	Mg	279.079	131294	10.000	mg/L	
Standard7	04/09/2016	07:28:41 AM	Mg	279.079	281825	20.000	mg/L	0.9995
Calcium								
CalBlk	04/09/2016	06:52:15 AM	Ca	227.546	-111	0.00	mg/L	
Standard1	04/09/2016	06:57:06 AM	Ca	227.546	76	0.2000	mg/L	
Standard2	04/09/2016	07:01:54 AM	Ca	227.546	449	1.000	mg/L	
Standard3	04/09/2016	07:06:43 AM	Ca	227.546	811	2.000	mg/L	
Standard4	04/09/2016	07:11:34 AM	Ca	227.546	2101	5.000	mg/L	
Standard5	04/09/2016	07:17:26 AM	Ca	227.546	3216	7.500	mg/L	
Standard6	04/09/2016	07:23:16 AM	Ca	227.546	4294	10.000	mg/L	
Standard7	04/09/2016	07:28:41 AM	Ca	227.546	9334	20.000	mg/L	0.9992
Iron								
CalBlk	04/09/2016	06:52:15 AM	Fe	273.953	-178	0.00	mg/L	
Standard1	04/09/2016	06:57:06 AM	Fe	273.953	722	0.0200	mg/L	
Standard2	04/09/2016	07:01:54 AM	Fe	273.953	1996	0.050	mg/L	
Standard3	04/09/2016	07:06:43 AM	Fe	273.953	67581	2.000	mg/L	
Standard4	04/09/2016	07:11:34 AM	Fe	273.953	175618	5.000	mg/L	
Standard5	04/09/2016	07:17:26 AM	Fe	273.953	266860	7.500	mg/L	
Standard6	04/09/2016	07:23:16 AM	Fe	273.953	349997	10.000	mg/L	
Standard7	04/09/2016	07:28:41 AM	Fe	273.953	748268	20.000	mg/L	0.9996

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICV	SampType:	ICV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	ICV	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288450

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10201.236	500	10000	0	102	90	110				

Sample ID	CCV1	SampType:	CCV	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	CCV	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288462

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10088.820	500	10000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ICV** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4865.976	100	5000	0	97.3	90	110				
Calcium	9423.538	500	10000	0	94.2	90	110				
Iron	9538.780	20	10000	0	95.4	90	110				
Magnesium	9497.235	100	10000	0	95.0	90	110				

Sample ID **LLICV** SampType: **CCV1** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ZZZZZZ** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	85.143	100	100.0	0	85.1	80	120				
Calcium	164.605	500	200.0	0	82.3	80	120				
Iron	17.973	20	20.00	0	89.9	80	120				
Magnesium	84.371	100	100.0	0	84.4	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **CCV** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4854.078	100	5000	0	97.1	90	110				
Calcium	9231.705	500	10000	0	92.3	90	110				
Iron	9613.898	20	10000	0	96.1	90	110				
Magnesium	9672.937	100	10000	0	96.7	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **CCV** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4914.203	100	5000	0	98.3	90	110				
Calcium	9259.635	500	10000	0	92.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **CCV** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9654.690	20	10000	0	96.5	90	110				
Magnesium	9555.833	100	10000	0	95.6	90	110				

Sample ID **LLCCV1** SampType: **CCV2** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ZZZZZZ** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291357**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	118.620	100	100.0	0	119	70	130				
Calcium	174.475	500	200.0	0	87.2	70	130				
Iron	18.964	20	20.00	0	94.8	70	130				
Magnesium	85.693	100	100.0	0	85.7	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICB	SampType:	ICB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	ICB	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288451

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-39.816383	500									

Sample ID	CCB1	SampType:	CCB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	CCB	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288463

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	-95.507041	500									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICB** SampType: **ICB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ICB** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	79.883	100									
Calcium	16.134	500									
Iron	-0.273839	20									
Magnesium	-0.279545	100									

Sample ID **CCB1** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **CCB** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	58.663	100									
Calcium	12.682	500									
Iron	-0.187163	20									
Magnesium	-0.361036	100									

Sample ID **CCB2** SampType: **CCB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **CCB** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291356**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	55.366	100									
Calcium	16.249	500									
Iron	-0.206015	20									
Magnesium	0.514	100									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSA1	SampType:	ICSA	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	ICSA	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288452

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	104.718	500									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	ICSAB	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	11259.087	500	10000	0	113	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	ICSA	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288464

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	40.431	500									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106812
Client ID:	ICSAB	Batch ID:	R106812	TestNo:	EPA 6010B			Analysis Date:	4/7/2016	SeqNo:	2288465

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10973.532	500	10000	0	110	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ICSA** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	478006.328	50	500000	0	95.6	80	120				
Boron	90.157	100									
Calcium	476568.432	500	500000	0	95.3	80	120				
Iron	184853.610	20	200000	0	92.4	80	120				
Magnesium	455306.796	100	500000	0	91.1	80	120				

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ICSAB** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503530.476	50	500000	0	101	80	120				
Boron	1053.836	100	1000	0	105	80	120				
Calcium	496513.706	500	500000	0	99.3	80	120				
Iron	179305.209	20	200000	0	89.7	80	120				
Magnesium	446698.406	100	500000	0	89.3	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ICSA** Batch ID: **R106853** TestNo: **EPA 6010B** Analysis Date: **4/9/2016** SeqNo: **2291359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	464222.461	50	500000	0	92.8	80	120				
Boron	90.166	100									
Calcium	442894.540	500	500000	0	88.6	80	120				
Iron	177954.392	20	200000	0	89.0	80	120				
Magnesium	444883.852	100	500000	0	89.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6010_WDPG	Units:	ug/L	Prep Date:		RunNo:	106853
Client ID:	ICSAB	Batch ID:	R106853	TestNo:	EPA 6010B			Analysis Date:	4/9/2016	SeqNo:	2291360

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503824.454	50	500000	0	101	80	120				
Boron	1065.530	100	1000	0	107	80	120				
Calcium	468890.274	500	500000	0	93.8	80	120				
Iron	172280.860	20	200000	0	86.1	80	120				
Magnesium	421982.420	100	500000	0	84.4	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160407C

Instrument ID: ICP-02

Scandium

Sample Name	Type	DF	~~Yttrium~~, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.036	103.62	65-125	PASS
Standard2	ICAL	1	1.14	114.09	65-125	PASS
Standard3	ICAL	1	1.12	112.08	65-125	PASS
Standard4	ICAL	1	1.033	103.34	65-125	PASS
Standard5	ICAL	1	1.065	106.53	65-125	PASS
Standard6	ICAL	1	1.0012	100.12	65-125	PASS
ICV	ICV	1	1.022	102.22	65-125	PASS
ICB	ICB	1	0.99	99.15	65-125	PASS
ICSA1	ICSA	1	0.98	97.6	65-125	PASS
ICSAB1	ICSAB	1	0.91	91.23	65-125	PASS
MB-56910	MBLK	1	1.066	106.63	65-125	PASS
LCS2-56910	LCS	1	1.068	106.81	65-125	PASS
N019332-001C	SAMP	50	1.0064	100.64	65-125	PASS
N019332-002C	SAMP	50	1.007	100.7	65-125	PASS
N019332-002C	SAMP	250	1.021	102.06	65-125	PASS
N019332-002C-PS	PS	50	1.008	100.8	65-125	PASS
N019332-002C-MS	MS	50	1.013	101.29	65-125	PASS
N019332-002C-MSD	MSD	50	1.012	101.19	65-125	PASS
CCV1	CCV	1	1.0093	100.93	65-125	PASS
CCB1	CCB	1	1.0034	100.34	65-125	PASS
ICSA2	ICSA	1	0.98	97.84	65-125	PASS
ICSAB2	ICSAB	1	0.91	91.1	65-125	PASS

Nancy 4/11/201

for

INTERNAL STANDARD: 160409A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.0013	100.13	65-125	PASS
Standard2	ICAL	1	0.86	85.88	65-125	PASS
Standard3	ICAL	1	0.98	97.65	65-125	PASS
Standard4	ICAL	1	0.95	94.59	65-125	PASS
Standard5	ICAL	1	0.93	92.61	65-125	PASS
Standard6	ICAL	1	0.9	90.31	65-125	PASS
Standard7	ICAL	1	0.83	82.62	65-125	PASS
ICV	ICV	1	0.91	90.92	65-125	PASS
ICB	ICB	1	1.0085	100.85	65-125	PASS
LLICV	CCV1	1	1.0069	100.69	65-125	PASS
ICSA1	ICSA	1	0.91	90.64	65-125	PASS
ICSAB1	ICSAB	1	0.87	87.37	65-125	PASS
MB-56910	MBLK	1	1.011	101.13	65-125	PASS
LCS1-56910	LCS	1	0.92	91.71	65-125	PASS
N019332-001C	SAMP	1	0.81	81.037	65-125	PASS
N019332-002C	SAMP	1	0.83	82.99	65-125	PASS
N019332-001C	SAMP	5	0.94	94.052	65-125	PASS
N019332-001C-PS	PS	1	0.83	83.31	65-125	PASS
N019332-001C-MS1	MS	1	0.83	83.017	65-125	PASS
N019332-001C-MSD1	MSD	1	0.83	82.75	65-125	PASS
CCV1	CCV	1	0.92	91.52	65-125	PASS
CCB1	CCB	1	1.014	101.45	65-125	PASS
CCV2	CCV	1	0.93	93.35	65-125	PASS
CCB2	CCB	1	1.038	103.81	65-125	PASS
LLCCV1	CCV2	1	1.041	104.06	65-125	PASS
ICSA2	ICSA	1	0.94	94.45	65-125	PASS
ICSA2	ICSA	1	0.91	90.58	65-125	PASS
ICSAB2	ICSAB	1	0.91	90.83	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N019332
Test Method: EPA 200.7
Analysis Date: 04/07/16

Matrix: Groundwater
Batch No.: 56910

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is ~~not applicable to Na. The calculated concentration is <25XRL~~. failed PS passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N019332-002C DT 250X	Sodium	ug/L	135671.600	NA	170615.000	20.48%	10

Note: NA - Not Applicable

4/11/201

for

ASSET Laboratories

ICP-Metals in Soil

Dilution Test Summary

Work Order No.: N019332
Test Method: EPA 200.7
Analysis Date: 04/09/16

Matrix: Groundwater
Batch No.: 56910

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Claire Ignacio

Dilution test is not applicable to B & Fe. The calculated concentration is <25RL.
Dilution test failed for Mg.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N019332-001C DT 5X	Boron	ug/L	423.09840	NA	424.46300	0.32%	10
N019332-001C DT 5X	Calcium	ug/L	87565.26000	PASS	96800.64000	9.54%	10
N019332-001C DT 5X	Iron	ug/L	0	NA	0	500.00%	10
N019332-001C DT 5X	Magnesium	ug/L	14424.23000	FAIL	16314.48000	11.59%	10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N019332-002C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106812**
Client ID: **ZZZZZZ** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/7/2016** SeqNo: **2288459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	192606.887	25000	20000	170600	110	80	120				

Sample ID **N019332-001C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **106853**
Client ID: **ZZZZZZ** Batch ID: **56910** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/9/2016** SeqNo: **2291340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6989.864	100	5000	424.5	131	80	120				S
Calcium	100766.541	500	10000	96800	39.7	80	120				S
Iron	120.168	20	100.0	0	120	80	120				S
Magnesium	25071.848	100	10000	16310	87.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICP**
Method Number: EPA 6010/200.7
Preparation Method: EPA 3010/200.7_PR
Analysis Date(s): 3/19/2015, 3/30/2015; 4/9/2015; 4/11/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: mg/L

Instrument Name: **ICP-02**

Acceptance Criteria: MDL < spike < 10XMDL

	Analyte	Wavelength	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
Al	Aluminum	237.313	0.05811	0.05621	0.05336	0.04884	0.04893	0.04862	0.04986		0.050	0.00392	3.143	**0.01233**	**0.050**	OK,meets criteria
Sb	Antimony	206.834	0.00930	0.00874	0.00843	0.00877	0.00858	0.00862	0.00798		0.010	0.00040	3.143	**0.00125**	**0.010**	OK,meets criteria
As	Arsenic	188.98	0.00940	0.00905	0.00993	0.00939	0.00957	0.00915	0.00986		0.010	0.00033	3.143	**0.00105**	**0.010**	OK,meets criteria
Ba	Barium	233.525	0.00142	0.00144	0.00144	0.00151	0.00176	0.00150	0.00148		0.00125	0.00012	3.143	**0.00037**	**0.0025**	OK,meets criteria
Be	Beryllium	313.106	0.00038	0.00036	0.00033	0.00031	0.00028	0.00029	0.00028		0.00020	0.00004	3.143	**0.00012**	**0.0010**	OK,meets criteria
B	Boron	249.678	0.06431	0.06607	0.06181	0.06077	0.05932	0.05772	0.05682		0.10	0.00338	3.143	**0.01061**	**0.10**	OK,meets criteria
Cd	Cadmium	214.437	0.00082	0.00080	0.00081	0.00082	0.00092	0.00071	0.00073		0.00125	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Ca	Calcium	227.546	0.20747	0.20024	0.19135	0.21329	0.19037	0.18920	0.20739		0.20	0.00976	3.143	**0.03067**	**0.20**	OK,meets criteria
Cr	Chromium	267.719	0.00021	0.00024	0.00010	0.00011	0.00011	0.00009	0.00009		0.000333	0.00006	3.143	**0.00020**	**0.0010**	OK,meets criteria
Co	Cobalt	228.614	0.00089	0.00084	0.00101	0.00103	0.00095	0.00095	0.00089		0.000833	0.00007	3.143	**0.00022**	**0.0025**	OK,meets criteria
Cu	Copper	324.755	0.00098	0.00109	0.00098	0.00128	0.00154	0.00095	0.00302		0.0025	0.00074	3.143	**0.00233**	**0.0050**	OK,meets criteria
Fe	Iron	273.953	0.02141	0.01924	0.01879	0.01009	0.00985	0.00952	0.00949		0.020	0.00545	3.143	**0.01713**	**0.020**	OK,meets criteria
Pb	Lead	220.354	0.00320	0.00326	0.00317	0.00375	0.00342	0.00287	0.00317		0.003	0.00027	3.143	**0.00085**	**0.010**	OK,meets criteria
Mg	Magnesium	279.077	0.09916	0.10579	0.10489	0.05309	0.05274	0.05277	0.05135		0.10	0.02723	3.143	**0.08560**	**0.10**	OK,meets criteria
Mn	Manganese	257.608	0.00492	0.00533	0.00493	0.00464	0.00467	0.00489	0.00488		0.0050	0.00023	3.143	**0.00071**	**0.010**	OK,meets criteria
Mo	Molybdenum	202.031	0.00187	0.00182	0.00175	0.00181	0.00184	0.00164	0.00163		0.0025	0.00010	3.143	**0.00030**	**0.0050**	OK,meets criteria
Ni	Nickel	231.604	0.00541	0.00535	0.00526	0.00491	0.00500	0.00489	0.00486		0.0050	0.00024	3.143	**0.00074**	**0.0050**	OK,meets criteria
Se	Selenium	196.025	0.00935	0.00882	0.00994	0.01066	0.00892	0.00985	0.00955		0.010	0.00064	3.143	**0.00200**	**0.010**	OK,meets criteria
Si	Silicon	251.61	0.01696	0.01667	0.01592	0.00853	0.00725	0.00712	0.00772		0.020	0.00477	3.143	**0.01499**	**0.020**	OK,meets criteria
Ag	Silver	328.069	0.00113	0.00109	0.00116	0.00122	0.00115	0.00109	0.00103		0.00125	0.00006	3.143	**0.00019**	**0.0025**	OK,meets criteria
Tl	Thallium	190.794	0.00436	0.00400	0.00452	0.00408	0.00475	0.00376	0.00440		0.0050	0.00034	3.143	**0.00106**	**0.015**	OK,meets criteria
Sn	Tin	189.927	0.00345	0.00354	0.00337	0.00373	0.00357	0.00309	0.00373		0.0033	0.00022	3.143	**0.00070**	**0.010**	OK,meets criteria
Ti	Titanium	334.943	0.00228	0.00216	0.00214	0.00215	0.00195	0.00214	0.00214		0.0020	0.00010	3.143	**0.00030**	**0.010**	OK,meets criteria
V	Vanadium	292.403	0.00135	0.00130	0.00127	0.00129	0.00120	0.00135	0.00129		0.00125	0.00005	3.143	**0.00016**	**0.0025**	OK,meets criteria
Zn	Zinc	206.2	0.01170	0.01021	0.01063	0.01140	0.00999	0.00994	0.00985		0.010	0.00075	3.143	**0.00235**	**0.010**	OK,meets criteria
K	Potassium	766.451	0.12487	0.15815	0.17378	0.18861	0.18551	0.17627	0.18947		0.10	0.02306	3.143	**0.07248**	**0.50**	OK,meets criteria
Na	Sodium	589.594	0.10288	0.10082	0.09626	0.09658	0.10642	0.09738	0.09935		0.10	0.00372	3.143	**0.01170**	**0.50**	OK,meets criteria
Sr	Strontium	407.75	0.00326	0.00332	0.00329	0.00354	0.0033	0.00345	0.00331		0.003125	0.00010	3.143	**0.00032**	**0.025**	OK,meets criteria
Bi	Bismuth	223.061	0.01500	0.01061	0.01427	0.01565	0.01195	0.01042	0.01127		0.010	0.00218	3.143	**0.00686**	**0.010**	OK,meets criteria
Li	Lithium	610.331	0.04054	0.03963	0.03969	0.03995	0.04045	0.03770	0.04121	0.04379	0.050	0.00172	2.998	**0.00516**	**0.10**	OK,meets criteria

EPA 6020_Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 56908
ASSET #: N019332

Instrument ID: ICPMS-02
Analyst: CEI

Method:
- [ ] EPA 6010B / 200.7
- [x] EPA 6020 / 200.8
- [ ] EPA 7470A / 7471A/245.1
- [ ] Other _____

Date Analyzed: 4/7/2016

Initial Calibration and Initial Calibration Verification	Ist Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X					
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X					
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X					
4. % RSD calculated from 3 injections?	X					
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X					
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X					
7. Are ICSA and AB within ± 20% of expected value?	X					
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X					
9. For CCV, all analytes within ± 10% of expected value?	X					
10. Calibration blank after ICVand CCV analysis.	X					
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< PQL)	X					
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X					
Sample Information						
13. All samples are within linear dynamic range.	X					
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X					
15. Are all samples analyzed/digested within hold time.	X					
16. Dilution test performed and within ± 10% of undiluted sample.	X					
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X					
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X					
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?	X					
QC Items						
22. IS are within control limits (70-130% for ICPMS).	X					
23. Method blank values are below the PQL .	X					
24. LCS compounds within control limits.	X					
25. MS/MSD, RPD's are within control limits	X					
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			
27. Runlog complete and included in package.	X					
28. Digestion log complete and included in package (if applicable)	X					
29. All sample raw data present in package.	X					
Preliminary Report						
30. Does the raw data match the preliminary report?	X					
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X					
32. Are special instructions met?	X					

Comments:

	Yes	No	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Does batch meet QC requirements?			
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)			
5. Is first level review correct and complete?			

1st Level Reviewer 4/8/2016 Date: —

2nd Level Reviewer 4/8/2016 Date: —

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Chromium concentration, in ug/L in the original sample as follows:

Chromium , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N019332-001C** , the concentration in ug/L is calculated as follows:

Chromium , ug/L = 16.7983 * 1 * (25/25)

Chromium , ug/L = 16.798300

Reporting results in two significant figures,

Chromium , ug/L = 17.0

4/8/2016

%RSD SUMMARY

PERCENT RSD SUMMARY: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	4.33	15	PASS	0.11	10.013	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.51	1.58	15	PASS	0.5	1.72	15	PASS
Std3-5/50 ppb	ICAL	1	5.1	1.034	15	PASS	5.036	0.71	15	PASS
Std4-10/100 ppb	ICAL	1	10.14	0.47	15	PASS	9.96	1.48	15	PASS
Std5-20/200 ppb	ICAL	1	20.42	1.045	15	PASS	20.089	0.65	15	PASS
Std6-40/400 ppb	ICAL	1	40.6	0.81	15	PASS	40.27	0.58	15	PASS
Std7-100/1000 ppb	ICAL	1	100.82	0.95	15	PASS	99.29	1.092	15	PASS
Std8-200/2000 ppb	ICAL	1	199.42	1.55	15	PASS	200.29	2.022	15	PASS
ICV	ICV	1	9.52	1.62	15	PASS	93.28	1.2	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.0022	81.34	15	<PQL
LLICV	CCV1	1	1.055	1.076	20	PASS	0.57	4.22	20	PASS
ICSA1	ICSA	1	0.16	10.59	15	PASS	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.42	0.89	15	PASS	16.55	1.51	15	PASS
LLICV	CCV1	1	0.93	2.39	20	PASS	0.5	4.62	20	PASS
CCV1	CCV	1	20.35	0.21	15	PASS	20.6	0.21	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.00025	714.15	15	<PQL
CCV2	CCV	1	20.5	0.83	15	PASS	20.54	0.81	15	PASS
CCB2	CCB	1	0.015	20.71	15	<PQL	0.002	38.46	15	<PQL
CCV3	CCV	1	20.42	1.3	15	PASS	20.55	1.099	15	PASS
CCB3	CCB	1	0.0052	54.11	15	<PQL	0.0028	65.024	15	<PQL
LLCCV1	CCV2	1	0.94	1.0083	20	PASS	0.51	2.045	20	PASS
ICSA2	ICSA	1	0.16	8.054	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.35	0.52	15	PASS	16.43	1.83	15	PASS
MB-56908	MBLK	1	<0.000	N/A	15	<PQL	0.24	20.22	15	<PQL
CCV4	CCV	1	20.16	0.63	15	PASS	20.51	0.79	15	PASS
CCB4	CCB	1	0.0031	145.59	15	<PQL	0.0038	134.5	15	<PQL
LCS-56908	LCS	1	10.012	1.048	15	PASS	94.98	0.48	15	PASS
N019332-001C	SAMP	1	16.8	0.6	15	PASS	1.2	3.054	15	PASS
N019332-001C	SAMP	5	3.63	0.85	15	PASS	0.26	3.3	15	PASS
N019332-001C-PS	PS	1	25.75	0.33	15	PASS	92.14	0.53	15	PASS
N019332-001C-MS	MS	1	25.27	1.16	15	PASS	92.26	0.35	15	PASS
N019332-001C-MSD	MSD	1	25.16	0.094	15	PASS	92.16	0.79	15	PASS
N019332-002C	SAMP	1	9.22	1.33	15	PASS	<0.000	N/A	15	<PQL
CCV5	CCV	1	20.34	0.7	15	PASS	20.64	0.83	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.0015	221.9	15	<PQL
LLCCV2	CCV2	1	1.2	3.73	20	PASS	0.52	3.3	20	PASS
ICSA3	ICSA	1	0.18	5.7	15	PASS	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.11	1.66	15	PASS	16.95	1.026	15	PASS

4/8/2016

PERCENT RSD SUMMARY: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.096	7.03	15	PASS	0.075	7.25	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	1.26	15	PASS	0.42	22.082	15	<PQL
Std3-5/50 ppb	ICAL	1	4.98	0.78	15	PASS	5.096	3.48	15	PASS
Std4-10/100 ppb	ICAL	1	10.035	1.24	15	PASS	10.04	1.27	15	PASS
Std5-20/200 ppb	ICAL	1	20.32	0.91	15	PASS	21.084	2.6	15	PASS
Std6-40/400 ppb	ICAL	1	40.13	0.76	15	PASS	40.85	0.26	15	PASS
Std7-100/1000 ppb	ICAL	1	99.86	0.42	15	PASS	102.42	0.7	15	PASS
Std8-200/2000 ppb	ICAL	1	200.01	1.15	15	PASS	198.51	0.2	15	PASS
ICV	ICV	1	9.66	0.33	15	PASS	9.39	2.048	15	PASS
ICB	ICB	1	0.0059	73.39	15	<PQL	0.015	63.6	15	<PQL
LLICV	CCV1	1	0.12	9.19	20	PASS	0.49	11.68	20	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.016	25.18	15	<PQL
ICSAB1	ICSAB	1	19.9	0.93	15	PASS	17.45	1.85	15	PASS
LLICV	CCV1	1	0.1	1.54	20	PASS	0.48	4.23	20	PASS
CCV1	CCV	1	20.064	0.87	15	PASS	19.56	1.65	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.0044	114.48	15	<PQL
CCV2	CCV	1	20.17	0.65	15	PASS	19.17	1.1	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.0084	65.17	15	<PQL
CCV3	CCV	1	20.43	1.8	15	PASS	19.62	0.59	15	PASS
CCB3	CCB	1	0.0022	259.45	15	<PQL	0.001	355.69	15	<PQL
LLCCV1	CCV2	1	0.096	3.88	20	PASS	0.46	5.31	20	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.022	17.43	15	<PQL
ICSAB2	ICSAB	1	20.12	2.36	15	PASS	17.16	1.9	15	PASS
MB-56908	MBLK	1	<0.000	N/A	15	<PQL	0.0035	149.45	15	<PQL
CCV4	CCV	1	20.13	1.14	15	PASS	19.39	4.21	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.0057	119.27	15	<PQL
LCS-56908	LCS	1	9.69	0.3	15	PASS	8.68	2.51	15	PASS
N019332-001C	SAMP	1	0.43	3.04	15	PASS	1.13	4	15	PASS
N019332-001C	SAMP	5	0.091	5.45	15	PASS	0.27	6.35	15	PASS
N019332-001C-PS	PS	1	9.78	1.62	15	PASS	9.12	2.11	15	PASS
N019332-001C-MS	MS	1	9.65	1.41	15	PASS	9	1.21	15	PASS
N019332-001C-MSD	MSD	1	9.84	1.19	15	PASS	8.86	1.94	15	PASS
N019332-002C	SAMP	1	1.23	4.36	15	PASS	1.37	6.82	15	PASS
CCV5	CCV	1	20.39	0.74	15	PASS	19.32	1.089	15	PASS
CCB5	CCB	1	0.00086	300.24	15	<PQL	0.012	71.85	15	<PQL
LLCCV2	CCV2	1	0.099	19.72	20	PASS	0.37	10.03	20	PASS
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.021	28.9	15	<PQL
ICSAB3	ICSAB	1	19.93	1.05	15	PASS	17.15	2.76	15	PASS

4/8/2016

PERCENT RSD SUMMARY: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blank	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.095	5.11	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.47	2.084	15	PASS
Std3-5/50 ppb	ICAL	1	4.91	1.5	15	PASS
Std4-10/100 ppb	ICAL	1	9.9	1.46	15	PASS
Std5-20/200 ppb	ICAL	1	20.11	1.5	15	PASS
Std6-40/400 ppb	ICAL	1	40.066	0.28	15	PASS
Std7-100/1000 ppb	ICAL	1	100.78	0.39	15	PASS
Std8-200/2000 ppb	ICAL	1	199.59	0.87	15	PASS
ICV	ICV	1	10.55	0.8	15	PASS
ICB	ICB	1	0.21	2.23	15	PASS
LLICV	CCV1	1	0.61	3.93	20	PASS
ICSA1	ICSA	1	0.061	5.71	15	PASS
ICSAB1	ICSAB	1	23.36	0.35	15	PASS
LLICV	CCV1	1	0.54	0.56	20	PASS
CCV1	CCV	1	20.026	1.19	15	PASS
CCB1	CCB	1	0.089	5.4	15	PASS
CCV2	CCV	1	19.93	0.13	15	PASS
CCB2	CCB	1	0.096	7.89	15	PASS
CCV3	CCV	1	19.86	1.18	15	PASS
CCB3	CCB	1	0.11	7.87	15	PASS
LLCCV1	CCV2	1	0.48	1.58	20	PASS
ICSA2	ICSA	1	0.041	3.074	15	PASS
ICSAB2	ICSAB	1	23.38	0.93	15	PASS
MB-56908	MBLK	1	0.037	19.68	15	<PQL
CCV4	CCV	1	20.043	0.57	15	PASS
CCB4	CCB	1	0.11	4.2	15	PASS
LCS-56908	LCS	1	9.59	2.018	15	PASS
N019332-001C	SAMP	1	6.39	0.87	15	PASS
N019332-001C	SAMP	5	1.26	3.029	15	PASS
N019332-001C-PS	PS	1	17.66	0.083	15	PASS
N019332-001C-MS	MS	1	17.17	0.62	15	PASS
N019332-001C-MSD	MSD	1	17.2	0.89	15	PASS
N019332-002C	SAMP	1	5.93	0.34	15	PASS
CCV5	CCV	1	19.99	1.11	15	PASS
CCB5	CCB	1	0.11	2.13	15	PASS
LLCCV2	CCV2	1	0.65	0.56	20	PASS
ICSA3	ICSA	1	0.037	10.28	15	PASS
ICSAB3	ICSAB	1	23.34	1.55	15	PASS

4/8/2016

ANALYSIS RUN LOG

INJECTION LOG: 160407A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0407001.D	RINSE	RINSE	1	04/07/16 11:31 AM
A0407002.D	Cal Blank	IBLK	1	04/07/16 11:36 AM
A0407003.D	Std1-0.1/1 ppb	ICAL	1	04/07/16 11:42 AM
A0407004.D	Std2-0.5/5 ppb	ICAL	1	04/07/16 11:47 AM
A0407005.D	Std3-5/50 ppb	ICAL	1	04/07/16 11:53 AM
A0407006.D	Std4-10/100 ppb	ICAL	1	04/07/16 11:58 AM
A0407007.D	Std5-20/200 ppb	ICAL	1	04/07/16 12:04 PM
A0407008.D	Std6-40/400 ppb	ICAL	1	04/07/16 12:09 PM
A0407009.D	Std7-100/1000 ppb	ICAL	1	04/07/16 12:15 PM
A0407010.D	Std8-200/2000 ppb	ICAL	1	04/07/16 12:20 PM
A0407011.D	ICV	ICV	1	04/07/16 12:26 PM
A0407012.D	ICB	ICB	1	04/07/16 12:31 PM
A0407013.D	LLICV	CCV1	1	04/07/16 12:37 PM
A0407014.D	ICSA1	ICSA	1	04/07/16 12:42 PM
A0407015.D	ICSAB1	ICSAB	1	04/07/16 12:47 PM
A0407016.D	LLICV	CCV1	1	04/07/16 12:53 PM
A0407017.D	MB-56907	MBLK	1	04/07/16 12:59 PM
A0407018.D	LCS-56907	LCS	1	04/07/16 1:04 PM
A0407019.D	N019329-001H	SAMP	1	04/07/16 1:10 PM
A0407020.D	N019329-001H	SAMP	5	04/07/16 1:15 PM
A0407021.D	N019329-001H-PS	PS	1	04/07/16 1:21 PM
A0407022.D	N019329-001H-MS	MS	1	04/07/16 1:27 PM
A0407023.D	N019329-001H-MSD	MSD	1	04/07/16 1:32 PM
A0407024.D	MB-56868	MBLK	1	04/07/16 1:38 PM
A0407025.D	LCS-56868	LCS	1	04/07/16 1:53 PM
A0407026.D	N019277-001B	SAMP	1	04/07/16 1:58 PM
A0407027.D	CCV1	CCV	1	04/07/16 2:04 PM
A0407028.D	CCB1	CCB	1	04/07/16 2:09 PM
A0407029.D	N019277-001B	SAMP	5	04/07/16 2:13 PM
A0407030.D	N019277-002B	SAMP	1	04/07/16 2:19 PM
A0407031.D	N019277-003B	SAMP	1	04/07/16 2:24 PM
A0407032.D	N019313-003B	SAMP	1	04/07/16 2:30 PM
A0407033.D	N019313-004B	SAMP	1	04/07/16 2:35 PM
A0407034.D	N019313-004B	SAMP	5	04/07/16 2:41 PM
A0407035.D	N019315-001E	SAMP	1	04/07/16 2:46 PM
A0407036.D	N019315-001E	SAMP	5	04/07/16 2:52 PM
A0407037.D	N019315-001E	SAMP	25	04/07/16 2:57 PM
A0407038.D	N019315-002E	SAMP	5	04/07/16 3:03 PM
A0407039.D	CCV2	CCV	1	04/07/16 3:08 PM
A0407040.D	CCB2	CCB	1	04/07/16 3:14 PM
A0407041.D	N019315-002E	SAMP	1	04/07/16 3:19 PM
A0407042.D	N019315-002E	SAMP	25	04/07/16 3:25 PM

4/8/2016

INJECTION LOG: 160407A

Instrument ID: ICPMS-02

Data File	Sample Name	Type	DF	Acq. Date-Time
A0407043.D	N019315-003C	SAMP	5	04/07/16 3:30 PM
A0407044.D	N019315-003C	SAMP	25	04/07/16 3:36 PM
A0407045.D	N019315-003C	SAMP	125	04/07/16 3:42 PM
A0407046.D	N019315-003C-PS	PS	5	04/07/16 3:47 PM
A0407047.D	N019315-003C-PS	PS	25	04/07/16 3:53 PM
A0407048.D	N019315-003C-MS	MS	5	04/07/16 3:58 PM
A0407049.D	N019315-003C-MS	MS	25	04/07/16 4:04 PM
A0407050.D	N019315-003C-MSD	MSD	25	04/07/16 4:10 PM
A0407051.D	CCV3	CCV	1	04/07/16 4:15 PM
A0407052.D	CCB3	CCB	1	04/07/16 4:21 PM
A0407053.D	LLCCV1	CCV2	1	04/07/16 4:26 PM
A0407054.D	ICSA2	ICSA	1	04/07/16 4:32 PM
A0407055.D	ICSAB2	ICSAB	1	04/07/16 4:45 PM
A0407056.D	N019315-003C-MSD	MSD	5	04/07/16 4:58 PM
A0407057.D	MB-56909	MBLK	1	04/07/16 5:03 PM
A0407058.D	LCS-56909	LCS	1	04/07/16 5:09 PM
A0407059.D	N019332-001B	SAMP	1	04/07/16 5:14 PM
A0407060.D	N019332-001B	SAMP	5	04/07/16 5:20 PM
A0407061.D	N019332-001B-PS	PS	1	04/07/16 5:25 PM
A0407062.D	N019332-001B-MS	MS	1	04/07/16 5:31 PM
A0407063.D	N019332-001B-MSD	MSD	1	04/07/16 5:36 PM
A0407064.D	N019332-002B	SAMP	1	04/07/16 5:42 PM
A0407065.D	MB-56908	MBLK	1	04/07/16 5:47 PM
A0407066.D	CCV4	CCV	1	04/07/16 5:53 PM
A0407067.D	CCB4	CCB	1	04/07/16 5:58 PM
A0407068.D	LCS-56908	LCS	1	04/07/16 6:02 PM
A0407069.D	N019332-001C	SAMP	1	04/07/16 6:09 PM
A0407070.D	N019332-001C	SAMP	5	04/07/16 6:15 PM
A0407071.D	N019332-001C-PS	PS	1	04/07/16 6:21 PM
A0407072.D	N019332-001C-MS	MS	1	04/07/16 6:26 PM
A0407073.D	N019332-001C-MSD	MSD	1	04/07/16 6:32 PM
A0407074.D	N019332-002C	SAMP	1	04/07/16 6:37 PM
A0407075.D	CCV5	CCV	1	04/07/16 6:43 PM
A0407076.D	CCB5	CCB	1	04/07/16 6:48 PM
A0407077.D	LLCCV2	CCV2	1	04/07/16 6:52 PM
A0407078.D	ICSA3	ICSA	1	04/07/16 6:57 PM
A0407079.D	ICSAB3	ICSAB	1	04/07/16 7:03 PM

4/8/2016

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **4/6/2016 11:03:26 A**
Prep End Date: **4/6/2016 3:30:00 P**

Initials/ Date: 4/8/2016

Prep Batch **56908** Prep Code: **3010_W_MSDI** Technician: **Claire Ignacio**

Prep Factor Units:	Temp. (°C):	Location:
mL / mL	**94.6**	**02-10**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Sol Added	Sol Recov	Fin Vol	factor	Clean Up Code	TURB Check
LCS-56908	Aqueous		25	☐	0	0	25	1.000		
MB-56908	Aqueous		25	☐	0	0	25	1.000		
N019332-001C	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-001C-MS	Groundwater	<2	25	☐	0	0	25	1.000		
N019332-002C	Groundwater	<2	25	☐	0	0	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
7461	HYDROCHLORIC ACID
7858	NITRIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-151207	ICV/MS/MSD/LCS/LCSD Solution C		0.25

INSTRUMENT TUNING CHECK

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 7 Apr 2016 06:15:22 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\TuneCHK.m

Minimum Response(CPS)

Element		Actual	Required	Flag
9	Be	152409.00	0.00	
24	Mg	1052800.00	0.00	
25	Mg	141461.00	0.00	
26	Mg	165426.00	0.00	
59	Co	1392710.00	0.00	
115	In	2916680.00	0.00	
206	Pb	767293.00	0.00	
207	Pb	667076.00	0.00	
208	Pb	1657490.00	0.00	

RSD (%)

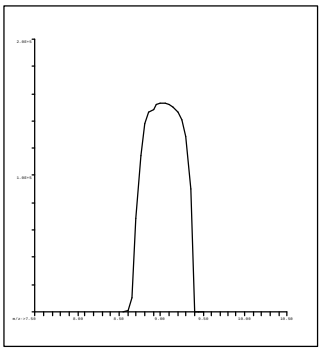
Element		Actual	Required	Flag
9	Be	0.98	5.00	
24	Mg	0.96	5.00	
25	Mg	1.03	5.00	
26	Mg	1.04	5.00	
59	Co	1.37	5.00	
115	In	0.99	5.00	
206	Pb	0.68	5.00	
207	Pb	0.83	5.00	
208	Pb	1.53	5.00	

Ion Ratio

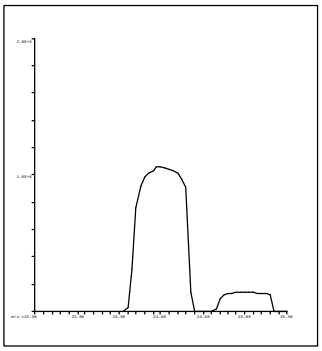
Element		Actual	Required	Flag
9	Be			
24	Mg			
25	Mg			
26	Mg			
59	Co			
115	In			
206	Pb			
207	Pb			
208	Pb			

Maximum Bkg. Count(CPS)

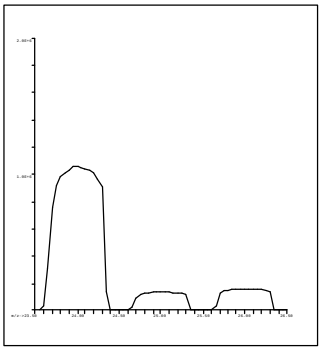
Element	Actual	Required	Flag



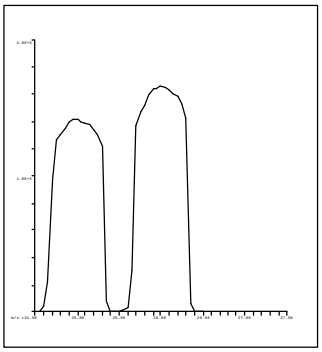
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



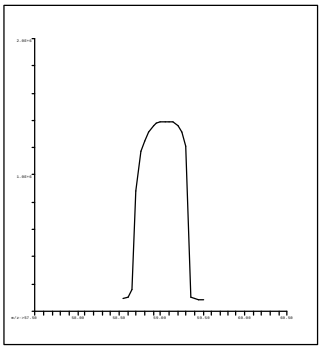
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



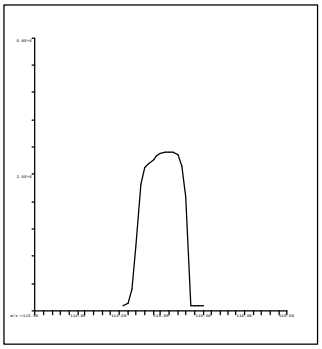
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



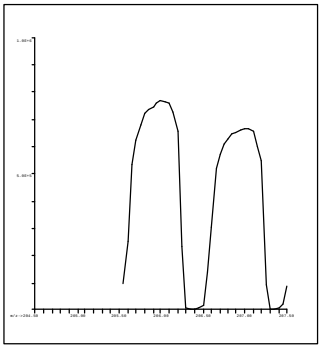
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



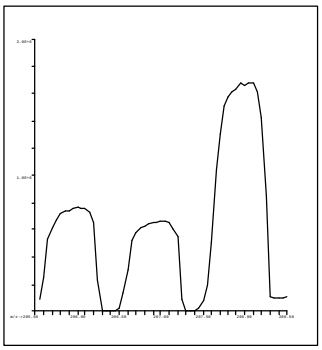
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:



115 In
Mass Calib.
Actual: 115.10
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

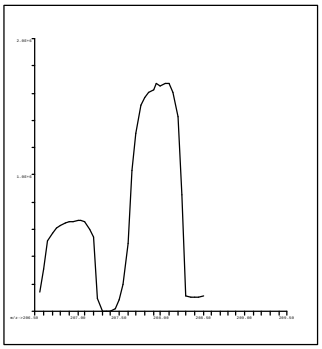


206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.70
Required: 0.75
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.65
Required: 0.75
Flag:

C:\ICPMH\1\7500\qctune.d



208 Pb
Mass Calib.
   Actual: 208.00
   Required: 207.90-208.10
   Flag:
Peak Width
   Actual: 0.65
   Required: 0.75
   Flag:

QC Tune Result:Pass

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 160407A

Instrument ID: ICPMS-02

Analyte	Data File	A0407002.D	A0407003.D	A0407004.D	A0407005.D	A0407006.D	A0407007.D	A0407008.D	A0407009.D	A0407010.D	
	Acq. Date-Time	04/07/2016 11:36 AM	04/07/2016 11:42 AM	04/07/2016 11:47 AM	04/07/2016 11:53 AM	04/07/2016 11:58 AM	04/07/2016 12:04 PM	04/07/2016 12:09 PM	04/07/2016 12:15 PM	04/07/2016 12:20 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blank	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	262161		262473.7	264954.5	264987.9	265659.5	266811.6	265642.4	267134.5	
55 Mn [2]	CPS	109.6		5589.2	56277.6	111196.1	224749.9	452369.7	1110245.6	2251810.5	1.0000
52 Cr [2]	CPS	854.2		10950.3	103821	205558.3	414031.6	825751.7	2040609.3	4057175.2	1.0000
72 Ge (ISTD) [1]	CPS	196402.3		197003.7	196603.4	196344.5	194710.7	195172.4	191780.8	194214.2	
78 Se [1]	CPS	1.1		428.9	5154.4	10138	21107.9	40999.6	101007.9	198262	0.9999
72 Ge (ISTD) [2]	CPS	190583.5	192109.2	191561.2	191449.5	190326.6	190513.6	190827.3	189124.1	187667.2	
75 As [2]	CPS	34.2	256	1146.3	11466.4	22912.2	46402.2	91753.1	226250.6	449626.7	1.0000
103 Rh (ISTD) [2]	CPS	5574140.3		5557988.9	5557286.9	5563560.3	5544975.3	5529211	5455981.9	5477692.4	
95 Mo [2]	CPS	126.7		6078.1	61658.5	124318.1	251702.8	499901.3	1240637.6	2466618.6	1.0000

Standard Code
ICAL: 2MSST-140630A
ICAL: 2MSST-141025A
ICAL: 2MWST-150907G
IS Mix: 2MWST-150907C

Calibration Acceptance Criteria: > 0.995 Correlation

4/8/2016

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **ICV** SampType: **ICV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.655	0.10	10.00	0	96.6	90	110				
Manganese	93.284	0.50	100.0	0	93.3	90	110				
Molybdenum	10.548	0.50	10.00	0	105	90	110				
Selenium	9.392	0.50	10.00	0	93.9	90	110				

Sample ID: **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.572	0.50	0.5000	0	114	80	120				
Selenium	0.493	0.50	0.5000	0	98.6	80	120				

Sample ID: **LLICV** SampType: **CCV1** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.101	0.10	0.1000	0	101	80	120				
Molybdenum	0.545	0.50	0.5000	0	109	80	120				

Sample ID: **CCV1** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.064	0.10	20.00	0	100	90	110				
Manganese	20.596	0.50	20.00	0	103	90	110				
Molybdenum	20.026	0.50	20.00	0	100	90	110				
Selenium	19.558	0.50	20.00	0	97.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **CCV2** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.173	0.10	20.00	0	101	90	110				
Manganese	20.537	0.50	20.00	0	103	90	110				
Molybdenum	19.925	0.50	20.00	0	99.6	90	110				
Selenium	19.171	0.50	20.00	0	95.9	90	110				

Sample ID: **CCV3** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.433	0.10	20.00	0	102	90	110				
Manganese	20.552	0.50	20.00	0	103	90	110				
Molybdenum	19.855	0.50	20.00	0	99.3	90	110				
Selenium	19.620	0.50	20.00	0	98.1	90	110				

Sample ID: **LLCCV1** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.096	0.10	0.1000	0	95.8	70	130				
Manganese	0.513	0.50	0.5000	0	103	70	130				
Molybdenum	0.482	0.50	0.5000	0	96.4	70	130				
Selenium	0.460	0.50	0.5000	0	92.0	70	130				

Sample ID: **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.132	0.10	20.00	0	101	90	110				
Manganese	20.510	0.50	20.00	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **CCV4** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	20.043	0.50	20.00	0	100	90	110				
Selenium	19.385	0.50	20.00	0	96.9	90	110				

Sample ID: **CCV5** SampType: **CCV** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.385	0.10	20.00	0	102	90	110				
Manganese	20.639	0.50	20.00	0	103	90	110				
Molybdenum	19.990	0.50	20.00	0	100	90	110				
Selenium	19.317	0.50	20.00	0	96.6	90	110				

Sample ID: **LLCCV2** SampType: **CCV2** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.099	0.10	0.1000	0	98.8	70	130				
Manganese	0.524	0.50	0.5000	0	105	70	130				
Molybdenum	0.647	0.50	0.5000	0	129	70	130				
Selenium	0.375	0.50	0.5000	0	75.0	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **ICV** SampType: **ICV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289452**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.518	1.0	10.00	0	95.2	90	110				

Sample ID: **LLICV** SampType: **CCV1** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.055	1.0	1.000	0	106	80	120				

Sample ID: **CCV1** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.348	1.0	20.00	0	102	90	110				

Sample ID: **CCV2** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.496	1.0	20.00	0	102	90	110				

Sample ID: **CCV3** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289492**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.417	1.0	20.00	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **LLCCV1** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.937	1.0	1.000	0	93.7	70	130				

Sample ID: **CCV4** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289507**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.156	1.0	20.00	0	101	90	110				

Sample ID: **CCV5** SampType: **CCV** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCV** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.343	1.0	20.00	0	102	90	110				

Sample ID: **LLCCV2** SampType: **CCV2** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ZZZZZZ** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.203	1.0	1.000	0	120	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **ICB** SampType: **ICB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.211	0.50									
Selenium	ND	0.50									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.089	0.50									
Selenium	ND	0.50									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.096	0.50									
Selenium	ND	0.50									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **CCB3** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	0.110	0.50									
Selenium	ND	0.50									

Sample ID: **CCB4** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.105	0.50									
Selenium	ND	0.50									

Sample ID: **CCB5** SampType: **CCB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.106	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **ICB** SampType: **ICB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB1** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB2** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB3** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **CCB4** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **CCB5** SampType: **CCB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **CCB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.061	0.50									
Selenium	ND	0.50									

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.901	0.10	20.00	0	99.5	80	120				
Manganese	16.552	0.50	20.00	0	82.8	80	120				
Molybdenum	23.355	0.50	20.00	0	117	80	120				
Selenium	17.453	0.50	20.00	0	87.3	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.041	0.50									
Selenium	ND	0.50									

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.120	0.10	20.00	0	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	16.426	0.50	20.00	0	82.1	80	120				
Molybdenum	23.378	0.50	20.00	0	117	80	120				
Selenium	17.165	0.50	20.00	0	85.8	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.037	0.50									
Selenium	ND	0.50									

Sample ID: **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.930	0.10	20.00	0	99.6	80	120				
Manganese	16.945	0.50	20.00	0	84.7	80	120				
Molybdenum	23.336	0.50	20.00	0	117	80	120				
Selenium	17.154	0.50	20.00	0	85.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.157	1.0									

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.419	1.0	20.00	0	102	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.159	1.0									

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.354	1.0	20.00	0	102	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSA** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.185	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **ICSAB3** SampType: **ICSAB** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **106817**
Client ID: **ICSAB** Batch ID: **R106817** TestNo: **EPA 6020** Analysis Date: **4/7/2016** SeqNo: **2289520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.108	1.0	20.00	0	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	262161	262161	100	PASS	70-130	190583.5	190583.5	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	266162.8	262161	101.53	PASS	70-130	192109.2	190583.5	100.8	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	262473.7	262161	100.12	PASS	70-130	191561.2	190583.5	100.51	PASS	70-130
Std3-5/50 ppb	ICAL	1	264954.5	262161	101.07	PASS	70-130	191449.5	190583.5	100.45	PASS	70-130
Std4-10/100 ppb	ICAL	1	264987.9	262161	101.08	PASS	70-130	190326.6	190583.5	99.87	PASS	70-130
Std5-20/200 ppb	ICAL	1	265659.5	262161	101.33	PASS	70-130	190513.6	190583.5	99.96	PASS	70-130
Std6-40/400 ppb	ICAL	1	266811.6	262161	101.77	PASS	70-130	190827.3	190583.5	100.13	PASS	70-130
Std7-100/1000 ppb	ICAL	1	265642.4	262161	101.33	PASS	70-130	189124.1	190583.5	99.23	PASS	70-130
Std8-200/2000 ppb	ICAL	1	267134.5	262161	101.9	PASS	70-130	187667.2	190583.5	98.47	PASS	70-130
ICV	ICV	1	290020.9	262161	110.63	PASS	70-130	201285.3	190583.5	105.62	PASS	70-130
ICB	ICB	1	270039	262161	103.01	PASS	70-130	195368.4	190583.5	102.51	PASS	70-130
LLICV	CCV1	1	284118.2	262161	108.38	PASS	70-130	202014.6	190583.5	106	PASS	70-130
ICSA1	ICSA	1	218740.2	262161	83.44	PASS	70-130	147898.2	190583.5	77.6	PASS	70-130
ICSAB1	ICSAB	1	233145.8	262161	88.93	PASS	70-130	154289.4	190583.5	80.96	PASS	70-130
LLICV	CCV1	1	310776.2	262161	118.54	PASS	70-130	216018.5	190583.5	113.35	PASS	70-130
CCV1	CCV	1	234379.1	262161	89.4	PASS	70-130	174180.7	190583.5	91.39	PASS	70-130
CCB1	CCB	1	232421.6	262161	88.66	PASS	70-130	174639.9	190583.5	91.63	PASS	70-130
CCV2	CCV	1	220400.9	262161	84.071	PASS	70-130	163255	190583.5	85.66	PASS	70-130
CCB2	CCB	1	220086.9	262161	83.95	PASS	70-130	163596.2	190583.5	85.84	PASS	70-130
CCV3	CCV	1	244187.8	262161	93.14	PASS	70-130	179326.6	190583.5	94.093	PASS	70-130
CCB3	CCB	1	244244.5	262161	93.17	PASS	70-130	183280.2	190583.5	96.17	PASS	70-130
LLCCV1	CCV2	1	251427.8	262161	95.91	PASS	70-130	182439.3	190583.5	95.73	PASS	70-130
ICSA2	ICSA	1	251183	262161	95.81	PASS	70-130	169205.6	190583.5	88.78	PASS	70-130
ICSAB2	ICSAB	1	233004.6	262161	88.88	PASS	70-130	151853.1	190583.5	79.68	PASS	70-130
MB-56908	MBLK	1	227542	262161	86.79	PASS	70-130	166848.2	190583.5	87.55	PASS	70-130
CCV4	CCV	1	221188.7	262161	84.37	PASS	70-130	164324.2	190583.5	86.22	PASS	70-130
CCB4	CCB	1	221451.4	262161	84.47	PASS	70-130	165435.1	190583.5	86.8	PASS	70-130
LCS-56908	LCS	1	300233.2	262161	114.52	PASS	70-130	195484.6	190583.5	102.57	PASS	70-130
N019332-001C	SAMP	1	214265.8	262161	81.73	PASS	70-130	147577.3	190583.5	77.43	PASS	70-130
N019332-001C	SAMP	5	212992.5	262161	81.24	PASS	70-130	155676.2	190583.5	81.68	PASS	70-130
N019332-001C-PS	PS	1	213091.1	262161	81.28	PASS	70-130	145753.1	190583.5	76.48	PASS	70-130
N019332-001C-MS	MS	1	215633.2	262161	82.25	PASS	70-130	148895.3	190583.5	78.13	PASS	70-130
N019332-001C-MSD	MSD	1	216417.6	262161	82.55	PASS	70-130	148620.9	190583.5	77.98	PASS	70-130
N019332-002C	SAMP	1	215360.8	262161	82.15	PASS	70-130	147833.3	190583.5	77.57	PASS	70-130
CCV5	CCV	1	214270.7	262161	81.73	PASS	70-130	160005.8	190583.5	83.96	PASS	70-130
CCB5	CCB	1	217300.4	262161	82.89	PASS	70-130	163850.1	190583.5	85.97	PASS	70-130
LLCCV2	CCV2	1	214298.8	262161	81.74	PASS	70-130	157551	190583.5	82.67	PASS	70-130
ICSA3	ICSA	1	218624.4	262161	83.39	PASS	70-130	150866.9	190583.5	79.16	PASS	70-130
ICSAB3	ICSAB	1	229238.2	262161	87.44	PASS	70-130	155556.4	190583.5	81.62	PASS	70-130
LCS-56908	LCS	1	305712.8	262161	116.61	PASS	70-130	196713.1	190583.5	103.22	PASS	70-130

INTERNAL STANDARD: 160407A

Instrument ID: ICPMS-02

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blank	IBLK	1	196402.3	196402.3	100	PASS	70-130	5574140.3	5574140.3	100	PASS	70-130
Std1-0.1/1 ppb	ICAL	1	198501.4	196402.3	101.07	PASS	70-130	5627509.8	5574140.3	100.96	PASS	70-130
Std2-0.5/5 ppb	ICAL	1	197003.7	196402.3	100.31	PASS	70-130	5557988.9	5574140.3	99.71	PASS	70-130
Std3-5/50 ppb	ICAL	1	196603.4	196402.3	100.1	PASS	70-130	5557286.9	5574140.3	99.7	PASS	70-130
Std4-10/100 ppb	ICAL	1	196344.5	196402.3	99.97	PASS	70-130	5563560.3	5574140.3	99.81	PASS	70-130
Std5-20/200 ppb	ICAL	1	194710.7	196402.3	99.14	PASS	70-130	5544975.3	5574140.3	99.48	PASS	70-130
Std6-40/400 ppb	ICAL	1	195172.4	196402.3	99.37	PASS	70-130	5529211	5574140.3	99.19	PASS	70-130
Std7-100/1000 ppb	ICAL	1	191780.8	196402.3	97.65	PASS	70-130	5455981.9	5574140.3	97.88	PASS	70-130
Std8-200/2000 ppb	ICAL	1	194214.2	196402.3	98.89	PASS	70-130	5477692.4	5574140.3	98.27	PASS	70-130
ICV	ICV	1	203464.1	196402.3	103.6	PASS	70-130	5874398.2	5574140.3	105.39	PASS	70-130
ICB	ICB	1	196059.1	196402.3	99.83	PASS	70-130	5675832.2	5574140.3	101.82	PASS	70-130
LLICV	CCV1	1	201565.3	196402.3	102.63	PASS	70-130	5863352.6	5574140.3	105.19	PASS	70-130
ICSA1	ICSA	1	149647.3	196402.3	76.19	PASS	70-130	4147865.9	5574140.3	74.41	PASS	70-130
ICSAB1	ICSAB	1	162823.7	196402.3	82.9	PASS	70-130	4177283	5574140.3	74.94	PASS	70-130
LLICV	CCV1	1	224129.6	196402.3	114.12	PASS	70-130	6307805	5574140.3	113.16	PASS	70-130
CCV1	CCV	1	195616.7	196402.3	99.6	PASS	70-130	5068313.6	5574140.3	90.93	PASS	70-130
CCB1	CCB	1	196766.5	196402.3	100.19	PASS	70-130	5137399.3	5574140.3	92.16	PASS	70-130
CCV2	CCV	1	182439.3	196402.3	92.89	PASS	70-130	4700687.7	5574140.3	84.33	PASS	70-130
CCB2	CCB	1	183555.9	196402.3	93.46	PASS	70-130	4734689.9	5574140.3	84.94	PASS	70-130
CCV3	CCV	1	203169.4	196402.3	103.45	PASS	70-130	5258818.2	5574140.3	94.34	PASS	70-130
CCB3	CCB	1	203587.6	196402.3	103.66	PASS	70-130	5296359.7	5574140.3	95.017	PASS	70-130
LLCCV1	CCV2	1	205251.1	196402.3	104.51	PASS	70-130	5384835	5574140.3	96.6	PASS	70-130
ICSA2	ICSA	1	183410.6	196402.3	93.39	PASS	70-130	4554458.6	5574140.3	81.71	PASS	70-130
ICSAB2	ICSAB	1	161448.3	196402.3	82.2	PASS	70-130	4149839.5	5574140.3	74.45	PASS	70-130
MB-56908	MBLK	1	188781	196402.3	96.12	PASS	70-130	4806685.4	5574140.3	86.23	PASS	70-130
CCV4	CCV	1	187579.2	196402.3	95.51	PASS	70-130	4732501.1	5574140.3	84.9	PASS	70-130
CCB4	CCB	1	190804.6	196402.3	97.15	PASS	70-130	4763170	5574140.3	85.45	PASS	70-130
LCS-56908	LCS	1	208522.1	196402.3	106.17	PASS	70-130	5984701.6	5574140.3	107.37	PASS	70-130
N019332-001C	SAMP	1	167428.7	196402.3	85.25	PASS	70-130	3958397.9	5574140.3	71.014	PASS	70-130
N019332-001C	SAMP	5	178404.6	196402.3	90.84	PASS	70-130	4303058.3	5574140.3	77.2	PASS	70-130
N019332-001C-PS	PS	1	164453.3	196402.3	83.73	PASS	70-130	3911573.6	5574140.3	70.17	PASS	70-130
N019332-001C-MS	MS	1	168562.4	196402.3	85.83	PASS	70-130	4021159.7	5574140.3	72.14	PASS	70-130
N019332-001C-MSD	MSD	1	171125.3	196402.3	87.13	PASS	70-130	4007451.5	5574140.3	71.89	PASS	70-130
N019332-002C	SAMP	1	170431.7	196402.3	86.78	PASS	70-130	4022202.9	5574140.3	72.16	PASS	70-130
CCV5	CCV	1	186600.4	196402.3	95.009	PASS	70-130	4614620.6	5574140.3	82.79	PASS	70-130
CCB5	CCB	1	190832.2	196402.3	97.16	PASS	70-130	4739149.8	5574140.3	85.02	PASS	70-130
LLCCV2	CCV2	1	200339.4	196402.3	102	PASS	70-130	4704859.3	5574140.3	84.41	PASS	70-130
ICSA3	ICSA	1	165871.7	196402.3	84.46	PASS	70-130	4066441.2	5574140.3	72.95	PASS	70-130
ICSAB3	ICSAB	1	175896.8	196402.3	89.56	PASS	70-130	4108035.7	5574140.3	73.7	PASS	70-130
LCS-56908	LCS	1	209066.1	196402.3	106.45	PASS	70-130	6004579.1	5574140.3	107.72	PASS	70-130

SERIAL DILUTION / POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N019332
Test Method: EPA 6020
Analysis Date: 4/7/2016

Matrix: Groundwater
Batch No.: 56908

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N019332-001C DT 5X	Chromium	ug/L	18.141050	PASS	16.798300	7.99%	10
N019332-001C DT 5X	Arsenic	ug/L	0.454088	NA	0.433637	4.72%	10
N019332-001C DT 5X	Manganese	ug/L	1.316205	NA	1.201967	9.50%	10
N019332-001C DT 5X	Molybdenum	ug/L	6.296402	NA	6.391795	1.49%	10
N019332-001C DT 5X	Selenium	ug/L	1.368938	NA	1.132051	20.93%	10

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE

Sample ID: **N019332-001C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **106817**
Client ID: **ZZZZZZ**	Batch ID: **56908**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/7/2016**	SeqNo: **2289512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	25.748	1.0	10.00	16.80	89.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N019332
Project: PG&E Topock - GMP, RC000753.001A

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID:	**N019332-001C-PS**	SampType:	**PS**	TestCode:	**6020_DIS**	Units:	**µg/L**	Prep Date:		RunNo:	**106817**
Client ID:	**ZZZZZZ**	Batch ID:	**56908**	TestNo:	**EPA 6020**		**EPA 3010A**	Analysis Date:	**4/7/2016**	SeqNo:	**2289582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.776	0.10	10.00	0.4336	93.4	80	120				
Manganese	92.143	0.50	100.0	1.202	90.9	80	120				
Molybdenum	17.657	0.50	10.00	6.392	113	80	120				
Selenium	9.122	0.50	10.00	1.132	79.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

METHOD DETECTION LIMIT 2015

Method Name: **Metals by ICPMS**
Method Number: EPA 6020/200.8
Preparation Method: EPA 3010/200.8_PR
Analysis Date(s): 3/13/2015; 3/14/2015
Analyst: Mary Claire Ignacio

Matrix: **WATER**
Unit: ug/L

Instrument Name: **ICPMS-02**

Acceptance Criteria: MDL < spike < 10XMDL

		Analyte	#1	#2	#3	#4	#5	#6	#7	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDL	PQL	Remarks
27	Al	Aluminum	1.428	1.454	1.368	1.790	1.039	1.487	1.501	1.0	0.22163	3.143	**0.6966**	10	OK,meets criteria
121	Sb	Antimony	0.114	0.097	0.093	0.091	0.109	0.103	0.102	0.10	0.0083	3.143	**0.0262**	0.50	OK,meets criteria
75	As	Arsenic	0.057	0.049	0.046	0.056	0.051	0.059	0.058	0.050	0.00502	3.143	**0.0158**	0.10	OK,meets criteria
137	Ba	Barium	0.116	0.107	0.137	0.115	0.117	0.175	0.126	0.10	0.02298	3.143	**0.0722**	1.0	OK,meets criteria
9	Be	Beryllium	0.102	0.082	0.086	0.081	0.091	0.100	0.094	0.10	0.00834	3.143	**0.0262**	0.50	OK,meets criteria
11	B	Boron	2.773	2.788	2.855	4.317	3.713	3.448	3.231	2.5	0.57291	3.143	**1.801**	50	OK,meets criteria
111	Cd	Cadmium	0.042	0.043	0.049	0.041	0.042	0.048	0.044	0.050	0.00313	3.143	**0.0098**	0.50	OK,meets criteria
52	Cr	Chromium	0.181	0.200	0.197	0.258	0.196	0.191	0.175	0.25	0.02725	3.143	**0.0856**	1.0	OK,meets criteria
59	Co	Cobalt	0.056	0.047	0.055	0.045	0.051	0.049	0.054	0.050	0.00420	3.143	**0.0132**	0.50	OK,meets criteria
63	Cu	Copper	0.437	0.463	0.447	0.423	0.445	0.424	0.659	0.50	0.08399	3.143	**0.2640**	1.0	OK,meets criteria
56	Fe	Iron	1.231	1.163	1.267	1.061	1.088	1.188	1.211	1.0	0.07499	3.143	**0.2357**	10	OK,meets criteria
208	Pb	Lead	0.227	0.237	0.232	0.278	0.246	0.234	0.243	0.25	0.01696	3.143	**0.0533**	1.0	OK,meets criteria
55	Mn	Manganese	0.077	0.082	0.067	0.065	0.081	0.066	0.075	0.10	0.00723	3.143	**0.0227**	0.50	OK,meets criteria
95	Mo	Molybdenum	0.092	0.084	0.090	0.077	0.106	0.094	0.097	0.10	0.00927	3.143	**0.0291**	0.50	OK,meets criteria
60	Ni	Nickel	0.107	0.073	0.074	0.082	0.095	0.091	0.085	0.10	0.01207	3.143	**0.0379**	1.0	OK,meets criteria
78	Se	Selenium	0.094	0.100	0.055	0.078	0.125	0.074	0.092	0.10	0.02217	3.143	**0.0697**	0.50	OK,meets criteria
107	Ag	Silver	0.099	0.084	0.086	0.083	0.095	0.098	0.099	0.10	0.00735	3.143	**0.0231**	0.50	OK,meets criteria
205	Tl	Thallium	0.106	0.077	0.080	0.074	0.089	0.084	0.090	0.10	0.01072	3.143	**0.0337**	0.50	OK,meets criteria
118	Sn	Tin	0.219	0.228	0.218	0.307	0.256	0.235	0.247	0.25	0.03098	3.143	**0.0974**	10	OK,meets criteria
47	Ti	Titanium	0.101	0.136	0.084	0.094	0.105	0.089	0.134	0.10	0.02092	3.143	**0.0658**	10	OK,meets criteria
238	U	Uranium	0.109	0.093	0.094	0.094	0.112	0.104	0.111	0.10	0.00858	3.143	**0.0270**	0.50	OK,meets criteria
51	V	Vanadium	0.136	0.128	0.116	0.135	0.127	0.121	0.136	0.10	0.00785	3.143	**0.0247**	1.0	OK,meets criteria
66	Zn	Zinc	0.075	0.056	0.082	0.078	0.093	0.092	0.082	0.10	0.01242	3.143	**0.0390**	10	OK,meets criteria